

TENDER SPECIFICATION

No. BHE/PW/PUR/BORLI-CNI/571

FOR

COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD;
TRANSPORTATION TO SITE; ERECTION, TESTING, ASSISTANCE FOR
COMMISSIONING & TRIAL OPERATION; HANDING OVER OF 3x275 TPH (UNIT # 1, 2 &
3) CFBC BOILER AND AUXILIARIES, BOILER INTEGRAL PIPING ETC, STEAM
TURBINES AND AUXILIARIES AND BALANCE OF PLANT PACKAGES FOR 3x32 MW
CAPTIVE POWER PROJECT

AT

BINA REFINERY PROJECT

BHARAT OMAN REFINERIES LIMITED

VILLAGE: AGASOD, BINA

DISTT: SAGAR, M.P.

PART: II (PRICE BID SPECIFICATION)



BHARAT HEAVY ELECTRICALS LIMITED
(A Govt. of India Undertaking)
POWER SECTOR - WESTERN REGION
345, KINGS WAY - NAGPUR 440 00

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345-KINGSWAY, NAGPUR-440 001

COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD;
TRANSPORTATION TO SITE; ERECTION, TESTING, ASSISTANCE FOR COMMISSIONING &
TRIAL OPERATION; HANDING OVER OF 3x275 TPH (UNIT # 1, 2 & 3) CFBC BOILER AND
AUXILIARIES, BOILER INTEGRAL PIPING ETC, STEAM TURBINES AND AUXILIARIES AND
BALANCE OF PLANT PACKAGES FOR 3x32 MW CAPTIVE POWER PROJECT

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BHARAT OMAN REFINERIES LIMITED

VILLAGE: AGASOD, BINA

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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 (TECHNICAL BID SPECIFICATION) AND
PART- II (PRICE BID SPECIFICATION), 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:

BHEL-PSWR-NAGPUR
Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)
Schedule of Rates and Quantities (Page 1 of 13)

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 3 X 32 MW power project of BORL BINA; Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-1	Distributed Control System (DCS) and Programmable Logic Control System(PLC) Package Panels	80	Nos		
A-2	DCS Package Engineering and Work Stations	20	Nos		
A-3	Electro-hydraulic Turbine Controller Panels and MMI	3	Nos		
A-4	Machine Monitoring System Panels	4	Nos		
A-5	415 V (3 Phase) AC UPS with inverter, bypass line equipment, ACDB and Batteries	10	Set		
A-6	Vibration, Axial Shift, Speed and Displacementt monitoring system for main turbine and BFP	5	Set		
A-7	Turbine Control Panel (1000 x 2215 x 800)	2	Nos		

Date:

Signature & Official Seal of Bidder

BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 2 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-8	Air Heater Rotor Stoppage Alarm Box	3	Sets		
A-9	Electronic Water Level Indicator (EWLI) along with local discriminator unit (L600 X B350 X H600)	6	Sets		
A-10	VFD Panels	14	Nos		
A-11	SWAS Sample handling system with racks & Sample conditioning panel with chiller (Both wet and dry)	2	Sets		
A-12	Conductivity Analyzer (Both panel mounted and field mounted)	6	Nos		
A-13	pH Analyzer	6	Nos		
A-14	Silica Analyzer (Multi channel)	6	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 3 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-15	Elevator Panel (L1000 X B600 X H1800)	2	Sets		
A-16	CCTV Panels	3	Sets		
B-1	Direct Water Level Gauge	6	Sets		
B-2	Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil)	60	Nos		
B-3	HEA Exciter system	12	Sets		
B-4	Flame Scanner Head Assembly (Fire ball and Discriminating Type)	12	Nos		
B-5	Relay / Latch relay with base	4	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 4 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-6	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	170	Nos		
B-7	Speed Regulators / Air lock valves in oil gun corner rack	24	Nos		
B-8	CO Analyzer (in situ type)	3	Sets		
B-9	O2 (OXYGEN) Analyzer	6	Nos		
B-10	SO2 Analyzer (in situ type)	3	Nos		
B-11	NOX Analyzer (in situ type)	3	Nos		
B-12	Dust emission monitor / SPM Analyser (Installation on chimney)	3	Sets		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 5 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-13	Flue gas analyser sample handling system	3	Sets		
C-1	Pressure Switch / DP Switch / DP indicating switch	40	Nos		
C-2	Temperature Switch / Thermostat	10	Nos		
C-3	Float type Level Switch	20	Nos		
C-4	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	10	Nos		
C-5	Pressure Gauge / DP gauge	650	Nos		
C-6	Temperature Gauge (all types)	400	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 6 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-7	Level Indicator / Level Gauge	40	Nos		
C-8	Radial type level gauge	4	Nos		
C-9	Pressure / DP / Flow (DP type) / Level -Transmitter	800	Nos		
C-10	Level Transmitter (displacer type)	10	Nos		
C-11	Flow Transmitter (Pulse / mass flow / target type) including flanges	18	Nos		
C-12	Temperature Transmitter	650	Nos		
C-13	Thermocouple / RTDs with thermowell (all types) along with converters wherever applicable	500	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 7 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-14	MTM Thermocouple	150	Nos		
C-15	I/P converters	50	Nos		
D-1	Rack mounted instruments commissioning	10	Sets		
D-2	Pneumatic regulating drives: (Control Valve, Damper)	50	Nos		
D-3	ERV Controller	6	Nos		
D-4	Corner valve/ Trip valves commissioning	100	Nos		
D-5	Open/Close type pneumatic gates / dampers	40	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 8 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-6	Limit Switches (checking and adjusting only).	150	Nos		
D-7	Electric Heater	5	Nos		
E-1	GI earthing wire	2000	Meters		
E-2	GI Pipe (1/2", 1") Heavy grade	500	Meters		
E-3	GI Pipe (1.5 ", 2")	500	Meters		
E-4	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	2000	Meters		
E-5	Copper tube 1/2" to 1" (Sheathed / bare)	50	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 9 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-6	Hoses- 1/2" to 1", SS/Teflon, Braided/unbraided, upto 5M length	50	Nos		
E-7	Perforated cable tray and accessories (with or without cover) 50mm	2500	Meters		
E-8	Perforated cable tray and accessories (with or without cover) 100mm	2000	Meters		
E-9	Perforated cable tray and accessories (with or without cover) 150mm	2000	Meters		
E-10	Screened Copper Cable 1P / 2P x 0.5 sqmm armoured / unarmoured	20000	Meters		
E-11	Screened Copper Cable 10P / 12P/ 16P x 1.5 sqmm armoured / unarmoured	45000	Meters		
E-12	Screened Copper Cable 1P/2C x 1.5 / 2.5 sqmm armoured / unarmoured	12000	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 10 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-13	Screened Copper Cable 2P/ 3C /4C x 1.5 / 2.5 sqmm armoured / unarmoured	27000	Meters		
E-14	Screened Copper Cable 5C/7C x 1.5 /2.5 sqmm armoured / unarmoured	500	Meters		
E-15	Screened Copper Cable 6P/10C/12C x 1.5 /2.5 sqmm armoured / unarmoured	30000	Meters		
E-16	Compensating cable 1P/2P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	6500	Meters		
E-17	Compensating cable 6P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	4000	Meters		
E-18	Compensating cable 12P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	10000	Meters		
E-19	Copper Cable 1, 2 or 3 triad, 0.5/1.5 sqmm armoured/unarmoured	5000	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 11 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-20	Copper Cable 8 or 6 triad, 0.5/1.5 sqmm armoured/unarmoured	15000	Meters		
E-21	Foundation field bus 1 pair, armoured / non-armoured, IS / Non IS signal cable	50000	Meters		
F-1	Local gauge rack	6	Nos		
F-2	Push button and Junction boxes	500	Nos		
F-3	Weather proof junction boxes for foundation field bus application	100	Nos		
F-4	Impulse pipe CS ½" SCH 40 / 80 / 160	1250	Meters		
F-5	Impulse pipe SS / AS ½" SCH 40 / 80 / 160	800	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 12 of 13)**

Handling at site stores/storage yard, transportation to site of work, complete erection, checking of calibration, testing, assistance for commissioning and handing over of Controls & Instrumentation works for Boiler and its auxiliaries, Steam Turbine, Turbo-generator and their auxiliaries, Station C&I etc. for 2x250 MW thermal power project of NTPC-SAIL Power Company Private Ltd, Bhilai, Dist-Durg, Chhattisgarh. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-6	Impulse pipe ASTM A 335 P22 1/2 " Sch XXS	3800	Meters		
F-7	Impulse pipe SS / ASTM A106Gr C 1 " Sch 160	500	Meters		
F-8	Impulse pipe SS / AS / CS 1/2" OD (D12.7/13.5 x 2.1/2.6 mm)	2100	Meters		
F-9	SS tube D6 x 1.0/1.5mm	2000	Meters		
F-10	Impulse pipe 1/4" / 8mm / 6mm	500	Meters		
F-11	Computer furniture for all Servers, PCs, Printers	1	Set		
F-12	Structural steel for fabrication	40	Tons		

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BHEL-PSWR-NAGPUR

Tender Specification No. BHE/PW/PUR/BORLI-CNI/571 (Part-II: Price Bid Specification)

Schedule of Rates and Quantities (Page 13 of 13)

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SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-13	MS plate 3 to10 mm thick	5	Sq. M.		
GRAND TOTAL:					

Date:

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