



VOLUME – IA
Part I & II
TECHNICAL
CONDITIONS OF
CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



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VOLUME-IA PART – I CHAPTER – I

PROJECT INFORMATION

1.1	Project Title	:	2x660 MW Udangudi Super Critical Thermal Power Project
1.2	Plant Capacity	:	2x660 MW
1.3	Type of Project	:	Green Field
1.4	Owner	:	Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)
1.5	Plant Site Location	:	Kallamoli – 628 203, Thiruchendur (Taluk), Tuticorin (Dt), Tamilnadu
1.6	Nearest Village	:	Udangudi
1.7	Nearest Town & City	:	41 km from Tuticorin
1.8	State Capital	:	Chennai at 481 km
1.9	Nearest Railway Station	:	Thiruchendur at 8 km
1.10	Nearest Airport	:	Tuticorin Domestic Airport at 41 km
1.11	Nearest Seaport	:	Tuticorin Port at 45 km
2.0	Meteorological Condition		
2.1	Climate	:	Tropical, very dry and hot summer, dry and cold winter and good rain-fall in monsoon accompanied with strong wind
2.2	Site Elevation	:	+ 2.8 m above MSL
2.3	Ambient Temperature		
a.	Annual Max. Mean Temperature	:	41 ^o C
b.	Annual Min. Mean Temperature	:	22.3 ^o C
c.	Dry Bulb Temperature (DBT) for Design Purpose	:	Max 41 ^o C & Min 17 ^o C
2.4	Relative Humidity for Design Purpose	:	62-84 %
2.5	Annual Rainfall		
	Average	:	384.4 mm to 718.2 mm
2.6	Basic Design Wind Pressure	:	As per IS: 875 (Latest Edition)
2.7	Wind Speed	:	11.8 kmph (Avg), 50 m/s (max)
2.8	Seismic Zone	:	Zone-II as per IS-1893-2002 (Part- IV)

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VOLUME-IA PART – I CHAPTER – II

SCOPE OF WORKS

SCOPE OF WORK:

- 1.2.1 This tender specification is for conducting Advanced Electro Magnetic Test (AET) in Finish Reheater Tubes of Unit-2 of 2X660 MW Udangudi Supercritical Thermal Power Project.
- 1.2.2 The job consists of detailed inspection by AET for FRH tubes which will be counted for at least 1500 nos. Inspection team shall comprise minimum of three qualified personnel for carrying out the work,
- 1.2.3 The scanning should be based on Advanced Electromagnetic Technique (AET)
- 1.2.4 Thorough inspection FRH coils bends is required to be carried out for checking of internal surfaces, corrosion effect & to detect flaws inside & outside of the tubes.
- 1.2.5 There should be no need of cutting drop down of coil for inspection.
- 1.2.6 Inspection speed should be 10 feet per minute.
- 1.2.7 Suitable dual frequency detector should be used.
- 1.2.8 Encoder should be attached to give exact location of Defect with complete C scan image.
- 1.2.9 Sensitivity should be proven on actual defective tube.
- 1.2.10 The system should be equally sensitive to ID and OD defects.
- 1.2.11 Real time Inspection should be done.
- 1.2.12 Probe suitable to inspect Elbow/Bend
- 1.2.13 Probe should be suitable to inspect in a gap of 15mm space.
- 1.2.14 Thorough scanning of each and every tube is carried out by using AET analyzer, which should consist of contoured manual scanner along with custom made software for online detection of the flaws & 100% scanning.
- 1.2.15 Preliminary Report of failure tubes should be submitted immediately after the completion of the work on day to day basis.
- 1.2.16 Final Report of the work should be submitted within 02 weeks after the completion of the work, in hard copies.
- 1.2.17 Submission of test results in hard as well as soft copies to BHEL site office, 2X660 MW Udangudi STPP, Kallamozhi, Tiruchendur , Tuticorin (Dt)
- 1.2.18 Bidder shall confirm that the Equipment used, for the testing shall be in accordance with the international standard and valid calibration certificates tall equipment to be used for the above mentioned job, shall be submitted to BHEL.
- 1.2.19 Bidder will indemnify and shall keep us indemnified against all acts of omission or negligence, dishonesty or misconduct of their employees sent by him at our premises. BHEL will not be responsible for death, accident or injury to the agency's employees arising while discharging duties. BHEL shall not be liable to pay any compensation or damages to any such employee or to third party, or instruments. The Agency shall indemnify BHEL at all times against any claim made under the any Govt Act or any other applicable act or any statutory modification thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury

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- sustained by any employee or other person whose entry into our premises has been authorized by you.
- 1.2.20 If you shall break, deface, injure or destroy any part of a document or any other property for the project area, you shall make good of the same at your own expenses.
- 1.2.21 You shall be responsible for payment of compensation as per relevant statutory rules if any
- 1.2.22 In case of idling of the inspection team at site due to non-availability, idling charges of Rs 50,000/- per day shall be payable based on certification by BHEL Engineer In-charge
- 1.2.23 BHEL will provide power supply (free of cost) for this work.

VOLUME-IA PART – I CHAPTER – III

TIME SCHEDULE

- 1.3.1 The contract shall be valid for a period of 10 days from the date of commencement of work at site.
- 1.3.2 The work shall be commenced on the mutually agreed date between the bidder and BHEL engineer and shall be deemed as completed only when so certified by BHEL Engineer
- 1.3.3 Agency shall deploy the inspection team at site within 5 days from issue of work order.

VOLUME-IA PART – I CHAPTER – IV

T&Ps AND MMEs TO BE DEPLOYED BY BHEL & VENDOR

- 1.4.1 All the tools & plants necessary for carrying out this work as per BOQ shall be arranged by the bidder at his own cost.

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VOLUME-IA PART – I CHAPTER – V

BOQ

S.No	Description of items	Unit	Quantity
1	Unit-2 Boiler FRH Tube bends inspection by AET	Per bend / Per Metre	1500
2	Mobilisation & Demobilisation charges	Lumpsum	For 3 Nos. of inspection Engineers

Note:

- 1) Rates shall be quoted for the above BOQ in separate excel file (Annexure-I) and signed copy of the same shall be submitted along with the offer
- 2) Quoted rates shall remain firm throughout the contract period
- 3) Mobilisation & Demobilisation charges shall be including travelling charges from bidder's location to site and return, accommodation and food expenses.
- 4) Local transportation to site will be provided by BHEL.

VOLUME-IA PART – I CHAPTER – VI

TERMS OF PAYMENT

- 1.6.1 100% payment based on actual quantity executed at site shall be made after submission of invoice along with supporting documents duly verified by BHEL's Engineer In-charge. Payment will be released by BHEL within 30 days from submission of invoice by the agency.
- 1.6.2 Mobilisation & Demobilisation charges will be paid on lumpsum basis after completion of the work.
- 1.6.3 Security deposit and retention amount not applicable for this contract.
- 1.6.4 PVC and ORC not applicable for this contract.

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VOLUME-IA PART – I CHAPTER VII TAXES AND DUTIES

Goods and service Tax (GST) & Cess

- 1.8.1.1 The successful bidder shall furnish proof of GST registration with GSTN Portal in the State in which the Project is being executed, covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.
- 1.8.1.2 Contractor's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Contractor shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return. Since this is a works contract, the applicable rate shall be @ 18% GST, as applicable presently.
- 1.8.1.3 Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details will as below:
- BHEL GSTN - 33AAACB4146P2ZL
NAME - BHARAT HEAVY ELECTRICALS LIMITED
ADDRESS - BHEL-PSSR SITE OFFICE, 2X660 MW Udangudi
Supercritical Thermal Power Station, Kallamoli Village, Thiruchendur Taluk,
Thoothukudi District, Tamil Nadu - 628203
- 1.8.1.4 GST charged in the tax invoice/debit note/revised tax invoice by the contractor shall be released separately to the contractor only after contractor files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the contractor and has paid the GST at the time of filing the monthly return.
- 1.8.1.5 In case BHEL has to incur any liability (like interest / penalty etc.) due to denial/reversal / delay of input tax credit in respect of the invoice submitted by the contractor, for the reasons attributable to the contractor, the same shall be recovered from the contractor.
- 1.8.1.6 Further, in case BHEL is deprived of the Input tax credit due to any reason attributable to contractor, the same shall not be paid or Recovered if already paid to the contractor.
- 1.8.1.7 Tax invoice/debit Note/revised tax invoice shall contain all such particulars as prescribed in GST law and comply to the timelines for issue of the same. Invoices shall be submitted on time to the concerned BHEL Engineer In Charge.
- 1.8.1.8 TDS under GST (if/ as & when applicable) shall be deducted at prevailing rates on gross invoice value from the running bills.
- 1.8.1.9 E-way bills / Transit passes / Road Permits, if required for materials / T&P etc.,

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bought into the project site is to be arranged by the Contractor only.

1.8.1.10 BHEL shall not reimburse any amounts towards any interest / penalty etc., incurred by contractor. Any additional claim at a later date due to issues such as wrong rates / wrong classification by contractor shall not be paid by BHEL.

1.8.2 All taxes and duty other than GST & Cess

The contractor shall pay all (except the specific exclusion viz GST & Cess) taxes, fees, license charges, deposits, duties, tools, royalty, commissions, Stamp Duties, or other charges / levies, which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract and the same shall not be reimbursed by BHEL. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

1.8.3 Statutory Variations

Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favor of BHEL. No other variations shall be allowed during the tenure of the contract.

1.8.4 New Taxes/Levies

In case Government imposes any new levy / tax after submission of bid during the tenure of the contract, BHEL shall reimburse the same at actual on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.

1.8.5 Direct Tax

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.

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VOLUME-IA PART- II CHAPTER -1 CORRECTIONS / REVISIONS IN GCC

SI no 1.0 The following clauses of GCC are not applicable for this tender.

GCC

2.12 – ORC,

2.13 – Interest Bearing Recoverable Advance,

2.17 – PVC,

SI no 2.0 Following Clauses are Modified / Revised / Added in GCC as below:

SI no.	GCC Clause No.	GCC clause Modified / Revised / Added
I.	New Clause is added and replace the existing clause of Risk & Cost (i.e. 2.7.2.1 to 2.7.3)	<p>Clause 2.7.2 and 2.7.3 are revised as:</p> <p>2.7.2 Breach of Contract, Remedies and Termination</p> <p>2.7.2.1 BHEL shall terminate the contract after due notice of a period of 14 days in any of the following cases, which if not rectified/ improved within the time period mentioned in the notice, then, Breach of Contract will be considered to have been established:</p> <ul style="list-style-type: none">i). Contractor s poor progress of the work vis- -vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available period considering its performance of execution.ii). Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.iii). Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor.iv). Repeated failure of contractor in deploying the required resources, to comply the statutory requirements etc. even after given by BHEL is writing.v). Strike or Lockout declared is not settled within a period of one month.vi). Termination of Contract on account of any other reason (s) attributable to Contractor.vii). Assignment, transfer, subletting of Contract without BHEL s written permission.viii). Non-compliance to any contractual condition or any other default attributable to Contractor. <p>2.7.2.2 Remedies in case of Breach of Contract is established</p> <p>In case Breach of Contract is established, Security Deposit and Retention Amount shall be encashed/ forfeited. This is without prejudice to BHEL s right to levy of liquidated damages, debarment etc. which shall be applied</p>

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		<p>as per the provisions of the contract. Sequence of recovery to be made in case of breach of contract is established, is as below:</p> <ol style="list-style-type: none">a) In case the value of Security Deposit & Retention Amount, available for the Contract, is less than 10% of the Contract Value, the balance amount shall be recovered from dues available in the form of Bills payable to contractor, BGs against the same contract etc.b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery:<ol style="list-style-type: none">i) Dues payable to contractor against other contracts in the same Region shall be considered for recovery.ii) If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor.iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor. <p>Note:</p> <ol style="list-style-type: none">1) In addition to above, levy of liquidated damages, debarment, termination, short-closure etc. shall be applied as per provisions of the contract.2) If tendering is done for the balance work, the defaulted contractor (including all the members/partners in case of JV/ partnership firm) shall not be eligible for either executing the balance work or to participate in the tender(s) for executing the balance work. <p>2.7.3 In case Contractor fails to deploy the resources as per requirement informed by BHEL in writing to expedite the work, BHEL can deploy own/hired/otherwise arranged resources and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.</p>
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II.	2.7.7	<p>GCC Clause 2.7.7 is revised as: BHEL may permit or direct contractor to demobilize and remobilize at a future date as intimated by BHEL in case of following situations for reasons other than Force majeure conditions and not attributable to contractor:</p> <ul style="list-style-type: none"> i) suspension of work(s) at a Project either by BHEL or Customer, or ii) where work comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than three months <p>In such cases, charges towards demobilization and remobilization shall be as decided by BHEL after successful remobilization by contractor at site, and decision of BHEL shall be final and binding on the contractor. After remobilization, all conditions as per contract shall become applicable. In case Contractor does not remobilize with adequate resources or does not start the work within the period as intimated, then BHEL reserves the right to terminate the contract and effect remedies under Clause 2.7.2.2. Duration of the contract/time extension shall be revised suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.</p>
III.	2.11.3	<p>GCC Clause 2.11.3 is revised as: However, if any Time extension is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take under clause 2.7.2 of GCC i.e. Breach of Contract, Remedies and Termination.</p>
IV.	2.19.1	<p>GCC Clause 2.19.1 is revised as: The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, it may be considered as Breach of Contract under Clause 2.7 and the remedies under Clause 2.7.2.2 may be executed, at the discretion of BHEL.</p>