

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE,BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPPALLI-620 014  
WORKS CONTRACTS MANAGEMENT**

**NOTICE INVITING TENDER**

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1.	Tender Ref No:	9001600036 /29.09.2016
2.	Name of works	<u>WORKS CONTRACTS FOR O &amp; M OF</u> <b>Part- A:</b> O & M of Gasifier / Gas Cleaning Plant at CCDP, <b>Part -B:</b> O & M of Coal / Ash Handling System at CCDP, <b>Part -C:</b> O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP
3.	Location of work	BHEL, TRICHY.
4.	Period of contract	12 months from the date of award of contract.
5.	Earnest Money Deposit	<b>As per clause.1 of Special Terms &amp; Conditions of Contract ( Annexure-1D)</b>
6.	Tender Document details <i>(The Technical Bid along with all Terms &amp; Conditions shall be duly signed and stamped in all pages as token of acceptance, No other pre conditions along with your offer will be entertained by BHEL)</i>	<u>A] Technical Bid</u> Annexure -1A (General details &Qualifying Criteria) - 02 Pages. Annexure -1B (Scope of Work and Technical Terms & Conditions) - 10 Pages. Annexure -1C (General Terms & Conditions of Contract) - 11 Pages Annexure -1D (Special Terms & Conditions of Contract) - 01 Pages <u>B] Price Bid</u> Annexure -1E (Price bid) - 05 Page.
7.	Address for Sending Tender Document along with EMD.	<b>Senior Manager Works Contracts Management (WCM) Building 53,First Floor, BHEL-High Pressure Boiler Plant, Trichy - 620 014</b>
8.	Last Date for submission of Tender Document	25.10.2016 / 10:00 Hrs.
9.	Date of Techno Commercial Bid Opening	25.10.2016 / 10:30 Hrs.
10.	Date of Price Bid opening	Will be intimated separately to Technically qualified vendors.

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Place:  
Date:

Signature of the Tenderer  
with seal & full address

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### **INSTRUCTIONS TO THE TENDERERS**

The offer should be addressed to SENIOR MANAGER, Works Contracts Management, 53 Building, BHEL, Tiruchirappalli 620 014, to reach WCM Dept. on or before **25.10.2016 at 10:00 Hrs.** or the same may be dropped in the Tender Box kept at Works Contracts Management, 53 Building, BHEL,Trichy- 620 014.

Tenders will be opened on **25.10.2016 at 10:30 Hrs. (IST)** at Works Contracts Management, 53 Building, BHEL, Tiruchirappalli 620 014. BHEL shall not responsible for any postal delay.

Bidder has to submit (1) Part-I (Techno-Commercial bid) (2) Part-II (Price bid) & (3) EMD in separate covers.

- a. The first envelope shall contain EMD and super scribed as EMD Cover for NIT / Enquiry No.

Note: **1. Offer without EMD will be rejected. One time EMD is not acceptable**

**2. EMD may be submitted in the form of DD/Pay Order /Bankers Cheque drawn in favour of BHEL, Trichy (along with offer) or Electronic Fund Transfer credited in BHEL account (before Tender opening). EMD in any other form (Like FD / One Time EMD etc.) is not acceptable.**

**3. For EMD amount refer clause.1 of Special Terms & Conditions of Contract (Annexure-1D).**

- b. The second envelope shall be sealed and super scribed as Part-I (Technical Bid for NIT/Enquiry No.)

- c. The third envelope shall contain only Part-II (Price bid) for the above work as per scope and to be quoted as per the format given in price bid. Any other information in price bid will not be considered. The envelope shall be sealed and super scribed as Price Bid for NIT / Enquiry No.

All the above three envelopes shall be kept into one cover ,sealed and super scribed as Tender Document for the work as per NIT (NIT/Enquiry No).

**Note:**

1. The quoted rates shall be valid up to 120 days from date of Tender opening (i.e. after Technical bid Opening )
2. The rates shall remain firm for the entire period of the contract in case WO is awarded.
3. If the Contractor back outs after opening of tender, the contractor is liable for forfeiture of the EMD paid.
4. **Evaluation of the offer shall be done on “Net Cash outflow to BHEL after taking into account applicable Taxes and Duties”.**
5. BHEL reserves the right to increase or decrease the tendered quantity.
6. **BHEL does not guarantee ordering of any minimum quantity.**
7. Income Tax deduction at source as applicable in the IT Act from time to time will be made on the value of the bills in the absence of Income Tax Exemption Certificate from the concerned IT officer.
8. All the Statutory Obligations such as ESI, PF, Labor Acts, Factories Act, Service Tax, etc. will have to be taken care of by the vendor. BHEL will have no liability on them. Notwithstanding the above, if any demand notice is served by the concerned Statutory Authorities for recovery of any of their dues on BHEL, the same would be paid to the statutory authorities without notice to the vendor and recovered as a due from any pending / future bills.
9. In case contract is not executed by vendor after award and acceptance of contract, BHEL may exercise the right to forfeit EMD, Security Deposit / BG of such contractors and also suitable action will be taken by BHEL on those Contractors as deemed fit.
10. **No other pre conditions along with your offer will be entertained by BHEL.**

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ANNEXURE-1A

## General details &Qualifying Criteria

### PART-I (TECHNO COMMERCIAL BID)

#### A: Bidder Profile

1.	Name of the Agency /Company /vendor.	
2.	Address:	
3.	Phone No.:	
4.	E-mail Address:	
5.	Name and Contact details of person for communication related to Tender :	
6.	BHEL Vendor Code ( If any )	
7.	<b>PF Registration (No. &amp; Date )</b> (Copy of PF Registration to be attached)	
8.	<b>ESI Registration (No. &amp; Date )</b> (Copy of ESI Registration to be attached)	
9.	<b>Labour License.</b> ( Copy of Labour license to be attached )	
<b>Note:</b> 1. Vendors not having PF Registration /ESI Registration / Labour License (as applicable) shall immediately get registered after award of work to comply with statutory requirements. 2. If vendor fails to get PF / ESI / Service Tax Registration and Labour License (As applicable) within 30 days of award of work, EMD / SD shall be forfeited and penal action shall be taken as per Extant rules of BHEL.		

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**B: Qualifying Criteria:**

Sl. No	Qualifying Criteria	DETAILS	
A	<b>EMD Amount: As per cl.1 of Special Terms &amp; Conditions of Contract ( Annexure-1D)</b> 1. EMD will be waived off for Valid SME/NSIC/SSI vendors upon verification. valid Certificate to be enclosed	AMOUNT :₹ DD NO: DD DATE: ISSUING BANK :	
<b>B</b>	<b>Technical Competence</b>		
B.1	<b>Experience of Executing Works / Services</b> Experience of executing work similar to <b>scope of work or works of similar nature related to</b> (skilled/ semi-skilled / unskilled manpower supply /Gasifier, Coal/Ash Handling Equipment's /Powerhouse /Boiler /DM Plant) during last seven years with single contract of value not less than ₹10 lakhs.  (Documentary Evidence to be furnished). ( Experience certificate from private organization to be supported by TDS( Tax deduction at source) certificate issued by the organization or Form 26AS or Bank statement for transaction of payment)	WO / Contract details :  Name of Work:  WO Value (₹):  WO Period :  Name of Customer :	
C	<b>Financial Soundness</b> Documents to Prove Financial Soundness of the Firm Minimum Average Annual Turnover of ₹ 10 Lakhs reflecting in audited P & L statement & Balance sheet with CA membership number <b>and</b> Income Tax Submission acknowledgment (in the name of Firm or in the name of Owner in case of proprietorship firm) for any of the two consecutive years out of four years i.e., 2012-13, 2013-14, 2014-15 and 2016-16 (Assessment Year 2013-14, 2014-15 2015-16 & 2016-17(Documents to Prove Financial Soundness of the Firm to be attached )		
C.1	<b>Submission of Income Tax</b> (Copy of IT Return acknowledgement to be enclosed)	<b>Assessment Year</b>	<b>Status</b>
		2013-14	
		2014-15	
		2015-16	
		2016-17	
<b>AND</b>			

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	<b>Balance Sheet</b> ( Copy of Balance sheet with CA membership number to be enclosed )	<b>Year</b>	
		2013-14	
		2014-15	
		2015-16	
<b>AND</b>			
	<b>Statement of Profit and Loss</b> ( Copy of Audited Profit & Loss account indicating CA membership number to be enclosed )	<b>Year</b>	
		2013-14	
		2014-15	
		2015-16	
<b>D</b>	<b>Income Tax Registration :</b> (Copy of PAN to be attached)		
<b>E</b>	<b>Service Tax Registration.</b> (Copy of Service Tax Registration to be attached)		
<b>F</b>	Acceptance to Scope of Work (Annexure-1B), General Terms & Conditions of Contract (Annexure-1C) and Special Terms & Conditions of Contract (Annexure-1D).		
			Contractor Signature
			Contractor Seal

**NOTE:** Self attested copy of all the documents should be submitted along with Tender. All the documents submitted by us against this Tender are genuine documents, if at any stage, the document(s) submitted by Contractor is / are found incorrect / false / fake, the necessary action will be taken by BHEL against Contractor viz., legal, Contractual, BHEL Policy / Procedural Actions in whatsoever manner as deemed fit.

Vendors not having Service Tax Registration and within the threshold limit shall submit a declaration for the same.

No other pre conditions along with your offer will be entertained by BHEL.

The bidder shall sign on all the copies of technical bid and affix his seal

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**Annexure -1B**

**PART-I (TECHNO COMMERCIAL BID)**

**Scope of Work and Technical Terms & Conditions**

**SCOPE OF WORK:**

**Part- A:** O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy

**Part -B:** O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.

**Part -C:** O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.

<b>TIME SCHEDULE FOR O&amp;M ACTIVITIES AT CCDP,BHEL-TRICHY FOR 2016-17</b>					
<b>SL.No</b>	<b>Work Description</b>	<b>Plant / System Operation Period</b>	<b>Plant / System Maintenance work Period</b>	<b>Plant / System Maintenance Period</b>	<b>Minimum Manpower Deployment per Shift</b>
Part-A	O& M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy for 2016-17.	30 Days. ( Three shifts A,B & C )	30 Days. ( Two shifts A & B )	240 Days. (General shift.)	1. Skilled Worker (Fitter) -02 Nos. 2. Skilled Worker (Welder) - 02 Nos. 3. Unskilled Worker- 08 Nos. 4. Supervisor – 01 No.
Part-B	O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy for 2016-17.	30 Days. ( Three shifts A,B & C )	30 Days. ( Two shifts A & B )	240 Days. (General shift.)	1. Skilled Worker (Heavy Vehicle Driver) -01 No. 2. Unskilled Worker - 05 Nos. 3. Supervisor – 01 No.
Part-C	O&M of PH / Boiler /DM Plant and Electrical & Instrumentation Works at CCDP,BHEL-Trichy for 2016-17	30 Days. ( Three shifts A,B & C )	30 Days. ( Two shifts A & B )	240 Days. (General shift.)	1. Skilled Worker (Electrician / Mechanic /Fitter / Welder) -04 Nos. 2. Unskilled Worker- 06 Nos. 3. Supervisor – 01 No.

The total no of shifts for year 2016-17 for both operation and maintenance works are 390 shifts for each part. As and when the plant is ready for trial run after modifications, plant will be operated in three shifts (A, B & C shifts). After trial runs for data collection, suitable plant modifications / maintenance will be taken up in two shifts and general shift for making the plant ready for next trial operation. Coal/Ash handling system will work in three shifts during plant operation and two shifts and general shift during modifications / maintenance work.

In case of emergency, the contractor may have to work on Sunday /holiday during plant operation /maintenance work which will be informed in advance. The vendor shall engage sufficient no. of manpower to carry out the works on a day to day basis depending on the quantum of work. Nevertheless, each day work assigned to the contractor to be completed on the same day. No carryover of work will be permitted.

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**PART A: SCOPE OF WORK FOR O&M OF GASIFIER / GAS CLEANING PLANT AT CCDP, BHEL-TRICHY.**

**A.1BILL OF QUANTITY:**

SL NO.	DESCRIPTION	UOM	APPROX. QTY
1	Vessels/heat exchangers/Equipment repair & maintenance	MT	750
2	Pipe lines repair /maintenance/fabrication & erection	METRE	1000
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc.	MT	500
4	Cleaning of bed material, coal, fly ash, bottom ash, ash slurry from all vessels of gasifier & gas cleaning system	CUBIC METRE	500
5	Equipment cleaning of material, ashes, dusts etc.	SQUARE METER	1000
6	Area cleaning floors, working area, surrounding area cleaning	SQUARE METER	5000
7	Servicing of Rotating parts like coal feeders, extractors, pumps, gear boxes, conveyors etc.	NUMBER	500
8	Valves dismantling, servicing & connecting back (2" equivalent)	NUMBER	500
9	Leak check & flow check through vessels, heat exchangers as a total system	NUMBER	50
10	No of vessels / Equipment to be tested for operating smoothly of gasifier & gas cleaning system	NUMBER	500

**A.2: SCOPE OF WORK:**

**A.2.1: Plant Operation:**

As per the instructions of our Engineers and supervisors, the contract employees are required to assist our employees for Plant Operation activities in three shifts (A, B & C shifts)

1. Leak check for gasifier system / gas cleaning system, flow check as per the instructions from control room and field supervisor instruction
2. Startup burner: starting burner, monitoring flame stability, controlling the flame temperature.
3. Coal feeding : opening closing of coal inlet valves, air valves, continuous monitoring of coal/bed material feeding through coal feed pipe, monitoring smooth functioning of coal feeders against noise, gland leak, gear box oil leak, smooth transferring of coal in coal lock, coal receiver. Monitoring bunker level, transferring coal through weigh belt feeder to coal lock
4. Bottom ash extraction: Monitoring smooth functioning of three numbers bottom ash extractors like purging, checking gland leak, observing noise / temperature raise, gear box oil leak etc.
5. Bottom ash disposal: smooth discharge through gates, disposal through chain conveyor and belt conveyor, keeping the area neat and clean
6. Fly ash pump: monitoring fly ash collection in lock and hopper, continuous pumping of fly ash from hopper to silo through fly ash pump, clearing line block, monitoring hopper and silo levels. Fly ash disposal from silo periodically and keeping the silo and gasifier area neat and clean.
7. Cooling water flow monitoring: Maintaining cooling water flow and temperatures of fly ash coolers, bottom ash coolers, Y pieces, Distributor cooling.

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8. Vent filter operation : Fly ash lock is depressurized through vent filter system and its operation like N<sub>2</sub> purging, checking the discharge of fly ash collected in vent filter
9. Sampling : collection of samples for coal, bottom ash, fly ash, slurry ash, at specified intervals and handing over to Lab for sample analysis
10. Gas cooler system operation monitoring.
11. Gas cleaning quench column : Maintaining quench column level by suitably draining and filling the level, in order to remove dissolved dust periodically
12. Cyclone level maintaining: observation and controlling of ventury scrubbers and cyclone separators knock out drum levels.
13. Settler drum level: Maintaining settler drum level by adding raw water, draining sediments during plant operation
14. Flare stack: During plant start and gas generation, igniting and maintaining the flame in the flare stack
15. Barrier Filter system operation including reverse purging of N<sub>2</sub>/Syn. gas, ash level controls, fly ash pump, vent filter operation and keeping the area neat and clean
16. Nitrogen storage system operation and keeping the area neat and clean
17. During plant operation if any situation (gas leak, line puncture, line block, hot spot, gear box/feeder gland leak, valves leak, motor problem etc.) that requires stopping of plant. The problem causing stoppage of plant to be attended/rectified immediately and bring back the plant for starting at the earliest possible time.
18. The above operational activities are listed/covered in the tender work / rate schedule for monthly bill calculations

#### **A.2.2: Repair /Maintenance and Modification work**

As per the instructions from our Engineers & supervisors, the contract employees are required to carry out the following repair and maintenance / modifications / improvement works during shut down period, in coordination with our employees, for early completion and restarting the plant. The repair and maintenance work is to be carried out in either two shifts (A&B shifts) and general shift.

1. Identification of problems : Any failure of welding, gas leak, pipe erosion, hot spot failure due to very high temperature/pressure, Feeder/extractor gland leak, valves failure, Line block or chocking in ash/coal lines or vessels. Any failure in Distributor, like welding, nozzle melting, similarly in distributor plate, center pipe, cooling water lines, thermocouple damage, thermocouple welding failure, thermocouple bending. Similarly any other area of repair /maintenance work like gasifier, cyclones, Gas cooler, Barrier filter system, Nitrogen storage system, quench column, water knock out drum, Flare stack system during operation/maintenance to be identified and rectified.
2. Investigation of failures: by opening flanges, cutting pipes, opening man holes, dismantling vessels, structures, lines that disturbs repair work, removing coal/ash from vessels, equipment, valves, lines and locating the failures
3. Preparation for repair work: arrangement for approaching failure spots, scaffoldings/platforms, ladders, supports, Cleaning the lines, vessels, equipment, preparing of plates, pipes, gaskets, bolts and nuts. Preparation of surfaces for repair work, by cutting grinding, edge preparing. Arranging welding set, cutting set, electrodes gas cylinders etc.
4. Repair work: cutting, welding, grinding and other repair works like bending, gland packing, and replacing damaged portion with new pipes, tubes, plates etc. Dye penetration tests for welding repair and other quality control tests etc.
5. Assembly of system after repair work: assembly of vessels, flanges, pipe lines, equipment, dummies and tightening the manholes, flanges, equipment
6. Leak checking : After repair, the repaired area strength to be tested with leak check, hydraulic check or any other applicable method

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7. Putting back to service: After checking the repair work, the system to be put back to service. Add bed material, ensure cooling water by starting pumps and opening/throttling valves, start the burner system, keeping steam ready for start
8. For system improvements, addition of gas lines, air lines, water lines, purge lines, valves, equipment, fabrication of burners, vessels or any other additions required to be added on need basis.
9. The above operational activities are listed/covered in the tender work / rate schedule for monthly bill calculations
10. The labourers should work very carefully in critical areas of gasifier (distributor, cyclone vessel) and gas cleaning (quench column, cyclones, knock out drum, gas cooler, barrier filter, and flare stack) as it involves risk & space constraint.

**PART B: SCOPE OF WORK FOR COAL / ASH HANDLING SYSTEM AT CCDP, BHEL-TRICHY.**

**B.1BILL OF QUANTITY:**

SL NO.	DESCRIPTION	UOM	APPROX. QTY
1	Hopper, bunker, crusher & Equipment repair & maintenance	NUMBER	500
2	Rollers, gear boxes, vibratory/screw feeders maintenance	NUMBER	500
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc.	MT	250
4	Disposal of bed material, fly ash, bottom ash, ash slurry from gasifier & gas cleaning system during plant maintenance	CUBIC METRE	2000
5	Belt conveyor maintenance	METER	1000
6	Coal crushing, sieving, stocking loading etc. during maintenance period	CUBIC METER	2000
7	Area cleaning floors, working area, surrounding area cleaning	SQUARE METER	5000
8	Bed material feeding, coal feeding to gasifier, coal crushing & feeding or stocking, disposal of bed material, fly ash, bottom ash, ash slurry from gasifier & gas cleaning system during plant operation	CUBIC METER	1000

**B.2: SCOPE OF WORK:**

**B.2.1: Work details**

CCDP Front end loader is used for coal preparation (raw coal movement for crushing/sieving and stocking in main bunker or coal yard, feeding stocked sized coal from coal yard to main bunker) and clearing fly ash/bottom ash for disposal, in three shifts during plant trial runs (**Plant Operation**).

During **Plant Maintenance** period (when plant is not running), coal handling plant maintenance work will be taken up. In addition to coal handling plant maintenance, coal crushing/sieving/stocking, shifting of coal/ash stock from one place to other, clearing and disposing bottom ash/fly ash and slurry ash will also be carried out. During loader break down period also, coal handling plant repair / maintenance work as well as coal/ash handling work will be carried out. In case major breakdown of loader, BHEL will arrange vehicle temporarily from some other source till BHEL loader is brought to service.

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The contractor is required to prepare and supply the sized and sieved coal uninterruptedly for Gasifier plant operation in three shifts (A, B & C shifts). Similarly the contractor shall prepare and stock coal, clear / dispose ash and take up maintenance work for smooth running of plant, during maintenance period, in two shifts (A & B shifts) and general shift. Sometimes we may plan for General and night shift i.e. 8.00 hrs. To 16:30 hrs. and 16:30 hrs. to 01:00 hrs. In emergency, Sundays/ holidays also required to perform the work in three shifts.

### **B.2.2: Drivers for operating Front end loaders.**

Contractor's driver shall be engaged for operating the Front end loaders. Contractor shall engage minimum one driver per shift with another driver engaged during weekly off. The drivers should possess valid heavy vehicle license to operate the vehicle. Personal Insurance coverage shall be contractor's scope.

### **B.2.3: List of Coal / Ash handling O&M work.**

The contractor shall **engage minimum five unskilled labors and one Heavy Vehicle License holding Driver per shift** to take care of list of works mentioned below. Similarly **one supervisor per shift (Diploma qualification)** shall be engaged to take care of security permission, labour attendance, and implementation of given work, recording work output and to raise bill. As per Industrial procedure/ weekly off shall be strictly adhered by the contractor.

The following are the list of activities to be carried out by the contractor, in coordination with our BHEL staff.

- Regulating coal flow from raw coal bunker to coal belt conveyor.
- Adjusting vibratory feeder / gates and maintaining controlled flow of coal.
- Picking out stones, woods, lumps and other visible impurities from ground coal conveyor feeding coal to the crusher.
- Monitoring the crusher for any choking or over loading and to stop the crusher and clear the choking so as to keep the plant continuous and smooth running.
- Watching the coal siever or screw conveyor for any choking / over loading and in case of chocking, clearing the same for smooth running.
- Monitoring main coal bunker level, to coordinate stopping coal conveyor when the bunker level is full and to start the conveyor when the bunker level is low.
- Clearing fly ash and bottom ash from gasifier system to disposal yard using front end loader
- Assisting to clean/clear the area manually or using Front end Loader for safe and smooth working.
- Assisting removal of heaps of coal / ash / slurry manually or using Front end Loader or using tipper lorry to specified safer locations (tipper lorry shall be provided by BHEL).
- Oiling, greasing of gear boxes / rotating parts, changing damaged rollers, changing damaged bearings, belt alignment etc.
- Repair/maintenance of crusher, siever, screw conveyor, bucket elevator, belt conveyor, gear boxes, front end loader and other coal/ash handling equipment.
- Manual removal of fly ash and debris from the drain pit of gasifier, gas cleaning, power house area.

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- Man power shall be effectively engaged in all critical areas like raw coal bunker, vibratory feeder, belt conveyor, crusher area, sieving area, main bunker, and ash disposal area - for smooth running of the plant.

**PART C: SCOPE OF WORK FOR POWER HOUSE / BOILER / DM PLANT AND ELECTRICAL & INSTRUMENTATION WORK AT CCDP, BHEL-TRICHY.**

**C.1: BILL OF QUANTITY:**

SL NO.	DESCRIPTION	UOM	APPROX. QTY
1	Vessels/heat exchangers/Equipment repair & maintenance	MT	500
2	Pipe lines repair /maintenance/fabrication & erection	METER	1000
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc.	MT	300
4	Equipment cleaning of material, ashes, dusts etc.	SQUARE METRE	500
5	Area cleaning floors, working area, surrounding area cleaning	SQUARE METRE	5000
6	Servicing of Rotating parts like pumps, compressors coal feeders, extractors, pumps, gear boxes, conveyors etc.	NUMBER	300
7	No of electrical equipment maintenance work & operation during plant operation	NUMBER	700
8	No of Instrument equipment maintenance work and operation during plant operation	NUMBER	700
9	Valves dismantling, servicing & connecting back 2" equivalent	NUMBER	500
10	Leak check & flow check through vessels, heat exchangers etc.	NUMBER	200
11	DM water generation, stocking & feeding	MT	2000
12	Analysis & reporting of gas, coal, ash, slurry samples	NUMBER	100
13	Preparation & maintenance of equipment for statutory tests.	NUMBER	100
14	Steam generation through auxiliary boiler	MT	50

**C.2: SCOPE OF WORK:**

**C.2.1: List of activities during plant operation**

As per the instructions from Engineers & supervisors the following activities are to be carried out by the contract employees along with BHEL staff, during plant operation in three shifts.

1. Compressors : Process air compressors, service air compressors, Instrument air compressor, Drier operation
2. Cooling tower operation and level maintenance.
3. Pump operation: operation of cooling water pumps for cooling circuits to compressors, coolers/ Gasifier equipment.
4. Boiler operation: Auxiliary boiler starting, line up for use in gasifier/starting.

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5. HRB boiler operation: Drum level control, condensed water removal from steam line periodically, maintaining steam pressure for using in gasification process. Feed pump operation and maintaining de aerator level.
6. DM Plant : DM water generation, stocking, supply to boiler
7. Lab: Assistance for analyzing samples like coal, ash, water, steam, gas for data collection and report preparation
8. Sampling : collection of samples for coal, bottom ash, fly ash, slurry ash, steam/DM water at specified intervals and assistance during analysis
9. Data recording of running plant
10. PA system monitoring/fault attending
11. Battery backup system monitoring
12. Sub-station monitoring
13. Lighting checking and attending the faults
14. Electrical motors, equipment starting /stopping and other electrical related work
15. Operation related Instrumentation work in all areas viz Gasifier, Gas cleaning, control room, power house, Lab, DM plant, Boilers
16. Any online maintenance work required during plant run
17. New equipment installation.
18. Stores material sorting, stocking assistance required for material collection from other stores
19. Disposing unwanted material to disposal stores.
20. Area House Keeping

### **C.2.2: Repair and maintenance work**

As per the instructions from BHEL Engineers & supervisors, the contract employees skilled and unskilled: Skilled should specify qualification viz electrician, instrument mechanic, fitters, welder will carry out the following repair and maintenance / modifications work in two shifts (A&B) and general shift during system maintenance period. Our employees and supervisor will coordinate with the contract employees for early completion and restarting the plant for trial operation.

11. Welding work required for any air/water /steam/coolant any other leak in pipe line, flange joints in LPC/HPC area, service compressor area, boiler area, DM plant area and pump house area.
12. Servicing /cleaning/maintenance of compressors/pumps/drier/AC plant components.
13. Servicing/cleaning/maintenance of Boilers & DM plant equipment.
14. Servicing/cleaning/maintenance of Lab Instruments.
15. Preparation for repair work: arrangement for approaching failure spots, scaffoldings, ladders, supports, Cleaning the lines, vessels, equipment, preparing of plates, pipes, gaskets, bolts and nuts. Preparation of surfaces for repair work, by cutting grinding, edge preparing. Arranging welding set, cutting set, electrodes gas cylinders etc.
16. Repair work: cutting, welding, grinding other repair work like bending, gland packing, replacing damaged portion with new pipes, tubes, plates etc. Dye penetration tests for welding repair and other quality control tests etc.
17. Assembly of system after repair work: assembly of vessels, flanges, pipe lines, equipment, dummies and tightening the manholes, flanges, equipment.
18. Checking the failure: After repair, the repaired area strength to be tested with leak check, hydraulic check or any other applicable test.

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19. Putting back to service: After completing the repair work, the system to be put back to service. Ensure water supply by starting cooling water pumps.
20. For system improvements: Addition of air lines, water lines, steam lines, valves, equipment, fabrication of burners, vessels or any other additions required to be added on need basis.
21. All modifications/improvement works shall be completed before starting next trial run.
22. All electrical related repair/maintenance work of total CCDP plant.
23. All Instrumentation related repair/maintenance work of total CCDP plant.
24. All lab related sampling activities and other planning activities

**D: TECHNICAL TERMS & CONDITIONS OF CONTRACT COMMON FOR**

**Part- A:** O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy

**Part -B:** O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.

**Part -C:** O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.

**D.1: GENERAL**

1. The contractor shall be responsible for the proper behavior and observing all rules and regulations by the labor employed by them.
2. BHEL rules will be applicable towards issue of refreshments /food which will be adhered by the contractor. As per existing procedure for Canteen facilities, the lunch coupon shall be issued @ ₹ 5 (₹ five) per person. Sufficient and valid coupons are to be tendered for Tiffin, Tea, Coffee, Milk, etc. to the canteen staff.
3. The contract laborers should not indulge in any mass strike within CCDP/BHEL or strike outside CCDP gate. If any such thing happen, BHEL has the right to terminate the contractor and no payments will be paid.
4. No advance payment will be arranged for the contract.
5. Monthly bill shall be raised as per the actual work completed on pro-rata basis. , based on work measurement certified by BHEL Engineer.
6. Because of shortage of manpower, if work could not be completed in the specified time, the work shall be completed through some other contractor and the amount involved shall be deducted from the contractor's bill.
7. The contractor is directly responsible for the payment of wages to his workmen.
8. Plant operation has three shifts per day (A, B & C shifts) and maintenance work has two shifts per day (A&B shifts) and general shift. Sometimes we may plan for General and night shift, 08.00hrs to 16:30 hrs. and 16:30 hrs. to 01:00 hrs. In emergency, Sundays/ holidays also required to perform the work in three shifts
9. Based on the budget availability, BHEL/CCDP may short close the contract.
10. Necessary gate entry, pass arrangement for labours shall be arranged by the contractor before commencement of the work. The authorized person / supervisor of the contractor are responsible for making the pass arrangement.

**D.2: SAFETY**

1. Contractor's safety guidelines issued by Safety Management has to be followed strictly.
2. The contract employees shall follow safe working procedures by using appropriate safety equipment like safety shoes, safety helmets, safety belts, earplugs, nose filter cloth etc. All safety protective equipment mentioned above shall be supplied by the contractor.

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3. All workers should compulsorily wear safety shoes and helmets at work site.
4. The contractor shall ensure that no damage is caused to any equipment at the site. If any such damage is caused, it is the responsibility of the contractor to make good the losses or compensate for the same.
5. Scaffolding if required should be done by the contractor. Pipe, wooden planks & ropes will be provided by BHEL at free of cost.
6. The contractor shall strictly follow BHEL Engineers safety instructions whenever pointed out in addition to regular safety instructions.
7. Contractor shall provide First Aid Box with medicines required for meeting first aid requirements. Medicines shall be replenished as and when required.
8. All safety precautions, in general and at height in particular should be followed by the contract employees as per BHEL norms.
9. Since coal/ash handling work is in dusty atmosphere, all contract employees shall compulsorily use nose mask and long towel for protecting nose, ear and face. Contractor shall supply covering towel to his employees every month. In addition, contractor shall also supply a soap and 100ml coconut oil/per employee every month to clean and protect the skin from dust problem.

#### **D.2: WORKS**

1. The contractor shall engage sufficient man power daily, in all three shifts during plant operation & single and two shifts during maintenance period. Similarly one supervisor per shift shall be engaged for smooth execution of work. Weekly off shall be filled with suitable and sufficient extra man power.
2. The contractor shall bring the following tools for the execution of works contract: two sets of tool boxes containing spanners from 6mm to 36mm, hammers, chisels cutters, wire brushes, shovel, spade, crow bar, basket, arivazh, tools box necessary for coal handling plant and maintenance work.
3. Pipe welding shall be done only after the edge preparation as per standard.
4. Proper electrode shall be used for welding joints based on grade/ type of material.
5. General category welders shall be engaged for all welding works.
6. Preheating of electrode as recommended by the electrode manufacturer shall be carried out prior to welding.
7. Pipes, pipe fittings, bends, flanges, valves, gaskets, gland ropes, fasteners and spares etc. Consumables like welding electrodes, oxygen / acetylene cylinders, kerosene, paints, rustolene and other consumables like electric power supply shall be provided by BHEL at free of cost.
8. Welding machine, cutting set, drilling machine & accessories and special tools/sets shall also be provided by BHEL at free of cost.
9. All scrap materials shall be transferred to CCDP stores after inspection by the site in charge.
10. The contractor shall bring welding shield and arc welding holder for welding works.
11. Each fitters shall be provided with tool box containing spanner set from size 6mm to 36 mm and erection spanner size 30,36,41,55 and other tools like dot punch, center punch, gas lighter, gas cylinder opener, rough/smooth files, spare hacksaw blades/gas lighter etc.
12. The contractor shall engage sufficient skilled workers wherever necessary like structural welding, fitting, alignment, servicing, repair work of rotating parts, servicing of ball valves and other types of valves and all other maintenance activities as listed in rate schedule. The contract supervisor shall take care of this responsibility.

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13. Timely completion of work is very important. Hence the contractor shall engage sufficient no. of workers. If sufficient workers are not brought to the work spot, penalty will be imposed for the delay caused at 10% of value of such work and it may even be extended up to termination of contract.
14. During plant operation, every location shall be manned with sufficient man power, to the satisfaction of site engineer.
15. Any deficiency in the supply of required man power for operational needs will be met by Department from other agencies at your risk & cost.
16. The contractor's supervisor will control the man power and he is responsible for maintaining quality, speedy and smooth overall work completion.
17. Fitter, electrician, instrument mechanic & welder should have qualified such as ITI and have min 2 years industrial experience. Contractor has to submit the qualification certificate & experience certificate for verification based on need.
18. Supervisor should have diploma qualification and submit the document proof at the time of starting the contract.

*NOTE: The contractor may contact BHEL welfare section for details regarding additional wages as per corporate guidelines, in addition to the Tamil Nadu Govt. minimum wages along with necessary additional PF & ESI*

Place:  
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## **PART-I (TECHNO COMMERCIAL BID)**

### **GENERAL TERMS & CONDITIONS OF CONTRACT**

#### **1. Definition:**

In these General Conditions of Contract, the following terms shall have, I meaning hereby assigned to them, except where the context otherwise requires:

- a) The "Contract" means, the documents forming the tender and acceptance thereof, together with all the documents referred to therein including general and special conditions to contract. All these documents as applicable taken together shall be deemed to form one contract and shall be complementary to one another.
- b) The "Work" means, the work described in the tender documents in individual work orders as may be issued from time to time to the contractor by the Officer-In charge within the power conferred upon him including all notified or additional items of works and obligations to be carried out as required for the performance of contract.
- c) The "contractor" means, the individual Firm or Company whether incorporated or not, undertaking the work and shall include the legal personal representatives of such individuals or the persons composing the firm or Company or the successors of the firm or company and the permitted assigns of such individual or firm or Company.
- d) "The Officer-In charge" means, the Officer deputed by the respective area **HOD** to supervise the work or part of the work.
- e) "Approved" and "Directed" means, the approval or direction of the respective area **HOD** or person deputed by him for the particular purposes.
- f) "BHARAT HEAVY ELECTRICALS LIMITED" (hereinafter referred to as BHEL) shall mean the Board of Directors, Chairman, Executive Director, General Manager or, other Administrative Officer of the said Company including Sr.Manager / WCM authorised to invite tenders and enter into contract for works on behalf of the Company.
- g) The "Contract sum" means, the sum accepted or the sum calculated in accordance with the prices accepted in tender and / or the contract rates as payable to the contractor for the execution of the work during the currency of the contract.
- h) A "week" means, Seven Days, without regard to the number of hours worked or not worked in any day in that week.
- i) A "day" means, the day of 24 hours (TWENTY FOUR) irrespective of the number of hours worked or not worked in that day.

#### **2. Heading to the Contract Conditions:**

The heading to these conditions shall not affect the interpretations thereof.

#### **3. Work To Be Carried Out:**

The Contract shall include all labour which may be required for the execution of the work.

The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution of the work. No. extra charges consequent on any misunderstanding in these respects or otherwise will be allowed.

#### **4. Deviations:**

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The contractor shall carry out any Scope of work as per instructions of Executing official.

**5. Assignment of Transfer of Contract:**

The Contractor shall not, without the prior written approval of the BHEL, assign or transfer the contract or any part thereof, or any share, or interest thereon to any other persons. No sum of money which may become payable under the contract shall be payable to any person, other than the contractor unless the prior written approval of the BHEL to the assignment or transfer of such money is given.

**6. Sub-Contract:**

The Contractor shall not sublet any portion of the contract without the prior written approval of the BHEL.

**7. Compliance to Regulations and Bye-Laws:**

The Contractor shall confirm to the provisions of any statute relating to the work and regulations and Bye-laws of any local authority. The Contractor shall be bound to give all notices required by statutory regulations or by-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

**8. Earnest Money Deposit (EMD) & Security Deposit (SD):**

- (1) Offer without EMD will be rejected. One time EMD is not acceptable
- (2) Offer with EMD in any form other than Cash /Bankers Cheque /DD/Pay Order/ Electronic Fund Transfer Credited in BHEL account will be rejected.
- (3) EMD by the Tenderer will be forfeited if :
  - i) After opening the tender and within the validity period, the tenderer revokes his tender or makes any modification in his tender which is not acceptable to BHEL.
  - ii) The tenderer fails to deposit the required Security Deposit or commence the work within the period as per LOI/ contract. In case the LOI / contract is silent in this regard then within 15 days after award of work.
  - iii) EMD given by all unsuccessful tenderer will be refunded normally within 15 days of acceptance of award of work by successful tenderer.
  - iv) EMD shall not carry any interest.
  - v) EMD of successful vendor will be retained as part of security deposit.

**Security Deposit (SD):**

The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.

Modes of deposit:

The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:

- i) Cash (as permissible under the extant Income Tax Act)
- ii) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- iii) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL

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- iv) 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)
- v) 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)

Security Deposit shall not be refunded except in accordance with the terms of Security Bond or Agreement.

The Bank Guarantee shall be kept valid until the due date for refund of Security Deposit.

No interest shall be allowed on Security Deposit. BHEL shall not be responsible for any loss of securities due to liquidation for any other reasons, whatsoever or any depreciation in the value of the securities while in their charge or for any loss of interest thereon.

All compensation or other sums of money payable by the Contractor to BHEL under the terms of this contract or under any other contract with BHEL may be deducted from the Security Deposit or realised by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor by BHEL and in the event of this Security Deposit being deducted by reason of such deductions or sale, as aforesaid, the Contractor shall, within 7 days thereafter, make good in cash or in securities endorsed as aforesaid, any sum by which the Security Deposit has been reduced.

**(4) Security Deposit has to be deposited within 15 days of LOI/WO. Else EMD will be forfeited and may also attract the provision of "Suspension of Business dealings with Suppliers/Contractors".**

**9. Orders under the Contract:**

All orders, notices etc. to be given under the contract shall be in writing, typescript or printed and if sent by registered post to the address given in the tender of the Contract, shall be deemed to have been served on the date, when in the ordinary course they would have been delivered to him. The Contractor shall carry out without delay all orders given to him.

Contractor shall be deemed to have included in his tender price of all the plant, machinery and appliances required for the purpose of all operations connected with the work embraced under the contract to secure a satisfactory quality of work and rate of progress which in the opinion of the "Contract Signing Officer" will ensure the completion of the work within the time specified. BHEL is having every right to split the schedule and to award the work to single or many parties on the lowest offered rates basis. This is a time bound contract for period mentioned, and does not envisage any extension of time / period.

**10. Contractor's Supervision:**

1. The Contractor shall either himself supervise the execution of the contract or shall appoint a competent agent acceptable to BHEL Officials.
2. Orders given to the Contractor's agent shall be considered to have the same force as if they have been given to the Contractor himself.
3. The Contractor or his accredited agent shall attend when required without making any claim for doing so to the OFFICER-INCHARGE, to receive instructions.

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4. The respective area HOD shall have full powers and without assigning any reason, requires the Contractor to immediately cease to employ in connection with this contract, any agent, servant or employee where continued employment is, in his opinion undesirable. The Contractor shall not be allowed any compensation on this account.

**11. Labour:**

1. The Contractor shall remain liable for the payment of all wages and other payments in connection with the employees engaged by him and with regard to the work.

2. The Contractor shall comply with the applicable provisions of Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act. 1938, Employees' Compensation Act 1923, Payment of Bonus Act, EPF and Miscellaneous Provisions Act, 1952, Employees State Insurance Act, 1948 and other relevant Acts and rules framed, there under from time to time

3. Contractor shall be responsible for making payment of wages before expiry of 7 days from the last day of wage period and shall ensure disbursement of wages in the presence of the authority's representative of contract operating division who shall record under his signature at the end of entries in the Register of wages.

4. Contractor shall have/ obtain license under CL(R&A) Act, 1970.

5. As per BHEL circular HR-Welfare circular dt 08.04.2014, the following additional wages per month has to be paid by the Contractor over and above minimum wages declared by Tamil Nadu Government to labors as:

- a) Unskilled : ₹. 3200/
- b) Semi-skilled : ₹. 3700/-
- c) Skilled : ₹. 4100/-

6. The contractor should remit the salary/wages of their employee only through Bank, directly to the salary/savings account of the employee concerned. Wherever the number of contract workmen employed by the contractor is more than ten and the contract period is more than one month, monthly clearance will be given in respect of those contractors, only if the salary/wages to the workmen concerned has been remitted in the bank account of the workmen. The relevant Bank statement/proof for Bank payment should be produced along with PF and ESI challans every month.

**12. Precautions against Risk:**

The Contractor shall be responsible for providing at his own expense for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose.

**13. Damage & Loss to Private Property & Injury to workmen:**

The Contractor shall at his own expense reinstate and make good to the satisfaction of the respective area **HOD** and pay compensation for any injury, loss or damage occurred to any property or rights whatever including property and rights of BHEL (or agents) servants or employee of BHEL, the injury loss or damage arising out of or in any way in connection with the execution or purported execution of the contract and further the contractor shall indemnify BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL) or which would be so enforceable against BHEL, in respect of any such injury (including injury resulting in death) loss or damage to any person whomsoever or property including all claims which may arise under the Employees Compensation Act or otherwise.

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**14. Laws Governing the Contract:**

The contract shall be governed by the Indian Laws for the time being in force.

**15. Cancellation of Contract for Corrupt Acts:**

BHEL, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued, shall accrue thereafter to BHEL cancel the contract in any of the following cases and the Contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation to the same extent as provided in the case of cancellation for default.

If the Contractor shall:

a) Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for having borne to do any act, in relation to the obtaining or execution of this or any other contract for BHEL service,

OR

b) enter into a contract or understanding with any person in BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to BHEL,

OR

c) To obtain' a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to BHEL.

**16. Cancellation of Contract for Insolvency Assignment of Transfer or Subletting Of Contract:**

BHEL, without prejudice to any other right or remedy, which shall have accrued or shall accrue thereafter to BHEL, shall cancel the contract in any of the following cases:

If the Contractor,

a) Being an individual or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order for administration of his estate, made against him or shall take any proceedings for liquidation or composition under any bankruptcy Act or assignment of his effects of composition or arrangement for the benefit of his creditors or purport to do so, or if any application made under any Bankruptcy Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors.

OR

b) Being a Company, shall pass a resolution or Court shall make an order for the liquidation of its assets, or a receiver or Manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager.

OR

c) Assigns, Transfers, Sublets or attempts to assign, transfer or sublet any portion of the work without the prior written approval of the BHEL.

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d) Whenever BHEL exercises the authority to cancel the contract under these conditions, BHEL may have the work done by any means at the Contractor's risks and expenses provided always that in the event of the cost of the work so done (as certified by the respective area **HOD**) being less than the contract cost, the advantage shall accrue to BHEL and if the cost exceeds the money due to Contractor under the contract, the Contractor shall either pay the excess amount ordered by the respective area **HOD** or the same shall be recovered from the Contractor by other means.

e) In case BHEL carries out the work under the provisions of this condition, the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plants and / or labour provided by BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by the respective area **HOD** whose decision shall be final and conclusive.

f) Labour engaged by the contractor should be disciplined & exhibit good behaviour in dealing with employees of BHEL. Any misbehaviour or undesirable conduct of any person engaged by the contractor is reported, contractor shall change that person immediately or else it may even lead to termination of the contract & in such case security deposit will be forfeited as penalty.

#### **17. Cancellation of Contract In Part or Full for Contractor's Default:**

If the contractor:

- a) makes default in carrying out the work as directed and continues in that state after a reasonable notice from the respective area **HOD** or his authorized representative:
- b) fails to comply with any of the terms & conditions of the contract or failure to comply orders after reasonable notice in writing with orders properly issued thereunder:

BHEL, May without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL CANCEL the contract as whole or in part thereof or only such work order or items of work in default from the contract. Whenever BHEL exercises the authority to cancel the contract as a whole or part under this condition, BHEL may complete the work at the contractor's risk and cost (as certified by the respective area **HOD** which is final and conclusive) being less than the contract cost, the advantage shall accrue to BHEL. If the cost exceeds the money due to the Contractor under this contract, the Contractor shall either pay the excess amount ordered by the respective area **HOD** or the same shall be recovered from the Contractor by other means. In case BHEL carries out the work or any part thereof under the provisions of the conditions the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plant and/or labour provided by BHEL with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the respective area **HOD** whose decision shall be final and conclusive.

#### **18. Termination of Contract on Death of Contractor:**

Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, or if the firm is dissolved or the company is liquidated, BHEL shall have the option of terminating the contract without compensation to the Contractor.

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**9. Special Power to Termination:**

If at any time after the award of contract, BHEL shall for any reason whatsoever not require whole or any part of the work to be carried out the respective area **HOD** shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the foreclosing of the work.

**20. Submission and Processing Of Bills:**

**Payment of Bills:**

1. Payment will be made after completion of work on pro-rata basis on acceptance and certification of bills by BHEL Engineer.
2. Payment shall be made against Certification by respective area **Engineer in charge**.

The Contractor at the end of each month shall submit a bill in triplicate detailing the various items of work done during the month supported by the requisitions issued from time to time. The Contractor shall, once in every month, submit to the respective area **HOD** separately details of their claims for the work done by them up to and including the previous month which are not covered by their contract agreement in any of the following respects:

- a) Deviation from the items provided in the contract documents.
- b) Extra items / new items of work.
- c) Items in respect of which rates have not been settled. He should in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of the work done up to and including the period under report. Payment will be at the sole discretion of BHEL.

**21. Along with bills, Contractors has to furnish copy of the following documents for further processing of bills:**

- a) Documentary proof for payment of PF/ESI with respect to the employees engaged by the contractor with payment details relating to individual names to be submitted.
- b) Copy of payment challan of previous Month / Quarter as proof of deposit of Service Tax along with a certificate from the Contractor that tax collected from BHEL has been remitted to tax authorities.
- c) Any other relevant document which is required from time to time as per BHEL requirement.
- d) If the Contractor is not registered for any statutory obligation and not liable thereto, then a declaration shall be submitted along with offer that they are within the threshold limit.

**22. Recovery from Contractor:**

Whenever under the contract, any sum of money, shall be recoverable from or payable by the Contractor, the same may be deducted from or any sum then due or which at any time thereafter may become due to Contractor under the contract or under any other contract with BHEL or from his Security Deposit unless the contractor pays the claim on demand.

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**23. Post- Technical Audit of Work and Bills:**

BHEL reserves the right to carry out the post-payment Audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and enforce recovery of any sum becoming due as a result thereof in the manner provided in the presiding sub- paragraphs. However no such recovery shall be enforced after three years of passing the final bill.

**24. Refund of Security Deposit:**

The Security Deposit mentioned in condition **8** above may be refunded to the Contractor after a period of 6 months on termination or expiry of the contract provided always that the Contractor shall first have been paid the last and final bill and have rendered a "NO DEMAND CERTIFICATE".

**25. Force Majeure Clause:**

If, at any time during the continuance of this Contract the performance in whole or in part by either party of any obligations under this Contract shall be prevented or delayed by reason of any War, Hostile acts of the public enemy Civil Commotion, Epidemics, or Acts of God (Floods, Storm/Cyclone, Hurricane, Earthquake etc. ) then provided notice of happening of any such event is given by either party to other within 7 days from the date of occurrence thereof neither of the parties shall by reason of such event be entitled to terminate this Contract or claim for damages against the other in respect of such non-performance or delay for such period. Performance under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under this Contract is prevented or delayed by reason of any such event, claims for extension of time may be granted for periods considered reasonable by the respective area **HOD** at his discretion subject to prompt notification by the contractor.

**26. Arbitration:**

All disputes between the parties to the contract, arising out of or relating to the contract, other than those for which the decision of the respective area **HOD** or Accepting Officer or any other person is by the contract expressed to be final and conclusive shall after written notice by either party to the contract to the other party be referred to the Arbitrator, to be appointed by the GENERAL MANAGER of BHEL in his sole discretion. Unless the parties otherwise agree, such reference shall not take place until after the completion, alleged completion or abandonment of the work of the determination of the contract. The venue of Arbitration shall be such a place or places, as may be fixed by the Arbitrator in his sole discretion. The award of the Arbitrator shall be final, conclusive and binding on both parties to the contract.

**27. Signing Of Contract:**

Each contract document shall be signed by the Contractor with his usual signature. Contract by partnership or Hindu Joint Family firm, may be signed in the FIRM'S name by the Managing Partner or all /one of the Partners on behalf of the firm or the Karta or Manager for HUF as the case may be. Contract by a Company shall be signed with the name of the Company from a person authorised in this behalf and a Resolution or power of attorney or other satisfactory proof, showing that the person signing the Contract documents on behalf of the Company is duly authorised to do so, shall accompany the contract.

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE, BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**28. LIQUIDATED DAMAGES (LD)/PENALTY:**

If the contractor fails to complete the service/work as per terms & conditions of the order within the delivery schedule,

- a) LD shall be levied @ 0.5 % of the order value per week of delay or part thereof subject to a maximum of 10% of the full order value.
- b) In case of any change to the order value, the LD shall be @ 0.5 % of the revised order value per week of delay or part thereof subject to a maximum of 10% of the revised order value.

**29. RISK PURCHASE:**

- a) In the event of any successful Tenderer's failure to fulfil any of the tender / Contract obligations as per Contract / Agreement, BHEL may entrust the job to alternate vendor and get it completed to meet the BHEL requirement and additional expenditure, if any, including consequential cost viz., demurrage etc., will be fully recovered from the Contractor who failed to complete the job in line with the Contract.
- b) The decision of BHEL with regard to the actual losses / consequential expenditure incurred by BHEL shall be final and binding on the Contractor.

**30. Biometric Entry/Exit System for Contract Workmen:**

1. The Entry/Exit of the employees engaged by contractor is to be regulated only through Biometric system.
2. The Contractor initially will be issued with a temporary gang pass for his/her employees for a period of ten days.
3. The contractor should arrange photo coverage for all his/her employees within the above stipulated time.
4. The contractor has to submit FORM-I for all his/her contract employees. All the particulars required in FORM-I are to be provided by the contractor without fail.
5. Every employee of the Contractor shall be provided with Employment Card as per Form XIV (as per Rule 76 of the Contract Labour (Central) Rules, 1971 and the contractor shall instruct its employees to carry the Employment Card as well as Entry Card without fail, while entering/exiting factory.
6. The contractor should educate his employees in registering the attendance through the system.
7. Whenever a contract employee migrates or leaves service of the contractor, the contractor has to surrender the biometric card of the particular employee to Contract Cell with immediate effect, without fail.
8. On completion of the work, the contractor has to surrender all the biometric entry cards issued to its employees immediately to the contract cell. Otherwise, an amount of Rs.100/- per card will be deducted from the final bill/security deposit of the contractor.
9. If any contract employee lose his/her entry card, the contractor shall arrange a duplicate entry card for the employee by paying an amount of Rs.100/-.
10. The Contractor is totally responsible for the biometric cards issued to his/her employee.
11. The Contractor has to indemnify BHEL for all the damages and losses caused by his/her employees.

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**31. Common Terms and Conditions for Works Contract relevant to Safety:**

1. All the Contract employees should be trained on Safety and certified by Safety/BHEL. New employees should undergo Safety Training before take up the work, without Safety Training no contract person is allowed to do any work.
2. Use of cell phones and other mobile electronic devices (including hands-free devices) in the work spot and during the operation of a vehicle in the BHEL premises is prohibited.
3. Contract employees working on BHEL premises must wear appropriate personal protective equipment. Strict adherence to all required Personal Protective Equipment (Helmet, Safety Shoes and Goggles) are mandatory, specific PPE requirements will be based on job type or tasks performed.
4. Excessively loose-clothing, dhoti/Lungi is prohibited especially around rotating or moving equipment.
5. The contractors' work area should be kept clean and orderly, free of clutter and trash, so that work may proceed in a safe and orderly manner. Tools should be safely positioned during use and promptly put away when no longer required.
6. Fire-fighting, emergency shutdown devices, and life-saving equipment, should not be blocked by the contractor/employees and access to the path to this equipment should be maintained at all times.
7. Only approved equipment should be used in locations where flammable mixtures are present. A Hot Work Permit is required when open flames, or electric arcs are in the work area and while handling flammable materials.
8. Smoking is not allowed in work area.
9. BHEL operate under a comprehensive Emergency Response Plan. Contractors should be aware of the site Emergency Response Plan and communicate that plan to all their employees.
10. It is recommended that the contractor should know & display the emergency phone numbers like Fire, Ambulance, Safety, Security etc. at their work area.
11. It is the responsibility of the contractor to understand and use the appropriate Work Permits and to verify any permit requirements at the location. Contractor must make necessary arrangements with their Representative to acquire appropriate authorization to perform those operations at the site.

**32. FRAUD PREVENTION POLICY**

The Bidder along with its associate / collaborators / sub – vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about fraud or suspected fraud as soon as it comes to their notice”.

Fraud Prevention policy and List of Nodal Officers shall be hosted on BHEL website, vendor portals of Units / Regions intranet.

**33. SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS:**

Penal action can be initiated on the suppliers / Contractors in line with extant 'Guidelines for Suspension of Business Dealings with Suppliers/ Contractors. The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' has been uploaded on <http://www.bhel.com> on “supplier registration page”.

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE,BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**ANNEXURE-ID**

## **PART-I (TECHNO COMMERCIAL BID)**

### **SPECIAL TERMS & CONDITIONS OF CONTRACT**

#### **1.0: EMD (EARNEST MONEY DEPOSIT) & CRITERIA FOR AWARD OF WORK:**

1.1: The evaluation of Offer for award of work shall be on the basis of "Total Cost to BHEL".

1.2: Contract shall be finalized for each Part (A, B & C) separately based on overall L1 basis considering all items of each Part.

1.3: Vendors may quote for either Part A or Part-B or Part-C or all three or in any combination.

The EMD Amount Payable against various combinations are as follows:

<b>SL No.</b>	<b>Scope of Work</b>	<b>EMD Amount Payable (₹)</b>
1	Part -A (O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy.)	71,928.00
2	Part -B (O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.)	40,710.00
3	Part-C (O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.)	59,739.00
4	Part- A (O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy.) & Part-B (O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.)	1,12,638.00
5	Part- B (O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.) & Part-C (O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.)	1,00,449.00
6	Part- A (O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy.)& Part-C (O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.)	1,31,667.00
7	Part- A (O & M of Gasifier / Gas Cleaning Plant at CCDP, BHEL-Trichy.) & Part-B (O & M of Coal / Ash Handling System at CCDP, BHEL-Trichy.) & Part-C (O & M of PH / Boiler /DM Plant and Elect. & Instrumentation Works at CCDP, BHEL-Trichy.)	1,72,377.00

**Page 1 of 1**

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE, BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

## **PART-II (PRICE BID)**

### **ANNEXURE-1E**

#### **Instructions for filling PRICE BIDS**

01. The Rate quoted shall be firm throughout the currency of the Contract without any price variation Clause. The Tenderer has to quote the Rate / Unit only.
02. The Rate shall be quoted excluding Service Tax, SBC & Krishi kalyan cess and inclusive of any taxes and duties levied or to be levied both by Central and State Government authorities from time to time. Service Tax will be paid extra on production of documentary evidence.
03. The Rate quoted should be inclusive of cost for salary (Minimum wage + additional wage prescribed below and including PF, ESI, etc.,) of the personnel i.e. skilled, semiskilled, and unskilled & supervisors and to execute the above subject scope of work.
04. Contractor has to make payment to his contract employees based on the followings
  - Employer's PF contribution @ 13.61%, Employer's ESI contribution @ 4.75%, Insurance and a bonus @ 8.33% minimum are to be considered. Govt. minimum wages (Basic Wages, DA & additional wages as prescribed by BHEL) are revised every year with an average increase of 10% per year and PF & ESI are subject to change from time to time.
05. The Contractor will have to cover their employees under PF, ESI & Bonus act etc. based on the above payment rate (Minimum Wage + Additional Wage).
08. Quotation should be valid for a period of 120 days from the date of Tender opening (i.e. after Technical bid opening )
09. The rate should be quoted as unit rate basis taking into account the following points:
  - (a) The engagement of crew members on all Working Days in a month and excluding Weekly off and Holidays declared by BHEL.
  - (b) The duration of Working in a day will be 8 Hours as per the direction given by BHEL
10. New vendors responding against BHEL web site / NIC / CPPP, may visit the area of work , if they want, to get to know the scope / work details and also area of work, prior to quoting.
11. Charges for engaging the personnel on Weekly off and Holidays declared by BHEL will be paid based on the contract rate.
12. Duration of Contract will be **one year** from the date of commencement of work as indicated by BHEL.
13. If the lowest acceptable total value quoted by two or more contractors is same, BHEL reserves the right to either go for negotiation or divide the work amongst two or more vendors.
14. However Lowest prices received against BHEL Tenders may not be the technically acceptable one and in that case the same will be technically disqualified and will not be considered.
15. The above details shall be submitted in Letter Head by Quoting the Rate.
16. No other pre conditions along with your offer will be entertained by BHEL.

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE, BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**PRICE BID)**

**Part-A**

**Name of the contract:** Gasifier & Gas Cleaning O&M contract for the year 2016-17

Sl no	Description	unit	Qty	RATE In ₹/UNIT (Exclusive of Service Tax)	Total Value in ₹ (Exclusive of Service Tax) (Qty X Rate / UNIT)
1	Vessels/heat exchangers/equipments repair & maintenance	MT	750	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
2	Pipe lines repair /maintenance/fabrication & erection	M	1000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc	MT	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
4	Cleaning of bed material, coal, fly ash, bottom ash, ash slurry from all vessels of gasifier & gas cleaning system	Cu M	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
5	Equipments cleaning of material, ashes, dusts etc	SM	1000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
6	Area cleaning floors, working area, surrounding area cleaning	SM	5000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
7	Servicing of Rotating parts like coal feeders, extractors, pumps, gear boxes, conveyors etc	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
8	Valves dismantling, servicing & connecting back (2" equivalent)	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
9	Leak check & flow check through vessels, heat exchangers as a total system	Nos	50	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
10	No of vessels / equipments to be tested for operating smoothly of gasifier & gas cleaning system	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
<b>TOTAL CONTRACT VALUE ( Excluding taxes )</b>					₹
<b>Service Tax @ ..... %</b>					₹
<b>Total ( Inclusive of taxes )</b>					₹
No individual items are considered for L1 calculation. Only total value in this part will be considered for L1 calculation					

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE, BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**PART - B**

**Name of the Work: Coal/Ash handling O&M contract for the year 2016-17**

Sl no	Description	unit	Qty	RATE In ₹/Unit (Exclusive of Service Tax)	Total Value in ₹ (Exclusive of Service Tax) (Qty X Rate / UNIT)
1	Hopper, bunker, crusher & equipments repair & maintenance	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
2	Rollers, gear boxes, vibratory/screw feeders maintenance	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc	MT	250	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
4	Disposal of bed material, fly ash, bottom ash, ash slurry from gasifier & gas cleaning system during plant maintenance	Cu M	2000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
5	Belt conveyor maintenance	M	1000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
6	Coal crushing, sieving, stocking loading etc during maintenance period	Cu M	2000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
7	Area cleaning floors, working area, surrounding area cleaning	SM	5000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
8	Bed material feeding, coal feeding to gasifier, coal crushing & feeding or stocking, disposal of bed material, fly ash, bottom ash, ash slurry from gasifier & gas cleaning system during plant operation	Cu M	1000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
<b>TOTAL CONTRACT VALUE ( Excluding taxes )</b>					₹
<b>Service Tax @ ..... %</b>					₹
<b>Total ( Inclusive of taxes )</b>					₹

No individual items are considered for L1 calculation. Only total value in this part will be considered for L1 calculation

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE,BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

**PART - C**

**Name of the contract:** Power House, Boiler, DM plant, Electrical & Instrumentation area O&M contract for the year 2016-17.

Sl no	Description	unit	Qty	RATE In ₹/UNIT (Exclusive of Service Tax)	Total Value in ₹ (Exclusive of Service Tax) (Qty X Rate / Unit)
1	Vessels/heat exchangers/equipments repair & maintenance	MT	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
2	Pipe lines repair /maintenance/fabrication & erection	M	1000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
3	Fabrication / erection / repair & maintenance of structural items like columns, beams, floor grills & plates, supports etc	MT	300	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
4	Equipments cleaning of material, ashes, dusts etc	SM	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
5	Area cleaning floors, working area, surrounding area cleaning	SM	5000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
6	Servicing of Rotating parts like pumps, compressors coal feeders, extractors, pumps, gear boxes, conveyors etc	Nos	300	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
7	No of electrical equipments maintenance work & operation during plant operation	Nos	700	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
8	No of Instrument equipments maintenance work and operation during plant operation	Nos	700	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
9	Valves dismantling, servicing & connecting back 2" equivalent	Nos	500	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
10	Leak check & flow check through vessels, heat exchangers etc	Nos	200	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
11	DM water generation, stocking & feeding	MT	2000	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only

Place:  
Date:

Signature of the Tenderer  
with seal & full address

**Name of Woks:** WORKS CONTRACT FOR O & M OF GASIFIER, COAL/ASH HANDLING EQUIPMENTS, POWERHOUSE, BOILER AND DM PLANT IN CCDP AT BHEL TRICHY FOR 2016-17.

**Enquiry No:** 9001600036 /29.09.2016

12	Analysis & reporting of gas, coal, ash, slurry samples	Nos	100	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
13	Preparation & maintenance of equipment for statutory tests.	Nos	100	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
14	Steam generation through auxiliary boiler	MT	50	₹...../ Rupees..... .....only	₹...../ Rupees..... .....only
<b>TOTAL CONTRACT VALUE ( Excluding taxes )</b>					₹
<b>Service Tax @ ..... %</b>					₹
<b>Total ( Inclusive of taxes )</b>					₹
No individual items are considered for L1 calculation. Only total value is considered for L1 calculation Rates quoted are without taxes.					

**NOTES**

- Rates should be quoted in figures and words and are to be identical, if not the prices in the words will be considered as correct and the same shall be valid and binding.
- The rate quoted shall remain firm and valid for a period of one year and no extra payment will be reimbursed to the contractor by BHEL. Any increase of DA/ wages to the contract labor shall be absorbed by the contractor themselves during the period of contract.
- The signature at the bottom of the rate schedule confirms that minimum wages, additional wages, bonus, PF, ESI, inclusive of any taxes and duties levied and excluding Service Tax etc. has been considered by the tenderer for the total contract period while quoting the above rates and also for future revisions of wages made by Tamil Nadu Govt.
- The signature at the bottom of the rate schedule confirms that the Tenderer had read and accepted all the Terms and conditions in Tender Schedule, also rate quoted with inclusive of any taxes and duties levied and excluding Service Tax etc. has been considered by the tenderer for the total contract period while quoting the above rates.
- Lowest prices received against BHEL Tenders need not be the acceptable to BHEL and in that case BHEL would not consider the same for award of Contract. BHEL would negotiate or re-float the Tender opened if L1 price is not the lowest acceptable price to them inter-alia other reasons.
- BHEL will finalize the rates through price bid opening. Hence Tenderers are requested to give their best prizes at the first instant itself.
- In the event of the final L1 prices are not reasonable / acceptable to BHEL, BHEL also may resort to short closure of this open Tender.

Place:  
Date:

Signature of the Tenderer  
with seal & full address