

BHEL PSWR NAGPUR
VOL-II-PRICE BID
T.S.NO BHE/PW/PUR/DHLI-CNI U-1 and 2/1294.

TENDER SPECIFICATION
No. BHE/PW/PUR/DHLI-CNI U-1&2/1294

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 2X150 MW THERMAL POWER PLANT,

AT

SINTEX INFRA PROJECT LTD
2x150 MW
WAGHODE, SHINDKHEDA
MAHARASHTRA

VOLUME :II – PRICE BID-1294

BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345, KINGSWAY - NAGPUR 440 001

<u>Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule</u>							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
I1.0	Cable tray and Accessories						I1.0
I1.0.1	Perforated cable tray and accessories (with or without cover) 50mm	Meter	3370				
I1.0.2	Perforated cable tray and accessories (with or without cover) 100mm	Meter	2400				
I1.0.3	Perforated cable tray and accessories (with or without cover) 150mm	Meter	6400				

DATE
PLACE

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
11.0.4	Perforated cable tray and accessories (with or without cover) 300mm	Meter	2900				
11.0.5	Perforated cable tray and accessories (with or without cover) 600mm	Meter	4230				
12.0	Cable laying including earthing wires						12.0
12.0.1	Screened Copper Cable 2P x 0.5 sqmm armoured / unarmoured	Meter	46300				
12.0.2	Screened Copper Cable 4P x 0.5 sqmm armoured / unarmoured	Meter	160060				
12.0.3	Screened Copper Cable 8P x 0.5 sqmm armoured / unarmoured	Meter	115430				
12.0.4	Screened Copper Cable 10P / 12P x 0.5 sqmm armoured / unarmoured	Meter	37700				
12.0.5	Screened Copper Cable 16P x 0.5 sqmm armoured / unarmoured	Meter	1000				
12.0.6	Screened Copper Cable 24P x 1.5 sqmm non intrinsic safe	Meter	5000				
12.0.7	Screened Copper Cable 2P/4C x 1.3 sqmm armoured / unarmoured	Meter	5400				
12.0.8	Screened Copper Cable 2P/4C x 1.5 sqmm armoured / unarmoured	Meter	12400				
12.0.9	Screened Copper Cable 5C/7C x 1.5 sqmm armoured / unarmoured	Meter	3000				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
12.0.10	Screened Copper Cable 10C x 1.5 sqmm armoured / unarmoured	Meter	700				
12.0.11	Screened Copper Cable 2C x 2.5 sqmm armoured / unarmoured	Meter	18800				
12.0.12	Screened Copper Cable 3C x 2.5 sqmm armoured / unarmoured	Meter	12400				
12.0.13	Screened Copper Cable 5C x 2.5 sqmm armoured / unarmoured	Meter	9400				
12.0.14	Screened Copper Cable 7C x 2.5 sqmm armoured / unarmoured	Meter	19000				
12.0.15	Screened Copper Cable 10C x 2.5 sqmm armoured / unarmoured	Meter	23000				
12.0.16	2C x 6 mm ² , Cu, FRLS,PVC Outer-sheathed,1.1KV	Meter	400				
12.0.17	1C x 120 mm ² , Cu, FRLS,PVC Outer-sheathed,1.1KV	Meter	360				
12.0.18	1CX35sqmm Al cond, XPLE linsulated armoured/unarmoured	Meter	10000				
12.0.19	1CX120sqmm Al cond, XPLE linsulated armoured/ unarmoured	Meter	2500				
12.0.20	Screened Copper Cable 2C x 1.5 sqmm armoured / unarmoured	Meter	3400				
12.0.21	Screened Copper Cable 19C x 2.5 sqmm armoured / unarmoured	Meter	7000				

DATE
PLACE

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
I2.0.22	Screened Copper Cable 3C x 6 sqmm armoured / unarmoured	Meter	3400				
I2.0.23	Compensating cable 1P/2P x 0.5/1.31 sq mm type Tx/Sx/Kx/Rx unarmoured/armoured	Meter	28000				
I2.0.24	Compensating cable 6P x 0.5 sq mm type Tx/Sx/Kx/Rx unarmoured/armoured	Meter	30000				
I2.0.25	Laying of Optical fibre cables on cable trays, conduits etc (termination supervision by other agency) with minor civil works	Meter	1000				
I2.0.26	Network UTP Cables (special termination using UTP connectors involved)	Meter	24400				
I2.0.27	Hoses-1/4", 1/2" , 1", SS/Teflon, Braided/unbraided, upto 5M length	Meter	104				
I2.0.28	Cable duct 60 x 60 x 1000	Meter	760				
I2.0.29	Cable duct 180 x 100 x 1000	Meter	320				
I2.0.30	Cable duct 250 x 100 x 1000	Meter	300				
I4.0	Junction box/Push Button station						I4.0
I4.0.1	Junction boxes upto 48 way	No	453				
I4.0.2	Junction boxes above 48 way	No	5				
I4.0.3	Fire protection switch in IP65 box	No	4				
I4.0.4	FSSS Local Oil Gun Maintenance Switch Box	No	24				
I4.0.5	CJCB Junction boxes above 48 way	No	28				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
15.0	Conduits/Impulse pipe/tubes						15.0
15.0.1	Impulse pipe CS ½" SCH 80 (D21.3 x 3.73 mm)	Meter	5200				
15.0.2	Impulse pipe CS (16 x 2.6 mm)	Meter	1200				
15.0.3	Impulse pipe ASTM A 335 P22 1/2 " Sch XXS	Meter	900				
15.0.4	Impulse pipe CS 1" SCH 80 (D33.4 x 4.55 mm)	Meter	400				
15.0.5	Impulse pipe AS GR B 1/2" NB SCH 80	Meter	400				
15.0.6	Impulse pipe A106 GR C 3/4" NB SCH 80	Meter	4600				
15.0.7	Impulse pipe A106 GR C 1/2" NB SCH 160	Meter	1300				
15.0.8	A 213 TP 316H 1/2" NB SCH 40	Meter	1000				
15.0.9	A 213 TP 316H 1/2" NB SCH 40	Meter	1200				
15.0.10	CS pipe 21.3 x 3.73 mm	Meter	1700				
15.0.11	Cr-Mo pipe 21.3 x 3.73 mm	Meter	1000				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
15.0.12	GI Pipe (1/2", 1") Heavy grade	Meter	6640				
15.0.13	SS pipe 60.3 x 2.8 mm	Meter	400				
15.0.14	SS pipe 33.4 x 3.4 mm	Meter	400				
15.0.15	SS pipe 21.3 x 2.8 mm	Meter	500				
15.0.16	SS pipe 17.1 x 1.8 mm	Meter	100				
15.0.17	SS tube 12.7 x 2.1 mm	Meter	1400				
15.0.18	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	Meter	3000				
15.0.19	Copper tube 1/2" to 1" (Sheathed / bare)	Meter	180				
16.0	Miscellaneous Structural steel including frames for Panels/Racks/Instruments, supports for cable tray/pipes/tubes, Canopies etc						16.0
16.0.1	Structural steel for fabrication	MT	18				
16.0.2	Aluminium strip (300 x 25 x 2 mm)	No	50				
16.0.3	Aluminium strip (25 x 3 mm)	Meter	30				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
17.0	Panels/Cubicles/Racks/Enclosures/Monitors/Computer/Computer peripheral/PLCs/UPS/Batteries						17.0
17.0.1	Assembly of local gauge board (approx. weight 650kg, 2200(L) x 300(B) x 1800(H) mm)	No	10				
17.0.2	Control Panel (approx. weight 400kg, 750(L) X 750(B) X 2415(H) mm) - one panel	No	10				
17.0.3	Control Panel (approx. weight 800kg, 1500(L) X 750(B) X 2415(H) mm) - suit of two panels	No	4				
17.0.4	Control Panel (approx. weight 1200kg, 2250(L) X 750(B) X 2415(H) mm) - suit of three panels	No	22				
17.0.5	Control Panel (approx. weight 1600kg, 3000(L) X 750(B) X 2415(H) mm) - suit of four panels	No	6				
17.0.6	Control Panel (approx. weight 2000kg, 3750(L) X 750(B) X 2415(H) mm) - suit of five panels	No	4				
17.0.7	Control Panel for HP dosing system (approx. weight 3000Kg, 1000(L) x 800(B) x 2000(H) mm)	No	2				
17.0.8	Gravimetric Coal feeder control panel(Approx Dim. 1200 x 600 x 2315)	No	10				
17.0.9	Control panels for Centrifuges	No	2				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
17.0.10	Unit Control panel 1640x2355x1000 (lxhxb) mm	No	2				
17.0.11	Generator /Electrical control panel (approx. 1900(L) x 1000(B) x 2355(H) mm)	No	2				
17.0.12	NETWORK PANELS (approx. weight 400kg, 750(L) X 750(B) X 2415(H) mm) - one panel	No	7				
17.0.13	T & AVT panel (approx. 800 x 2415 x 800 mm)	No	2				
17.0.14	Vibration monitoring system for main turbine / generator	Set	2				
17.0.15	DC motor starter box for scanner fan (approx. weight 50kg, 400(L) x 900(B) x 1200(H) mm)	No	2				
17.0.16	Burner Tilt Shear Pin Failure Indication Box	No	8				
17.0.17	Air Heater Rotor Stoppage Alarm Box	Set	4				
17.0.18	Electronic Water Level Indicator (EWLI)	Set	4				
17.0.19	LP Dosing sysetm	Set	4				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
17.0.20	Condenser vacuum pump system	Set	2				
17.0.21	Positioner cabinets (approx. 380 x 380 x 210 mm) for LPBP CV1, LPBP CV2, Spray water CV	No	6				
17.0.22	Local Instrument racks (LIR)/Local Instrument enclosures (LIE)	No	193				
17.0.23	Metso 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	29				
17.0.24	Printers (80/132 col Dot Matrix, A3 Inkjet, A3 Laserjet, etc)	Set	12				
17.0.25	Computer furniture for all Servers, PCs, Printers	Set	2				
17.0.26	Plant Control Desk	Set	2				
17.0.27	230 V UPS System including Battery bank and ACDBs	Set	2				
17.0.28	Steam leak detection (STLD) system panel (approx. 800(L) x 2315(B) x 800(H) mm)	Set	2				
18.0	Instruments/Devices including sensors/Cells/Probes etc						18.0

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
18.0.1	Latching relay 24V, 5A	No	2				
18.0.2	Furnace Temperature probe including local panel/box and all accessories	No	2				
18.0.3	Air filter regulators / Lubricators (1/2", 1", 0-6KG, 0-10 KG)	No	50				
18.0.4	Speed Regulators / Air lock valves in oil gun corner rack	No	24				
18.0.5	Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil)	No	150				
18.0.6	Pneumatic Pressure controller with accessories	No	2				
18.0.7	Pneumatic Temperature controller with accessories	No	2				
18.0.8	Local pressure controller	No	2				
18.0.9	Speed switch / Speed detector	No	4				
18.0.10	Pressure Switch / DP Switch / DP indicating switch	No	141				
18.0.11	Temperature Switch / Thermostat	No	20				
18.0.12	Float type Level Switch	No	4				
18.0.13	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	No	52				
18.0.14	Vacuum switch	No	6				
18.0.15	Flow switch (Mechanical / Electronic)	No	2				
18.0.16	Ultrasonic Transmitters	No	2				
18.0.17	Pressure / DP / Flow (DP type) / Level - Transmitter	No	461				
18.0.18	Flow Transmitter (Pulse / mass flow / target type) including flanges	No	2				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
18.0.19	Position Transmitters	No	12				
18.0.20	Electronic Level Transmitter (with amplifier, etc), Capacitance or conductivity type / Guided Wave Radar(GWR) transmitter	No	28				
18.0.21	Pressure Gauge / DP gauge/DP Indicator	No	550				
18.0.22	Temperature Gauge (all types)	No	346				
18.0.23	Level Indicator / Level Gauge	No	34				
18.0.24	Direct Water Level Gauge (DWLG)	Set	4				
18.0.25	Flow indicator / Flow Gauge / Flow meter/Acoustic flow meter (coal)	No	10				
18.0.26	Thermocouple / RTDs with thermowell (all types) along with converters wherever applicable	No	437				
18.0.27	MTM Thermocouple upto 17 M length	No	230				
18.0.28	Purge meter for mill	No	20				
18.0.29	SADC Cylinders	No	96				
18.0.30	HEA Exciter system	Set	24				
18.0.31	Flame Scanner Head Assembly	No	32				
18.0.32	O2 (OXYGEN) Analyzer	SET	8				
18.0.33	SOx/NOx/CO Analyzer (Insitu type)	SET	2				
18.0.34	Opacity monitor/Dust analyzer.	SET	2				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
18.0.35	SWAS Sample handling system with racks & Sample conditioning panel with chiller	SET	2				
18.0.36	SWAS Analyzer Panel including various analyzers	SET	2				
18.0.37	I/P converters	No	24				
18.0.38	Rotameters	No	46				
18.0.39	speed measuring loop	No	12				
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
19.0.1	Rack mounted instruments commissioning	Set	6				
19.0.2	Coal Feeder local panel/ instruments commissioning	No	10				
19.0.3	Electrical regulating drives: (Valve, damper, scoop)	No	6				
19.0.4	Pneumatic regulating drives: (Valve, damper) incl Burner tilt	No	32				
19.0.5	Commissioning of Hydraulic actuators	No	14				
19.0.6	Corner nozzle valve/ Trip valves commissioning	No	72				
19.0.7	Open/Close type pneumatic gates / dampers / valves	No	254				

Sub: E, T and C of C&I PACKAGE of 2x150MW Sintex Dhule							
SL. NO.	DESCRIPTION	UOM	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
I9.0.8	ERV Controller (approx. weight 25kg, 400x400x195 mm)	No	2				
I9.0.9	Limit Switches (checking and adjusting only).	No	40				
I9.0.10	Only healthiness checking of embedded RTD / T/C	No	200				
I9.0.11	Fan Lube oil skid	Set	12				
I9.0.12	Pulveriser Lube oil skid	Set	10				
I10.0	Power Cylinders						I10.0
I10.0.1	Mill Discharge Valve power cylinders (set of four)	Set	10				
I11.0	Miscellaneous items (items not covered under above heads)						I11.0
I11.0.1	Master and Slave Clock system	Set	1				
Grand Total in figures (In Rs)							
Grand Total in Words Rs.....							