

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

JOB: DISMANTLING OF EXISTING ELECTRICAL & C&I SYSTEM, HANDING OVER MATERIAL TO CUSTOMER, HANDLING AT SITE STORES/STORAGE YARD TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION, ELECTRICAL WORKS FOR BOILER AND ITS AUXILIARIES, TURBINE AND ITS AUXILIARIES, TURBOGENERATOR AND ITS AUXILIARIES, & STATION C&I FOR MAIN PLANT PACKAGE OF ENERGY EFFICIENT RENOVATION & MODERNIZATION KORADI R&M U#6 AT MSPGCL KORADI TPS DIST : NAGPUR MAHARASHTRA.

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

SL. NO.	DESCRIPTION	UOM	QTY	TOP	Factor for deriving item rate from accepted Lumpsum price
<b>Contra &amp; Instrumentation BOQ</b>					
<b>I1.0</b>	<b>Cable tray and Accessories</b>			<b>I1</b>	
I1.0.1	Perforated cable tray and accessories (with or without cover) 50mm	Meter	3000		0.000002557132
I1.0.2	Perforated cable tray and accessories (with or without cover) 100mm	Meter	3250		0.000002868977
I1.0.3	Perforated cable tray and accessories (with or without cover) 150mm	Meter	625		0.000003670865
<b>I2.0</b>	<b>Cable laying including earthing wires</b>			<b>I2</b>	
I2.0.1	Screened Copper Cable 2P x 0.5 sqmm armoured / unarmoured	Meter	41500		0.000000454403
I2.0.2	Screened Copper Cable 4P x 0.5 sqmm armoured / unarmoured	Meter	103300		0.000000534592
I2.0.3	Screened Copper Cable 8P x 0.5 sqmm armoured / unarmoured	Meter	30500		0.000000618122
I2.0.4	Screened Copper Cable 10P / 12P x 0.5 sqmm armoured / unarmoured	Meter	12000		0.000000730609
I2.0.5	Screened Copper Cable 16P x 0.5 sqmm armoured / unarmoured	Meter	500		0.000000683090
I2.0.6	Screened Copper Cable 1C x 0.5 sqmm armoured / unarmoured	Meter	1000		0.000000668240
I2.0.7	Screened Copper Cable 2P x 1.3 sqmm armoured / unarmoured	Meter	4000		0.000000523455
I2.0.8	Screened Copper Cable 4P x 1.5 sqmm armoured / unarmoured	Meter	20000		0.000000690515
I2.0.9	Screened Copper Cable 2P/4C x 1.5 sqmm armoured / unarmoured	Meter	3800		0.000000523455
I2.0.10	Screened Copper Cable 3C x 1.5 sqmm armoured / unarmoured	Meter	1500		0.000000579141
I2.0.11	Screened Copper Cable 5C/7C x 1.5 sqmm armoured / unarmoured	Meter	1000		0.000000588051
I2.0.12	Power Copper Cable 3C x 2.5 sqmm armoured / unarmoured	Meter	34200		0.000000490043
I2.0.13	Power Copper Cable 3C x 6 sqmm armoured / unarmoured	Meter	1000		0.000000549442
I2.0.14	Copper Cable 2 triad, 0.5 sqmm armoured/unarmoured	Meter	3500		0.000000579141
I2.0.15	Compensating cable 1P/2P x 0.5 sq mm type Tx/Sx/Kx unarmoured/armoured	Meter	2500		0.000000482618
I2.0.16	Compensating cable 1P/2P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Meter	7000		0.000000512317
I2.0.17	Compensating cable 4P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Meter	3000		0.000000556867
I2.0.18	Compensating cable 6P x 1.3 sqmm type Tx/Sx/Kx unarmoured/armoured	Meter	4000		0.000000601416
I2.0.19	Laying, etc of Optical fibre cables on cable trays, HDPE conduits, etc with minor civil works	Meter	10000		0.000000917716
I2.0.20	Laying, etc. of Network UTP Cables in flexible GI pipes(special termination using UTP connectors involved)	Meter	6000		0.000000614781
I2.0.21	GI earthing wire	Meter	500		0.000000356395
I2.0.22	Cable duct 60 x 60 x 1000	Meter	180		0.000004425233

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12.0.23	Cable duct 180 x 100 x 1000	Meter	60		0.000005078624
12.0.24	Cable duct 250 x 100 x 1000	Meter	50		0.000007361777
12.0.25	Hoses-1/4", 1/2", 1", SS/Teflon, Braided/unbraided, upto 5M length	Meter	251		0.000007072206
12.0.26	Flexible pipe 1"	Meter	100		0.000001603776
14.0	<b>Junction box/Push Button station</b>			14	
14.0.1	Junction boxes upto 48 way	No	296		0.000035790932
14.0.2	Junction boxes above 48 way	No	44		0.000045380918
14.0.3	CJCB Junction boxes upto 48 way	No	20		0.000046064007
14.0.4	Fire protection switch in IP65 box	No	2		0.000048024178
14.0.5	6 way miniature Junction Box	No	24		0.000019334409
15.0	<b>Conduits/Impulse pipe/tubes</b>			15	
15.0.1	Impulse pipe SA106 GRB (D21.3 x 3.73 mm)	Meter	650		0.000006156717
15.0.2	Impulse pipe SA335 P22 (D21.3 x 3.73 mm)	Meter	130		0.000005987430
15.0.3	Impulse pipe A335 P22 1/2" NB SCH XXS	Meter	800		0.000006165627
15.0.4	Impulse Pipe A213 TPH316H 1/2" NB SCH 40	Meter	200		0.000005746864
15.0.5	Impulse Pipe A213 TPH316H 1/2" NB SCH 160	Meter	200		0.000006326005
15.0.6	SS tube 1/4" OD	Meter	1900		0.000004261886
15.0.7	SS tube 1" OD	Meter	730		0.000006058709
15.0.8	Copper tube 6mm/8mm / 1/4" (Sheathed / bare)	Meter	100		0.000002906844
16.0	<b>Miscellaneous Structural steel including frames for Panels/Racks/Instruments, supports for cable tray/pipes/tubes, Canopies etc</b>			16	
16.0.1	Aluminium strip (300 x 25 x 2 mm)	No	500		0.000000768476
16.0.2	Assembly of JB mounting frames (approx. 1100 x 500 x 765 mm)	No	2		0.000178316118
16.0.3	Assembly of JB mounting frames (approx. 1100 x 500 x 1515 mm)	No	2		0.000179088307
16.0.4	Assembly of JB mounting frames (approx. 1700 x 450 x 2600 mm)	No	2		0.000180499036
16.0.5	Assembly of JB mounting frames (approx. 1700 x 718 x 1600 mm)	No	2		0.000180499036
16.0.6	Assembly of JB mounting frames (approx. 1700 x 850 x 1600 mm)	No	2		0.000180499036
17.0	<b>Panels/Cubicles/Racks/Enclosures/Monitors/Computer/Computer peripheral/PLCs/UPS/Batteries</b>			17	
17.0.1	Assembly of local gauge board (1400 x 450 x 1900 mm)	No	2		0.000289151882
17.0.2	Control Panel (approx. weight 400kg, 1000(L) X 1000(B) X 2500(H) mm) - one panel	No	12		0.000415413593
17.0.3	Control Panel (approx. weight 800kg, 1500(L) X 1000(B) X 2500(H) mm) - suit of two panels	No	1		0.000630796239
17.0.4	Control Panel (approx. weight 1200kg, 2250(L) X 1000(B) X 2500(H) mm) - suit of three panels	No	11		0.000764945409
17.0.5	Control Panel (approx. weight 1600kg, 2600(L) X 1000(B) X 2500(H) mm) - suit of four panels	No	2		0.000850550659
17.0.6	Control Panel (approx. weight 1800kg, 3000(L) X 1000(B) X 2500(H) mm) - suit of five panels	No	1		0.000967321878
17.0.7	Gravimetric Coal feeder control panel (Approx Dim. 1200 x 600 x 2315)	No	6		0.000479297332
17.0.8	Control panels for Centrifuges (approx. 800 x 800 x 2200 mm) weight 450KG	Set	1		0.000498128334

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17.0.9	Moisture measurement panel (approx. 400 x 400 x 500 mm) weight 350KG	Set	1		0.000356394640
17.0.10	Unit Control Panel	No	1		0.000637322716
17.0.11	Transducer and AVT panel	No	1		0.000498306531
17.0.12	HP dosing system	Set	1		0.000440102832
17.0.13	LP Dosing sysetm	No	2		0.000412072393
17.0.14	NETWORK PANELS (approx. 750 x 800 x 2415 mm)	Set	2		0.000411413063
17.0.15	Vibration monitoring system for Fans and Pulverisers	Set	1		0.001469036433
17.0.16	Vibration monitoring system for main turbine / generator	Set	1		0.001730491996
17.0.17	DC motor starter box for scanner fan (approx. 650(W) x 950(H) x 370(D) mm)	No	1		0.000366741222
17.0.18	Burner Tilt Shear Pin Failure Indication Box	No	4		0.000084432118
17.0.19	Steam leak detection (STLD) system panel (approx. 800(W) x 2315(H) x 800(D) mm)	Set	1		0.001793199633
17.0.20	Electronic Water Level Indicator (EWLI)	Set	2		0.000741018706
17.0.21	Condenser vacuum pump system	Set	1		0.000331046072
17.0.22	Generator Instrumentation cabinet including annunciator (approx. weight 450 Kg, 2200 x 1000 x 800 mm)	Set	1		0.000684489319
17.0.23	Local Instrument racks (LIR)	No	55		0.000284866236
17.0.24	Local Instrument enclosures (LIE)	No	5		0.000324118651
17.0.25	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	No	33		0.000169519111
17.0.26	Printers (80/132 col Dot Matrix, A3 Inkjet, A3 Laserjet, A4 size etc)	No	9		0.000085187229
17.0.27	LVS (Large Video Screen) made up of 2X1 matrix. Each LVS of DLP/LED type, Rear projection type, 67 inches diagonal size, with 1400x1050 resolution non interlaced	Set	2		0.000102923802
17.0.28	Computer furniture for all Servers, PCs, Printers	Set	1		0.001419987621
17.0.29	Plant Control Desk / CRT desk	Set	1		0.000429789662
17.0.30	Laboratory set up	Set	1		0.001159284941
17.0.31	230/240 V UPS System and battery with ACDB	Set	1		0.003161454344
17.0.32	24V DC Battery and charger system	Set	1		0.003737822439
18.0	<b>Instruments/Devices including sensors/Cells/Probes etc</b>			18	
18.0.1	Latching relay 24V, 5A	No	1		0.000012362439
18.0.2	Moisture Sensor probe and dew point monitor	Set	1		0.000107913327
18.0.3	Air filter regulators / Lubricators (1/4", 1/2", 1", 0-6KG, 0-10 KG)	No	51		0.000012529499
18.0.4	Solenoid valves (3 way, AC/DC, 1/4", 1/2", 1", NPT/BSP, single/dual coil)	No	104		0.000012707696
18.0.5	Heavy Duty Limit Switch	No	12		0.000009904801
18.0.6	Pressure Switch / DP Switch / DP indicating switch	No	77		0.000028101717
18.0.7	Temperature Switch / Thermostat	No	10		0.000028164086
18.0.8	Float type Level Switch	No	20		0.000065212794

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18.0.9	Electronic Level Switch (with amplifier, etc), Capacitance or conductivity type	No	5		0.000078798855
18.0.10	Vacuum switch	No	3		0.000029744103
18.0.11	Pressure / DP / Flow (DP type) / Level -Transmitter	No	390		0.000027674044
18.0.12	Level Transmitter (displacer type)	No	4		0.000074902274
18.0.13	Flow Transmitter (Pulse / mass flow / target type) including flanges	No	27		0.000057446361
18.0.14	Speed transmitter	No	6		0.000022074193
18.0.15	Position Transmitters	No	42		0.000038793557
18.0.16	Electronic Level Transmitter (with amplifier, etc), Capacitance or conductivity type / Guided Wave Radar(GWR) transmitter	No	2		0.000093446675
18.0.17	Pressure Gauge / DP gauge/DP Indicator	No	98		0.000022942905
18.0.18	Temperature Gauge (all types)	No	59		0.000024600140
18.0.19	Level Indicator / Level Gauge	No	1		0.000068989093
18.0.20	Flow indicator / Flow Gauge / Flow meter/Acoustic flow meter (coal)	No	6		0.000071635323
18.0.21	Thermocouple / RTDs with thermowell (all types) along with converters wherever applicable	No	650		0.000017481157
18.0.22	MTM Thermocouple upto 17 M length	No	58		0.000067652613
18.0.23	MTM Thermocouple over 17 M upto 22 M length	No	52		0.000076817895
18.0.24	SADC Cylinders	No	56		0.000134260543
18.0.25	HEA Exciter system	No	12		0.000122488383
18.0.26	Flame Scanner Head Assembly	No	24		0.000111295364
18.0.27	Hydrogen Purity analyser	Set	1		0.000331692037
18.0.28	CO Analyzer (Cross Duct Insitu type)	No	2		0.000052501385
18.0.29	O2 (OXYGEN ) Analyzer	No	8		0.000366886008
18.0.30	SOx/NOx/CO Analyzer (Insitu type)	No	2		0.001274600882
18.0.31	Dust Density monitor (Installation at around 88 M in chimney) with accessories	No	2		0.000637322716
18.0.32	SWAS Sample handling system with racks & Sample conditioning panel with chiller	No	1		0.001373789965
18.0.33	SWAS Analyzer Panel including various analyzers	No	1		0.002421968877
18.0.34	I/P converters	No	76		0.000022059343
18.0.35	Coal Bunker Level Monitoring System	Set	1		0.000051476751
18.0.36	Purge meter	No	13		0.000044371133
19.0	<b>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 &amp; Temperature Guages/Transmitters,etc</b>			19	
19.0.1	Coal Feeder local panel/ instruments commissioning	No	2		0.000086347739
19.0.2	Electrical regulating drives: (Valve, damper, scoop)	No	15		0.000042829726
19.0.3	Pneumatic regulating drives: (Valve, damper) incl Burner tilt	No	25		0.000032048788
19.0.4	Commissioning of Hydraulic actuators	No	28		0.000060480170
19.0.5	Corner valve/ Trip valves commissioning	No	32		0.000026382113
19.0.6	Open/Close type pneumatic gates / dampers / valves	No	49		0.000043693983
19.0.7	ERV Controller (approx. weight 25 kg, 400 x 350 x 190 mm)	No	1		0.000052675128
19.0.8	Only healthiness checking of embedded RTD / T/C	No	173		0.000010884886

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I9.0.9	Limit Switches (checking and adjusting only).	No	15		0.000010264166
I10.0	<b>Power Cylinders</b>			I10	
I10.0.1	Mill Discharge Valve power cylinders (set of four)	Set	6		0.000137278761
I11.0	<b>Miscellaneous items (items not covered under above heads)</b>			I11	
I11.0.1	Master and Slave Clock system	Set	1		0.000667378664
I11.0.2	HART MANAGEMENT SYSTEM including CABINET	Set	1		0.000890986601
	<b>ELECTRICAL BOQ</b>				
<b>Sl.no</b>	<b>Discription of items</b>	<b>UOM</b>	<b>QTY</b>		
<b>SECTION-E1: CABLE TRAYS AND ACCESSORIES</b>				<b>E1</b>	
E1.1	Ladder type 450(W) x 140 (H) mm	Mtrs.	3125		0.000003118453
E1.2	Ladder type 300(W) x 140 (H) mm	Mtrs.	1625		0.000002806608
E1.3	Ladder type 150(W) x 140 (H) mm	Mtrs.	3125		0.000002242316
<b>SECTION-E2A : LT POWER CABLES (XLPE Armoured/unarmoured)</b>				<b>E2A</b>	
E2A.1	1C X 630sqmm Aluminium	Mtrs.	1500		0.000002093819
E2A.2	3C X 240sqmm Aluminium	Mtrs.	1500		0.000001781973
E2A.3	3C X 95sqmm Aluminium	Mtrs.	500		0.000001403304
E2A.4	3C X 6 sqmm Copper	Mtrs.	2500		0.000000490043
E2A.5	2C X4sqmm Copper	Mtrs.	1000		0.000000356395
E2A.6	1C X 120sqmm Aluminium	Mtrs.	1600		0.000000831587
E2A.7	2C X 70sqmm Aluminium	Mtrs.	1300		0.000000757339
E2A.8	1C X 35sqmm Aluminium	Mtrs.	600		0.000000712789
E2A.9	1C X 630sqmm Copper	Mtrs.	1200		0.000002227467
E2A.10	3C X 35sqmm Aluminium	Mtrs.	1700		0.000000816738
E2A.11	3C X 10 sqmm Aluminium	Mtrs.	7000		0.000000512317
E2A.12	2C X 120sqmm Aluminium	Mtrs.	9000		0.000001015725
E2A.13	3C X 2.5sqmm Copper	Mtrs.	41000		0.000000516772
E2A.14	2C X 2.5sqmm Copper	Mtrs.	20000		0.000000481133
<b>SECTION-E2B : LT CONTROL CABLES (Generally PVC Sheath, XLPE Insulated Unarmoured/Armoured, Screened/Unscreened)</b>				<b>E2B</b>	
E2B.1	19C x 2.5 sqmm Copper,	Mtrs.	4000		0.000000768476
E2B.2	16C x 2.5 sqmm Copper,	Mtrs.	6000		0.000000697940
E2B.3	14C x 2.5 sqmm Copper,	Mtrs.	2000		0.000000675665
E2B.4	10C x 1.5 sqmm Copper,	Mtrs.	11500		0.000000545729
E2B.5	10C x 2.5 sqmm Copper,	Mtrs.	13500		0.000000638540
E2B.6	7Cx1.5 sqmm Copper ,	Mtrs.	2700		0.000000490043
E2B.7	7Cx2.5 sqmm Copper ,	Mtrs.	11500		0.000000556867
E2B.8	5Cx2.5 sqmm Copper ,	Mtrs.	10000		0.000000516772
E2B.9	3C,x1.5 sqmm Copper ,	Mtrs.	1500		0.000000445493
E2B.10	4Cx2.5 sqmm Copper ,	Mtrs.	1500		0.000000467768
E2B.11	2C x1.5 sqmm Copper	Mtrs.	800		0.000000400944
E2B.12	4Cx 1.5 Sq. mm LT Screened Copper	Mtrs.	8600		0.000000445493
<b>SECTION-E3 : JUCTION BOXES AND PUSH BUTTON</b>				<b>E3</b>	

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E3.1	Start Stop Push Button Station Approx. Dimension (ESP , SB- APH ,All Drives in Plant area)180(L)X100(D)X250(H)mm Weight -2 Kg/ and PB(LCS-300Lx150Wx450H)-Weight-5Kg/LCS	Nos.	125		0.000025029299
E3.2	Junction box for Hopper Heater ,Support& Shaft insulator Heater Approx. Dimension 450(L)X150(D)X300(H) mm approx. weight- 12 kg/JB	Nos.	40		0.000039975599
E3.3	Junction box for Hopper Thermostat ,Ali-High&Low,Hopper Heater feedback,Opacity Monitor, JB for Start /Stop PB. Approx. Dimension 250(L)X150(D)X400(H) mm approx. Weight 12kg/JB	Nos.	16		0.000031927020
<b>SECTION-E4 : STRUCTURAL STEEL</b>				<b>E4</b>	
E.4.1	Structural Steel fabrication & installation ( MS angle, Channel, Plate etc)	MT	18		0.000606405481
<b>SECTION-E5 A:SWITCHGEARS / MCC /PCC</b>				<b>E5 A</b>	
E5A.1	ESP LT main Switch Board,Double front, Draw out Type Approx overall dimension 12500(L)x1600(W)x2400(H) mm, approx WT 10.2T/Panel, shall be supplied in eight to ten loose shipping sections.	set	2		0.004534156563
E5A.3	Soot Blower Motor control Center, double front, Approx overall dimension 12000(L)x2500(H)x1000(W) mm,Approx weight 11.0MT. shall be supplied in eight to ten loose shipping sections	set	1		0.006188332587
<b>SECTION-E5 B : STARTER PANEL/BOXES/POWER DISTRIBUTION BOX/MARSHALLING BOXES/NGR/NGT</b>				<b>E5 B</b>	
E5B.1	Electronic Control Panel, Overall Dimensions Approx.600(L)X550(W)X2000(H)mm, Approx.Weight of each panel 0.25MT. BAPCON (ARECA) controller approx size 280x210x210 mm shall be supplied loose for mounting in the EC panel at site	Nos	28		0.000418021214
E5B.2	RAPPER CONTROL PANEL Overall dimension approx.600(L) X 550(W) X 2000(H) mm, approx.Weight of each panel 0.25 MT. 28 Nos. RAPCON Electronic modules for each panel (along with cables connectors ) size 280 x 210 x 210 mm shall be supplied loose for mounting in the panel at site.	Nos	2		0.000482662291
E5B.3	STATCON CONTROL PANEL Overall dimension approx.600(L) X 550(W) X 2000(H) mm, approx.Weight of each panel 0.25 MT. 28 Nos. STATCON Electronic modules for each panel (along with cables connectors ) size 280 x 210 x 210 mm shall be supplied loose for mounting in the panel at site.	Nos	2		0.000414442417

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter-XII: Schedule of items Quantities and Factor for**  
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E5B.4	IOS PANEL overall dimension approx.1000(L)x500(W)x2050(H) mm,approx. Weight of panel 0.3 MT along with loose accessories such as IOS PC, Computer Furniture, Data Logger PC, Printer 1 Nos. PC termination box, peripheral cables etc.	set	1		0.000720704212
E5B.5	DC motor starter panels, etc (DC JOP, DC EOP, DC Scanner Fan,FTP local Starter), including resistance boxes. Approx weight 0.5 MT and approx. dimension 1000x800x2200 mm each.	Nos	3		0.000478860749
<b>SECTION-E5C: PANELS</b>				<b>E5 C</b>	
E5C.1	Generator, Generator Transformer, UAT Transformer protection panel,Station Transformer Relay Panel, protection & Metering panels. Approx dimension of each panel 1000(L)x1000(W)x2300(H), approx weight 1000kg per panel	set	1		0.002598072379
E5C.2	Station Transformer Relay Panel (STRP). Approx dimension of each panel 1000(L)x1000(W)x2300(H), approx weight 600kg per panel	Nos.	2		0.000534591961
<b>SECTION-E5D : DRY TYPE TRANSFORMER</b>				<b>E5 D</b>	0.000000000000
E5D.1	2.5MVA,16.5/0.575KV, Dry Type Excitation Transformer, approx. size 3650x1400x2700mm and weight 8MT.	set	1		0.004454933005
<b>SECTION-E5F : DIGITAL AUTOMATIC VOLTAGE REGULATOR FOR STATIC EXCITAION SYSTEM</b>				<b>E5 F</b>	
E.5F.1	Transportation from store / storage yard to erection site , Erection, Assembly, Testing & Commissioning of Digital Excitation Equipments / System , System consist of DAVR panels & accessories as per tender specification.	Set	1		0.003983214999
<b>SECTION-E5G : MISCELLANEOUS EQUIPMENT</b>				<b>E5 G</b>	
E5G.1	Ash Level Indicator comprising of level probe with extension lagging pipe, Electronic Unit, Interconnecting Cabling, Conduit, etc.	Nos	56		0.000045173021
E5G.2	Refrigeration Gas Dryer	Nos	1		0.000222746650
E5G.3	Hot Air Blower Equipment for IPBD	Nos	2		0.000311845310
<b>SECTION-E 6 : EQUIPMENT EARTHING MATERIALS</b>				<b>E6</b>	
E6.1	70 x 10 mm / 65 x 10mm GI earthing flat	Mtrs.	3000		0.000003549097
E6.2	75 x 10 mm GI earthing flat	Mtrs.	500		0.000003623346
E6.3	50 x 6 mm GI earthing flat	Mtrs.	5750		0.000002414574
E6.4	25 X 3 mm GI earthing flat	Mtrs.	1000		0.000001790883
E6.5	GI earthing wire Diameter 3.15mm or 8 SWG	Mtrs.	4950		0.000000367532

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<b>SECTION -E7 :IPBD BUS DUCTS</b>					<b>E7</b>
E7.1	Isolated Phase Bus Duct (16.5 KV) for interconnection of Generator, Generator Circuit Breaker, Generator Transformers, UAT ,SAT,along with all accessories & auxiliaries as described in the Tender Specification.As per Drg. (Approx. Length 65 Mtr Per Phase main and Tape Off Duct 4.7 Mx3 for VT,4.7 Mx3 for LA, 5 M for Neutral, 1.8 Mx3 for GT) for each Unit	set	1		0.159992147362
<b>SECTION- E8 :OIL FILLED TRANSFORMERS(GT,SAT,UAT)</b>					<b>E8</b>
E8.1	3-phase 285 MVA, 15.75/400 KV, ONAN/ONAF/OFAF, Cooled <b>Generator Transformer (GT)</b> including all accessories, piping, cabling etc. as described in Tender Specification.	Nos.	1		0.074547868814
<b>SECTION-E 9 : ONLY TESTING &amp; COMMISSIONING</b>					<b>E9</b>
E9.1	Heating elements for Hopper Heater( Tubler Type) of ESP	Nos.	672		0.000020425868
E9.2	Heating elements for Support Insulator Heater, Shaft Insulator Heaters of ESP	Nos.	140		0.000014122138
E9.3	High Voltage Rectifier Transformers (95 KV peak, 1000 mA) including oil filtration.	Nos.	20		0.000309127801
E9.4	High Voltage Rectifier Transformers (95 KV peak, 1200 mA) including oil filtration.	Nos.	8		0.000309127801
E9.5	Testing & Commissioning of Collecting, Emitting, GD Screen Motor	Nos.	60		0.000029135262
E9.6	Testing and commissioning of 6.6 &11KV HT motors, including dryout.	Nos.	13		0.000235336291
E9.7	Testing and commissioning of 415 V LT motors including dry out.	Nos.	55		0.000078192984
E9.8	Generator system testing	Set	1		0.008324031182
E9.9	Testing & Commissioning of Wall, Long Retractable, Air Heater Soot Blower	Nos.	82		0.000039604354
E9.10	Testing commissioning of Electrical Hoist 3T in power plant area	Nos.	2		0.000131866017
E9.11	Testing & Commissioning of Furnace temperature probe (including solenoids, thermocouple,JB etc)	Nos.	1		0.000052790956
E9.12	Thermostats including Calibration for Hopper & Support Insulator.	Nos.	32		0.000015280420
E9.13	Electrically (LT) Operated Valves, Dampers and Gates with Actuators, Limit Switches etc. (Regulating & ON/OFF Type).	Nos.	47		0.000049262649
					0.000000000000
					0.000000000000
	<b>DISMANTLING BOQ</b>				0.000000000000
	<b>Dismantling &amp; Removal of items from site and submission in the Customer's store</b>	<b>UOM</b>	<b>QTY</b>	<b>AS PER TOP</b>	
1	Instrumentation cables (all types)	Mtrs	18000		0.000000299712
2	Control Panels/DCS Panels (all types)	Nos	70		0.000222746650
3	impulse pipes (all types)	Mtrs	1500		0.000003118453
4	Copper tubes (all types)	Mtrs	500		0.000001336480

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5	Junction Boxes (all types)	Nos	30		0.000017819732
6	JB Mounting Frames (all types)	Nos	10		0.000022274665
7	Thermocouples & RTDs including thermowells (all types)	Nos	400		0.000008909866
8	Temperature/Pressure/ Flow/Level switch (all tyoes)	Nos	80		0.000013364799
9	Temperature/Pressure/ Flow/Level Guage (all tyoes)	Nos	50		0.000011137333
10	Temperature/Pressure/ Flow/Level transmitters (all tyoes)	Nos	150		0.000017819732
11	240V UPS, Battery bank, Charger set	Set	1		0.002227466502
12	LIE/LIR	Nos	10		0.000133647990
13	Solenoid Valves	Nos	50		0.000006682400
14	Electrical/ Pneumatic control valves	Nos	30		0.000031184531
15	Computer Furniture for all servers	Set	1		0.000445493300
16	Power cables (all types)	Mtrs	5000		0.000000267296
17	Control cables (all typs)	Mtrs	5000		0.000000311845
18	Generator Transformer [ Total wt. 232 MT approx. including oil 43KL (wt. 38.42MT)]	Set	1		0.022274665023
19	O2 Analyzer	Set	8		0.000178197320
20	Opacity monitor	Set	2		0.000311845310
21	H2 purity analyzer	Set	1		0.000178197320
22	Power cylinders	Nos	36		0.000066823995
23	Flame scanner	Nos	24		0.000055686663
24	IPBD & its auxillaries like NG cubicle, Top chamber, LAVT, structure, etc.	Set	1		0.044549330046
25	AVR Excitation System & its accessories like Excitation Transformer, Panels, cables, etc..	Set	1		0.002004719852
26	Soot Blower MCC & its accessories	Set	1		0.003118453103
27	Switchgears/Auxilliary Control Panels in ESP control room (all types)	No.	20		0.000356394640
28	Protection & Relay Panel for Generator, GT, UAT & ST	Set	1		0.001336479901