

TECHNICAL CONDITIONS OF CONTRACT

FOR

Overhauling and rectification works along with supply of required materials and consumables for readiness of CCR AC system at North Chennai 1x800MW TPS, ATHIPATTU, CHENNAI-120



ANNEXURE-A

TECHNICAL CONDITIONS OF CONTRACT:

This tender is invited for overhauling and rectification works along with supply of required materials and consumables for readiness of CCR AC system (Chiller Room & Roof Top) as per drawing and FQP.

1.SCOPE OF WORKS:

Overhauling and rectification works along with supply of required materials and consumables for readiness of CCR AC system at 1X800MW NCTPS ST-III, Atthipattu, Chennai-120.

SL NO.	Description of Works	UOM	Qty.
1.	2 nos Chiller Shells dismantling and erection of 2 nos New Chiller Shells and shifting of damaged chiller Shells to Stores.	LUMPSUM	1
2.	Mechanical and Electrical works during repair works of 02 Nos. Chillers (Manpower Support)	LUMPSUM	1
3.	Gland Leak arrest of all gate Valve(Piping) associated with CCR AC system	LUMPSUM	1
4.	Painting of pipes Lines 1.Chiller Plant Room-, 2.Cooling Tower Lines , 3. Equilizer pipe line, 4.Drain Lines , 5. Structures(where ever applicable)	LUMPSUM	1
5.	Cleaning of 02 Nos. Cooling Towers including replacement of Gear Box Oil	LUMPSUM	1
6.	Cleaning of Make-up water Tank(02) and expansion tank (01)	LUMPSUM	1
7.	Cleaning of pre-filters of 05 Nos. AHU and Strainer (03 Nos.)	LUMPSUM	1
8.	Servicing of 04 Nos. Pumps(Make: Wilo, Model No: SCP 100-360) including replacement of bearings, bolts, Gaskets,nuts etc.	Nos.	4*
9.	Replacement of cooling tower, Makeup tank Drain lines of 50 NB dia.at TG 32 Mtr.(GI Pipe) and drain lines in the chiller Room(GI Pipe)	Mtr.	100*
10.	Flushing of Condenser and Chiller lines of AC System	LUMPSUM	1
11.	Replacement of Strainer(200 NB) of Cooling tower discharge and Header Lines	LUMPSUM	1
12.	Installation of instruments in the Make-up water tank (High Level Switches-04 and Low Level Switches-04 Nos.)	LUMPSUM	1
13.	Leak Arrest in 01 Nos. Make-up Water Tank and Fixing of 01 No Dummy Flange in equalizer line	LUMPSUM	1

14	Replacement of Drain Line Ball Valve	Qty.	2
15	Replacement of Strainer DP instruments Pipes	Mtr.	50*
16	Nipple Socket Welding for discharge Pressure gauge fixing along with ball Valve	Qty.	4
17	Overall greasing of all valves and Pumps	LUMPSUM	1
18	Roof OF CCR(Tank & Cooling tower Area) and HVAC Room scrap removal and soil removal(slurry)	LUMPSUM	1

Note: * marker quantities are variable in nature (per unit rate will be considered upon completion of works)

2. PERIOD OF CONTRACT:

2.1 Time Schedule of each package is as below:

PACKAGE	Description	Time Period
1	Overhauling and rectification works along with supply of required materials and consumables for readiness of CCR AC system.	25 days

2.2 During the total period of contract, the work fronts for construction will get released progressively during the course of execution at site. The required documents / drawings for construction will be progressively issued to the contractor during the course of execution at site

2.3 The erection work shall be commenced on the mutually agreed date between the bidder and BHEL engineer and shall be deemed as completed in all respect only when the unit is in operation. The decision of BHEL in this regard shall be final and binding on the contractor. The scope of work under this contract is deemed to be completed only when so certified by the site Engineer.

2.4 COMMENCEMENT OF CONTRACT PERIOD

The date of commencement of contract period shall be the mutually agreed date between the bidder and BHEL engineer to start the work. Contractor has to mobilize required T&P's and Manpower within 07 days of award of work. In case of discrepancy, the decision of BHEL engineer is final.

1.0 TERMS OF PAYMENT

The progressive payment for erection, testing and commissioning on accepted price / rates of contract value will be released as mentioned below:

- 1.1 Progressive Payment on pro-rata basis against invoice Submission:
As Per Bill of Quantities.

Sl.No	Contract (Main Package) Identification ---->	Package
	Rate schedule Identification	Overhauling and rectification works along with supply of required materials and consumables for readiness of CCR AC system.
	Description of works	Percentage Value
1	2 nos Chiller Shells dismantling and erection of 2 nos New Chiller Shells and shifting of damaged chiller Shells to Stores.	7.10 %
2	Mechanical and Electrical works during repair works of 02 Nos. Chillers (Manpower Support)	4.86%
3	Gland Leak arrest of all gate Valve (Piping) associated with CCR AC system	4.86%
4	Painting of pipes Lines 1.Chiller Plant Room-, 2. Cooling Tower Lines 3. Equalizer pipe line, 4. Drain Lines 5. Structures(where ever applicable)	7.10%
5	Cleaning of 02 Nos. Cooling Towers including replacement of Gear Box Oil	0.81%
6	Cleaning of Make-up water Tank(02) and expansion tank (01)	0.81%
7	Cleaning of pre-filters of 05 Nos. AHU and Strainer (03 Nos.)	4.86%
8	Servicing of 04 Nos. Pumps (Make: Wilo, Model No: SCP 100-360) including replacement of bearings, bolts, Gaskets, nuts etc. *(price is considered for 4 nos)	30.41%
9	Replacement of cooling tower, Makeup tank Drain lines of 50 NB dia.at TG 32 Mtr.(GI Pipe) and drain lines in the chiller Room(GI Pipe). *(price is considered for 100 meters)	14.20%
10	Flushing of Condenser and Chiller lines of AC System	0.49%
11	Replacement of Strainer (200 NB) of Cooling tower discharge and Header Lines	4.40%
12	Installation of instruments in the Make-up water tank (High Level Switches-04 and Low-Level Switches-04 Nos.)	1.69%
13	Leak Arrest in 01 Nos. Make-up Water Tank and Fixing of 01 No Dummy Flange in equalizer line	0.81%
14	Replacement of Drain Line Ball Valve – 2 nos	1.94%
15	Replacement of Strainer DP instruments Pipes *(price is considered for 50 meters)	4.05%
16	Nipple Socket Welding for discharge Pressure gauge fixing along with ball Valve – 4 nos	1.75%
17	Overall greasing of all valves and Pumps	1.62%
18	Roof OF CCR (Tank & Cooling tower Area) and HVAC Room scrap removal and soil removal(slurry)	3.24%
19	Commissioning of Over all System	5%
	Total	100%

* marked quantities are variable in nature(per unit rate will be considered upon completion of works)

Note:

1. RA bill payments as per Chapter-X of SCC (Volume IB) and clause 2.23 of GCC.

- i. PF Regn. No.
- ii. Labour License No.
- iii. Workmen Insurance Policy No.

1.2 Payment of monthly charges as per the terms and conditions of this contract will be made as certified by Engineer-in-charge from the date of submission of bills as per the timeline specified below.

Type of Bidder	Payment Terms (Number of Days)
Micro & Small Enterprises (MSE)	45 Days
Medium Enterprises	60 Days
Non MSME	90 Days

- 3.3 Earnest Money Deposit (EMD): EMD is not applicable for this tender.
- 3.4 Security Deposit (SD): Not applicable for this tender.
- 3.5 Delay in works beyond contract period will attract penalty @ 0.5% per week of delay or part thereof subject to maximum of 10% of executed WO value.
- 3.6 The Contractor will have to intimate the bank account number, and other details of the bank to enable BHEL to credit the payments into the account.
- 3.7 No interest shall be payable for delay in making the payments. The contractor shall not be entitled to any interest with respect to any money which may be due to him from BHEL.
- 3.8 While claiming the payment, the contractor must certify on the bill that the payment being claimed is strictly within the terms of the contract and all the obligations on his part for claiming this payment have been fulfilled as required under the contract.
- 3.9 BHEL reserves the right to protect its interest against any loss on account of availability of GST credit.
- 3.10 GSTIN of BHEL will be provided to the Contractor along with the work order
- 3.11 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.

- 3.12 Applicable GST shall also be recoverable from the Contractor in case of LD recovery/penalty on account of breach of terms of contract.
- 3.13 Invoice submitted should be in the format as specified under GST Laws viz. all details as mentioned in Invoice Rules like GSTIN registration number, invoice number, quantity, rate, value, taxes with nomenclature - CGST, SGST, IGST mentioned separately, HSN (Harmonized System of Nomenclature) Code / SAC (Services Accounting Code) Code etc.
- 3.14 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. 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. 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 BHEL.
- 3.15 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.
- 3.16 No advance payment will be made. Payment shall be payable on submission of
monthly running bills at the quote/accepted monthly charges and as certified by BHEL engineer subject to standard deductions.
- 3.17 During the tenure of contract, if BHEL is not satisfied with the progress of execution of works, BHEL will have the right to withdraw any portion of supply and get the same
through other agency at Contractor's risk and cost. Contractor shall not be entitled for any compensation whatsoever in this regard.

4.0 GENERAL

4.1 Contractor has to work in close co-ordination with other erection agencies at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less / more at a particular given time. Activities and erection program have to be planned in such a way that the milestones are achieved as per schedule / plans. Contractor shall arrange & augment the resources accordingly.

4.2 The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe / tubes, and handrails etc. for any temporary supporting or

scaffolding works or as bed for pre-assembly works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.

4.3 All the works such as cleaning, leveling, aligning, trial assembly, dismantling of certain components for checking and cleaning, surface preparation, fabrication of sheets, tubes and pipes as per general engineering practice and as per BHEL Engineer's instructions at site, cutting, weld depositing, grinding, straightening, chamfering, filing, chipping, drilling, reaming, scrapping, lapping, fitting-up etc., as may be applicable in such erection works and are necessary to complete the work satisfactorily, shall be carried out by the contractor as part of the work within the quoted rate. Major machining work, which is only to be carried out in workshops, will be arranged by BHEL.

4.4 The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn materials in excess of design requirements, recoveries will be effected for such excess draws at the rate prescribed by manufacturing units.

4.5 Contractor has to clear the front, expeditiously and promptly as instructed by BHEL Engineer for other agencies, like piping, Turbine, Generator erection, Cabling, instrumentation, insulation etc., to commence their work from / on the equipments coming under this scope. Sometimes, more than one agencies may have to work in same location. Sometimes it may be required to re-schedule the activities to enable other agencies to commence / continue the work so as to keep the overall project schedule.

4.6 All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no m cost. Inspection fee, if any shall be paid by BHEL

4.7 The contractor must obtain the signature and permission of the security personnel of the customer for bringing any of their materials inside the site premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside.

4.8 Upon completion of daily work, the contractor shall remove from the vicinity of work all scrap packing materials, rubbish, unused and other materials and deposit them in places to be specified by BHEL Engineer.

4.9 On completion of work, all the structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.

4.10 DOCUMENTATION

4.10.1 alterations etc. carried out at site due to various reasons, with site engineer's endorsement. Marked up drawings shall be submitted to BHEL for approval.

4.10.2 After successful completion, testing and commissioning of installation work, as built drawings / documents if any, in line with the actual work carried out as per site routing drawing shall be submitted by the contractor as agreed for the project.

4.11 SITE INSPECTION

4.11.1 The contractor shall maintain at site a joint protocol for recording actual measurement of work carried out at site, inspection and witnessing of various tests conducted by the contractor.

4.11.2 The owner / employer or his authorized agents may inspect various stages of work during the currency of the contract awarded to him. The contractor shall make necessary

arrangements for such inspection and carry out the rectification pointed out by the owner / employer without any extra cost to the owner / employer. No cost whatsoever for such duplication of inspection of work be entertained

**4.12 RECOVERY OF COMPENSATION PAID TO VICTIM(S) BY BHEL IN CASES OF DEATH/
PERMANENT INCAPACITATION OF PERSON DUE TO AN ACCIDENT DURING THE WORKS**

The amount of compensation paid to victim(s) towards loss of life / permanent disability during the works due to an accident which will be settled as per company insurance policy which was taken by Company against workers/supervisors.