

TENDER SPECIFICATION

NO. PW/NGP/PUR/GNR-RM-CI/548

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

AT

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

PART -II (Price Bid)



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

345, KINGS WAY - NAGPUR 440 001

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345, KINGS WAY - NAGPUR 440 001

TENDER SPECIFICATION NO. PW/NGP/PUR/GNR-RM-CI/548

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

AT

UNIT-1&2

GANDHINAGAR TPS,

GANDHINAGAR,

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 Corrigendums).

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

M/s.

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PLEASE NOTE:

THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

BIDDER SHALL NOTE THAT THEIR OFFER WILL BE CONSIDERED SUBJECT TO THE APPROVAL OF BHEL'S CUSTOMER.

For Bharat Heavy Electricals Limited

Dy. General Manager (Purchase)

Place: Nagpur

Date:

Bharat Heavy Electricals Limited: PSWR: Nagpur
Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 1 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|-----|--|-----------|------|-----------------|--------------------|
| A-1 | Control Panel (approx L1000 X B1000 X H2500, 400Kg) – single panels (includes one interposing relay panel) | 7 | Nos | | |
| A-2 | Control Panel (approx L1001 to 1500 X B1000 X H2500, 800 Kg) - suit of two panels | 11 | Nos | | |
| 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 vendor's scope) | 1 | Sets | | |
| A-7 | Erection and commissioning of Gravimetric feeder remote panel (in panel room) and commissioning of feeder local electronics | 4 | Sets | | |

Date

Signature & Official Seal of Bidder

Bharat Heavy Electricals Limited: PSWR: Nagpur
Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 2 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|------|-----------------|--------------------|
| 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 Kgs each) | 2 | Nos | | |
| A-14 | DCDB approximately (600x600x2300) | 1 | No | | |
| A-15 | Turbovisory monitoring system for main turbine (Rack mounted with Vibration, axial Shift pick up, proximeters etc.) | 1 | No | | |
| B-1 | Direct Water Level Gauge | 2 | Sets | | |

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Bharat Heavy Electricals Limited: PSWR: Nagpur
Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 3 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|------|-----------------|--------------------|
| B-2 | Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil) | 50 | 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) | 55 | Nos | | |
| B-6 | Speed Regulators / Air lock valves in oil gun corner rack | 12 | Nos | | |
| B-7 | Speed Regulators / Air lock valves in oil gun corner rack | 40 | 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 & 19" Colour Monitor, individual UPS, Ethernet switch, cabling etc with Work Station Desk (Operator and engineering) | 8 | Sets | | |
| B-9 | Printers (80/132 col 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 | O2 (OXYGEN) Analyzer | 2 | Nos | | |

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Schedule of Rates and Quantities (Page 4 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|-----|-----------------|--------------------|
| C-1 | Console inserts (to be mounted on Backup desk) | 2 | Set | | |
| C-2 | Bar Graph Indicators (Single, Dual Channel) | 60 | Nos | | |
| C-3 | Digital indicators | 4 | Nos | | |
| C-4 | Recorder 18 Channel | 1 | Nos | | |
| C-5 | Recorder 3 /6/12 channel (new or relocation) | 10 | 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 | 200 | Nos | | |
| C-10 | Temperature Switch / Thermostat / Temperature Gauge | 125 | Nos | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 5 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|---|-----------|-----|-----------------|--------------------|
| C-11 | Float type/ Electronic Level Switch | 35 | Nos | | |
| 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 / RTDs with thermowell (all types) along with converters wherever applicable | 215 | Nos | | |
| C-18 | MTM Thermocouple | 25 | Nos | | |
| C-19 | I/P converters | 50 | Nos | | |
| C-20 | Pneumatic Pressure controller with accessories | 1 | Nos | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 6 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|------|-----------------|--------------------|
| 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) | 75 | Nos | | |
| D-4 | Commissioning of Hydraulic actuators | 2 | Nos | | |
| D-5 | ERV Controller | 2 | Nos | | |
| D-6 | Corner valve/ Trip valves commissioning | 40 | Nos | | |
| D-7 | Solenoid Valves | 30 | Nos | | |
| D-8 | Only healthiness checking of embedded RTD / T/C | 105 | Nos | | |
| D-9 | Limit Switches (checking and adjusting only). | 50 | Nos | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 7 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|--------|-----------------|--------------------|
| 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) | 40 | Nos | | |
| E-1 | GI earthing wire | 1500 | Meters | | |
| E-2 | GI Pipe (1/2", 1") Heavy grade | 750 | Meters | | |
| E-3 | GI Pipe (1.5 ", 2") | 150 | Meters | | |
| E-4 | Copper tube 6mm/8mm / 1/4" (Sheathed / bare) | 2500 | Meters | | |
| E-5 | Perforated / ladder type cable tray and accessories (with or without cover) 50mm / 100mm / 150 mm | 4200 | Meters | | |
| E-6 | Perforated / ladder type cable tray and accessories (with or without cover) 200, 250, 300, 350, 450mm | 1000 | Meters | | |
| E-7 | Instrument, Control and Compensating Cable upto 8P/16C armoured / Un-armoured 0.5/0.75/1.5/2.5 SQ.MM. | 130000 | Meters | | |
| E-8 | Instrument , Control and Compensating Cable more than 8P/16C upto 32P/64C 0.5/0.75/1.5/2.5 SQ.MM. | 7500 | Meters | | |
| E-9 | Power Cable 3c / 4c up to 6sqmm | 5000 | Meters | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 8 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|------|--|-----------|--------|-----------------|--------------------|
| E-10 | Power Cable 3c / 4c greater than 6sqmm, less than 25sqmm | 3000 | Meters | | |
| E-11 | Power Cable 3c 185sqmm | 1500 | Meters | | |
| E-12 | Network UTP Cables (special termination using UTP connectors involved) | 2300 | Meters | | |
| E-13 | MS Flat 50 x 6 mm | 200 | Meters | | |
| F-1 | Junction boxes | 400 | Nos | | |
| F-2 | CS/AS/SS Impulse Pipe 1/2" Sch 40/80/160 | 3000 | Meters | | |
| F-3 | CS/AS Impulse Pipe 3/4", 1.0" Sch 40/80/160 | 1050 | Meters | | |
| F-4 | Plant Control Desk / CRT desk | 1 | Set | | |
| F-5 | Computer furniture for all Servers, PCs, Printers | 1 | Set | | |
| F-6 | xs qty.Cutting and removal of impulse pipes, conduits, air line pipes of various sizes, Structural steel for fabrication | 25 | Tons | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 9 of 11)

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|-----|--|-----------|---------|-----------------|--------------------|
| 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. | Nos | 55 | | |
| 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. | Mtrs | 115000 | | |
| 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. | Mtrs | 2000 | | |
| G-4 | Removal of existing instruments, junction boxes, identification of the same and handing over to BHEL/ customer at their stores. | Nos | 1000 | | |
| G-5 | Removal, cutting of steel supports for JB's, instruments, cable trays, impulse pipes etc, and handing over to BHEL/ customer at their stores. | MTs | 10 | | |

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Schedule of Rates and Quantities (Page 10 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|---|---|-----------|-------|-----------------|--------------------|
| 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. | Mtrs | 10000 | | |
| G-7 | Removal of copper tube up to 12mm OD, identification and handing over to BHEL/ customer at their stores. | Mtrs | 4000 | | |
| | | | | | |
| Grand total in figures (Rs) for unit-1 | | | | | |
| Grand Total in words : Rupees for unit-1 | | | | | |
| | | | | | |
| Grand total in figures (Rs) for unit-2 | | | | | |
| Grand Total in words : Rupees for unit-2 | | | | | |
| | | | | | |

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Tender Specification No. BHE/PW/PUR/GNR-RM-CI/548 (Part-II: Price Bid)
Schedule of Rates and Quantities (Page 11 of 11)

| SN | DESCRIPTION | TOTAL QTY | UOM | UNIT RATE (Rs.) | TOTAL AMOUNT (Rs.) |
|--|-------------|-----------|-----|-----------------|--------------------|
| Grand total in figures (Rs) for unit-1 & 2 | | | | | |
| Grand Total in words : Rupees for unit-1 & 2 | | | | | |

NOTE : TOTAL QUANTITY IS INDICATED FOR ONE UNIT ONLY.
UNIT-1 & UNIT-2 SHALL HAVE THE SIMILAR QUANTITY.

Date

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