

TENDER SPECIFICATION

No. BHE/PW/PUR/PARST-CNI/599

FOR

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF **CONTROL & INSTRUMENTATION** WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1X250 MW UNIT # 2

AT

PARAS THERMAL POWER STATION

DISTT AKOLA, MAHARASHTRA



PART: II - PRICE BID

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

POWER SECTOR - WESTERN REGION

345, KINGS WAY - NAGPUR 440 001

BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345, KINGS WAY - NAGPUR 440 001

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO
SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION,
TESTING, COMMISSIONING AND HANDING OVER OF CONTROL &
INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES,
TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1X250
MW UNIT # 2

AT
PARAS THERMAL POWER STATION
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EARNEST MONEY DEPOSIT AS PER SECTION -15

THESE TENDER DOCUMENTS CONTAINING PART-I TECHNICAL BID
AND PART- II PRICE BID (REVISION-01), ARE ISSUED TO:

M/s.

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PLEASE NOTE :

- 1) **THESE TENDER DOCUMENTS ARE NOT TRANSFERABLE.**
- 2) **TENDERER SHALL NOTE THAT THEIR OFFER WILL BE CONSIDERED SUBJECT TO THE APPROVAL OF BHEL'S CUSTOMER**

For Bharat Heavy Electricals Limited

Dy GEN MANAGER (PURCHASE)
PLACE: NAGPUR
DATE:

BHEL: PSWR: Nagpur
Tender No. BHE/PW/PUR/PARST-CNI/

Bharat Heavy Electricals Limited
Power Sector: Western Region: Nagpur
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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-1	Control Panel (approx L1000 X B1000 X H2500, 400Kg) - one panel	19	Nos		
A-2	Control Panel (approx L1001 to 1500 X B1000 X H2500, 800 Kg) - suit of two panels	18	Nos		
A-3	Control Panel (approx L1501 to 2250 X B1000 X H2500, 1200 Kg) - suit of three panels	15	Nos		
A-4	Control Panel (approx L2251 to 3000 X B1000 X H2500, 1600 Kg) - suit of four panels	1	Nos		
A-5	Electrical heat tracer panel and accessories	1	Set		
A-6	Unit Control panel	1	Set		
A-7	Electrical control panel 1900x1000x2355	1	Set		
A-8	Master and Slave Clock system	1	Set		

Date

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-9	Generator Instrumentation cabinet including annunciator (1230 x 1060 x 2550, 600 Kgs)	1	No		
A-10	220/240 VAC UPS	1	Set		
A-11	Vibration monitoring system for Fans and Pulverisers	1	Set		
A-12	Vibration monitoring system for main turbine	1	Set		
A-13	Vibration monitoring system for BFP/CEP/ACWP	1	Set		
A-14	DC motor starter box for scanner fan	1	No		
A-15	Mill inerting system control box 755 X 340 X 1345, local mounted	3	Nos		
A-16	Control panels for Centrifuges	2	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-17	Positioner cabinets (380x380x210) for LPBP CV1, LPBP CV2, Spray water CV	3	Nos		
A-18	Conrol Panel for HP dosing system (1500x800x700, 0.4 MT)	1	No		
A-19	Burner Tilt Shear Pin Failure Indication Box	4	Nos		
A-20	Air Heater Rotor Stoppage Alarm Box	2	Sets		
A-21	Condenser Vacuum pump system	1	Set		
A-22	Local Instrument racks (LIR)	40	Nos		
A-23	Local Instrument enclosures (LIE)	35	Nos		
A-24	NETWORK PANELS (800x800x2100)	3	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-25	WALL MOUNTED NETWORK ENCLOSURES (500x600x600)	1	Sets		
A-26	HART MANAGEMENT SYSTEM CABINET	1	Set		
A-27	Pulverizer screw conveyer monitoring system	3	Set		
A-28	Pulverizer 'Delta P' Panel (1600x550x2000, 1.5MT)	3	Set		
A-29	Electronic Water Level Indicator (EWLI)	5	Sets		
A-30	Hydrogen Purity analyser	1	No		
A-31	SWAS Sample handling system with racks & Sample conditioning panel with chiller	1	Sets		
A-32	Analyzer Panel including various analyzers (Approx. dim. 5000 x 2300 x 750 mm)	1	Sets		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-33	Furnace Temperature probe	2	Nos		
A-34	Smart wall Blower sysetm	1	Set		
A-35	Steam Tube leak detection sysetm	1	Set		
B-1	Direct Water Level Gauge	2	Sets		
B-2	Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil)	113	Nos		
B-3	HEA Exciter system	12	Sets		
B-4	Flame Scanner Head Assembly	20	Nos		
B-5	Relay / Latch relay with base	2	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-6	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	138	Nos		
B-7	Speed Regulators / Air lock valves in oil gun corner rack	12	Nos		
B-8	max Engineering / operator / storian / LAN / WAN / Shift in charge / stn in charge / gateway / interface PC / HART etc., PC/Server Station with ASCII Keyboard, Mouse & 21" Colour Monitor, individual UPS	17	Sets		
B-9	Printers (80/132 col Dot Matrix, A3 Inkjet, A3 Laserjet, etc)	7	Sets		
B-10	LVS (Large Video Screen) made up of 5X1 matrix. Each LVS of DLP/LCD type, Rear projection type, 67 inches diagonal size, with 1024x768 resolution non interlaced	3	Sets		
B-11	Laboratory Setup for Customer	1	Set		
B-12	Microphone including junction / control box and accessories for Mill DP level control	3	Sets		
B-13	CO Analyzer (in situ type)	1	Sets		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-14	O2 (OXYGEN) Analyzer	6	Nos		
B-15	SO2 Analyzer (in situ type)	1	Nos		
B-16	NOX Analyzer (in situ type)	1	Nos		
B-17	Dust emission monitor (Installation at around 50 M in chimney)	1	Sets		
C-1	Console inserts (to be mounted on Backup desk)	2	Sets		
C-2	Vertical indicators (moving coil / bar graph)	20	Nos		
C-3	Digital / bargraph indicators	11	Nos		
C-4	Recorder 24 / 30 Channel	2	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-5	Recorder 3 channel	2	Nos		
C-6	Speed switch / Speed detector	2	Nos		
C-7	Moisture Sensor probe and dew point monitor	1	Set		
C-8	Rotor Earth fault Detector	1	Nos		
C-9	Pressure Switch / DP Switch / DP indicating switch	200	Nos		
C-10	Temperature Switch / Thermostat	40	Nos		
C-11	Float type Level Switch	46	Nos		
C-12	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	10	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-13	Electronic Level Transmitter (with amplifier, etc), Capacitance or conductivity type	6	Nos		
C-14	Flow switch (Mechanical / Electronic)	13	Nos		
C-15	Pressure Gauge / DP gauge	476	Nos		
C-16	Temperature Gauge (all types)	358	Nos		
C-17	Level Indicator / Level Gauge	16	Nos		
C-18	Flow indicator / Flow Gauge / Flow meter/Acoustic flow meter (coal)	6	Nos		
C-19	Pressure / DP / Flow (DP type) / Level -Transmitter	380	Nos		
C-20	Level Transmitter (displacer type)	3	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-21	Flow Transmitter (Pulse / mass flow / target type) including flanges	2	Nos		
C-22	Thermocouple / RTDs with thermowell (all types) along with converters wherever applicable	590	Nos		
C-23	MTM Thermocouple upto 17 M length	56	Nos		
C-24	MTM Thermocouple over 17 M upto 22 M length	70	Nos		
C-25	Thermocouple assy with 6 / 9 Cr-Al MI T/C along with integral JB	2	Nos		
C-26	I/P converters	65	Nos		
C-27	Pneumatic Pressure controller with accessories	1	Nos		
C-28	Pneumatic Temperature controller with accessories	7	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-1	Fan Lube oil skid	9	Sets		
D-2	Rack mounted instruments commissioning	3	Sets		
D-3	Coal Feeder local instruments commissioning	6	Nos		
D-4	Electrical regulating drives: (Valve, damper, scoop)	6	Nos		
D-5	Pneumatic regulating drives: (Valve, damper) incl SADC, Burner tilt	140	Nos		
D-6	Commissioning of Hydraulic actuators	14	Nos		
D-7	ERV Controller	2	Nos		
D-8	Corner valve/ Trip valves commissioning	40	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-9	Open/Close type pneumatic gates / dampers / valves	60	Nos		
D-10	Only healthiness checking of embedded RTD / T/C	340	Nos		
D-11	Limit Switches (checking and adjusting only).	45	Nos		
D-12	LP Dosing system (Approx. dim.1000 x 800 x 300, 3.0 MT)	1	Set		
D-13	CWP Butterfly valves	3	Sets		
E-1	GI earthing wire	2500	Meters		
E-2	GI Pipe (1/2", 1") Heavy grade	2250	Meters		
E-3	GI Pipe (1.5 ", 2")	10	Meters		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-4	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	2700	Meters		
E-5	Copper tube 1/2" to 1" (Sheathed / bare)	150	Meters		
E-6	Hoses- 1/2" to 1", SS/Teflon, Braided/unbraided, upto 5M length	90	Nos		
E-7	Perforated cable tray and accessories (with or without cover) 50mm	3300	Meters		
E-8	Perforated cable tray and accessories (with or without cover) 100mm	4500	Meters		
E-9	Perforated cable tray and accessories (with or without cover) 150mm	1400	Meters		
E-10	Cable duct 60 x 60 x 1000	250	Meters		
E-11	Cable duct 100 x 100 x 1000	60	Meters		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-12	Cable duct 180 x 100 x 1000	50	Meters		
E-13	Cable duct 250 x 60 x 1000	40	Meters		
E-14	Screened Copper Cable 2P x 0.5 sqmm armoured / unarmoured	60000	Meters		
E-15	Screened Copper Cable 4P x 0.5 sqmm armoured / unarmoured	77650	Meters		
E-16	Screened Copper Cable 6P x 0.5 sqmm armoured / unarmoured	14000	Meters		
E-17	Screened Copper Cable 8P x 0.5 sqmm armoured / unarmoured	94000	Meters		
E-18	Screened Copper Cable 10P / 12P x 0.5 sqmm armoured / unarmoured	2050	Meters		
E-19	Screened Copper Cable 1P/2C x 1.5 sqmm armoured / unarmoured	7600	Meters		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-20	Screened Copper Cable 2P/4C x 1.5 sqmm armoured / unarmoured	23000	Meters		
E-21	Screened Copper Cable 5C/7C x 1.5 sqmm armoured / unarmoured	5000	Meters		
E-22	Screened Copper Cable 10C x 1.5 sqmm armoured / unarmoured	5000	Meters		
E-23	Screened Copper Cable 19C x 1.5 sqmm armoured / unarmoured	3300	Meters		
E-24	Screened Copper cable 2C x 2.5 sq. mm armoured/ unarmoured	6500	Meters		
E-25	Compensating cable 2P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	5000	Meters		
E-26	Compensating cable 4P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	6000	Meters		
E-27	Compensating cable 6P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	5600	Meters		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-28	Copper Cable 2 or 3 triad, 0.5/1.5 sqmm armoured/unarmoured	1000	Meters		
E-29	Copper Cable 6 triad, 0.5/1.5 sqmm armoured/unarmoured	500	Meters		
E-30	Laying, etc of Optical fibre cables on cable trays, conduits etc (termination supervision by other agency) with minor civil works	2100	Meters		
E-31	Network UTP Cables (special termination using UTP connectors involved)	10800	Meters		
E-32	2P/ 4C x 1.5 sqmm control cable	50	Meters		
E-33	5C X1.5 control cable	500	Meters		
E-34	MS Flat 50 x 6 mm	50	Meters		
F-1	Assembly of JB mounting frames (approx 1100 x 500 x 800)	5	Nos		

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SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-2	Assembly of JB mounting frames (approx 1500 x 800 x 1800)	3	Nos		
F-3	Assembly of JB mounting frames (approx 2000 x 900 x 1800)	5	Nos		
F-4	Assembly of JB mounting frames (approx 2600 x 500 x 1800)	3	Nos		
F-5	Assembly of local gauge board 1400 x 450 x1900 mm	7	Nos		
F-6	FSSS Local Oil Gun Maintenance Switch Box	12	Nos		
F-7	Junction boxes upto 48 way	310	Nos		
F-8	Junction boxes above 48 way	95	Nos		
F-9	CJCB Junction boxes upto 48 way	10	Nos		

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HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1x250 MW UNIT # 2 AT PARAS THERMAL POWER STATION DISTT AKOLA, MAHARASHTRA					
SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-10	CJCB Junction boxes above 48 way	36	Nos		
F-11	2PB or 3PB Pushbutton box	10	Nos		
F-12	Impulse pipe CS ½" SCH 40 (D21.3 x 2.76 mm)	50	Meters		
F-13	Impulse pipe CS ½" SCH 80 (D21.3 x 3.73 mm)	3250	Meters		
F-14	Impulse pipe CS ¾" SCH 80 (D25 x 4 mm)	2200	Meters		
F-15	Impulse pipe CS ½" SCH 160 (D21.3 x 4.78 mm)	1000	Meters		
F-16	Impulse pipe AS ½" SCH 40 (D21.3 x 2.76 mm)	250	Meters		
F-17	Impulse pipe ASTM A 335 P22 1/2 " Sch XXS	800	Meters		

Date

Signature and Official Seal of Bidder

Bharat Heavy Electricals Limited
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HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1x250 MW UNIT # 2 AT PARAS THERMAL POWER STATION DISTT AKOLA, MAHARASHTRA					
SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-18	Impulse pipe ASTM A 335 P22 3/4 " Sch 80	300	Meters		
F-19	Impulse pipe CS 1" SCH 40 (D33.4 x 3.37 mm)	50	Meters		
F-20	Impulse pipe CS 1" SCH 80 (D33.4 x 4.55 mm)	200	Meters		
F-21	Impulse pipe SS 1/4" (D12.7/13.5 x 2.1/2.6 mm)	1000	Meters		
F-22	Impulse pipe SS 1/2" SCH 160	750	Meters		
F-23	SS tube D6 x 1.0/1.5mm	100	Meters		
F-24	Impulse pipe CS 1/4" (D13.5 x 2.6 mm)	690	Meters		
F-25	Impulse pipe CS (D17.2 x 1.8 mm)	1200	Meters		

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Bharat Heavy Electricals Limited
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HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1x250 MW UNIT # 2 AT PARAS THERMAL POWER STATION DISTT AKOLA, MAHARASHTRA					
SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-26	CS tube DN 80	88	Meters		
F-27	Impulse pipe SS ½" (D21.3 x 2.6 mm) Sch 40	1570	Meters		
F-28	Impulse pipe AS 1/4" (D13.5 x 2.6 mm)	400	Meters		
F-29	Impulse pipe 1/4" (D13.5 x 3.2 mm)	1500	Meters		
F-30	Impulse pipe 1/2" (D21.3 x 3.2/3.6 mm)	1000	Meters		
F-31	Impulse pipe 1/2" (D21.3 x 4.78 mm)	200	Meters		
F-32	Plant Control Desk / CRT desk	1	Sets		
F-33	Computer furniture for all Servers, PCs, Printers	1	Sets		

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Bharat Heavy Electricals Limited
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Tender Specification No. No. BHE/PW/PUR/PARST-CNI/599 (Part-II: Price Bid)
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HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I, FOR 1x250 MW UNIT # 2 AT PARAS THERMAL POWER STATION DISTT AKOLA, MAHARASHTRA					
SN	DESCRIPTION	TOTAL QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-34	Structural steel for fabrication	25	Tons		
F-35	MS Sheet 3 to 4 mm thick	5	Sq. M.		
Grand total in figures (Rs)					
Grand Total in words : Rupees					

Date

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