TENDER SPECIFICATION

NO. BHE/PW/PUR/UKAI-CLE2/494

FOR

COLLECTION OF MATERIALS FROM STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, DISMANTLING THE EXISTING COMPONENTS, RETURNING OF DISMANTLED MATERIALS TO BHEL/CLIENT'S YARD, SERVICING OF EXISTING EQUIPMENT, ERECTION OF NEW COMPONENTS, RENOVATION AND MODERNIZATION, TESTING, ASSISTANCE FOR COMMISSIONING AND HANDING OVER OF ELECTRICAL AND C&I PACKAGE FOR 1x120 MW UNIT# 2

ΑT

UKAI TPS, P.O UKAI DAM GUJARAT- 394 680

PART -II (Price Bid Specification)



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT 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
345-KINGSWAY, NAGPUR-440001

TENDER SPECIFICATION NO. BHE/PW/PUR/UKAI-CLE2/494

NAME OF THE WORK:

COLLECTION OF MATERIALS FROM STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, DISMANTLING THE EXISTING COMPONENTS, RETURNING OF DISMANTLED MATERIALS TO BHEL/CLIENT'S YARD, SERVICING OF EXISTING EQUIPMENT, ERECTION OF NEW COMPONENTS, RENOVATION AND MODERNIZATION, TESTING, COMMISSIONING, AND HANDING OVER OF ELECTRICAL AND C&I PACKAGE FOR 1X120 MW UNIT# 2

ΑT

P.O UKAI DAM – 394 680 GUJARAT

EARNEST MONEY DEPOSIT: Please see Special Conditions of Contract.

LAST DATE FOR TENDER SUBMISSION

Please obtain updated information from web page "http://www.bhel.com" (Tender Notifications → View

Corrigendum).

THESE	TENDER	SPECIFICATION	DOCUMENTS	CONTAINING	PART-I	AND	PART-	I
ARE ISS	SUED TO:							

PLEASE NOTE:	
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.	
BIDDER SHALL NOTE THAT THEIR OFFER WILL BE CONSIDERED SUBJ	IECT TO THE

For Bharat Heavy Electricals Limited

APPROVAL OF BHEL'S CUSTOMER.

Dy. General Manager (Purchase) Place: Nagpur

Date:

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 1 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-1	Control Panel (approx L1000 X B1000 X H2500, 400 Kg each) including one interposing relay panel)	5	No.		
A-2	Control Panel (approx L1001 to 1500 X B1000 X H2500, 800 Kg) - suit of two panels	9	No.		
A-3	Control Panel (approx L1501 to 2250 X B1000 X H2500, 1200 Kg) - suit of three panels	1	No.		
A-4	Back up Control panel (Two shipping sections each W2500 x D2000 x H2500 mm approx)	1	Set		
A-5	Master and Slave Clock system (One master clock and four numbers of slave clocks common for unit #1 and Unit #2). Panel dimension 900 x 800x 2415 mm with 3 kms of cabling. (Commissioning in Vendor's scope)	1	Set		
A-6	UPS, ACDB and Battery (Each set comprising of 5 UPS Panels + 2 ACDB Panels, total 7 panels. Each panel dimension is 1000 x 800 x 2415 mm. This also includes four sets of battery each set comprising of 180 / 192 cells, SMF VRLA battery arranged in mild steel rack of size 1000 x 800 x 1500 mm. (Commissioning in supplier's scope)	1	Set		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 2 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-7	Erection and commissioning of Gravimetric feeder remote panel (in panel room) and commissioning of feeder local electronics	4	Set		
A-8	Alarm Annunciation System (Comprising of suite of 2 panels of suite size 1600mm x 800 x 2415 mm)	1	Set		
A-9	DC motor starter box for scanner fan	1	No		
A-10	Hydrogen Purity analyzer	1	No		
A-11	Steam and Water Analysis System (SWAS) Sample handling system consisting of wet rack, dry panel and Analysers (Conductivity – 7, Dissolved Oxygen – 1, pH – 5 and Silica analyser – 2 numbers)	1	Set		
A-12	Furnace Temperature probe	1	Nos		
A-13	AC Control Supply Panel, DC Control Supply Panel (about 800 Kg each)	2	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 3 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-14	DCDB approximately (600x600x2300)	1	No		
A-15	Turbo-visory monitoring system for main turbine (Rack mounted Averyshank make, with Vibration, axial Shift pick up, proximeters etc.)	1	No		
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)	15	Nos		
B-3	HEA Exciter system	12	Sets		
B-4	Flame Scanner Head Assembly	12	Nos		
B-5	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	35	Nos		
B-7	Speed Regulators / Air lock valves in oil gun corner rack	12	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 4 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-8	MAX Engineering / operator / storian / LAN / WAN / Shift-in-charge / station-in-charge / gateway / interface PC / HART etc., PC/Server Station with ASCII Keyboard, Mouse & 19" Colour Monitor, individual UPS, Ethernet switch, cabling etc with Work Station Desk (Operator and engineering)	8	Sets		
B-9	Printers (80/132 column Dot Matrix, A3 Inkjet, A3 Laserjet, etc.)	5	Sets		
B-10	Flue gas analyzer system comprising of Sample handling system, SOX, NOX, CO and SPM analyzers	1	Set		
B-11	O ₂ (Oxygen) Analyzer	2	Nos		
C-1	Console inserts (to be mounted on Backup desk)	1	Set		
C-2	Bar Graph Indicators (Single, Dual Channel)	40	Nos		
C-3	Digital indicators	4	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 5 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-4	Recorder 18 Channel	1	Nos		
C-5	Recorder 3 /6/12 channel (new or relocation)	40	Nos		
C-6	Speed switch / Speed detector	4	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/ Pressure gauge/ DP Gauge	230	Nos		
C-10	Temperature Switch / Thermostat / Temperature Gauge	100	Nos		
C-11	Float type/ Electronic Level Switch	30	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 6 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-12	Electronic Level Transmitter (Displacer Type)	3	Nos		
C-13	Level Indicator / Level Gauge	6	Nos		
C-14	Flow indicator / Flow Gauge	6	Nos		
C-15	Pressure / DP / Flow (DP type) / Level -Transmitter	200	Nos		
C-16	Flow Transmitter (Pulse / mass flow / target / coriolis type) including flanges	3	Nos		
C-17	Thermocouple / RTD with thermowell (all types) along with converters wherever applicable	200	Nos		
C-18	MTM Thermocouple	25	Nos		
C-19	I/P converters	50	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 7 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-20	Pneumatic Pressure controller with accessories	1	Nos		
C-21	Pneumatic Temperature controller with accessories	1	Nos		
D-1	Fan /Pulverizer/ pump Lube oil skid	12	Sets		
D-2	Electrical drives / actuators (regulating / On off type)	70	Nos		
D-3	Pneumatic drives: (Valve, damper)	69	Nos		
D-4	Commissioning of Hydraulic actuators	2	Nos		
D-5	ERV Controller	2	Nos		
D-6	Corner valve/ Trip valves commissioning	40	Nos		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 8 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-7	Solenoid Valves	30	Nos		
D-8	Only healthiness checking of embedded RTD / T/C	100	Nos		
D-9	Limit Switches (checking and adjusting only).	25	Nos		
D-10	SADC Power cylinders (For these, erection of cylinders is also included although separate payment is not shown for erection in terms of payment. Erection and calibration charges to be within quoted rates)	56	Nos		
E-1	GI earthing (grounding) wire	1000	m		
E-2	GI Pipe (1/2", 1") Heavy grade	100	m		
E-3	GI Pipe (1.5 ", 2")	50	m		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 9 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-4	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	2500	m		
E-5	Perforated / ladder type cable tray and accessories (with or without cover) 50mm / 100mm / 150 mm	4000	m		
E-6	Perforated / ladder type cable tray and accessories (with or without cover) 200, 250, 300, 350, 450 mm	4000	m		
E-7	Instrument, Control and Compensating Cable up to 8P/16C armoured / Un-armoured 0.5/0.75/1.5/2.5 sq. mm.	40000	m		
E-8	Instrument, Control and Compensating Cable more than 8P/16C up to 32P/64C, 0.5/0.75/1.5/2.5 Sq. mm.	20000	m		
E-9	Power Cable 3c / 4c up to 6 sq. mm.	5000	m		
E-10	Power Cable 3c / 4c greater than 6sq. mm, less than 25 sq. mm.	3000	m		
E-11	Power Cable 3c 185 sq. mm.	3000	m		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 10 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-12	Network UTP Cables (special termination using UTP connectors involved)	250	m		
E-13	MS Flat 50 x 6 mm	50	m		
F-1	Junction boxes	125	Nos		
F-2	CS/AS/SS Impulse Pipe 1/2" Sch 40/80/160	2200	m		
F-3	CS/AS Impulse Pipe 3/4", 1.0" Sch 40/80/160	800	m		
F-4	Plant Control Desk / CRT desk	1	Set		
F-5	Computer furniture for all Servers, PCs, Printers	1	Set		
F-6	Structural steel for fabrication	5	MT		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 11 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-7	Lump sum charges for carrying out tests as per clause 4.23.9 of Technical specifications	1	Set		
F-8	Drilling of holes in the floor, concrete slab etc for installation of panels with minimum opening of one square feet.	200	Sq. ft.		
G-1	Removal of existing panels including removal of instruments, consoles, internal wiring, cabling, accessories etc., identification, deglanding of cables, and handing over to BHEL/ customer at their stores.	125	Nos		
G-2	Removal of all size of cables up to 32 pair / 64C. The job includes removal from terminals, de-glanding of cables, identification, re-rolling and handing over to BHEL/ customer at their stores.	125000	m		
G-3	Removal of cable trays size upto 750 mm perforated / ladder type, along with or without cover and accessories, handing over to BHEL/ customer at their stores.	600	m		
G-4	Removal of existing instruments, junction boxes, identification of the same and handing over to BHEL/customer at their stores.	1800	No.		

Bharat Heavy Electricals Limited: PSWR: Nagpur Tender Specification No. BHE/PW/PUR/UKT2-CLE/494 (Part-II: Price Bid Specification) Schedule of Rates and Quantities (Page 12 of 12)

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
G-5	Removal, cutting of steel supports for JBs, instruments, cable trays, impulse pipes etc, and handing over to BHEL/ customer at their stores.	30	MT		
G-6	Cutting and removal of impulse pipes, conduits, air line pipes of various sizes, identification and handing over to BHEL/ customer at their stores.	12000	m		
G-7	Removal of copper tube up to 12mm OD, identification and handing over to BHEL/ customer at their stores.	12000	m		
	Grand total in figures (Rs.)				
3ran	d Total in words : Rupees				