

TENDER SPECIFICATION

No. BHE/PW/PUR/HZL-CLE/487

FOR

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, ASSISTANCE FOR COMMISSIONING, TRIAL OPERATION, FINAL PAINTING AND HANDING OVER OF CONTROL & INSTRUMENTATION AND ELECTRICAL WORKS FOR 1x80 MW CAPTIVE POWER PLANT UNIT # 3.

AT

CHANDERIYA LEAD ZINC SMELTER CAPTIVE POWER PLANT

OF

M/s HINDUSTAN ZINC LIMITED

CHITTORGARH

RAJASTHAN



PART: II
(PRICE BID SPECIFICATION)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)
POWER SECTOR - WESTERN REGION
345, KINGSWAY - NAGPUR 440 001

Bharat Heavy Electricals Limited

(A Government of India Undertaking)
Power Sector - Western Region
Shreemohini Complex
345, Kingsway - Nagpur 440 001

No. BHE/PW/PUR/HZL-CLE/487

AT

CHANDERIYA LEAD ZINC SMELTER CAPTIVE POWER PLANT
OF
M/s HINDUSTAN ZINC LIMITED
CHANDERIYA
CHITTORGARH
RAJASTHAN

Earnest Money Deposit: Please see Special Conditions of Contract.

Last date and time for Tender Submission: Please obtain updated information from
web page www.bhel.com ® **Tender Notifications**
® **View Corrigendums.**

These tender documents containing **Part- I** Technical Bid and **Part- II** Price Bid are
issued to:

M/s.

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PLEASE NOTE:

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

For Bharat Heavy Electricals Limited

DGM (Purchase)

Place: Nagpur

Date:

Bharat Heavy Electricals Limited: PSWR: Nagpur
Tender Specs No. BHE/PW/PUR/HZI-CLE/487: Part-II (Price Bid Specification)

Schedule of Rates and Quantities (Page 1 of 15)

Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
SECTION A - CONTROL PANELS, LOCAL PANELS, COMPOSITE SYSTEMS AND FIELD DEVICES					
A.1	max DNA based Electronic Control Panel for FSSS, Soot Blowers , SADC, EHTC,TP, TSE, GSPC,APRDS and ATRS Functions.(approx dimension L750 X B800 X H2415), Weight 400 Kg per panel.	17	Nos		
A.2	max MMI (Details are as follows)				
A.2.1	max Engineering Station, Link Station, Operator Station, Storian System and accessories	7	Nos		
A.2.2	max Network Panel (approx. dimension 600x800x2355mm)	1	Nos		
A.2.3	Printers for Max system, colour inkjet, laser jet, dot matrix along with print server	7	Nos		
A.3	Flame Scanner Amplifier Panel (CJF07) (Approx 750x800x2415)	1	No		
A.4	DC motor starter box for scanner fan (Approx 800x400x1200)	1	No		
A.5	Pulveriser Lube oil skid	5	Sets		

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Signature & Official Seal of Bidder

Bharat Heavy Electricals Limited: PSWR: Nagpur
Tender Specs No. BHE/PW/PUR/HZI-CLE/487: Part-II (Price Bid Specification)

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Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
A.6	Fan Lube oil skid	6	Sets		
A.7	Feeder Control Cabinet (600x400x1200)	5	Nos		
A.8	ERV Controller (350x290x180) approximate weight 5 kg	1	No		
A.9	Electronic Water Level Indicator (EWLI) with two numbers of remote display unit at UCD, Two display unit at operating floor and two numbers ascetor panels.	2	Sets		
A.10	Air Heater Rotor Stoppage Alarm Box	2	Set		
A.11	Soot Blower MCC 5400x1000x2400) Double front non-drawout type	1	No		
A.12	ESP MCC (11000x1700x2400) d ouble front non -drawout type.	1	Nos		
A.13	Electronic Controller for ESP, (approx L700 X B650 X H2000), weight 300kg/controller	8	Nos		

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Tender Specs No. BHE/PW/PUR/HZI-CLE/487: Part-II (Price Bid Specification)

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Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
A.14	Rapcon control panel	1	Nos		
A.15	HEA Exciter system comprising of retract mechanism, transformer,spark rod and tip, flexible cable, hose, plug and accessories	12	Sets		
A.16	Flame Scanner Head Assembly with cable, JB and accessories	16	Sets		
A.17	AVR Control Panel 3050 (L)x750 (W)x2295 (H), Approximate total weight is 1000 Kg.	1	Nos		
A.18	Generator Relay and Control Panel along with Generator Control Desk and synchronising gear.	1	Nos		
A.19	CO ₂ Panels,Cylinders and Piping for firefighting system for STG.	1	Set		
A.20	Turbosupervisory Equipment like, vibration sensor, Axial Shift, Expansion Probes along with proximeter, 3500 system rack, PC, cables and accessories.	1	Set		
A.21	Opacity Monitor System with accessories for ESP	1	Set		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
A.22	Integrated Operating System (IOS) PC	1	Nos		
A.23	Local Instrument Racks	15	Nos		
A.24	INTEGRATED TESTING/ COMMISSIONING OF CONTROLS AND PROTECTIONS RELAY PANEL OF GENERATOR & ASSOCIATED EQUIPMENTS. (Scope of work as detailed in tender specification vide clause No. 4.15.13)	1	Sets		
SECTION B - FIELD INSTRUMENTS, CONTROLLERS (Details are as follows)					
B.1	Pressure Switch	50	Nos		
B.2	Differential Pressure Indicator/ Differential Pressure Switch.	35	Nos		
B.3	Pressure Gauge/Draft Gauge	125	Nos		
B.4	Electronic Pressure Transmitters	25	Nos		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
B.5	Electronic Differential Pressure Trans mitter for measurement of flow, level etc.	5	Nos		
B.6	Temperature Switch(Stem / Capilliary type), Thermostat	5	Nos		
B.7	Temperature Gauge with thermowell (both stem type and capillary type)	100	Nos		
B.8	Thermocouple with thermowell (all types except MTM for Boiler)	35	Nos		
B.9	MTM Thermocouple with clamp and clit.	40	Nos		
B.10	RTD (simplex / duplex) with thermowell	20	Nos		
B.11	Level Switch	45	Nos		
B.12	Level Indicator / Level Gauge	15	Nos		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
B.13	Ash level indicator along with sensing probe, cable and accessories.	8	sets		
B.14	Flow switch (Mechanical / Electronic)	1	Nos		
B.15	Flow indicator / Flow Gauge / Flow meter	1	Nos		
B.16	Flow Transmitter (Pulse / mass flow / PD type) including flanges and pulse amplifier	1	Nos		
B.17	Vibration measurement system for Fans (Make: Shenk Avery)	12	Nos		
B.18	Speed Pick up and measurement system	6	Nos		
B.19	I/P converters	35	Nos		
B.20	Air filter regulator	30	Nos		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
B.21	Limit Switch	90	Nos		
B.22	Speed Regulator	12	Nos		
B.23	Air Lock Relay	12	Nos		
B.24	Solenoid Valves	55	Nos		
B.25	Thermostats for ESP	8	Nos		
B.26	Support insulator thermostat	1	Nos		
B.27	Disconnecting switch	4	Nos		
B.28	Air flow rotameter	2	Nos		

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Schedule of Rates and Quantities (Page 8 of 15)

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
B.29	4x4" power cylinders for SADC system	40	Nos		
B.30	power cylinders for Fan Inlet Vanes	6	Nos		
SECTION C- DEVICES ERECTED BY OTHER AGENCIES (Details are as follows)					
C.1	Only healthiness checking of embedded RTD / T/C in Pump/Fan motor bearings	40	Nos		
C.2	Limit Switches (checking and adjusting only).	30	Nos		
C.3	Commissioning of Pneumatic regulating drives: (Control Valve,)	40	Nos		
C.4	Commissioning of Open/Close type pneumatic gates / dampers / valves	60	Nos		
C.5	Commissioning of Mill Discharge Valve	5	Sets		
C.6	Commissioning of Electrical actuators	60	Nos		

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Schedule of Rates and Quantities (Page 9 of 15)

Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
C.7	Commissioning of Burner Tilt Powr Cylinders	4	Nos		
C.8	Oil filtration,Testing and commissioning of ESP Transformers	8	Nos		
C.9	Testing and commissioning of Heating elements in ESP (Hopper heater, support heater and shaft heaters)	150	Nos		
C.10	Rotary switch in ESP	4	Nos		
C.11	Interlock Board in ESP	4	Nos		
C.12	Electrically Operated Hoist for ESP and Fans	4	Nos		
C.13	Central Lub Oil System	1	Set		

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Schedule of Rates and Quantities (Page 10 of 15)

Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
SECTION D - CABLE, CABLE TRAY, JBS, IMPULSE PIPE, STRUCTURAL STEEL AND OTHER HARDWARE (Details are as follows)					
D.1	Junction boxes 12/24/ 36/48 way	120	Nos		
D.2	Local start stop push buttons	20	Nos		
D.3	Impulse Pipe/ Tubes			NA	NA
D.3.1	S.S. Tube 12.7x2.1	150	M		
D.3.2	S.S. Tube 6.35X0.9	1500	M		
D.3.3	1/2 " Sch 40/80/160 CS Pipe	150	M		
D.3.4	1/2" Sch 40/80/160 SS / SA 106 Gr B Pipe	550	M		
D.3.5	Copper tube 6mm/ 8mm / 1/4"/ 3/4" (Sheathed / bare)	200	M		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
D.4	Perforated cable tray (with or without cover) 50mm in pieces of 2.5M	250	Nos		
D.5	Perforated cable tray (with or without cover) 100mm in 2.5mts length	150	Nos		
D.6	Perforated cable tray (with or without cover) 150mm in 2.5 mts length	125	Nos		
D.7	Cable Duct 250 x 100x100 0mm with cover, tee, bends etc.	25	Nos		
D.8	Cable Duct60 x 60x1000mm with cover, tee, bends etc.	25	Nos		
D.9	Ladder/perforated type cable tray (with or without cover) 300mm	750	M		
D.10	Ladder / perforated type cable tray (with or without cover) 450mm	150	M		
D.11	1/2" flexible conduit for cables	150	M		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
D.12	GI Earthing flat 50mmX6mm	250	M		
D.13	GI Earthing flat 30mmX5mm	500	M		
D.14	GI Wire	3500	M		
D.15	UTP (Unsheilded Twistd Pair) Cable for networkig (in length of 300M)	1200	M		
D.16	Screened Copper Cable 1P / 2P x 0.5 sqmm armoured	3500	M		
D.17	Screened Copper Cable 4P x 0.5 sqmm armoured	8500	M		
D.18	Screened Copper Cable 8P x 0.5 sqmm armoured	4300	M		
D.19	Screened Copper Cable 10/12P x 0.5 sqmm armoured	250	M		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
D.20	Screened Copper Cable 16P x 0.5 sqmm armoured	250	M		
D.21	1 sqmm PVC flexible cable	250	M		
D.22	Compensating cable 2P x 1.3 sqmm	100	M		
D.23	Copper Cable 2C x 1.5 sqmm armoured	400	M		
D.24	Copper Cable 3C x 1.5 sqmm armoured	1400	M		
D.25	Copper Cable 2P/4C x 1.5 sqmm armoured	7500	M		
D.26	Copper Cable 5C x 1.5 sqmm armoured	800	M		
D.27	Copper Cable 4P / 7C x 1.5 sqmm armoured	5000	M		

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Schedule of Rates and Quantities (Page 14 of 15)

Job: Handling, Transportation, Erection, Testing, Checking of Calibration, Assistance for Commissioning, Final painting and Handing Over of C&I and Electrical package of unit 3 at 1x80 MW Captive power Plant at Hindustan Zinc Ltd, Chittorgarh, Rajasthan in accordance with the scope specified in Tender Specification with associated amendments, clarifications etc. Items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
D.28	Copper Cable 10C x 1.5 sqmm armoured	8500	M		
D.29	10T x 1.5 sqmm cable	800	M		
D.30	Copper Cable 10P / 12 P x 1.5 sqmm armoured	1600	M		
D.31	4C / 2P shielded unarmoured cable for scanners	1500	M		
D.32	2C x 2.5 sqmm Cable	4500	M		
D.33	5C x 2.5 sqmm Cable	1000	M		
D.34	10C x 2.5 sqmm Cable	1500	M		
D.35	3C x4 sqmm Cable	1000	M		

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs)	TOTAL RATE (Rs)
D.36	2C x 6 sqmm Cable	250	M		
D.37	3C x 6 sqmm Cable	2500	M		
D.38	3C x 10 sqmm Cable	1000	M		
D.39	3C x 35 sqmm Cable	500	M		
D.40	2C x 70 sqmm Cable	3500	M		
D.41	Structural steel for fabrication	4	MT		
GRAND TOTAL (IN FIGURES)			Rs.		
GRAND TOTAL (IN WORDS) : RUPEES					

Date:

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