

TENDER SPECIFICATION

No. BHE/PW/PUR/TRT-CNI/512

FOR

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, ASSISTANCE FOR COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, STEAM TURBINE, TURBOGENERATOR AND THEIR AUXILIARIES, STATION C&I FOR 1x250 MW PROJECT

AT

TROMBAY THERMAL POWER GENERATING STATION

TATA POWER COMPANY LTD.

TROMBAY, MUMBAI

MAHARASHTRA

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

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, ASSISTANCE FOR COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, STEAM TURBINE, TURBOGENERATOR AND THEIR AUXILIARIES, STATION C&I, FOR 1x250 MW PROJECT

AT TROMBAY THERMAL POWER GENERATING STATION

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TROMBAY, MUMBAI

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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/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 1 of 26)**

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 for 1x250 MW Project at Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-1	Control Panel (approx L1000 X B1000 X H2500, 400Kg) - one panel	18	Nos		
A-2	Control Panel (approx L1000 X B1000 X H2500, 400Kg) – suit of two panels	20	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		

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Signature & Official Seal of Bidder

BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 2 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-8	Gr. Feeder Remote Control Panel (1400 x 2365 x600), 636 kg	5	Set		
A-9	Generator Instrumentation cabinet including annunciator (1230 x 1060 x 2550, 600 Kgs)	1	No		
A-10	220/240 VAC UPS with inverter, bypass line equipment, ACDB and Batteries	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/CWP	1	Set		
A-14	DC motor starter box for scanner fan	1	No		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 3 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-15	Control panels for Centrifuges	2	Nos		
A-16	Gr. Feeder local Control Panel (1000 x 600 x 300), 77 kg,	5	Nos		
A-17	Control Panel for HP dosing system (1000x800x2000, 3.0 MT)	1	No		
A-18	Burner Tilt Shear Pin Failure Indication Box	4	Nos		
A-19	Air Heater Rotor Stoppage Alarm Box	2	Sets		
A-20	Condenser Vacuum pump system	2	Set		
A-21	Local Instrument racks (LIR)	40	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 4 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-22	Local Instrument enclosures (LIE)	35	Nos		
A-23	NETWORK PANELS (800x800x2100)	3	Nos		
A-24	HART MANAGEMENT SYSTEM CABINET	1	Set		
A-25	Electronic Water Level Indicator (EWLI)	2	Sets		
A-26	Hydrogen Purity analyzer	1	No		
A-27	SWAS Sample handling system with racks & Sample conditioning panel with chiller (Both wet and dry)	1	Set		
A-28	Conductivity Analyzer (Both panel mounted and field mounted)	11	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 5 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-29	Chloride Analyzer	2	Nos		
A-30	Dissolved Oxygen Analyzer	3	Nos		
A-31	Hydrazine Analyzer	2	Nos		
A-32	Sodium Analyzer (Multi channel)	1	Nos		
A-33	pH Analyzer	7	Nos		
A-34	Phosphate Analyzer	1	Nos		
A-35	Silica Analyzer (Multi channel)	2	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 6 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
A-36	Analyzer Panel	1	Nos		
A-37	Furnace Temperature probe	2	Nos		
A-38	Coal bunker level monitoring system	1	Sets		
A-39	Master Slave Clock System	1	Sets		
A-40	CCTV System	1	Sets		
A-41	Elevator Control Panel (Located in Machine Room, Approximate weight 750kg)	1	Set		
B-1	Direct Water Level Gauge	2	Sets		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 7 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	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)	100	Nos		
B-3	HEA Exciter system	12	Sets		
B-4	Flame Scanner Head Assembly (Fire ball and Discriminating Type)	20	Nos		
B-5	Relay / Latch relay with base	2	Nos		
B-6	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	80	Nos		
B-7	Speed Regulators / Air lock valves in oil gun corner rack	12	Nos		
B-8	max Engineering / operator / storian / LAN / WAN /LVS Work Station/ Shift in charge / stn in charge / gateway / interface PC / HART etc., PC/Server Station with ASCII Keyboard, Mouse & 21" Colour Monitor, individual UPS in Modular CRT Desk with racks for HMI System	18	Sets		

Date:

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 8 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-9	Printers (80/132 col Dot Matrix, A3 Inkjet, A3 Laserjet, etc) with Printer table and accessories	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	1	Set		
B-13	CO Analyzer (in situ type)	1	Set		
B-14	O2 (OXYGEN) Analyzer	6	Nos		
B-15	SO2 Analyzer (in situ type)	1	No		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 9 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
B-16	NOX Analyzer (in situ type)	1	No		
B-17	Dust emission monitor (Installation at around 50 M in chimney)	1	Set		
B-18	Flue gas analyzer sample handling system	1	Set		
C-1	Console inserts (to be mounted on Backup desk)	1	Set		
C-2	Vertical indicators (moving coil / bar graph)	10	Nos		
C-3	Digital / bar-graph indicators	10	Nos		
C-4	Recorder 24 / 30 Channel	2	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 10 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-5	Recorder 3 channel	2	Nos		
C-6	Speed switch / Speed detector	1	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	25	Nos		
C-11	Float type Level Switch	30	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 11 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-12	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	15	Nos		
C-13	Electronic Level Transmitter (with amplifier, etc), Capacitance or conductivity type	6	Nos		
C-14	Flow switch (Mechanical / Electronic)	2	Nos		
C-15	Pressure Gauge / DP gauge	400	Nos		
C-16	Temperature Gauge (all types)	300	Nos		
C-17	Level Indicator / Level Gauge	11	Nos		
C-18	Flow indicator / Flow Gauge / Flow meter/Acoustic flow meter (coal)	1	No		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 12 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-19	Pressure / DP / Flow (DP type) / Level -Transmitter	330	Nos		
C-20	Level Transmitter (displacer type)	5	Nos		
C-21	Flow Transmitter (Pulse / mass flow / target type) including flanges	2	Nos		
C-22	Thermocouple / R TDs with thermowell (all types) along with converters wherever applicable	400	Nos		
C-23	MTM Thermocouple upto 17 M length	56	Nos		
C-24	MTM Thermocouple over 17 M length	70	Nos		
C-25	Thermocouple assy with 6 / 9 Cr-Al MI T/C along with integral JB	2	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 13 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
C-26	I/P converters	60	Nos		
C-27	Pneumatic Pressure controller with accessories	1	Nos		
C-28	Pneumatic Temperature controller with accessories	1	Nos		
C-29	SADC power cylinders	56	Nos		
C-30	Rotameter	2	Sets		
D-1	Fan Lube oil skid	6	Sets		
D-2	Rack mounted instruments commissioning	3	Sets		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 14 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-3	Coal Feeder local instruments commissioning	6	Nos		
D-4	Electrical regulating drives: (Valve, damper, scoop)	6	Nos		
D-5	Pneumatic Regulating Drives for Valve, damper including SADC, Burner tilt etc.	140	Nos		
D-6	Commissioning of Hydraulic actuators	20	Nos		
D-7	ERV Controller	2	Nos		
D-8	Corner valve/ Trip valves commissioning	41	Nos		
D-9	Open/Close type pneumatic gates / dampers / valves	52	Nos		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 15 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
D-10	Only healthiness checking of embedded RTD / T/C	300	Nos		
D-11	Limit Switches (checking and adjusting only).	50	Nos		
E-1	GI earthing wire	500	Meters		
E-2	GI Pipe (1/2", 1") Heavy grade	500	Meters		
E-3	GI Pipe (1.5 ", 2")	10	Meters		
E-4	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	2000	Meters		
E-5	Copper tube 1/2" to 1" (Sheathed / bare)	100	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 16 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. 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	100	Nos		
E-7	Perforated cable tray and accessories (with or without cover) 50mm	3000	Meters		
E-8	Perforated cable tray and accessories (with or without cover) 100mm	3000	Meters		
E-9	Perforated cable tray and accessories (with or without cover) 150mm	1250	Meters		
E-10	Cable duct 60 x 60 x 1000	200	Meters		
E-11	Cable duct 100 x 100 x 1000	40	Meters		
E-12	Cable duct 180 x 100 x 1000	50	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 17 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-13	Cable duct 250 x 60 x 1000	30	Meters		
E-14	Screened Copper Cable 2P x 0.5 sqmm armoured / unarmoured	50000	Meters		
E-15	Screened Copper Cable 4P x 0.5 sqmm armoured / unarmoured	70000	Meters		
E-16	Screened Copper Cable 6P x 0.5 sqmm armoured / unarmoured	13000	Meters		
E-17	Screened Copper Cable 8P x 0.5 sqmm armoured / unarmoured	90000	Meters		
E-18	Screened Copper Cable 10P / 12P/ 16P x 0.5 sqmm armoured / unarmoured	2000	Meters		
E-19	Screened Copper Cable 24P x 0.5 sqmm armoured / unarmoured	1000	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 18 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-20	Screened Copper Cable 1P/2C x 1.5 / 2.5 sqmm armoured / unarmoured	7000	Meters		
E-21	Screened Copper Cable 2P/ 3C /4C x 1.5 / 2.5 sqmm armoured / unarmoured	15000	Meters		
E-22	Screened Copper Cable 5C/7C x 1.5 /2.5 sqmm armoured / unarmoured	1500	Meters		
E-23	Screened Copper Cable 10C/12C x 1.5 /2.5 sqmm armoured / unarmoured	5000	Meters		
E-24	Screened Copper Cable 19C x 1.5 /2.5sqmm armoured / unarmoured	3000	Meters		
E-25	Compensating cable 2P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	4500	Meters		
E-26	Compensating cable 4P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	4500	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 19 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
E-27	Compensating cable 6P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	5500	Meters		
E-28	Copper Cable 2 or 3 triad, 0.5/1.5 sqmm armoured/unarmoured	500	Meters		
E-29	Copper Cable 6 triad, 0.5/1.5 sqmm armoured/unarmoured	500	Meters		
E-30	Laying, etc of Single Mode Optical fibre cables on cable trays, conduits etc with minor civil works	2500	Meters		
E-31	Laying, etc of Multi Mode Optical fibre cables on cable trays, conduits etc with minor civil works	1000	Meters		
E-32	Network UTP Cables (special termination using UTP connectors involved)	9000	Meters		
E-33	MS Flat 50 x 6 mm	50	Meters		

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 20 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-1	Assembly of JB mounting frames (approx 1100 x 500 x 800)	6	Nos		
F-2	Assembly of JB mounting frames (approx 1500 x 800 x 1800)	2	Nos		
F-3	Assembly of JB mounting frames (approx 2000 x 900 x 1800)	4	Nos		
F-4	Assembly of JB mounting frames (approx 2600 x 500 x 1800)	2	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 up to 48 way	300	Nos		

Date:

Signature & Official Seal of Bidder

BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 21 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-8	Junction boxes above 48 way	75	Nos		
F-9	CJCB Junction boxes up to 48 way	10	Nos		
F-10	CJCB Junction boxes above 48 way	10	Nos		
F-11	2PB or 3PB Pushbutton box	5	Nos		
F-12	Impulse pipe CS ½" SCH 40 (D21.3 x 2.76 mm)	100	Meters		
F-13	Impulse pipe CS ½" SCH 80 (D21.3 x 3.73 mm)	2000	Meters		
F-14	Impulse pipe CS ¾" SCH 80 (D25 x 4 mm)	2500	Meters		

Date:

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 22 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
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)	50	Meters		
F-17	Impulse pipe ASTM A 335 P22 1/2 " Sch XXS	2000	Meters		
F-18	Impulse pipe ASTM A106Gr C 3/4 " Sch XXX	800	Meters		
F-19	Impulse pipe ASTM A106Gr C 1 " Sch 80	600	Meters		
F-20	Impulse pipe ASTM A106Gr C 1 " Sch 160	750	Meters		
F-21	Impulse pipe ASTM A335 P22 1 " NB Sch 160	400	Meters		

Date:

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BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 23 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-22	Impulse pipe ASTM A312 TP 304 3/4 NB" Sch 40	500	Meters		
F-23	Impulse pipe ASTM A312 TP 316 3/4 NB" Sch 40	200	Meters		
F-24	Impulse pipe ASTM A312 TP 316 3/4 NB" Sch 160	200	Meters		
F-25	Impulse pipe CS 1" SCH 40 (D33.4 x 3.37 mm)	50	Meters		
F-26	Impulse pipe CS 1" SCH 80 (D33.4 x 4.55 mm)	200	Meters		
F-27	Impulse pipe SS 1/4" (D12.7/13.5 x 2.1/2.6 mm)	1000	Meters		
F-28	Impulse pipe SS 1/2" SCH 160	1000	Meters		

Date:

Signature & Official Seal of Bidder

BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 24 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-29	SS tube D6 x 1.0/1.5mm	200	Meters		
F-30	Impulse pipe CS 1/4" (D13.5 x 2.6 mm)	400	Meters		
F-31	Impulse pipe CS (D17.2 x 1.8 mm)	400	Meters		
F-32	CS tube DN 80	20	Meters		
F-33	Impulse pipe SS ½" (D21.3 x 2.6 mm) Sch 40	200	Meters		
F-34	Impulse pipe AS 1/4" (D13.5 x 2.6 mm)	400	Meters		
F-35	Impulse pipe 1/4" / 8mm / 6mm	500	Meters		

Date:

Signature & Official Seal of Bidder

BHEL-PSWR-NAGPUR**Tender Specification No. BHE/PW/PUR/TRT-CNI/512 (Part-II: Price Bid Specification)****Schedule of Rates and Quantities (Page 25 of 25)**

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 for 1x250 Trombay Thermal Power Generating Station, Tata Power Company Ltd, Trombay, Mumbai, Maharashtra. Various items of work are as follows.

SN	DESCRIPTION	QTY	UOM	UNIT RATE (Rs.)	TOTAL AMOUNT (Rs.)
F-36	Impulse pipe 1/2" (D21.3 x 3.2/3.6 mm)	200	Meters		
F-37	Impulse pipe 1/2" (D21.3 x 4.78 mm)	200	Meters		
F-38	Plant Control Desk / CRT desk	1	Set		
F-39	Computer furniture for all Servers, PCs, Printers	1	Set		
F-40	Structural steel for fabrication	20	Tons		
F-41	MS Sheet 3 to 4 mm thick	1	Sq. M.		
Grand Total in Figures (Rs.)					

Date:

Signature & Official Seal of Bidder