



BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL
HYDRO PROJECTS ENGINEERING

NOTICE INVITING TENDER

NIT No.: HPE/RMU-KOD/SRM/T-01

HPE, BHEL, Bhopal invites sealed bid in two parts (Part-I: Techno-commercial Bid; Part-II: Price Bid) for following work from experienced and financially sound bidder who fulfil the qualifying criteria contained in the tender document:

Name of work	Soil Resistivity Test and Resistance Measurement of the existing underground grid at RMU OF Kodayar Power House-1 (from 1x60 MW to 1X70 MW) of TANGEDCO, in Tirunelveli Generation Circle in the Kanyakumari District, Tamil Nadu
Earnest Money	Rs. 7642/- by EFT Visit http://www.bhel.com/index.php/latest_tenders
Tender cost	Rs. 2000 plus 12% GST (6% CGST+ 6% SGST) in the form of EFT (electronic fund disc transfer) receipt to be enclosed with techno-commercial bid. Visit http://www.bhel.com/index.php/latest_tenders
Date of uploading tender to web site	15.06.2021
Last Date & time for selling of tender	Tender document to be downloaded from BHEL web site (http://www.bhel.com/index.php/latest_tenders up to 07.07.2021, 10:00 hrs
Due date & time of bid submission	On or before 07.07.2021, 11.00 Hrs
Due date & time of bid opening	07.07.2021, 14.00 Hrs onward
Venue for submission & opening of tender	Tender Room(Green Box), Ground Floor, Administrative Building BHEL, Piplani, Bhopal - 462022

NOTE:

- 1. For detail, refer tender documents.**
- 2. BHEL reserves the right to accept or reject any of the bid / all the bids or cancel or withdraw the invitation of tender without assigning any reason whatsoever and in such case no bidder / intending bidder shall have any claim arising out of such action by BHEL.**
- 3. For LD Clause refer tender documents.**

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TENDER

NIT No.: HPE/RMU-KOD/SRM/T-01

FOR

Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/
point as per Wenner's four pin method, including 2 hard copy detail reports
(Approximately 16 points) and Resistance Measurement of RMU OF Kodayar Power
House-1



**HYDRO PROJECTS ENGINEERING
BHARAT HEAVY ELECTRICALS LIMITED**

**(A Government of India Undertaking)
BHOPAL - 462 022 (M.P)**

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NIT No.: HPE/RMU-KOD/SRM/T-01

Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/ point as per Wenner's four pin method, including 2 hard copy detail reports (Approximately 16 points) and Resistance Measurement of RMU of Kodayar Power House-1

PART-1: TECHNICAL BID

PART – 1

Section 1 : INSTRUCTIONS TO BIDDERS

- 1.1 The bid is invited in two parts viz. Part-I: Techno-commercial Bid and part-II: Price Bid. Part-I (Techno-commercial) Bid: should contain documents in the same order as listed below
- 1.1.1 Covering letter as per Annexure-A
- 1.1.2 Check List as per Annexure-B
- 1.1.3 EFT receipt of tender fee through bank with details as specified in Annexure-R
- 1.1.4 EFT receipt of EMD through bank with details as specified in Annexure-R
- 1.1.5 No deviation certificate – technical as per annexure-H
- 1.1.6 No deviation certificate – commercial as per annexure-I
- 1.1.7 Confirmation of participation in Reverse Auction Process as per “Annexure- K (NOT APPLICABLE)
- 1.1.8 Certificate of confirmation for not being black listed Annexure-L
- 1.1.9 Copy of work orders and completion certificates in support of past relevant work experience and other relevant documents as per requirement of clause 3.8.1 to 3.8.3 of Special Conditions of this tender document
- 1.1.10 Copy of duly audited balance sheet and Profit & Loss A/c of past three years ending 31st March 2020.
- 1.1.11 An attested copy of the Power of Attorney, in case an individual other than the sole Proprietor signs the tender
- 1.1.12 Type of Firm with supporting documents
- 1.1.12.1 **IN CASE OF AN INDIVIDUAL:** His full name, experience, address and nature of business
- 1.1.12.2 **IN CASE OF PARTNERSHIP FIRMS:** The names of all the partners with addresses and their experience. A copy of the partnership deed/ Instrument of Partnership duly certified by a Notary Public shall be enclosed.
- 1.1.12.3 **IN CASE OF COMPANIES:** Date and place of registration including date of commencement certificate in case of public companies and the nature of business carried on by the Company. Certified copies of memorandum and Articles of Association are also to be furnished. Also indicate names, addresses and experience of the Directors.
- 1.1.13 Human Resource totally available with the bidder with organization structure
- 1.1.14 Tools & Tackles totally available with the bidder.
- 1.1.15 Photocopy of PAN card in which PAN is readable.
- 1.1.16 Copy of GSTN if applicable

- 1. 1.17 Note:**
- (i) **Any deviation written elsewhere in the offer other than that in the document specified at clause 1.1.5 & 1.1.6 shall be treated as unread and shall not be considered for any purpose.**
 - (ii) **The bidder should not give their price offer in Techno-commercial Bid. The techno-commercial bid containing price offer shall be accepted only if fulfilling all tender conditions without requirement of any further clarification.**
- 1.2 Part-II(Price) Bid:** Price bid should contain only Price Offer to be submitted strictly as per enclosed Price Schedule. The Price Bid not submitted as per Price Schedule may not be considered.
- 1.3** Part-I (Techno-commercial) Bid and Part-II(Price) Bid should be put in separately sealed envelopes and each envelopes must be marked clearly as Techno-commercial Bid or Price Bid as the case may be. NIT Number and bidder's name & address should also be clearly mentioned on these envelopes. These two envelopes must be put in a bigger envelope and sealed properly. Top of the outer cover/envelop should contain following information:
- 1. NIT No. & Title of Work
 - 2. Bid Opening date & time
 - 3. Address/Venue of Bid Submission
 - 4. Bidder's Name & Address
- The address / venue for bid submission is as follows –
**Tender Room (Green Box),
Ground Floor, Administrative Building
BHEL, Piplani, Bhopal-462022**
- 1.4** The bidder has to ensure that the tender is submitted on or before the time & date specified in NIT & should be dropped in the tender box (Green Colour) available in tender room at Ground Floor, Administrative Building.
- 1.5** Tenders received after 11.00 am will be treated as late tender and the same shall not be considered under any circumstance.
- 1.6** Opening of tender will start at 2.00 PM and only techno-commercial bid (Part-I) shall be opened on the date of opening.
- 1.7** Price bids (Part-II) will be opened for only those bidders who are found to be qualified after scrutiny and evaluation of techno-commercial offer.
- 1.8** The representative of the bidder should have authority letter from their principal / company for witnessing the tender opening.
- 1.9** **Any pre-tender queries should reach us at least 7 days before the due date of opening for techno-commercial bid, after which it will be assumed that the bidder have accepted the subject tender in totality. No deviation w.r.t. terms & conditions of the tender shall be acceptable.**

- 1.10** The tenderer shall closely pursue all the clauses, specifications and drawings if any, indicated in the Tender Documents before quoting. The offers should be strictly in accordance with the tender specifications & General Instructions to the tenderer.
- 1.11** If there are varying or conflicting provisions made in any of the documents forming part of the tender, the accepting authority shall be deciding authority with regard to the intension of the document
- 1.12** Before submission of the bid, the bidder is advised to inspect the site of work and the environments and be acquainted with the actual working and other prevalent conditions, facilities available etc. No claim will be entertained later on grounds of lack of knowledge.
- 1.13** Tenderer must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Bid document must be signed, stamped and serially numbered with index and all tables/Declaration forms/information sheets (Annexure A to Annexure R) should be duly filled in legible writing and Submitted Along With The Techno-Commercial Offer by the tenderer in token of complete acceptance thereof. The information furnished shall be complete in itself. Failing to do the same will leads to the cancellation of the offer automatically.
- 1.14** The tenderer shall quote the rates in figures (international numerals to be used) as well as in words (English language to be used). If on check there are found to be differences between the rates given by the contractor in words and figures or in the amount worked out by him in the schedule of quantities and general summary, the same shall be adjusted in accordance with the following rules:
- (a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
 - (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected
 - (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.

If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

- 1.15** All entries in the tender shall either be typed or be written in ink. Erasures/cutting/overwriting/use of whitener/ columns left unfilled in tenders, if any, shall be initialled along with date and time and numbered by the officials opening the tenders. The total number of such noticed alterations (or the absence of any alteration) should be explicitly mentioned on the first page of the bid and announced in public bid opening. In absence of any alteration / overwriting / blanks, the remark “no correction noted” should be written. Bid should be free from correction, overwriting, using corrective fluid, etc any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.
- 1.16** Only tenderers who have previous experience in the work of the nature & description detailed in this tender specification are expected to quote for this tender
- 1.17** Offer from tenderer who does not have a proven and established experience in the field is not likely to be considered.
- 1.18** The tenderer shall give full information w.r.t. following in accordance with Check List at Annexure ‘B’.
- 1.18.1** Permanent Account Number as allotted by the Income Tax Department
- 1.18.2** Goods & Service Tax Registration Number if applicable
- 1.18.3** A statement giving particulars of the various services rendered / in progress for similar works by the tenderers indicating the particulars & value of each work, site location, duration, date of completion as per Annexure –D.
- 1.18.4** A list of Tools & Tackles (reference list at annexure-S) that the tenderer is having & those which will be deployed on this job as per Performa as per Annexure-F.
- 1.18.5** An attested copy of the Power of Attorney, in case an individual other than the sole Proprietor signs the tender.
- 1.18.6** Declaration sheet as per preform at Annexure – G.
Certificate of No-Deviation (Technical) at Annexure-H.
Certificate of No-Deviation (Commercial) at Annexure-I
- 1.19** **Note: All the data required to be enclosed with the tender as per the requirements of this section need to be furnished neatly typed, signed and stamped in the given formats only & wherever necessary documentary proof also needs to be enclosed. In the absence of the above information the tender may be considered as incomplete and may lead to rejection.**

- 1.20** The offer shall be kept open for acceptance for a period of 08 months from the date of opening of techno-commercial offer. In case Bharat Heavy Electricals Limited calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer, which shall be binding, on the tenderer. All expenses for attending such negotiations are to be borne by the tenderer.
- 1.21** The acceptance of Tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights to reject any or all the tenders.
- 1.22** The tenderers are required to quote for the complete scope of work with the lowest possible rate. The tenderers quoting for part of the work or incomplete in any respect are likely to be rejected. **The work tendered out is indivisible in nature and the same shall be awarded to a single party.**
- 1.23** Conditional and unsigned tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions, specifications, etc., are liable to be rejected.
- 1.24** If a tenderer expires after the submission of his tender or after the acceptance of his tender, BHEL may at its discretion, cancel such tender. If a partner of a firm expires after the submission of the tender or after the acceptance of the tender, BHEL may cancel such tender at its discretion unless the firm retains its character.
- 1.25** BHEL will not be bound by any Power of Attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. BHEL may, however, recognize such Power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 1.26** If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit the Earnest Money / Security Deposit / any other moneys due.
- 1.27** Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the Contractor who resorts to canvassing are liable to be rejected.
- 1.28** Tenderer black listed by any BHEL unit/ region or by customer shall not be considered for technical evaluation. During Execution of any work, BHEL or customer, issue show cause notice to tenderer or blacklist it ,then BHEL has right to short close the tender at tenderer risk and cost.
- 1.29** Tenderer shall also provide the list of employees along with their certified experiences with their degree, diploma and ITI certificates as required by the tender.

- 1.30** Tenderer shall also provide the list of Tools & Tackles that the tenderer is having & those which will be deployed on this job as per Performa as per Annexure-'F' along with their name of manufacture. Calibration certificates should also be provided for measuring equipment
- 1.31** Should a tenderer or, in the case of a firm or Company, its Partner(s) / major shareholder(s) / Director(s) have relation(s) employed in BHEL, the authority inviting tender shall be informed of the fact along with the offer. Otherwise, BHEL may at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money / Security Deposit.
- 1.32** If any of the above conditions are not fulfilled by the tenderer BHEL has the right to reject or short close the tender at tenderer risk and cost.
- 1.33** BHEL reserves the right to accept or reject any of the bid / all bids with or without deviation or cancel / withdraw the invitation for bid without assigning any reason whatsoever and in such case no bidder shall have any claim arising out of such action by BHEL.
- 1.34** The offers of the tenderers who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected.
- 1.35** The list of banned firms is available on BHEL web site
http://www.bhel.com/index.php/latest_tenders
- 1.36** Wherever required, additional sheets may be used

PART – 1

Section 2 : GENERAL TERMS AND CONDITIONS

Part-1: Technical Bid

Section 2: GENERAL TERMS & CONDITIONS

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- 2.1 DEFINITIONS:** The following terms and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.
- 2.1.1 'BHEL'** 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, Pin-110049 through its office at Piplani, Bhopal – 462022 or its authorized Officers or its Engineers or other employees authorized to deal with any matters with which these persons are concerned on its behalf.
- 2.1.2 'CLIENT' or 'CUSTOMER'** shall mean the project authorities to whom BHEL is supplying the equipment & providing the services. In this case it is TANGEDCO, Tamil Nadu
- 2.1.3 'CONTRACTOR'** shall mean the individual, firm or Company who enters into contract with BHEL for providing the services as per this Tender and shall include their executors, administrators, and successors and permitted assigns.
- 2.1.4 'CONTRACT' or 'CONTRACT DOCUMENT'** shall mean and include the agreement, the work order, the accepted appendices of rates, schedules of quantities, if any, General Terms & Conditions of the Contract, Special Conditions of the contract, Instructions to Tenderers, drawings, technical specifications, the special specifications, if any, & 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 Work Order.
- 2.1.5 'TENDER DOCUMENTS'** shall mean the NIT, Instructions to Tenderers, General Conditions of Contract, Special Conditions, Price Schedule, Technical Specifications and Special Specification if any.
- 2.1.6 'LETTER OF INTENT'** shall mean the intimation by a letter / telegram / mail/fax to the tenderer that the tender has been accepted in accordance with provision contained in that 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.
- 2.1.7 'COMPLETION TIME'** shall mean the period specified in the Letter of Intent or date mutually agreed upon for completing the work / services stipulated in the work order to the satisfaction of the Site-In-Charge being of required standard and conforming to the specifications of the contract.
- 2.1.8 'PLANT'** shall mean and connote the entire assembly of the plant and equipment is covered by the Contract.
- 2.1.9 'EQUIPMENT'** shall mean all machinery, materials, structure, all electricals and other components of the plant covered by the contract.



- 2.1.10** **‘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 thereof.
- 2.1.11** **‘APPROVED, DIRECTED or INSTRUCTED’** shall mean approved, directed or instructed by BHEL Engineer / Site Engineer / Project- in-charge/ Site-in-Charge.
- 2.1.12** **‘WORK’ or ‘CONTRACT WORK’** shall mean and include the work to be done by the Contractor as specified in the Tender documents.
- 2.1.13** **‘LAW GOVERNING THE CONTRACT AND COURT OF JURISDICTION’**
The contract shall be governed by the Law for the time being in force in the Republic of India. Subject to clause 2.27.1 or 2.27.2 of this contract. The Civil Court at Bhopal, Madhya Pradesh, India shall alone have exclusive jurisdiction in regard to all claims in respect of this Contract.
- 2.1.14** **‘UNDERTAKING’:** The tenderer shall give an undertaking under the official secret Act for maintaining secrecy of the tender documents, drawings or other records connected with the work given to him. The unsuccessful tenderer shall return all the drawings / documents given to them.
- 2.2** **ISSUE OF NOTICE :**
The Contractor shall furnish to the Site-In-Charge, the name designation and address of his authorized agent/ In-charge of Project 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 authorized agent or left at or posted to the address either of the contractor or his authorized 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
- 2.3** **MATERIALS HANDLING AT SITE (INCLUDING STORAGE, LOADING, UNLOADING, HANDLING AND TRANSPORT):** The contractor shall make suitable arrangements to load, unload, handle, transport and store all materials at site in proper manner so as to avoid any defect, damage, theft etc. The contractor shall make own arrangement for T & Ps.
- 2.4** **SUB-LETTING OF CONTRACT :**
The contractor may assign or sublet the contract or any substantial part thereof or any part of the plant to a party as per vendor list submitted along with the offer, provided that any such arrangement shall not relieve the Contractor from any obligation, duty or responsibility under the contract. The Contractor shall submit its list of vendors for sourcing supplies / services along with the tender. BHEL may seek approval of the contractor and its sub-vendors from the customer and shall in turn give approval.

2.5 REJECTION OF BID:

The bid of the contractor may be rejected either

- for not meeting the qualifying criteria or
- due to unsatisfactory performance in the past at any of the BHEL units or BHEL run sites or
- due to rejection of the contractor by the customer.

2.6 CONTRACT QUALITY ASSURANCE AND QUALITY PLAN:

The contractor shall submit a detailed work procedure containing the quality management and procedures that are proposed to be followed in the performance of the works during various phases. The procedure to be followed for the execution of the contract will be mutually discussed and agreed.

Within seven (7) days After the LOI, the contractor shall submit a work procedure, detailing out the specific quality control procedure to be adopted for controlling the quality characteristics relevant to major activities to be undertaken. BHEL/ Customer will approve the procedure. The contractor shall be fully responsible for the proper execution of all procedure and shall perform all quality control activities, inspection and tests agreed with BHEL/ Customer to demonstrate full compliance with the specification requirements. BHEL/ Customer shall witness test/inspection, etc as per the approved work procedure.

2.7 EARNEST MONEY (EMD):

2.7.1 EMD is to be paid by tenderers for securing fulfilment of any obligation in terms of the NIT. Every tender must be accompanied by the prescribed amount of Earnest Money Deposit in full, in any one of the following form:

- Cash deposit as permissible under the extant income Tax Act (before tender opening)
- Electronic Fund transfer credited in BHEL account (before tender opening). EFT credit receipt to be enclosed with tender
- Banker's cheque / pay order/ Demand draft, infavour of BHEL (along with offer)
- Fixed deposit receipt (FDR) issued by scheduled banks/ public financial institutions as defined in the companies Act (FDR should be in the name of the contractor, a/c BHEL).

Tenders received without EFT receipt of fully paid Earnest Money or not in the manner prescribed above will not be considered. For MSME vendors, EMD is not required to be submitted. However, in this case vendor has to submit Valid MSME certificated along with bid.

2.7.2 The Earnest Money Deposit of the successful tenderer will be retained towards part of Security Deposit.

2.7.3 In the case of unsuccessful tenderer, the Earnest Money will be refunded after finalization of the tender.



2.7.4 FORFEITURE OF EMD: EMD paid by the tenderer will be forfeited as per NIT condition if:

- After opening the offer and within the offer validity period the tenderer revokes his tender or makes any modification to his tender which is not acceptable to BHEL.
- The contractor fails to deposit the required security deposit or commence the work within the period as per LOI / contract.
- EMD by the tenderer shall be withheld in case any tenderer is envisaged under the provisions of extant "Guidelines on suspension of Business suppliers/contractors" and forfeited/released based on the action as determined under these guidelines

2.7.5 EMD given by all unsuccessful tenderers shall be refunded normally within 15 days of award of work.

2.7.6 EMD shall not carry any interest.

2.7.7 EMD of successful tender shall be retained as a part of security deposit.

2.8 SECURITY DEPOSIT

2.8.1 Security deposit means the security provided by the contractor towards the fulfilment of any obligation in terms of the provision of the contract. Upon acceptance of tender, the successful tenderer must deposit the required amount of security deposit, after adjusting the amount of Earnest Money duly deposited with the Tender, within the time specified in the letter of intent for satisfactory completion of work.

2.8.2 The total amount of Security Deposit shall be 3% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.

2.8.3 The balance amount to make up the required Security Deposit of 3% of the contract value may be accepted in the following forms:

2.8.3.1 Electronic Fund Transfer in favour of BHEL

2.8.3.2 Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee in the prescribed proforma as per annexure-N of section-5 from any one of consortium bank listed in annexure-P of section-5.

2.8.3.3 Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)

2.8.3.4 Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

Part-1: Technical Bid**Section 2: GENERAL TERMS & CONDITIONS****Page 18**

- 2.8.4** (Note: 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)
- 2.8.5** Security Deposit shall be released to the Contractor upon fulfilment of contractual obligations as per terms of the contract.
- 2.8.6** 100% Security Deposit, including the EMD, should be collected before start of the work.
- 2.8.7** If the value of work done at any time exceeds the contract value, the amount of Security Deposit shall be correspondingly enhanced and the additional Security Deposit shall be immediately deposited by the Contractor or recovered from payment/s due to the Contractor.
- 2.8.8** The Security Deposit shall not carry any interest
- 2.8.9** Security Deposit will be held including bank Guarantee till the approval of final test reports plus 03 months. Validity of the Bank Guarantee furnished towards Security Deposit under clause 10.1 e) above, should be valid up to the period of approval of test reports as stipulated in the Letter of Intent/ WO, plus 03 months claim period and the same will be kept valid by proper renewal till the satisfactory completion of the above.
- 2.8.10** It shall be the responsibility of the contractor to ensure Extension of BG as and when required and shall be submitted before 15 days of its expiry date. On failure to do so necessary action as deemed fit shall be initiated.
- 2.8.11** Failure to deposit the Security Deposit within the stipulated time may lead to forfeiture of Earnest Money and cancellation of the award of work. 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 fulfil 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.
- 2.8.12** Refund of security deposit: Security deposits will be released only after the completion of work.
- 2.9** **COMMENCEMENT & COMPLETION OF WORK :**
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. No mobilization charges of any kind are payable.
- 2.9.1** At the time of mobilisation of work at site, the contractor is required to submit the copies of following documents to Site-In-Charge for verification:
- BG to be submitted through Structured Financial Messaging System (S.F.M.S).
 - Contract Agreement
 - Indemnity Bond



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- d. EPF registration
- e. Valid Test Certificates for the Plant & Machinery being deployed at site.
- f. Valid Insurance Policy covering third party liability, workmen compensation & tool & tackles brought to site.
- g. Proper Labour License.
- h. Work force deployment schedule.
- i. Detail work schedule (L-3 network).

2.9.2 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.

2.9.2.1 The Earnest money and / or Security Deposit will stand forfeited without any further reference to the Contractor without prejudice to any of BHEL's other rights and remedies in this regard

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

2.10 WORK EXECUTION & SCHEDULE:

2.10.1 The Contractor is responsible for the correct execution of the work in accordance with the scope/specification/drawings provided to him. The levels, measures and other information concerning the existing site as shown on the drawings or as described are supposed to be correct but the contractor shall verify them for himself and no extra claim, whatsoever shall be entertained on account of any discrepancy or omission in such matters or on account of the description turning out to be different from what was expected.

2.10.2 In case the contractor requires any clarifications, conditions, drawings etc., the Site-In-charge shall be contacted.

2.10.3 The contractor will be required to submit approved work procedure before start of work. The contractor shall follow the detailed work schedule, organize labour / material to suit the completion period of work & abide by the approved program..

2.10.4 The work under the contract will be deemed to be completed in all respect, only when the testing completion, joint report preparation, final report submission & approval of reports is done. The contractor shall obtain no dues form concerned BHEL / Customer department.

2.10.5 On completion of work, the contractor shall submit the detailed completion report along with all supporting documents and obtain approval from BHEL.

2.10.6 The entire schedule as approved shall be strictly followed by contractor. If delay is for any reason beyond the control of the contractor, then the contractor shall bring it to the notice of engineer in charge.

2.11 INTEREST CHARGES:

No interest shall be payable by BHEL on Earnest Money, Security Deposit /



or on any money due to the Contractor by BHEL.

2.12 DRAWINGS & DOCUMENTS:

Relevant drawings & documents available at project shall be provided to successful bidder during execution of the work. If some relevant drawings/documents are not available at site, work to be carried out as per instruction of BHEL site in-charge.

2.13 METHOD OF WORKMANSHIP

2.13.1 All work shall be performed in a first class, neat, good workmanship manner and state of art practices by technical staff skilled in the trade involved.

2.14 INSPECTION & TESTING AT CONTRACTOR's WORKS

NOT APPLICABLE

2.15 PROGRESS REPORT & FIELD OFFICE RECORD

2.15.1 Contractor shall prepare testing sheets to measure the various parameters and take photographs and attach the same in final reports.

2.15.2 The contractor shall maintain records pertaining to the quality of work and inspection and testing compliance with all technical requirements. Where safety of work is involved, the contractor shall submit written procedure to the Site-In-Charge.

2.16 RIGHTS OF BHEL

2.16.1 BHEL reserves to itself the following rights in respect of this Contract without entitling the Contractor to any compensation as below:

2.16.2 To get the work done through another agency at the risk and cost of Contractor, in the event of Contractor not starting the work in time, poor progress of work, inability to get the work done, delay in completion of Contract, poor quality of work, persistent disregard of instructions of BHEL, assignment transfer, or subletting of the contracted work without written permission of BHEL, non-fulfilment 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 in addition to any other action that may be taken. However, BHEL shall notify such action.

2.16.3 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 staff to suit BHEL's commitments to its Customer.

2.16.4 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:



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- 2.16.4.1** Contractor's continued poor progress. Withdrawal from or abandonment of the work before completion of the work.
- 2.16.4.2** Corrupt act of the contractor.
- 2.16.4.3** Insolvency of the contractor. Persistent disregard of the instructions of BHEL.
- 2.16.4.4** Assignment Transfer, Subletting of the contract work without BHEL's written permission.
- 2.16.4.5** Non-fulfilment of any contractual obligations or obligations under the law. To recover any money due from the Contractor from out of any money due to the Contractor under this or any other Contract or from the Security Deposit.
- 2.16.5** To claim penalty or compensation for losses sustained including BHEL's supervision charges and overheads in case of termination of contract or negligence of work by the contractor and/or to levy liquidated damages for delay in completion of work.
- 2.16.6** 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.
- 2.16.7** To effect recoveries from any amounts due to the contractor under this or any other contract or in any other from the moneys which BHEL is forced to pay to anybody due to contractor's failure to fulfil any of his obligations.
- 2.16.8** To restrict or increase the nature of work to suit site requirements, since the tender specification is based on preliminary documents and quantities furnished therein are indicative and approximate. The rates quoted shall not be subjected to revision by the contractor in such case.
- 2.16.9** To deploy BHEL's skilled and/or semi-skilled workmen in case of emergency / 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 money due to the contractor.
- 2.16.10** The Site-In-Charge shall have full powers to acquire the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default the Site-In-Charge shall be at liberty to employ other persons to remove the same without being answerable or accountable for any loss or damage that may happen to arise to such materials. The Site-In-Charge shall have full powers to ask for other proper materials to be substituted thereof and in case of default the Site-In-Charge may ask the same to be supplied and all costs which may arise due to such removal and substitution are to be borne by the contractor.
- 2.16.11** While every endeavour will be made by BHEL to this end, BHEL cannot guarantee uninterrupted work due to conditions beyond its control. The contractor will not be entitled to any compensation / extra payment on this account.



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- 2.16.12** In the event of any dispute of technical nature, the decision of BHEL and / or Site-In-Charge shall be final and binding on the Contractor.
- 2.17 RESPONSIBILITIES OF THE CONTRACTOR
IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC**
- 2.17.1** The contractor should follow the prevailing industrial / labour laws as amended from time to time and shall also take all safety measures required during the execution of this order.
- 2.17.2** The Contractor shall be fully responsible for correctness & quality of his work to the entire satisfaction of BHEL / Customer. The work shall be executed in accordance with the directions, instructions, drawings and specification. The work shall be performed in a first class, neat, good workmanship manner and state of art practices by technical staff skilled in the trade involved. The work shall be carried out in such a manner as to preserve access to other equipment installed.
- 2.17.3** If the completed or any portion of work /services is found to be not proper or fails to fulfil the requirement of the contract, the Site-In-Charge shall forthwith give the contractor notice setting forth particulars of defects or failure and the contractor shall make the defects good, or alter the same to make it comply with the requirements of contract. If the contractor fails to do so, within a reasonable time, BHEL/Customer may reject and replace at the cost of the contractor, the whole or any portion of the work, as the case may be, which is defective or fails to fulfil the requirement of the contract. In case of such replacement by BHEL, contractor shall be liable to pay to BHEL the extra cost, if any of such replacement delivered and/or erected as provided for in the original contract. Such extra cost and the damages being the ascertained difference between the prices paid by BHEL/Customer, under the provision above mentioned for such replacement and the contract price for the plant so replaced and also to repay any sum paid by BHEL/Customer to the contractor in respect of such defective work.
- 2.17.4** If in the opinion of the contractor any work is insufficiently specified or required modifications, the Contractor shall refer the same in writing to the Site-In-Charge and obtain his instruction / approval in writing before proceeding with the work. If contractor fails to refer such instance, any excuse for faulty work/services, for poor workmanship or delay in completion shall not be entertained.
- 2.17.5** Land belonging to BHEL or its customer under temporary possession of BHEL shall not be occupied by the contractor without the written permission of BHEL.
- 2.17.6** The Contractor will be required to sign a contract with BHEL on Non-judicial stamp paper as per **Annexure – “M”** of General Terms & Conditions. The cost towards agreement shall be borne by the contractor.
- 2.17.7** All the properties/equipment/components of BHEL/its customer loaned with



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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. The contractor shall return them in good conditions as and when required by BHEL/its customer. In case of non-return, loss, damaged, repairs, etc., cost thereof, as may be fixed by the Site-In-Charge, will be recovered from the contractor.

2.17.8 It shall not be obligatory on the part of BHEL/ customer to supply any tools and tackles. Contractor has to arrange the testing equipment's as per annexure –“S” required to complete all the tests mentioned in NIT and required for successful completion of work. No instruments will be provided by Customer and BHEL.

2.17.9 SITE TESTING

For the tests carried out by the contractor at site, the contractor shall install testing equipment at site as per annexure- “S” of NIT and shall ensure and certify the calibration of the equipment so installed and shall maintain the same in working order throughout the period of work. The contractor shall also provide the necessary trained staff for carrying out such tests and using such equipment. List of equipment's with range shall be submitted by the bidder.

2.17.10 COMPENSATION

For all works having contract value of Rs. 5,00,000/- or above, BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life/ permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

- a) Victim: Any person who suffers permanent disablement or dies in an accident as defined below.
- b) Accident: Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing/ operation and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works/ during working at BHEL Units/ Offices/ townships and premises/ Project Sites.
- c) Compensation in respect of each of the victims:
 - i. In the event of death or **permanent disability** resulting from Loss of both limbs: Rs. 10,00,000/- (Rs. Ten Lakh).
 - ii. In the event of **other permanent disability**: Rs.7,00,000/- (Rs. Seven Lakh)
- d) Permanent Disablement: A disablement that is classified as a permanent total disablement under the provision to section 2 (I) of the Employee's Compensation Act, 1923.



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- 2.17.11** The contractor shall not claim any compensation due to reduction in the scope of work due to changes in design, which curtail the quantum of work.
- 2.17.12** The contractor shall fully indemnify BHEL/its customer against all claims of whatever nature arising during the course of execution of this contract due to the acts of contractor/his personnel.
- 2.17.13** In the event of any claim or demand being made or action being brought against BHEL/Customer for infringement or alleged infringement of letter, patent in respect of any machine plant, work or thing used or supplied by the contractor under this contract or in respect of any method of using or working by BHEL/Customer of such machines, plant, work or thing, the contractor will indemnify BHEL/Customer against such claim or demand and all costs and expenses arising from or incurred by reason of such claim or demand. In case the equipment in such suit or proceedings is held to constitute infringement and the use of the equipment or part is prohibited, the contractor shall at his own expenses either procure for BHEL/Customer the right to continue using the equipment, modified it so as it becomes non-infringing or remove the equipment and refund BHEL/Customer price plus the transportation and installation cost thereof.
- 2.17.14** The contractor shall ensure that no damage is caused to any person / any existence work/property of customer/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 the affected parties at his own cost. The contractor shall indemnify BHEL for any such eventuality in the prescribed proforma as per Annexure "Q" of General Terms & conditions.
- 2.17.15** Any delay in completion of work 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.
- 2.17.16** 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 co-operate and co-ordinate with other agencies at project site and proceed in a manner that shall help in the progress of work at site as a whole.
- 2.17.17** 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 Site-In-Charge. The Contractor shall also demolish all the hutment's 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 Site-In-Charge and the expenses for the same shall be recovered from the

contractor.

- 2.17.18** The contractor shall execute the work in the most professional 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 of the work.
- 2.17.19** In case there is no specification laid down in the contract for a class of work, such work shall be carried out in accordance with the standard practice and instructions, and of the Site-In-Charge.
- 2.17.20** No levy, payment or charge made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied, demanded if charged.
- 2.17.21** 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. It will be the responsibility of the contractor to ensure safe lifting of the equipment to avoid damages/accidents.
- 2.17.22** Contractor shall not stop work or abandon the site for whatsoever reason or dispute, excepting for force majeure conditions. All problems/dispute shall be separately discussed and settled without affecting the progress of work, stoppage or abandonment of work, other than under force majeure conditions, shall be treated as breach of contract and dealt with accordingly.
- 2.17.23** **OBSERVING LOCAL LAWS, PROVIDING WORKMEN & SUPERVISORY PERSONNEL**
- The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc:
- 2.17.23.1** The contractor shall engage sufficient staff to maintain the required rate of progress and quality of workmanship. If unskilled workers are required to be engaged, the same shall be engaged, as far as possible, from local areas in which the work is being executed. Claim for idle labour/machinery due to non-supply of any material by BHEL or for any other reasons will not be entertained. During the continuance of this contract, the contractor shall have due regard to all local festival, religious events and other customs, in all his dealings with the local labour for the time being employed on or in connection with the work.
- 2.17.23.2** The Contractor shall comply with all local, 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 tender of the Contract and having force or

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jurisdiction at site. The contractor will be required to seek registration, if required, as per local laws. The contractor shall give to the local governing body, police and other concerned project site authorities all such notice (s) as may be required under law.

- 2.17.23.3** The Contractor shall obtain independent license required if any under the Contract Labour (Regulations and Abolition) Act, 1970 and its amendments from the concerned authorities based on the certificate (Form V) issued by the Principal employer / customer.
- 2.17.23.4** The contractor shall pay all taxes, fees, license charges which may be him or otherwise as deemed fit.
- 2.17.23.5** The contractor shall make all arrangements and shall also meet all expenses in connection with his workmen's qualification / re-qualification test(s) etc at site.
- 2.17.23.6** All safety rules and codes are applicable to work shall be followed without any exception
- 2.17.23.7** The contractor shall arrange to provide guards and prominently display caution notices, in unsafe and hazardous area.
- 2.17.23.8** The contractor shall be responsible for the provision of health and sanitary as described arrangements in the contract labour Regulations and Abolition Act, 1970 and its amendments.
- 2.17.23.9** The contractor shall be responsible for safety precautions as may be required for safe and satisfactory execution of the contract.
- 2.17.23.10** All safety rules and codes applied by BHEL/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/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 Site-In-Charge, with a view to prevent pilferage, accidents, fire hazards etc. The contractor shall arrange for such safety devices as are necessary for this type of work and carryout the requisite site test of handling equipment, lifting tools, tackles etc. as per usual standards and practices.
- 2.17.23.11** The contractor shall ensure proper accommodation including adequate medical facilities for the personnel employed by him..
- 2.17.23.12** The contractor will be directly responsible for payment of wages to his workmen.
- 2.17.23.13** 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.

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2.17.23. The contractor has to ensure that the people deployed by them restrict their movement in the area earmarked for the project. For movement in area other than earmarked for project prior permission of BHEL Site-In-Charge is required. The contractor shall abide by all the rules and regulations of the power station.

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2.17.23. Gate Pass for entry into power station would be required for all the persons deployed by the contractor at site. Special permission would be required for working beyond normal working hours. The contractor shall be arranging the passes and working permission beyond normal working hours on their own. BHEL Site-In-Charge shall provide necessary help and guidance for the same. Normal working hours in the plant is 8 hours.

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2.17.24. The Contractor shall deploy all skilled, semi-skilled and unskilled workers and should hold valid certificates wherever necessary. The contractor shall deploy only experienced supervisory staff to carry out the work and control his workmen. BHEL reserves the right to insist on removal of any employee of contractor. In the event of increasing or decreasing the category of workers, supervisors the contractor shall obtain the prior approval of BHEL's site-in-charge.

2.18 STRIKES AND LOCKOUTS

2.18.1 The contractor will be solely responsible for all disputes and other issues connected with his workmen. In the event 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 work executed employing its own men or through other agencies or both. The cost incurred by BHEL in this regard shall be recovered from the contractor.

2.18.2 For any purpose whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

2.19 FORCE MAJEURE

2.19.1 Notwithstanding anything contained in the contract, neither BHEL nor the Contractor shall be held responsible for total or partial non-execution of any of the contractual obligations, should the obligation become unreasonably onerous or impossible due to occurrence of a 'Force Majeure' which directly affects the obligations to be performed by the BHEL or the contractor; Such events include war, military operations of any nature, blockages, revolutions, insurrections, riots, civil commotions, insurgency, sabotage, acts of public enemy, fires, explosion, epidemics, quarantine restrictions, floods, earthquake, or acts of God, restrictions by Govt. authorities; over which the BHEL or the contractor has no control.

The party claiming to be affected by force majeure shall notify the other party in writing without delay, within two weeks from the occurrence of such situation and on the cessation thereof. Extension of time sought by the contractor along with supporting evidence and so granted by BHEL for the work affected, if any, shall not be construed as waiver in respect of remaining execution. Rescheduling of execution on account of force majeure conditions,



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if so agreed by BHEL, will not entail the contractor to claim any increase in the price on whatsoever account.

- 2.19.2** Notwithstanding above provisions, BHEL shall reserve the right to cancel the Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements. If deemed necessary, BHEL may takeover partly processed work at a mutually agreed price

2.20 SETTLEMENT OF DISPUTES

- 2.20.1** Except as otherwise specifically provided in the contract all disputes concerning questions of fact arising under the contract shall be decided by the Site-In-Charge subject to a written appeal by the contractor to the Site-In-Charge, whose decision shall be final to the parties hereto.

- 2.20.2** Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the contract shall be to the extent possible settled amicably between the parties.

- 2.20.3** If amicable settlement cannot be reached, then all disputed issues shall be settled by arbitration as provided in relevant clause.

2.21 ARBITRATION & CONCILIATION**2.21.1 ARBITRATION :**

- 2.21.1.1** Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 2.27.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Bhopal unit issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English. The Arbitrator shall pass a reasoned award. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bhopal The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 2.27.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall



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have exclusive jurisdiction over any DISPUTE to the exclusion of any other court.

- 2.21.1.2** In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.

- 2.21.1.3** The cost of arbitration shall initially be borne equally by the Parties subject to the final allocation thereof as per the award/order passed by the Arbitrator.

Notwithstanding the existence of any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner unless the dispute inter-alia relates to cancellation, termination or short-closure of the Contract by BHEL.

2.21.2 CONCILIATION:

If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure 2.3 to this GCC. The Procedure 2.3 together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.

The Contractor hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure 2.3 to this GCC



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from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 with effect from the date as intimated by BHEL to it.

2.22

TAXES

Refer annexure-T for tax related compliance.

PART – 1

Section 3 : SPECIAL TERMS AND CONDITIONS

- 3.1** The Special terms and conditions given here supersede the relevant terms & conditions given in Instruction to tenderers and General Terms and Conditions.
- 3.2** **STRIKES AND LOCKOUTS:** The contractor will be solely responsible for all disputes and other issues connected with his workmen. In the event 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 work executed employing its own men or through other agencies or both. The cost incurred by BHEL in this regard shall be recovered from the contractor.
- 3.3** **NO DEVIATION IN ANY OF THE TENDER TERMS SHALL BE ACCEPTABLE.**
- 3.4** This section of the tender defines the scope of the contractor's work other than as specified in the Technical Specifications. The requirement and conditions mentioned in this section are in addition to what are stated in "Instructions to Tenderers" , "General terms and conditions" & "Technical Specifications".
- 3.5** **In case of any conflicting provisions given in different sections of the tender following shall be the order of preference forming the basis for arriving at a conclusion :**
- A) Description in schedule of quantities of price schedule**
 - B) Technical Specifications**
 - C) Special Conditions if any**
 - D) Drawings**
 - E) General terms & conditions**
- 3.6** The bidders are advised to take into account all factors and any fluctuations in the market rates etc. having effect on prices. No delay will be accepted and no claim will be entertained on this account after acceptance of the tender or during the currency of the contract. It is advisable that the bidders visit the site prior to bid submission.
- 3.7** **NATURE OF JOB:**
- 3.7.1** **The job tendered out comprises of measurement of soil resistivity in area adjacent to powerhouse & switchyard area and measurement of earthmat resistance of existing earthmat installed at RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW) of TANGEDCO , in Tirunelveli Generation Circle in the Kanyakumari District, Tamil Nadu.**
- 3.7.2** Bidders may visit the site at their own cost before submitting their offer and to make sure that they understand the working environment, present state of the structures, availability of original documents with our customer, local

rules, laws and regulations etc.

NOTE: BHEL shall not accept any claim arising out of above factors.

3.8 QUALIFYING CRITERIA: The bidders should fulfil following qualifying criteria:

3.8.1 The bidder should have the experience and proof of work done in performing the Soil Resistivity Measurement/ Measurement of Resistance of Earth Mat earlier during last seven (7) years ending on the 'latest date of bid submission' of tender, in any power station/ sub-station/ utilities/ infrastructure project.

The vendor shall furnish PO copy/ approved test reports/ performance certificate/ or any other valid document to establish the above along with the offer.

3.8.2 The bidder should have executed the work of above nature during last 7 (seven) years ending on 'latest date of bid submission' of tender for valuing either of the following:

- a) Three works each valuing not less than Rs. 152840/- (Rs. One Lakh Fifty Two Thousand Eight Hundred Forty Only)
- b) Two works each valuing not less than Rs. 191050/- (Rs. One Lakh Ninety One Thousand Fifty Only)
- c) One work valuing not less than Rs. 305680/- (Rs. Three Lakh Five Thousand Six Hundred Eighty Only)

Note: The word "EXECUTED" mentioned above implies that the bidder fulfil the above criteria within the 7 (seven) years period even if the contract started earlier and/ or is not completed/closed.

3.8.3 The bidder should have average annual financial turnover not less than Rs 114630/- (Rs. One Lakh Fourteen Thousand Six Hundred Thirty Only) during the last 3 years, ending 31st March 2020.

Self-attested Audited Balance Sheet and P/L Account for last three years to be submitted in fulfilment of this criterion. CA certificates to be enclosed

3.8.4 The bidder shall not be black listed/ prohibited for doing business with any BHEL, End customer or Any PSU as on the date of submission of this tender.

3.8.5 Technical experience and financial resources of any subcontractor/subsidiary company / associate group shall not be taken into account in determining the Bidder's compliance with the qualifying criteria.

3.8.6 **The bid can be submitted by an individual party or a Joint Venture of not more than two parties. Necessary certificates and documents required for evaluation are required to be submitted in fulfilment of above criteria. (Details of Joint Venture are given under clause no. 3.26 below).**

3.8.7 BHEL is accredited to quality management system (ISO 9001: 2015). There by bidder has to successfully perform the work with quality standard / norms under BHEL guidance.



3.8.8 **Note: Apart from above documents, BHEL reserves the right to ask for additional documentary evidence for fulfilment of qualifying requirement of vendors.**

3.9 **OTHER INFORMATION TO BE SUBMITTED BY THE BIDDER:**

The bidder should submit following duly signed and stamped along with offer

3.9.1 No Deviation Certificate (Technical) as per Annexure “H” of Instruction to Tenderers.

3.9.2 No Deviation Certificate (Commercial) as per Annexure “I” of Instruction to Tenderers.

3.9.3 Copy of PAN No.

3.9.4 Copy of GST No.

3.9.5 An attested copy of the Power of Attorney, in case an individual other than the sole Proprietor / Director / Partner signs the tender.

3.9.6 Documents in support of type of firm.

3.9.7 Financial viability statement as per Annexure “C” of Instruction to Tenderers with supporting documents.

3.9.8 Confirmation of participation in Reverse Auction Process as per “Annexure – K” **(NOT APPLICABLE)**

3.9.9 All other annexures attached with this tender

3.10 **SCOPE OF CONTRACTOR RELATED TO WORK, MAN POWER & ARRANGING TEST EQUIPMENTS FOR ALL THE TESTS AT SITE:**

3.10.1 Providing man power and special testing equipment / machine as per requirement of site.

3.10.2 Providing minimum work force at site along with necessary tooling and machine during the duration of work is the responsibility of the contractor.

3.10.3 **Brief scope of work is as follows :-** The scope shall cover Soil Resistivity Measurement and Resistance measurement of the existing earth mat for RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW) of TANGEDCO, in Tirunelveli Generation Circle in the Kanyakumari District, Tamil Nadu which shall include the following:

- Visit to the site with manpower and all equipment/tools required,
- Joint measurement of Soil Resistivity with customer as specified,
- Joint measurement of Resistance of existing earth mat Powerhouse & Switchyard as specified,
- Preparation of joint reports with customer and submission of final reports to BHEL as specified.

3.10.4 Test equipment's and T & P shall be in the contractor scope as per annexure- "S"

3.10.5 **Note: -**

For detail scope of work, refer technical specification HPE/RMU-KOD/SRM/T-01 Part-1: Section-4

3.11 **COMPLETION SCHEDULE:**

3.11.1 On intimation by BHEL through Email or Fax for site opening, the contractor has to make mobilization of his materials, resources and workforce so as to commence the work within 7 (Seven) days from intimation (since the work is to be done on priority/urgent basis).

3.11.2 **The total work under the scope should be completed within 3 months from the date of commencement of work.**

3.11.3 **NOTE:** Completion time is the essence of the contract. Hence the contractor may be required to arrange working in extended working hours/ round the clock working to achieve scheduled completion time.

3.11.4 For working on extended hours/ Sundays/ holidays, a written permission has to be obtained from the customer well in advance.

3.12.0 **PRICE SCHEDULE**

3.12.1 Please refer to the Price Schedule. Price bid should be submitted strictly as per the enclosed price schedule. Any deviation w.r.t. price schedule is not acceptable and the offer having deviation is liable to be rejected. **Rates quoted by the bidder against schedule items shall remain firm.**

3.12.2 Price shall include all taxes/Duties/Royalties/Octroi/Freights applicable as on date of submission of tender except GST. Any new tax introduced in future shall be considered as applicable

3.12.3 GST shall be reimbursed to the contractor at actual at prevailing rate at the time of execution of work against documentary evidences.

3.12.4 No claim shall be admissible on account of revision in rate of existing taxes & duties (except GST) subsequent to bid submission. However, if any new taxes & duties are introduced subsequent to bid submission and during the currency of the contract including its extension if any for the reasons not attributable to the contractor, the same shall be reimbursed at actual against documentary evidence of remittance by the contractor. In case the contract period is extended for the reasons attributable to the contractor, no such reimbursement shall be made during extended period.

3.12.5 Income Tax shall be deducted at source (TDS) as per prevailing rules and copy of TDS shall be provided to contractor.

3.12.6 **Note: - Claim for reimbursement of GST pertaining to running bill should be submitted along with running bills.**



3.13 EVALUATION OF THE OFFER AND ISSUE OF WORK ORDER:

- 3.13.1** The bidder shall submit complete price of the package.
- 3.13.2** Evaluation of the offer will be strictly based on information submitted by the bidder. In view of this, the bidder is requested to go through the tender documents carefully and furnish all details clearly.
- 3.13.3** **Total price of the package shall be compared for the purpose of arriving at L-1.**
- 3.13.4** In the course of evaluation, more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discount price from the respective L1 bidders. In case more than one bidder happens to occupy L1 status even after soliciting discount, L1 bidder shall be decided by toss/ draw of lots, in the presence of respective L1 bidders or their representatives.
- 3.13.5** Based on the techno-commercial evaluation and price bid opening, the successful L1 bidder shall be awarded the contract for the complete package.
- 3.13.6** **No condition or deviations allowed in price bid.**
- 3.13.7** Work is indivisible in nature and shall be awarded to a single party.
- 3.13.8** BHEL shall open sealed price bid after techno- commercial evaluation for the purpose of determining of the L1 bidder.

3.14 TERMS OF PAYMENT

- 3.14.1** Progressive payment shall be made after completion work as per price schedule and is subject to the deductions towards Security Deposit, Income Tax with surcharge, any other tax or levies applicable in the state and recoveries towards materials/services rendered on chargeable basis, penalty and LD, if applicable.
- 3.14.2** All the payments due to the Contractor will be made through Electronic Fund Transfer (EFT). For EFT facility the successful bidder is required to submit the details duly endorsed by their bankers in the prescribed format as mentioned at Annexure-R. Normally payment of bills takes about 60 days (45 days in case of MSME bidder) from the date of receipt of bills at Bhopal office duly verified by Site-In-Charge.
- 3.14.3** **Note: Advance Payment – BHEL does not give advance as a policy.**

3.15 SUSPENSION AND CANCELLATION OF WORK:

- 3.15.1** BHEL reserves the right to suspend and restart execution of the contract without invalidating the provisions of the contract. Orders for suspension or restart of the contract will be issued by BHEL to the contractor in writing. In such case, the time for completion of the contract will be extended for a period mutually agreed to between the parties. **No price variation on this account shall be admitted.**



3.16 INSURANCE:

- 3.16.1** It shall be the sole responsibility of the contractor to obtain transit insurance for envisaged scope of supply and get insured the property, materials, machineries, tools & tackles etc. belonging to him.
- 3.16.2** It shall be the sole responsibility of the contractor to insure sufficient coverage of 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. Contractor shall have accident insurance policy to cover the above. The work will be carried out in a protected area and all the Rules and Regulations of BHEL / its customer in the project Area which are in force from time to time shall be followed by the contractor.
- 3.16.3** If due to contractor's carelessness, negligence and / or non-observance of safety and other precautions, any accident / injury occurs to other persons / public, damage to BHEL's / its customer's property and/or personnel occurs, and if BHEL is unable to recover in full its claim from the Insurance Company, the deficit will be recovered from the contractor. The contractor shall be responsible for necessary compensation and other expenses in full, if so decided by the appropriate authority.
- 3.16.4** *It shall be the responsibility of the contractor to provide security arrangements for the equipment/materials belonging to BHEL / its customer & handed over to the contractor for Transportation / erection till these are taken over by BHEL or are returned to BHEL / its customer's Stores.*

3.17 PENALTY FOR DELAY:

- 3.17.1** The total work under scope is to be completed within the completion time mentioned under Clause 3.11.2 above. Required approval, drawings and material in scope of customer/BHEL shall be made available to contractor in time.
- 3.17.2** Delay in completion of the work under scope that may take place beyond contractual schedule OR within any extension for the reasons attributable to the contractor shall be subject to imposition of PENALTY at the rate of 0.5 % of the contract value per week of delay or part thereof subject to maximum ceiling of 10% of the contract value. GST on penalty shall be charged extra

3.18 TERMINATION OF THE CONTRACT:

No order shall be terminated after issue of the order or the understanding to proceed with the work except if desired by the Customer or Government of India. In the event of such cancellation, the Contractor shall be paid for all the work either fully or partly executed prior to the date of termination and the commitments entered into and expenses incurred for the execution of the contract as on the date of such termination. Nothing extra in addition to above shall be paid to the contractor in the event of such termination.

3.19 EXTENSION FOR DELAY:

3.19.1 If the works be delayed due to Force majeure or delay on the part of the other contractors or tradesmen engaged by BHEL in executing work not forming part of the contract, or any other cause which, in the absolute discretion of BHEL is beyond the contractor's control then upon the happening of any such event causing delay, the contractor shall immediately give notice thereof in writing but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of BHEL to proceed with the work.

3.19.2 Requests for extension of time, to be eligible for consideration shall be made by contractor in writing within fifteen days of the happening of the event causing delay. The contractor may also, if practicable, indicate in such a request the period for which extension is desired considering the working plan for remaining work.

3.19.3 In any such case, Site-In-Charge, BHEL or any other officer authorised by BHEL may give a fair and reasonable extension of time for completion of the work. Such extension (Grant/Denial) shall be communicated to the contractor by the Site-In-Charge in writing, within 1 (One) month of the date of receipt of such request by the latter

3.19.4 **NOTE: No additional compensation of any kind shall be admissible on account of this.**

3.20 STATUTORY REQUIREMENT:

It shall be the sole responsibility of the contractor to obtain all necessary statutory sanctions, approvals, Licence, Permits, & Certificates etc. as may be required to execute the work as envisaged in the scope. BHEL/Customer shall only provide all necessary assistance in obtaining such sanctions, approvals, licence, permits etc.

3.21 FACILITIES AT SITE :

3.21.1 Residential Accommodation and transportation: All transportation and accommodation arrangements for staff deployed by the contractor shall be the responsibility of the contractor at his own expenses. BHEL shall not provide any such above arrangement / Space etc. whatsoever.

3.21.2 Entry Passes : Upon contractor request Customer shall issue entry passes for the contractor's staff during normal/extended working hours including Sunday and holidays, depending upon requirement of work

3.22 TOOLS, TACKLES & EQUIPMENT

All tools & Tackles and consumables as given in Annexure-'S' but not limited to this list (**only for guidance**) for the satisfactory execution of the job shall be arranged by the contractor at free of cost. All measuring instruments, tools and tackles should be tested periodically and contractor shall also produce necessary certificate and proof of having tested & calibrated from certified

agencies. List of tools, tackles & equipment's of reputed manufacturers with proper Test / Calibration Certificates are to be arranged by the contractor at his own cost.

3.23 JOINT VENTURE

A joint venture (JV, sometimes 'J-V') is a legal entity formed between two parties to undertake an economic activity together. Thus, a joint venture may be defined for present purposes as any arrangement whereby two or more parties co-operate in order to run a business or to achieve a commercial objective. This co-operation may take various forms and may involve the running of a business on a long-term basis or on the realization of a particular project. The business may be entirely new, or it may be an existing business, which, it is believed, will benefit from the introduction of a further participant.

- 3.24 Agreement:** There should be a Joint Venture agreement between two parties showing terms & conditions of Joint Venture. The parties to Joint Venture shall jointly and severally be liable to BHEL of all obligations of the Joint Venture. The parties to Joint Venture shall maintain their Joint Venture agreement till successful execution and completion of contract with BHEL. The Joint Venture shall submit a notarized Joint Venture agreement to BHEL at the time of submitting offer.

PART – 1

Section 4 : TECHNICAL SPECIFICATIONS

1.0 Scope of work:

The scope shall cover Soil Resistivity Measurement and Resistance measurement of the existing earth mat for RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW) of TANGEDCO, in Tirunelveli Generation Circle in the Kanyakumari District, Tamil Nadu which shall include the following:

- Visit to the site with manpower and all equipment/tools required,
- Joint measurement of Soil Resistivity with customer as specified,
- Joint measurement of Resistance of existing earth mat Powerhouse & Switchyard as specified,
- Preparation of joint reports with customer and submission of final reports to BHEL as specified.

2.0 PROJECT DETAILS:-

Refer Annexure-T1

3.0 STANDARDS:-

Latest versions of the following standards/ codes in totality or in part shall form the reference documents:

- ASTM G 57 Field Measurement of Soil Resistivity using Wenner's Four Pin Method
- IS 3043 Code of Practice for Earthing
- IEEE-80-2000 Guide for Safety in AC Substation Grounding
- IEEE-81-1983 Guide for Measuring Earth Resistivity

Any details not specifically covered by these Standards and Specifications shall be subject to acceptance of the customer. In the event of contradictory requirements between the standards and these specification requirements, the terms of the Specifications shall be applicable.

Any Reference made to standards and specifications, or to equipment and materials of a particular manufacture shall be identified as "or equivalent". The supplier may propose equivalent standards, specifications, materials or equipment which shall be equal in every respects to that specified. If the supplier, for any reason, proposes any equipment equivalent to, or deviated from, the above standards, the supplier shall state the exact nature of the change and the reason for making the change, and shall submit complete specifications of the materials, as well as copies of pertinent standards, for the acceptance of the customer, and the decision of the customer regarding the matter of quality will be final.

The objective of this specification is to explain the method of soil resistivity measurement and resistivity measurement of existing earth mat for Kodayar Power House-1 and to ensure its conformance to the relevant standards (IS 3043, Indian Electricity Rules, ANSI/ IEEE Standards/ Guide & CBIP Manual on Earthing of AC Power Systems, 2007).



4.0 EQUIPMENT REQUIRED:-

- 1) 4 pole digital ground resistance tester
- 2) Earthing Rods
- 3) Hammer
- 4) Connecting Cables
- 5) Measuring tape
- 6) User's manual for meter
- 7) Any other tool not specified but necessary to carry out the work

5.0 CHOICE OF LOCATIONS & ELECTRODES FOR MEASUREMENT:-

The soil resistivity measurement shall be done in the following areas:

1. Adjacent Area of Powerhouse (approx. 8 points)
2. Switchyard Area (approx. 8 points)
3. Any other adjoining functional area as required by the customer.

Soil resistivity shall be measured at approximate 16 points and it is assumed that vendor has to visit 2 times to carry out the job.

The vendor also has to measure the resistance of already complete underground grid at of Power House and Switchyard Area.

However vendor has to quote Lump sum charges for carry out the job. This shall include visits to the site including man-days, to-and-fro transportation, conveyance, boarding and lodging etc.

For making the resistivity measurements, generally, 25 mm diameter holes shall be drilled into the rock to a depth of 1 m and 1.1 m MS rod of 20 mm diameter shall be hammered into the rock. For filling the air gap between the electrode and the rock, a slurry made of powdered rock and water shall be poured into the holes after placing the electrodes. The electrodes shall be installed at suitable locations. Four (4) such electrodes shall be used at a time for making the resistivity measurements. At any site where electrodes cannot be hammered into the rock, pneumatic drill shall be required to make small holes for inserting them into the ground by grouting.

6.0 METHOD OF MEASUREMENT:-

Resistivity of Soil

Measurement of soil resistivity at the site shall be carried out by the Wenner four electrode method. The measurements can be made with Digital Earth Tester. Connections of the meter for measuring earth resistivity are shown in Figure 1.

In this method, four electrodes are driven into the earth along a straight line, at equal distances 'a' meter apart, driven to a depth 'b'. The depth 'b' should be ideally less than 1/20



of spacing 'a'. Current 'I' is passed through the earth via the two outer (Current) electrodes and voltage (V) is measured between the two inner (Potential) electrodes. The meter measures the measured voltage divided by the current (V/I) and gives a value of the Resistance R.

Apparent Soil Resistivity values are calculated by using the formula

$$\rho = 2\pi a R \dots\dots\dots (1)$$

where, ρ = apparent resistivity of soil in ohm-m,

a = distance between the adjacent electrodes in m,

R = Ratio of voltage across the inner electrodes to the current circulated between the outer electrodes of Wenner configuration in ohms (read directly by the Digital Earth Tester)

b = depth of electrode in m

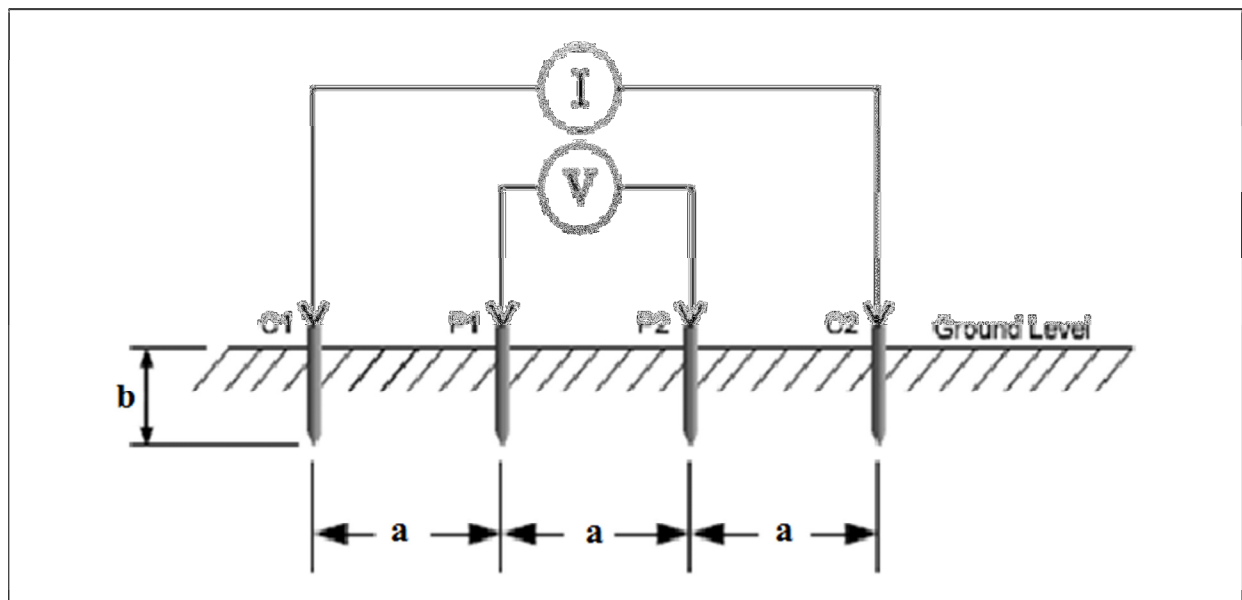


Figure: 1 Wenner Four Electrode Method

If the depth 'b' is not less than 1/20th of the spacing 'a', then the general formula is

$$\rho = \frac{4\pi a R}{1 + \frac{2a}{\sqrt{(a^2 + 4b^2)}} - \frac{a}{\sqrt{(a^2 + b^2)}}} \dots\dots\dots (2)$$

7.0 FORMAT OF TEST RECORD:-

Sl. No.	Electrode Spacing 'a' m	Radial A			Radial B		
		Measured Resistance 'R' (Ω)	Apparent Resistivity 'ρ' (Ω-m)	Weighted Average Resistivity 'ρ' (Ω-m)	Measured Resistance 'R' (Ω)	Apparent Resistivity 'ρ' (Ω-m)	Weighted Average Resistivity 'ρ' (Ω-m)

1	1						
2	2						
3	3						
4	...						

Table 1

8.0 PROCEDURE FOR MEASURING SOIL RESISTIVITY:-

For measuring soil resistivity at site, measurements of resistivity are made along a number of radials at different locations. There ought to be a minimum of two radials at different locations. Spacing between the electrodes (probe) should be varied from the smallest value of about 0.5 m to large values, by changing the spacing of electrode from an initial small value of 0.5 m up to a distance of 20 m (typical interval of 0.5 m, 1.0 m, 2.0 m, 5.0 m, 10 m, 15 m, 20 m, etc.) depending on the extent of the earth electrode and condition on the ground. If resistivity variation is large, at least five progressively increasing probe spacing are necessary to get good estimate of deeper layer parameters. The soil along the radials should be free from buried conductive pipes etc. and it should not be recently filled and therefore not yet compacted. For convenience, one probe may be kept near the location of the earth tester and the other three moved as required. Test wires should be insulated and should not have joints in between. These should be firmly connected to terminals of earth.

Resistance Meter and Test electrodes:

Test electrodes should be clean and free from rust. Hammering of electrodes should not result in loosening of the connection between electrode and its test lead and thereby increase of contact resistance between test lead and electrode. Accuracy of earth resistance meter should be checked before and after the measurements. Resistivity value should be calculated after each observation so that if there is an abrupt variation in measured resistivity, measurement for that probe spacing should be repeated after altering the probe location.

9.0 INTERPRETATION OF MEASUREMENT:-

ρ is called apparent measured resistivity. It represents the true resistivity of the soil at the site of measurement only if the soil formation is homogenous and isotropic (having same properties in all direction) in nature. Usually, resistivity variation is not very pronounced in lateral direction and is gradual. Resistivity is more likely to vary along the depth of soil below the surface. The soil may consist of two or more layers of different resistivities. In that case, ρ is a measure of weighted average of true resistivities of different layers. The effective depth of current penetration below the earth surface is dependent on distance between current electrodes. ρ is a measure of resistivity up to a depth equal to one third of the distance between current electrodes, i.e., depth equal to distance 'a' meters. As magnitude of 'a' is increased from a small value to larger values, the measured resistivity reflects the effect of soil at greater depth. This is the reason that a layered model can be used to reflect variation in measured resistivity along the depth below the earth surface as 'a' is varied. From the soil resistivity measurements, the data becomes available in the form of table 1.

If any soil resistivity for electrode spacing is found to be too high or too low, as compared to soil resistivity for the next smaller or next larger electrode spacing along that radial, it may be ignored when determining the soil model.

The most commonly used soil resistivity models are the uniform soil model and the two-layer soil model (as per clause 13.4 of IEEE-80). In case of non-uniform soil resistivity, two layer model shall be adopted for computation of earth resistivity.

1. Uniform Soil Assumption

The approximate soil resistivity may be obtained by taking an arithmetic average of the measured apparent resistivity data as shown in equation (3).

$$P = \frac{\rho_1 + \rho_2 + \rho_3 + \dots + \rho_n}{n} \dots\dots (3)$$

where, $\rho_1 + \rho_2 + \rho_3 + \dots + \rho_n$ = measured apparent resistivity data obtained at different spacing in Wenner method
n = total number of measurements

2. Non-Uniform Soil Assumption

For non-uniform soil, the approximate soil resistivity may be obtained by:

i. Two Layer Soil Model (General Method)

A two layer soil model can be represented by an upper layer of soil of a finite depth above a lower layer of infinite depth. The abrupt change in soil resistivity at the boundaries of each soil layer can be described by means of a reflection factor. The reflection factor, K, is defined by equation (4).

$$K = (\rho_2 - \rho_1) / (\rho_1 + \rho_2) \dots\dots\dots(4)$$

Where, ρ_1 is the upper layer soil resistivity, in Ω -m,
 ρ_2 is the lower layer soil resistivity, in Ω -m,

ii. Two Layer Soil Model (Graphical Method)

A two layer soil model can be approximated by using graphical method as described by Sunde. In Sunde's method, the graph (Figure 2) used to approximate a two layer soil model, is based on Wenner four-pin test data.

Parameters ρ_1 and ρ_2 are obtained by resistivity measurement. Only h (depth of upper layer) is obtained by Sunde's graphical method, as follows:

- a. Plot a graph of apparent resistivity ρ on Y – axis vs. probe spacing on X – axis.

- Estimate ρ_1 and ρ_2 from the graph plotted in step (a). ρ corresponding to smaller spacing is ρ_1 and for a larger spacing is ρ_2 .
- Determine ρ_2/ρ_1 and select a curve on the Sunde graph as shown in Figure 2, which matches closely and draw a new curve on the graph.
- Select the value on the Y-axis of ρ/ρ_1 within the sloped region of the appropriate ρ_2/ρ_1 curve of Figure 2.
- Read the corresponding value of a/h on the X – axis.
- Compute ρ by multiplying the selected value of ρ/ρ_1 within step (d) by ρ_1 .
- Read the corresponding probe spacing from the apparent resistivity graph plotted in step (a).
- Compute h , the depth of the upper layer, using the appropriate probe separation.

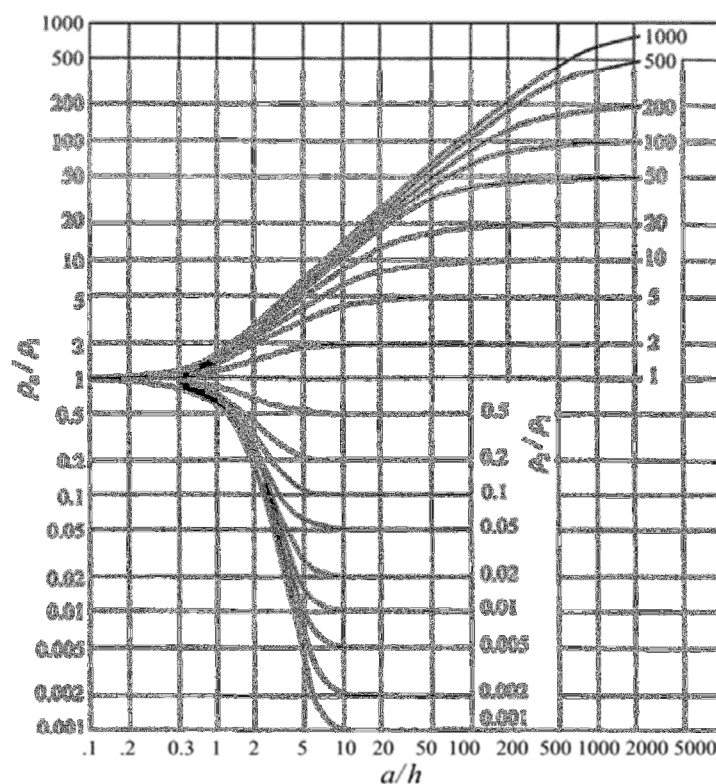


Figure 2

CONCLUSION:

Though it may be possible to obtain the most accurate representation of the actual variations of soil resistivity at the site, it may not be technically feasible to model all the variations.

Use of uniform soil model for the site where the apparent soil resistivity changes significantly with the probe spacing may lead to pessimistic or optimistic designs. It is necessary that a layered model may be adopted when uniform model does not fit the measured values.

10.0 MEASUREMENT & REPORTS:-

The Successful bidder shall visit the site in seven days' notice with all tools & instruments to carry out the job. Soil resistivity measurement shall be carried out at various locations (as finalized with BHEL & Customer) in presence of customer & BHEL representative. Final measurement reports shall be prepared at site only and it shall be jointly signed with the customer before submission to BHEL.

The bidder shall satisfy all customer queries related to procedure & calculation/result of measured values.

11.0 RESISTANCE MEASUREMENT OF UNDERGROUND GRID

The vendor has to measure the resistance of already completed underground grid at Kodyar Power House as per IEEE 80.

12.0 INFORMATION/DOCUMENTS (TO BE GIVEN BY BIDDER):

Documents/Drawings shall be submitted as per Annexure-T2.

13.0 ENCLOSURES WITH SPECIFICATION:

- i. Annexure-T1 - Project Information & Data
- ii. Annexure-T2 - Documents/Drawings Submission Schedule
- iii. Annexure-T3 - Scope of Supply
- iv. Annexure-T4 - Unpriced Schedule
- v. Annexure-T5 - Schedule of Technical Deviation
- vi. Annexure-T6 - Checklist

ANNEXURE-T1

Project:- RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW), TANGEDCO

Enquiry No.-

1.	Name of Project	:	RMU Kodayar Power House-1
2.	Customer	:	TANGEDCO
3.	Location		Tirunelveli Generation Circle in the Kanyakumari District, Tamil Nadu
	i) Province	:	Kanyakumari District
	ii) Nearest Air port	:	Thiruvananthapuram
	iii) Nearest Railway Station		Thiruvananthapuram
4.	No. of units & Rating	:	1 x 60 MW (to be upgraded to 1 x 70MW),
5.	Site conditions		
	i) Ambient air temperature - Maximum	:	(+) 38.2° C
	ii) Relative Humidity -	:	70% in Summer & 80% in Monsoon
	iii) Altitude	:	Approx. 350m
6.	Transport Limitation		
	i) Size (in mm) (l x b x h)	:	
	ii) Weight (Tonnes)	:	

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ANNEXURE-T2

Sl. No.	Documents	No. of Copies/ Sets	Submission Schedule/ Remarks
1.0	Before Award of Contract (i.e. At the time of submitting technical offer) for technical scrutiny	2 Sets/ Copies each	At the time of technical bid submission.
1.1	Check List as per Annexure-B for submission of document Duly filled by vendor.		
1.2	Technical Deviations if any from specification, together with the justification as per format (Annexure-T5 , Schedule of Technical Deviations).		
1.3	Confirmation of Scope of supply as per Annexure-T3 .		
1.4	Unpriced Schedule as per Annexure-T4 (without price indication and clearly indication as Quoted/Not quoted).		
1.5	Confirmation for agreeing to all the clauses of technical specification HPE/RMU-KOD/SRM/T-01 Section 4 & annexures in totality except the technical deviations (if any) indicated in Technical deviation sheet (Annexure-T5) clearly by the bidder.		
2.0	After Award of Contract		
2.1	Submission of test reports	5 Sets	Within 10 days after visit to site.
3.0	3.1 Final Tests Certificates/Reports		
4.0	CD-ROM of all Test Reports	03 Sets	

Notes:-

- The vendor to strictly submit the documents as listed at sl. no.-1 (documents required for technical evaluation during tender stage). **Incomplete offer will not be considered for technical evaluation.**
- The supplier may note that all re-submissions must incorporate all comments given in the prior submission by the Purchaser. Adequate justification for not incorporating the same must be submitted, failing which the submitted documents may be returned.
- The submission of various documents indicated against different clauses of this Annexure shall be strictly followed by the vendor as per the duration indicated to comply the completion of the supply & to avoid further commercial penalization.

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ANNEXURE-T3

SCOPE OF SUPPLY

**Project:- RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW), TANGEDCO
Enquiry No.-**

Sl. No.	Description	Approx. Qty.
1.	Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at all test location/ point in line with detailed specification as per Wenner's four pin method, including 2 hard copy of detail reports.	1 Lot
2.	Resistance Measurement of the existing underground grid of the Powerhouse	1 Lot

Sign with stamp:

Date:

ANNEXURE-T4

UNPRICED SCHEDULE

**Project:- RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW), TANGEDCO
Enquiry No.-**

Sl. No.	Description	Approx. Qty.	Unit Length Rate	Total Price Ex-Works
1.	Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at all test location/ point in line with detailed specification as per Wenner's four pin method, including 2 hard copy of detail reports.	1 Lot	Quoted/ Not Quoted*	Quoted/ Not Quoted*
2.	Resistance Measurement of the existing underground grid of the Powerhouse	1 Lot	Quoted/ Not Quoted*	Quoted/ Not Quoted*

*-Strike out whichever is not applicable

Sign with stamp:

Date:

ANNEXURE-T5

SCHEDULE OF DEVIATIONS

Project:- RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW), TANGEDCO
Enquiry No.-

Sl. No.	Clause No. & Description	Technical Deviation	Reasons/Justification

Sign with Stamp:

Date:



ANNEXURE-T6

**Project:- RMU Kodayar Power House-1 (from 1x60 MW to 1X70 MW), TANGEDCO
Enquiry No.-**

Sl. No.	Documents	Remarks*
	Submission of Documents along with offer	
1.1	Check List as per Annexure-B for submission of document Duly filled by vendor.	Submitted/Not Submitted
1.2	Technical Deviations if any from specification, together with the justification as per format (Annexure-T5 , Schedule of Technical Deviations).	Submitted/Not Submitted
1.3	Confirmation of Scope of supply as per Annexure-T3 .	Confirmed/Not Confirmed
1.4	Unpriced Schedule as per Annexure-T4 (without price indication and clearly indication as Quoted/Not quoted).	Submitted/Not Submitted
1.5	Reference List of Projects executed	Submitted/Not Submitted
1.6	Confirmation for agreeing to all the clauses of technical specification HPE/RMU-KOD/SRM/T-01 Section 4 & annexures in totality except the technical deviations (if any) indicated in Technical deviation sheet (Annexure-T5) clearly by the bidder.	Confirmed/Not Confirmed

Notes:-

- * - Strike out whichever is not applicable.
- The vendor to fill up the check list given above and submit along with offer for initial review. **Failing to which their offer will not be considered for technical evaluation.**

Signature with Stamp:

Date:



PART – 1

Section 5 : ANNEXURES

ANNEXURE – A

COVERING LETTER

Sr MANAGER (HPE)
HPE GROUP
BLOCK-1, WW,
SECOND FLOOR,
BHEL, PIPLANI, BHOPAL M.P. – 462022

Dear Sir,

I/We hereby offer to carry out the work detailed in Tender Specification No. /-NIT No.: HPE/RMU-KOD/SRM/T-01, issued by Bharat Heavy Electricals Limited BHOPAL in accordance with the terms and conditions thereof.

I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same: -

1. Instructions to Tenderers
2. General Terms and Conditions
3. Special Conditions
4. Technical Specifications
5. Price Schedule

I/We have deposited / forwarded herewith the Tender Fee and Earnest Money deposit. Details of Tender Fee and EMD payment are furnished in the check list.

EMD shall be refunded should our offer not be accepted. Should our offer be accepted, I/We further agree to deposit the required amount of Security Deposit for the work as provided for in the tender specification within the stipulated time as may be indicated by BHEL BHOPAL.

I/We further agree to execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed there to.

Signature of the Tenderer
Address

PLACE :
DATE :



ANNEXURE –B

CHECKLIST & SCHEDULE OF GENERAL PARTICULARS

NIT No. HPE/RMU-KOD/SRM/T-01

NOTE : - Bidder shall fill in the following details and no column should be left blank.

1.	Name & Address of the Bidder		
2.	Fax / Email Address		
3.	Phone No. (Office)	OFFICE:-	MOB:-
4.	Name & designation of the official of the tenderer to whom all the references shall be made		
5.	Bidder's proposal No. & date		
6.	Whether Tender Fee submitted by EFT Please give details.		
7.	Whether EMD submitted by EFT / MSME certificate Pl. give details.		
8.	Validity of offer / rates quoted for 3 months from the offer date	Yes / No	
9.	PAN No. Photocopy enclosed	Yes / No (PAN NO. -- _____)	
10.	GSTIN Registration No. (If Applicable) photocopy enclosed		
11.	Attested copy of power of attorney	Yes / No	
12.	Whether signed copy of tender document submitted	Yes/NO	
13.	Details about type of the firm with relevant supporting documents.	Yes / No	
14.	Financial viability in the format at Annexure "C"	Yes / No	
15.	Detail of experience in the format at Annexure "D"	Yes / No	
16.	Month wise Manpower Deployment Plan in the format at Annexure "E"	Yes / No	
17.	List of tools & tackles in the format at Annexure "F"	Yes / No	
18.	Declaration sheet in the format at Annexure "G"	Yes / No	
19.	No Deviation Filled (Technical) as per Annexure "H"	Yes / No	
20.	No Deviation Filled (Commercial) as per Annexure "I"	Yes / No	
21.	Certificate confirming about not being blacklisted by BHEL /customer/Any PSU as per Annexure "L"	Yes / No	

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE – D

INFORMATION OF SIMILAR JOBS EXECUTED TILL 03.05.2021

NIT No. HPE/RMU-KOD/SRM/T-01

Sr.No.	Agency by whom awarded with name & contact no. of concerned person	Particulars of the works awarded	Work Order No. with Date	Work Order value	Date of completion

Note:- Refer Clause 1.1.9 of “Instructions to Tenderers”

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE –F

LIST OF MAJOR TOOLS AND TACKLES TO BE PROVIDED BY CONTRACTOR

NIT No HPE/RMU-KOD/SRM/T-01

Sl. No.	Name of equipment	Quantity Owned	Quantity proposed to be deployed for this job

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE –G

DECLARATION SHEET

NIT No. HPE/RMU-KOD/SRM/T-01

I / We, (NAME OF THE FIRM)
..... hereby certify that, all the information and data furnished by me / us
with regard to this Tender Specification (NIT No.)
..... are true and complete to the best of my / our knowledge. I / We
have gone through the specification, conditions and stipulations in detail and agree to comply
with the requirements and intent of specification.

I / We, further certify that I / we am / are the duly authorised representative(s) of the under
mentioned tenderer and a valid power of attorney to this effect is also enclosed.

I / We, hereby declare that I / we shall treat the tender documents, drawings, specifications
and other records connected with the work as secret / confidential and shall not
communicate information / derived there from to any persons other than a person to whom I
/ We am / are authorised to communicate the same or use the information in any manner
prejudicial to the safety of the same.

Tenderer's Name & Address:

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE –H

CERTIFICATE OF NO-DEVIATION (TECHNICAL)

NIT No. HPE/RMU-KOD/SRM/T-01

I/WE, M/s

hereby certify that notwithstanding any contrary indications/ conditions elsewhere in our offer documents, I/we have neither set any terms and conditions nor there is any deviation taken from the conditions of BHEL's tender specifications – technical other than mentioned below and I/we agree to all other terms and conditions mentioned in BHEL's tender specifications – technical with associated amendments and clarifications:

Sr.No.	Tender Spec. Ref doc.	Clause Reference	Clause description as appearing in tender document	Deviation(If any)
1.0				
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE –I

CERTIFICATE OF NO-DEVIATION (COMMERCIAL)

NIT No. HPE/RMU-KOD/SRM/T-01

I/WE, M/s

hereby certify that notwithstanding any contrary indications/ conditions elsewhere in our offer documents, I/we have neither set any terms and conditions nor there is any deviation taken from the conditions of BHEL's tender specifications – commercial other than mentioned below and I/we agree to all other terms and conditions mentioned in BHEL's tender specifications – commercial with associated amendments and clarifications:

Sr.No.	Tender Spec. Ref doc.	Clause Reference	Clause description as appearing in tender document	Deviation(If any)
1.0				
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				

SIGNATURE OF THE BIDDER WITH SEAL



HYDRO PROJECTS ENGINEERING, BHEL Bhopal

ANNEXURE –L

**CERTIFICATE OF CONFIRMATION OF NOT BEING BLACK LISTED BY ANY PSU OR
GOVERNMENT DEPTT.**

NIT No. HPE/RMU-KOD/SRM/T-01

(The bidder has not been black listed / prohibited/ banned by any
BHEL unit / PSU/Govt Deptt as on date.)

I / We, M/s _____ hereby declare and confirm that
we have done the business with BHEL (name of the **unit/ units**).....and / or
with any other PSU/Govt Deptt**in the past and** our company /
organization has not been black listed / banned / prohibited for doing the business by any
of the above units / organizations as on date.

OR

I / We, M/s _____ hereby declare and confirm that
we have not done any business with BHEL(name of the unit/
units)/ or with any PSU/Govt deptt. till date and we / our company / organisation is for the
first time applying for doing the business with them.

SIGNATURE OF THE BIDDER WITH SEAL



ANNEXURE –M

AGREEMENT

(To be executed on non-judicial stamp paper of appropriate value as per Government norms)

THIS AGREEMENT MADE THIS..... DAY OF 202....
between BHARAT HEAVY ELECTRICALS LIMITED, Bhopal (A Government of India Enterprise) a
Company incorporated under the Companies Act 1956, having its registered office at BHEL House,
Siri Fort, New Delhi – 110 049 (hereinafter called BHEL) of the ONE PART

AND

.....
..... (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..... dated issued by BHEL for the execution of
..... the Contractor submitted their offer 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 reference cited therein.

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

That the Contractor shall execute the work of
..... and more particularly described in Tender specification
(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.

The Contractor is required to furnish to BHEL Security Deposit in the forms of cash/approved
securities / Bank Guarantee valid upto for a sum of Rs..... (Rupees
.....) towards satisfactory performance and
completion of the Contract.

The Contractor has furnished a Guarantee bearing No..... Dated for a
sum of Rs..... (Rupees.....) executed by
.....Bank in favour of BHEL towards Security Deposit valid up



to.....(The Contractor has furnished to BHEL an initial Security Deposit of Rs..... in cash /Approved Securities/BG for Rs..... 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).

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 instalment 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.....

That in consideration of the payments to be made to the contractor by BHEL in accordance with this Agreement the Contractor hereby convenience 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.

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.

That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Site-In-Charge or such other officer authorised by BHEL, within agreed time schedule, the time of completion being the essence of the Contract.

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.

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.

That whenever under this contract or otherwise, any sum of money shall be recoverable from a 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.

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.

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.



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.

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

It is clearly understood by the 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.

The following documents:-

- (a) Invitation to Tender No..... and the documents specified therein
- (b) Contractor's Offer No..... date.....
- (c) Letter of Intent No..... date
- (d)

shall also form part of & shall govern this Agreement.

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

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

For and on behalf of BHEL, Bhopal

WITNESS: -

- 1.
- 2.



ANNEXURE –N

MODEL FORM OF BANK GUARANTEE (FOR SECURITY DEPOSIT)

(To be issued in non-judicial stamp paper of appropriate value as per Government norms)

In consideration of the Bharat Heavy Electricals Limited, having its registered Office at BHEL House, Siri Fort, New Delhi (hereinafter called BHEL), having agreed to exempt (hereinafter called “the said Contractor (s)” from the demand, under the terms and conditions of the Agreement dated made between BHEL and for (hereinafter called “the said Agreement”) of Security (name of work) deposit for the due fulfilment by the said contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank guarantee for Rs..... (Rupees.....Only).

We, at the (indicate the name of the Bank), (hereinafter referred to as “the bank”) request of contractor(s) do hereby undertake to pay to BHEL and amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by BHEL, by reason of any breach by the said contractor(s), of any of the terms or conditions contained in the said Agreement.

We, (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from BHEL, stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by BHEL by reason of breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement or by reason of the contractor(s)’s failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....

We, (indicate the name of the Bank) undertake to pay to BHEL any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / supplier(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under these presents being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) / supplier(s) shall have no claim against us for making such payment.

We (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of BHEL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till BHEL certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before we shall be discharged from all liability under this guarantee thereafter.



We (indicate the name of the Bank) further agree with BHEL that BHEL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the BHEL against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of BHEL or any indulgence by BHEL to the said Contractor(s) or by any such matter or thing whatsoever which under the Law relating to sureties would, but for this provision, have effect of so relieving us. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s) / Supplier(s).

We, (indicate the name of the Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of BHEL in writing.

Dated Day..... of 202

For

.....
(indicate the name of the Bank)

Witness :

1. -----

2 -----

Note : The above format is drawn upon the model form jointly evolved by the Reserve Bank of India, the Indian Banker's Association and the Ministry of Finance, Government of India as circulated by Indian Banker's Association, Bombay vide their letter No. LA/14-61/7808 dated 1/5/1980 as such no deviations are acceptable.

To be issued in appropriate valid non-judicial stamp paper prevalent in the state where the same is executed which is to be certified by the Notary Public or any other competent officer of that state.



ANNEXURE-O

PROCEDURE-2.3 FOR CONDUCT OF CONCILIATION PROCEEDINGS

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counterclaims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings. If BHEL is to initiate Conciliation, then, the invitation to Conciliate shall be extended to the concerned Stakeholder in Format-30 hereto. Where the stakeholder is to initiate the Conciliation, the notice for initiation of Conciliation shall be sent in Format-31 hereto.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL. The appointment of Conciliator(s) shall be completed and communicated by the concerned Department/Group of BHEL Unit/Division/Region/Business Group to the other party and the Conciliator(s) within 30 days from the date of acceptance of the invitation to conciliate by the concerned party in the Format-32. The details of the Claim, and counter-claim, if any, shall be intimated to the Conciliator(s) simultaneously in Format-29.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within 15 days from the date of conclusion of the



last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case, within 1 month from the date of conclusion of the last hearing.

8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC. 9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
9. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft
10. Settlement Agreement in terms of the recommendations. 11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract. 12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
11. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.
12. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
13. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.

14. Authority viz. the Board Level Committee on Alternative Dispute Resolution s Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
15. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
16. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
17. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996. 20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.
18. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
19. The proceedings of Conciliation under this Scheme may be terminated as follows:
 - a. On the date of signing of the Settlement agreement by the Parties; or,
 - b. By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
 - c. By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - d. By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - e. On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

20. The Conciliator(s) shall be entitled to following fees and facilities:

S1 No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator) In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator) Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on the, Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.
3	Secretarial expenses	Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC. Where Conciliation is by multi member Conciliators Rs 30,000/- (one time)- to be paid to the IEC
4	Travel and transportation and stay at outstation Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL).	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL. Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

21. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
22. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties. 26.
23. The other expenditures/costs in connection with the Conciliation proceedings out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove. 28.
24. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 4 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents.
25. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
26. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.
27. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
 - a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b. admissions made by the other party in the course of the Conciliator proceedings;
 - c. proposals made by the Conciliator;
 - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
28. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.

29. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
30. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.
31. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language

ANNEXURE-P

NIT No. HPE/RMU-KOD/SRM/T-01

LIST OF CONSORTIUM BANKS

1. SBI
2. SBH
3. Canara Bank
4. PNB
5. BOB
6. SBT
7. Deutsche Bank
8. Citi Bank
9. HDFC
10. HSBC
11. SCB
12. ICICI
13. ABN Amro Bank N.V.
14. Corporation Bank
15. Syndicate Bank
16. Indian Bank
17. UCO Bank
18. Central Bank
19. Oriental Bank of Commerce
20. Kotak Mahindra Bank Limited
21. The Federal Bank Limited
22. United Bank of India
23. Vijaya Bank
24. Union Bank of India
25. Bank of India
26. Punjab & Sind Bank
27. Andhra Bank
28. Axis Bank

ANNEXURE-Q

INDEMNITY BOND

(To be issued in Non-Judicial Stamp Paper of appropriate value as per Government norms)

WHEREAS THE (Name of the contractor) M/s. _____, having its registered office at, _____ has taken the contract for tender NO..... & Contractor's Offer No.....but the sub-contractors have also to obtain licence under the contract Labour (Regulation & Certificate under Form-V of the said rules.

So on the request of (Name of the contractor) M/s.....M/s Bharat Heavy Electricals Limited, Bhopal has agreed to issue certificate in Form-V in respect of the sub-contractor mentioned below. M/s _____, therefore, undertake to fully indemnify the M/s Bharat Heavy Electricals Limited, Bhopal from any financial implication whatsoever that may arise due to the grant of certificate in respect of sub-contractors of (name of the contractor in Form-V under contract Labour (Regulation & Abolition) Act. 1970 and its amendments.

- 1.
- 2.
- 3.

Signature & seal of Contractor

ANNEXURE-R

FORMAT FOR (EFT) ELECTRONIC FUND TRANSFER

You are requested to submit the information as per details along with the offer :

1. Name of the Supplier (Max 60 char)
 2. Account No (Max 17 char)
 3. Name of the bank, branch, city (Max 60, 40 and 20 characters respectively)
 4. Branch Code (Max 5 char)
 5. MICR Code (Max 30 char)
 6. IFSC Code (Max. 30 char) [Every NEFT enabled bank / branch has a unique IFSC Code (Indian Financial Security Code)] This code may differ from RTGS IFSC code.
- Vendors / bidders are required to submit the information on firm's letter head. In addition to above information please also furnish the following details to enable faster clearance of bills.
7. E-Mail Address (Max 40 char)
 8. Details of TIN No. (Max 11 char)

The successful bidder shall furnish the following information on their letterhead duly endorsed by the bank as per details given therein.

(ON VENDOR / CONTRACTOR LETTER HEAD ONLY)

To

M/s Bharat Heavy Electrcials Limited
P.O. Piplani Bhopal (MP) 462022

VENDOR/
CONTRACTOR
CODE(S)

Dear Sir/Madam,

Sub : Authorization of our payment through EFT/NEFT/RTGS

We hereby authorize M/s BHEL Bhopal to make our payments through Electronic Fund Transfer System. The details for facilitating the payments are given below:

1. NAME OF THE BENEFICIARY : _____

2. ADDRESS : _____ PIN _____

3. TELEPHONE NO. WITH STD. CODE : _____

4. BANK PARTICULARS

A) BANK NAME : _____

B) BRANCH ADDRESS : _____ PIN _____

C) 9 DIGIT MICR CODE : _____

D) BANK

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

 ACCOUNTNO : _____

E) BANK ACCOUNT TYPE :

SAVING	CURRENT	LOAN	CASH CREDIT	OTHERS (PL. SPECIFY)
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F) IFSC CODE : _____ G) BRANCH CODE: _____

5. BENEFICIARY AUTHORISED E-MAIL ADDRESS : _____

I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or credit is not effected due to incomplete or incorrect information, I/We would not hold the Company responsible.

Name of the authorized Signatory: _____

Date : _____

SIGNATURE & OFFICE STAMP

Proposed Bank Certification: It is certified that above mentioned beneficiary holds a bank account No..... with our branch and the Bank particulars mentioned above are correct.

Name of the authorized Signatory: _____

Date : _____

SIGNATURE & OFFICE STAMP

No Objection Certification from Existing Bank (In case of change of Bank): we have no-objection w.r.t. further payment made by M/s BHEL in the above mentioned account. Bank details of the above mentioned beneficiary with our bank are as follows:

Account No: _____

Bank Address : _____

SIGNATURE & OFFICE STAMP

Please refer point no 7 of the instructions

Endorsement of the SDC (MM)/ PO Issuing Authority or WO Issuing Authority.

All original documents are to be forwarded to Dy. Manager/Finance/Cash Planning Section.



Instructions for filling up the format

1. Details to be addressed to the followings
 - Contract awarding agency in case of work(s) contract and other contingent supplies
 - CDC/CRX in case of transporter
 - Medical MM incase of Medical Purchase
 - SDC/MM where the purchase order issued by MM
2. All details must be filled in capital letters
3. A cancelled blank cheque must be enclosed for verification of Account No, MICR and IFSC Codes.
4. Official Stamp along with designation must be affixed below the signature
5. Bank authorization is mandatory
6. All documents in original are to be submitted to BHEL.
7. In case of change of bank, no objection certificate is required from the existing bank on bank letterhead with suitable clarification.
8. Form with correction(s) or overwriting will not be accepted.

ANNEXURE –S

LIST OF TESTING EQPT, GENERAL T&P TO BE KEPT BY CONTRACTOR

Testing Equipments:

- 1) 4 pole digital ground resistance tester
- 2) Earthing Rods
- 3) Hammer
- 4) Connecting Cables
- 5) Measuring tape
- 6) User's manual for meter
- 7) Earth resistance meter
- 8) Any other tool not specified but necessary to carry out the work

ANNEXURE T

TAXES

- 1 Wherever bidders are required to supply services at project site Party has to submit GST registration no. of the State in which project site is located along with copy of registration certificate at the time of submission of Bid. In case the same is not available at the time of submission of bid, the contractor has to give an undertaking that the same will be arranged before award of work order.
 - 2 HSN Code/SAC, rate of tax under GST and applicable GST (IGST, CGST/SGST/UTGST) and GSTIN shall be clearly mentioned by the Bidder.
 - 3 GST portion of the invoice shall be released only upon:-
 - 2.2.1 All invoices raised by contractors/vendors must be GST compliant Tax invoices as per GST invoice rules.
 - 2.2.2 Contractor declaring such invoice in his GSTR-1 or any modified return as notified by government
 - 2.2.3 Receipt of goods/services and Tax Invoice by BHEL and
 - 2.2.4 Confirmation of payment of GST thereon by contractor on GSTN portal
 - 2.2.5 Alternatively, Contractor has to submit BG (through SFMS) of appropriate value which shall be valid at least one month after the confirmation of date of payment of GST by contractor on GSTN portal and receipt of Tax invoice and receipt of services, whichever is later. Contractor has to give an undertaking in this regard.
 - 2.2.6 Contractor has to give an undertaking to BHEL that they have declared invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.
- Payment to Contractor for GST portion will be released only after completion of above activity and on availment of ITC by BHEL.
- 4 In case GST credit is delayed/denied to BHEL due to non/delayed receipt of services/goods and /or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from the contractor along with interest levied/ leviable on BHEL.

Reverse Charge under GST

- 5 In respect of services, reverse charge liability shall arise at the earliest of date of payment to service provider or 60 days from the date of issue of invoice by service provider. Contractor has to submit bill for payment within 30days from the date of invoice. Any interest or penalty implications attributable to the contractor shall be recovered from them.
- 6 Any GST liability arising on BHEL under reverse charge before actual receipt of goods and/or invoice thereof would be subject to recovery of interest leviable for the period between the date of such liability and actual date of eligibility of ITC based on receipt of goods, receipt of invoices and other condition specified in GST Law.



Liquidated Damage/Penalty

- 7 Liquidated damage (LD) or Penalty if chargeable from suppliers/contractors as per NIT, applicable GST will be charged in addition to the same.

Tax Deduction at source

- 8 TDS as per extent provisions of the GST Law shall be deducted from supplier/contractor bill.

NIT No.: HPE/RMU-KOD/SRM/T-01

Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/ point as per Wenner's four pin method, including 2 hard copy detail reports (Approximately 16 points) and Resistance Measurement of RMU of Kodayar Power House-1

PART-2: PRICE BID

PRICE BID

Work Title of : Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/ point as per Wenner's four pin method, including 2 hard copy detail reports (Approximately 16 points) and Resistance Measurement of RMU of Kodayar Power House-1			
NIT No. HPE/RMU-KOD/SRM/T-01			
Sl No	Schedule	Description	Amount in Rs.
1	A	Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/ point as per Wenner's four pin method, including 2 hard copy detail reports (Aproximately 16 points- 8 No. points adjacent to Power House Area + 8 No. Points in Switchyard Area)	90%
2	B	Resistance Measurement of the existing underground grid of the Powerhouse	10%
		TOTAL OF SERVICES (%)	100%
	Quoted price	Grand Total of price Quoted for work as per Schedule A to B (in figures) Rs.	
	Quoted price	Grand total of price Quoted for work as per Schedule A to B (in words) Rs.	

NOTE:

- ONLY GRAND TOTAL PRICE OF THE COMPLETE PACKAGE TO BE QUOTED.**
- Rate per unit for different items of the Price Schedule shall be derived from the percentage value assigned to that particular item and qty specified in the price schedule.
- The price quoted by the bidder shall be inclusive of all taxes and duties except for GST tax applicable on service portion of the works, which shall be reimbursed to the contractor at rate prevailing at the time of services rendered.
- The L1 bidder shall be decided on the basis of price quoted for complete package.
- Activities pertains in schedule A to B if not performed/ deleted / not required during final execution of work shall not be liable for payment.

SIGNATURE OF THE BIDDER WITH SEAL



BILLING BREAK-UP OF R&M ACTIVITIES

Soil Resistivity Test as per IS 3043 in four radials (Eight directions) at each test location/ point as per Wenner's four pin method, including 2 hard copy detail reports (Approximately 16 points) and Resistance Measurement of RMU of Kodayar Power House-1

NIT No. HPE/RMU-KOD/SRM/T-01

Sl. No.	Description	Unit	Qty.	% of total value
1	Completion of work as per schedule "A" & "B" and on submission and acceptance of final test reports	Lot	1	100
	Total			100

SIGNATURE OF THE BIDDER WITH SEAL