

TENDER SPECIFICATION

No. BHE/PW/PUR/NST-CNI U#3&5/1580

FOR

HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK

AT

SPECIAL ECONOMIC ZONE

RATTANINDIA NASIK POWER LTD

(Formerly known as Indiabulls RealTech Ltd)

SINNAR

DISTRICT- NASHIK,

MAHARASHTRA.

Chapter XI of Volume I A

**‘Schedule of Items and Quantities and Factors for Deriving
Item Rates from Total Lumpsum Price’**

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

POWER SECTOR - WESTERN REGION

345, KINGS WAY - NAGPUR 440 001

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
11.0	Cable tray and Accessories			
11.0.1	Perforated cable tray and accessories (with or without cover) 50mm	Mtrs	6142	0.000001889744
11.0.2	Perforated cable tray and accessories (with or without cover) 100mm	Mtrs	4400	0.000002120200
11.0.3	Perforated cable tray and accessories (with or without cover) 150mm	Mtrs	4400	0.000002712803
11.0.4	Perforated cable tray and accessories (with or without cover) 300mm	Mtrs	4000	0.000004714153
11.0.5	600 mm wide Perforated Type Cable Trays complete with Coupler Plates, Fasteners, Clamps & Fixing Hardwares and accessories.	Mtrs	6400	0.000003629690
11.0.6	600 mm wide Ladder Type Cable Trays complete with Coupler Plates, Fasteners, Clamps & Fixing Hardwares and accessories.	Mtrs	2400	0.000003267544
11.0.7	Single Support Channel(SC1)	No	6000	0.000003994580
11.0.8	Cantilever Arms for 600mm CableTrays	No	4000	0.000006046741
11.0.9	Cantilever Arms for 300mm CableTrays	No	1000	0.000003917761
11.0.10	Cantilever Arms for 150mm CableTrays	No	200	0.000002820349
12.0	Cable laying including earthing wires			
12.0.1	Screened Copper Cable 2P x 0.5 sqmm armoured / unarmoured	Mtrs	100000	0.000000335808
12.0.2	Screened Copper Cable 4P x 0.5 sqmm armoured / unarmoured	Mtrs	200000	0.000000395068
12.0.3	Screened Copper Cable 8P x 0.5 sqmm armoured / unarmoured	Mtrs	196000	0.000000456798
12.0.4	Screened Copper Cable 10P / 12P x 0.5 sqmm armoured / unarmoured	Mtrs	22000	0.000000539927
12.0.5	Screened Copper Cable 16P x 0.5 sqmm armoured / unarmoured	Mtrs	2000	0.000000504810
12.0.6	Screened Copper Cable 20P/24P x 0.5 sqmm armoured / unarmoured	Mtrs	10000	0.000001251050
12.0.7	Screened Copper Cable 4P x 1.5 sqmm armoured / unarmoured	Mtrs	8800	0.000000434575
12.0.8	Screened Copper Cable 2P/4C x 1.3 sqmm armoured / unarmoured	Mtrs	18000	0.000000383216
12.0.9	Screened Copper Cable 2P/4C x 1.5 sqmm armoured / unarmoured	Mtrs	13200	0.000000386838
12.0.10	Screened Copper Cable 2C x 2.5 sqmm armoured / unarmoured	Mtrs	19800	0.000000362146
12.0.11	Screened Copper Cable 3C x 2.5 sqmm armoured / unarmoured	Mtrs	21000	0.000000362146
12.0.12	Screened Copper Cable 5C x 2.5 sqmm armoured / unarmoured	Mtrs	13000	0.000000381899
12.0.13	Screened Copper Cable 7C x 2.5 sqmm armoured / unarmoured	Mtrs	8000	0.000000411530

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/NST-CNI U-3 and 5/1580

Technical Conditions of Contract –Volume I A

Page 1 of 8

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
I2.0.14	Screened Copper Cable 10C x 2.5 sqmm armoured / unarmoured	Mtrs	2000	0.000000471887
I2.0.15	Screened Copper Cable 16C x 2.5 sqmm armoured / unarmoured	Mtrs	4000	0.000000515784
I2.0.16	Screened Copper Cable 19C x 2.5 sqmm armoured / unarmoured	Mtrs	8000	0.000000567911
I2.0.17	Screened Copper Cable 2C/3C x 6 sqmm armoured / unarmoured	Mtrs	14200	0.000000362146
I2.0.18	Copper Cable 2 or 3 triad, 0.5/1.5 sqmm armoured/unarmoured	Mtrs	5000	0.000000658447
I2.0.19	Copper Cable 4 triad, 0.5/1.5 sqmm armoured/unarmoured	Mtrs	2000	0.000000658447
I2.0.20	Compensating cable 1P/2P x 0.5 sq mm type Tx/Sx/Kx unarmoured/armoured	Mtrs	6000	0.000000362146
I2.0.21	Compensating cable 1P/2P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Mtrs	13000	0.000000362146
I2.0.22	Compensating cable 4P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Mtrs	15000	0.000000444452
I2.0.23	Compensating cable 6P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Mtrs	16000	0.000000444452
I2.0.24	Laying of Optical fibre cables on cable trays, conduits etc (termination supervision by other agency) with minor civil works	Mtrs	21000	0.000000678201
I2.0.25	Network UTP Cables (special termination using UTP connectors involved)	Mtrs	16000	0.000000454329
I2.0.26	GI earthing wire	Mtrs	200	0.000000271609
I2.0.27	Cable duct 60 x 60 x 1000	Mtrs	320	0.000003270288
I2.0.28	Cable duct 180 x 100 x 1000	Mtrs	170	0.000003753149
I2.0.29	Cable duct 250 x 100 x 1000	Mtrs	140	0.000005440420
I2.0.30	Hoses-1/4", 1/2", 1", SS/Teflon, Braided/unbraided, upto 5M length	Mtrs	136	0.000005226425
I2.0.31	Flexible pipe 1"	Mtrs	100	0.000001185205
I2.0.32	Flexible pipe 2"	Mtrs	100	0.000001761346
I2.0.33	1C x 35 sqmm Al. PVC (A/UA) cable	Mtrs	6200	0.000000526758
I2.0.34	1C x120 sqmm Al. cable	Mtrs	2200	0.000000801111
I4.0	Junction box/Push Button station			
I4.0.1	Junction boxes upto 48 way	No	570	0.000026449826
I4.0.2	Junction boxes above 48 way	No	20	0.000033536913
I4.0.3	CJCB Junction boxes upto 48 way	No	20	0.000034041723
I4.0.4	CJCB Junction boxes above 48 way	No	90	0.000034041723
I4.0.5	2PB or 3PB Pushbutton box	No	6	0.000018496881
I4.0.6	Fire protection switch in IP65 box	No	4	0.000035490307
I4.0.7	FSSS Local Oil Gun Maintenance Switch Box	No	24	0.000033778344
I5.0	Conduits/Impulse pipe/tubes			

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/NST-CNI U-3 and 5/1580

Technical Conditions of Contract –Volume I A

Page 2 of 8

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
15.0.1	Impulse pipe CS ½" SCH 80 (D21.3 x 3.73 mm)	Mtrs	5000	0.000004148218
15.0.2	Impulse pipe CS ½" SCH 160 (D21.3 x 4.78 mm)	Mtrs	2600	0.000005201733
15.0.3	Impulse pipe CS GR C ¾" NB SCH 80	Mtrs	4800	0.000006090637
15.0.4	Impulse pipe ASTM CS GR C 1" NB SCH 80	Mtrs	2200	0.000007209997
15.0.5	Impulse pipe SS ½" (D21.3 x 2.6 mm) Sch 40	Mtrs	1000	0.000007780652
15.0.6	Impulse pipe SS 1/2" SCH 160	Mtrs	2400	0.000007780652
15.0.7	Impulse pipe AS ½" SCH 160 (D21.3 x 4.78 mm)	Mtrs	400	0.000006886261
15.0.8	Impulse pipe ASTM A 335 P22 1/2 " Sch XXS	Mtrs	1600	0.000006886261
15.0.9	GI Pipe (1/2", 1") Heavy grade	Mtrs	6000	0.000002469177
15.0.10	Seamless CS tube 13.5 x 2.6 mm	Mtrs	500	0.000004938354
15.0.11	Seamless CS tube 21.3 x 2.3 mm	Mtrs	800	0.000005267578
15.0.12	CS tube 33.7 x 3.38 mm	Mtrs	10	0.000006738110
15.0.13	CS tube D16 x 2.6	Mtrs	3800	0.000004806665
15.0.14	CS tube DN 80	Mtrs	40	0.000010249829
15.0.15	Seamless AS tube 13.5 x 2.6 mm	Mtrs	200	0.000006650317
15.0.16	Seamless AS tube 21.3 x 2.3 mm	Mtrs	820	0.000005539188
15.0.17	SS tube 6mm x 1.5 mm	Mtrs	1000	0.000002872476
15.0.18	Copper tube 3/8" (Sheathed / bare)	Mtrs	600	0.000003300467
15.0.19	Copper tube 6mm/8mm / 1/4" (Sheathed /bare)	Mtrs	4800	0.000002251890
15.0.20	Copper tube 1/2" to 1" (Sheathed / bare)	Mtrs	360	0.000005629724
15.0.21	2 " Impulse Pipe CS SCH-40	Mtrs	380	0.000005278552
15.0.22	2" Impulse Pipe CS SCH-160	Mtrs	50	0.000018107299
15.0.23	2 " Impulse Pipe SS SCH-40	Mtrs	60	0.000015078442
16.0	Miscellaneous Structural steel including frames for Panels/Racks/Instruments, supports for cable tray/pipes/tubes, Canopies etc			
16.0.1	Structural steel for fabrication	Ton	34	0.000448139201
16.0.2	Aluminium strip (25 x 3 mm)	Mtrs	700	0.000000567911
16.0.3	Assembly of JB mounting frames (approx. 1100 x 765 x 500 mm)	No	2	0.000131777244
16.0.4	Assembly of JB mounting frames (approx. 1100 x 1515 x 500 mm)	No	8	0.000132347898
16.0.5	Assembly of JB mounting frames (approx. 1700 x 1600 x 718 mm)	No	4	0.000133390439
16.0.6	Assembly of JB mounting frames (approx. 1700 x 1600 x 850 mm)	No	8	0.000133390439

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
16.0.7	Assembly of JB mounting frames (approx. 2600 x 1700 x 620 mm)	No	2	0.000202670065
17.0	Panels/Cubicles/Racks/Enclosures/Monitors/Computer/Computer peripheral/PLCs/UPS/Batteries			
17.0.1	Assembly of local gauge board (approx. weight 650kg, 2200(L) x 300(B) x 1800(H) mm)	No	14	0.000213685887
17.0.2	Control Panel (approx. weight 400kg, 900(L) X 900(B) X 2500(H) mm) - one panel	No	18	0.000306994447
17.0.3	Control Panel (approx. weight 800kg, 900(L) X 900(B) X 2500(H) mm) - suite of two panels	No	56	0.000466164194
17.0.4	Control Panel (approx. weight 1200kg, 2700(L) X 1000(B) X 2500(H) mm) - suit of three panels	No	10	0.000565301659
17.0.5	Control Panel (approx. weight 1600kg, 3600(L) X 1000(B) X 2500(H) mm) - suit of four panels	No	2	0.000628564722
17.0.6	Control Panel (approx. weight 2000kg, 4500(L) X 1000(B) X 2500(H) mm) - suit of five panels	No	4	0.000714859722
17.0.7	Control Panel for HP dosing system (approx. weight 3000Kg, 1000(L) x 800(B) x 2000(H) mm)	No	2	0.000325240021
17.0.8	Gravimetric Coal feeder control panel (Approx weight 300 kg, approx. 1200 x 600 x 2315)	No	12	0.000354205116
17.0.9	Control panels for Centrifuges	No	4	0.000368121398
17.0.10	Transducer and AVT panel	No	2	0.000368253088
17.0.11	Unit Control panel	No	2	0.000470987320
17.0.12	Generator control panel (approx. 3080(L) x 1000(B) x 2355(H) mm)	Set	2	0.001064489727
17.0.13	NETWORK PANELS (approx. weight 400kg, 900 x 900 x 2500 mm)	No	8	0.000304038019
17.0.14	Vibration monitoring system for Fans and Pulverisers	Set	2	0.001085631370
17.0.15	Vibration monitoring system for main turbine / generator	Set	2	0.001132158899
17.0.16	Vibration monitoring system for pumps	Set	2	0.000798191709
17.0.17	DC motor starter box for scanner fan (approx. weight 50kg, 375(L) x 900(B) x 1120(H) mm)	No	2	0.000271025120
17.0.18	Burner Tilt Shear Pin Failure Indication Box	No	8	0.000062396108
17.0.19	Air Heater Rotor Stoppage Alarm Box	Set	8	0.000126775788

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/NST-CNI U-3 and 5/1580

Technical Conditions of Contract –Volume I A

Page 4 of 8

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
17.0.20	Steam leak detection (STLD) system panel (approx weight 200kg, approx. 800(L) x 2315(B) x 800(H) mm)	Set	2	0.001325190942
17.0.21	Electronic Water Level Indicator (EWLI)	Set	8	0.000547619607
17.0.22	LP Dosing system	Set	2	0.000304525270
17.0.23	Condenser vacuum pump system	Set	2	0.000244646077
17.0.24	Generator Instrumentation cabinet including annunciator (approx. weight 600 Kg, 1000 x 800 x 2200 mm)	No	2	0.000505843872
17.0.25	Positioner cabinets (approx. 380 x 380 x 210 mm) for LPBP CV1, LPBP CV2, Spray water CV	No	6	0.000101460137
17.0.26	Local Instrument racks (LIR)	No	130	0.000210518756
17.0.27	Local Instrument enclosures (LIE)	No	90	0.000239526650
17.0.28	max Engineering / operator / storian / LAN / WAN / Shift in charge / stn in charge / gateway / interface PC / HART etc., PC/Server Station with ASCII Keyboard, Mouse & 21" Colour Monitor, individual UPS	Set	32	0.000125276174
17.0.29	Printers (80/132 col Dot Matrix, A3 Inkjet, A3 Laserjet, etc)	Set	12	0.000062954142
17.0.30	Computer furniture for all Servers, PCs, Printers	Set	2	0.001049383849
17.0.31	LVS (Large Video Screen) made up of 5X1 matrix. Each LVS of DLP/LCD type, Rear projection type, 67 inches diagonal size, with 1400x1050 resolution non interlaced	Set	8	0.000076061632
17.0.32	2 X 120 KVA, 220/240 V UPS System and ACDB	Set	2	0.001231241493
17.0.33	Condenser online tube cleaning system	Set	2	0.002179114724
18.0	Instruments/Devices including sensors/Cells/Probes etc			
18.0.1	Latching relay 24V, 5A	No	4	0.000009135956
18.0.2	Furnace Temperature probe including local panel/box and all accessories	No	4	0.000104462657
18.0.3	Moisture Sensor probe and dew point monitor	Set	2	0.000079748937
18.0.4	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	No	200	0.000009259415
18.0.5	Speed Regulators / Air lock valves in oil gun corner rack	No	24	0.000013967312
18.0.6	Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil)	No	110	0.000009391104

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/NST-CNI U-3 and 5/1580

Technical Conditions of Contract –Volume I A

Page 5 of 8

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
18.0.7	CWP Butterfly valves	No	6	0.000056593541
18.0.8	Pneumatic Pressure controller with accessories	No	6	0.000058096996
18.0.9	Pneumatic Temperature controller with accessories	No	8	0.000070684313
18.0.10	Heavy Duty Limit Switch	No	72	0.000007319739
18.0.11	Speed switch / Speed detector	No	12	0.000016417285
18.0.12	Pressure Switch / DP Switch / DP indicating switch	No	270	0.000020767426
18.0.13	Temperature Switch / Thermostat	No	22	0.000020813518
18.0.14	Float type Level Switch	No	50	0.000048192852
18.0.15	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	No	50	0.000058233075
18.0.16	Vacuum switch	No	6	0.000021981164
18.0.17	Flow switch (Mechanical / Electronic)	No	2	0.000033899059
18.0.18	Pressure / DP / Flow (DP type) / Level Transmitter	No	600	0.000020451372
18.0.19	Level Transmitter (displacer type)	No	6	0.000055353466
18.0.20	Flow Transmitter (Pulse / mass flow / target type) including flanges	No	4	0.000042453387
18.0.21	Speed transmitter	No	10	0.000016313031
18.0.22	Position Transmitters	No	6	0.000028668793
18.0.23	Electronic Level Transmitter (with amplifier, etc), Capacitance or conductivity type / Guided Wave Radar(GWR) transmitter	No	32	0.000069057948
18.0.24	Pressure Gauge / DP gauge/DP Indicator	No	818	0.000016955017
18.0.25	Temperature Gauge (all types)	No	556	0.000018179729
18.0.26	Level Indicator / Level Gauge	No	44	0.000050983571
18.0.27	Direct Water Level Gauge (DWLG)	Set	4	0.000124775755
18.0.28	Flow indicator / Flow Gauge / Flow meter/Acoustic flow meter (coal)	No	12	0.000052939159
18.0.29	Thermocouple / RTDs with thermowell (all types) along with converters wherever applicable	No	1100	0.000012918735
18.0.30	MTM Thermocouple upto 17 M length	No	82	0.000049995900
18.0.31	MTM Thermocouple over 17M upto 22 M	No	162	0.000056769127
18.0.32	Purge meter for mill	No	24	0.000032790673
18.0.33	SADC Cylinders	No	112	0.000099219771
18.0.34	HEA Exciter system	Set	24	0.000090520036
18.0.35	Flame Scanner Head Assembly	No	40	0.000082248293
18.0.36	Hydrogen Purity analyser	Set	2	0.000245123451
18.0.37	O2(OXYGEN) analyser	Set	12	0.000271132118
18.0.38	CO Analyser (in situ type)	Set	2	0.000038799004
18.0.39	Flue Gas Analyzer (SOX/NOX/CO)	Set	2	0.001626189130

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
18.0.40	Dust emission monitor (Installation at around 88 M in chimney)	Set	2	0.000470987320
18.0.41	SWAS Sample handling system with racks & Sample conditioning panel with chiller	Set	2	0.001729090718
18.0.42	SWAS Analyzer Panel including various analyzers	Set	2	0.002485407925
18.0.43	Console inserts (to be mounted on Backup desk)	Set	4	0.000115886717
18.0.44	Vertical indicators (moving coil / bar graph)	No	4	0.000041399871
18.0.45	Digital / bargraph indicators	No	14	0.000041399871
18.0.46	Recorder 24 / 30 Channel	No	2	0.000086026134
18.0.47	Recorder 3 channel	No	2	0.000086026134
18.0.48	Rotor Earth fault Detector	No	2	0.000155434705
18.0.49	I/P converters	No	196	0.000016302057
18.0.50	Reverse rotation indication switch	No	6	0.000057963112
19.0	Commissioning and Testing activities for Equipments erected by other agencies, like control valves, on/off valves, electrical/pneumatic valves, actuators, solenoid valves, valves, limit switches, ERV controllers, power cylinders, Pressure & Temperature Guages/Transmitters,etc			
19.0.1	Rack mounted instruments commissioning	Set	6	0.000279403861
19.0.2	Coal Feeder local panel/ instruments commissioning	No	12	0.000063811769
19.0.3	Electrical Regulating Drives(Valve,Damper,Scoop)	No	56	0.000031651559
19.0.4	Pneumatic regulating drives: (Valve, damper) incl Burner tilt	No	218	0.000023684348
19.0.5	Commissioning of Hydraulic actuators	No	28	0.000044695400
19.0.6	Corner nozzle valve/ Trip valves commissioning	No	88	0.000019496623
19.0.7	Open/Close type pneumatic gates / dampers / valves	No	98	0.000032290253
19.0.8	ERV Controller (approx. weight 25kg, 400 x 350 x 270 mm)	No	4	0.000038927402
19.0.9	Limit Switches (checking and adjusting only).	No	70	0.000007585312
19.0.10	Only healthiness checking of embedded RTD / T/C	No	514	0.000008044031
19.0.11	Fan Lube oil skid	Set	20	0.000275375810
19.0.12	Pulveriser Lube oil skid	Set	12	0.000329322394
19.0.13	HEA Advance	No	24	0.000100400037
110.0	Power Cylinders			

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/NST-CNI U-3 and 5/1580

Technical Conditions of Contract –Volume I A

Page 7 of 8

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Schedule of items Quantities and Factor for
deriving Item Rate from the accepted Lumpsum Price

Job: HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR BOILER AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, STATION C&I FOR UNIT #3 & 5 OF 5x270 MW RATTANINDIA NASIK POWER LTD., NASHIK AT SPECIAL ECONOMIC ZONE RATTANINDIA NASIK POWER LTD (Formerly known as Indiabulls RealTech Ltd) SINNAR DISTRICT- NASHIK, MAHARASHTRA.

PART B: Schedule of items & Quantities and Factors to derive Item Rate based on quoted total lumpsum price

SL. NO.	DESCRIPTION	UOM	QTY	Factor for deriving item rate from
I10.0.1	Mill Discharge Valve power cylinders (set of four)	Set	12	0.000175357673
I11.0	Miscellaneous items (items not covered under above heads)			
I11.0.1	Master and Slave Clock System	Set	2	0.001021202307
I11.0.2	HART Management System including Cabinet	Set	2	0.001124084690