

Annexure-II of TCC.
(List of items being Supplied by BHEL)

Sl.No.	Description &	Unit	Qty		Unit Weight in kg	Remarks
	Dimension (LxDxH) mm		40MW	25MW		
HT Switch Gear						
1	33kV HT Panel-(2I/c + 1O/G) (3900mm x 2725mm x 2600mm)	Panels	7	4	2000kg, Vertical Panel	
2	33kV HT Panel-(9I/C+1 B/C+2 O/G+2BPT+1 Spare). (19500mm X 2725mm x 2600mm)	Panels	1	--	2000kg, Vertical Panel	
3	33kV HT Panel-(6I/C+1 O/G+1BPT+1 SPARE], (11700mm X 2725mm x 2600mm)	Panels	--	1	2000kg, Vertical Panel	
Inverter Transformer						
1	2.7MVA Transformer (3700mm X 3750mm X 3400mm)	Nos.	16	10	8490Kg-total wt, 2000kg-oil wt, 3850kg-untanking	Additionally 1 no.spare
Auxiliary Transformer						
1	xxx/433v 25KVA ONAN Transformer, (1250mm X 1130mm X 1181mm)	Nos.	14	8	580kg-total wt 260kg-untanking wt, 170kg-oil wt	
2	xxx/433v 75KVA ONAN Transformer (1160mm X 1100mm X 1281mm)	Nos.	2	2	690kg-total wt, 310kg-untanking wt, 187kg-oil wt	
LT Switchgear						
1	Aux ACDB Panel for PESS (3500 X 2400 X 600)	panels	1	1	800kg, vertical panel	
2	Aux ACDB Panel for PCSS room, (3500 X 2400 X 600)		7	4	800kg, vertical panel	
HT Cable Kits (End Terminating kits).						
1	1CX300 sq.mm Indoor	Nos.	180	120	--	
HT POWER CABLE PACKAGE						
1	1Cx300sqmm 33KV HT Cable	Mtrs	15000	10000	2400 kg/km	
LT POWER CABLE						
1	1Cx 630 sqmm, LT power cable: Al conductor including glanding & termination	Mtrs	6000	4000	4550 kg/km	
2	4Cx70 sqmm, LT power cable: Al conductor including glanding & termination	Mtrs	600	400	805 kg/km	
3	4Cx35 sqmm, LT power cable, Al conductor including glanding & termination	Mtrs	1200	800		
4	4Cx25 sqmm, LT power cable Al conductor including glanding & termination	Mtrs	4800	3200		
5	4Cx16 sqmm,LT power cable Al conductor including glanding & termination	Mtrs	9600	5600		
6	4Cx10 sqmm, LT power cable Al conductor including glanding & termination	Mtrs	1200	800		
7	4Cx6 sqmm,LT power cable, Al conductor including glanding & termination	Mtrs	2400	1600		
8	4Cx4 sqmm,LT power cable Al conductor including glanding & termination	Mtrs	3000	2000		
9	3Cx4 sqmm, LT power cable Al conductor including glanding & termination	Mtrs	3000	2000		
Control & Signal Cables						
1	10Cx 2.5 sqmm,Control cable Copper conductor including glanding & termination	Mtrs	900	600		
2	5Cx 2.5 sqmm,Control cable, Copper conductor including glanding & termination	Mtrs	1500	1000		
3	2Cx 1.5 sqmm, Control cable, Copper conductor including glanding & termination	Mtrs	5500	4000		
4	2Px0.5 sq.mm signal cable including glanding & termination	Mtrs	1500	1000		
5	5Px0.5 sq.mm signal cable including glanding & termination	Mtrs	2400	1600		
6	12Cx1.5 sq.mm signal cable laying glanding	Mtrs	600	400		

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7	CAT 5 ethernet cable including glanding & termination	Mtrs	1800	1200		
8	RS 485 communication cable including glanding & termination	Mtrs	21000	14000		
9	OFC cable for SCADA	Mtrs	10200	6800		
10	OFC cable for telephone system	Mtrs	9000	6000		
	Cable Glands Package (Double compression Nickel plated brass type)					
1	cable gland for cable OD of 13-18 mm	Nos.	900	600	Not Applicable	
2	cable gland for cable OD of 18.5-20 mm	Nos.	5	5	Not Applicable	
3	cable gland for cable OD of 20.5-23 mm	Nos.	45	30	Not Applicable	
4	cable gland for cable OD of 23.5-26 mm	Nos.	12	8	Not Applicable	
5	cable gland for cable OD of 26.5-30 mm	Nos.	15	10	Not Applicable	
6	cable gland for cable OD of 33.5-37 mm	Nos.	6	4	Not Applicable	
7	cable gland for cable OD of 46.5-52 mm	Nos.	900	600	Not Applicable	
8	cable gland for cable OD of 67.5-77 mm	Nos.	30	20	Not Applicable	
9	cable gland for cable OD of 7-9.5 mm	Nos.	360	240	Not Applicable	
	CABLE LUGs Package: (Tinned Copper heavy duty)					
1	0.5 sqmm cable lug	Nos.	1440	960	Not Applicable	
2	2.5 sqmm cable lug	Nos.	3600	2400	Not Applicable	
3	10 sqmm cable lug	Nos.	72	48	Not Applicable	
4	16 sqmm cable lug	Nos.	60	40	Not Applicable	
5	35 sqmm cable lug	Nos.	240	160	Not Applicable	
6	50 sqmm cable lug	Nos.	19.2	12.8	Not Applicable	
7	70 sqmm cable lug	Nos.	42	28	Not Applicable	
8	240 sqmm cable lug	Nos.	240	160	Not Applicable	
9	630 sqmm cable lug	Nos.	1440	960	Not Applicable	
	UPS System					
1	5KVA UPS with SVSC Transformer with inbuilt UPS DB, (1600hX1320WX750D)	NO	7	4	350kg+300kG Aux.	
2	Isolation box (400hX360wX230d)	NO	7	4	50kg	
3	Battery, (2550lX750wx1500h)	NO	7	4	50kg	
4	10KVA UPS with SVSC Transformer (1715hX1980WX650D)	NO	1	1	350kg+600kG Aux.	
5	Isolation box, (400hX360wX230d)	NO	1	1	50kg	
6	Battery, (3750lX1500wx1500h)	NO	1	1	100kg	
	110V DC system					
1	165AH/110V Ni-Cd Battery Bank, (815hX607wX1990d)	NO	1	--	515kg/set	
2	110V, 50A FCBC Charger for PESS room (1800hX800wX600d)	NO	1	--	350kg	

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	Dimension (LxDxH) mm		40MW	25MW		
3	105AH/110V Ni-Cd Battery Bank, (815hX607wX1990d)	NO	--	1	515kg/set	
4	110V, 30 FCBC Charger for PESS room, ('1800hX800wX600d)	NO	--	1	350kg	
5	55AH/110V Ni-Cd Battery Bank, ('750hX750wX1500d)	NO	7	4	515kg/set	
6	110V, 20 FCBC Charger for PESS room, ('1800hX800wX600d)	NO	7	4	350kg	
	CABLE TRAYS AND ACCESSORIES					
1	Cable Tray - Ladder Type - 600 mm	Mtrs	900	600	8kg/m	
2	Cable Tray - Perforated Type - 300 mm	Mtrs	480	320	6kg/m	
	PLANT EARTHING MATERIALS:					
1	75x10mm earth stripLaying of earth strip below ground	Mtrs	3600	2400		
2	75x10mm Earth strip-Laying of earth strip above ground with equipment connections	Mtrs	1500	1000		
3	50x6 mm earth strip-Laying of earth strip above ground with equipment connections	Mtrs	1440	960		
4	25x3mm earth strip-Laying of earth strip below ground	Mtrs	9000	5000		
5	25x3mm earth strip-Laying of earth strip above ground with equipment connections	Mtrs	16000	9000		
6	8swg-Laying of earth wire above ground with equipment connections	Mtrs	3000	2000		
7	35x6 mm earth strip-Laying of earth strip above ground for lightning gprotection system	Mtrs	800	500		
8	65mm GI Pipe electrode-Installation of Earth Pit including filling with charcoal and salt	Mtrs	95	65		
9	40mm GI Rod electrode-Installation of Earth Pit including filling with charcoal and salt	Mtrs	65	50		
10	Installation of vertical air termination rods	Nos	18	12		
11	Installation Lightning Protection(ESE)	NO	32	20		
	Outdoor Illumination System					
1	120W LED Flood Light Fixture	NO	2	2		
2	40 W LED Batton Fixture	NO	10	10		
3	30 W LED street Fixture	NO	550	407		
4	Poles 2.2 Mtrs & 4.2 Mtr Poles	NO	550	410		
5	Poles 11 Mtrs Poles	NO	2	2		
6	JBs/Welding receptacles/TPN Socket/Surface mounted board/	NO	20	20		
	Telephone system					
1	Central Exchange, (800mmx 800mm x 2000mm)	Nos.	1	1		
	Metering panel					
1	ABT Meter panel	Nos.	6	3		
	Inert Gas System					
1	Inert Gas cylinder with all accessories	Nos.	2	2		
2	Discharge Hose	Nos.	2	2		
3	Electric Actuator	Nos.	1	1		
4	Check Valve	Nos.	1	1		
5	Manifold release valve	Nos.	1	1		
6	Header vent plug	Nos.	1	1		
7	Pressure switch	Nos.	1	1		
8	Manifold orifice	Nos.	1	1		
9	Pipe	Mtrs.	18	18		
10	Discharge Nozzles	Nos.	4	4		

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	Dimension (LxDxH) mm		40MW	25MW		
11	Structural steel	Lot	1	1		
12	Fittings	Lot	1	1		
	DC SIDE					
1	6 sq mm DC Cables	M	7,07,500	4,42,500		
2	240 sq mm DC Cables	M	1,50,000	10,000		
3	MC4 Connector Pairs	NOS	8,125	5,075		
4	Tools for MC4 connectors	NOS	12	8		
5	24 Input String Monitoring Unit (SMU)	NOS	333	216		
6	Power Conditioning Unit - 1250 KVA	Nos	32.00	20		
	MEASURING INSTRUMENTS					
1	SCADA Main Panel	NOS	1	1		
2	SCADA RTU Panel	NOS	7	4		
4	Remote Monitoring Unit	NOS	1			
5	Pyranometer for Weather Monitoring	NOS	2	2		
7	Anemometer for Weather Monitoring	NOS	1	1		
9	Ambient Thermometer for Weather Monitoring	NOS	1	1		
10	Module Temperature Sensor for Weather Monitoring	NOS	1	1		
11	Room Temperature Sensor for Weather Monitoring	NOS	1	1		
13	Rain Gauge for Weather Monitoring	NOS	1	1		
15	Wind Direction Sensor	NOS	1	1		
	FIRE PROTECTION SYSTEM					Supervision of E&C by Supply vendor/BHEL.
1	Fire Alarm Panel	NOS	1	1		
2	Repeater Panel	NOS	7	4		
3	Multi sensor detector	NOS	75	45		
4	Manual Call Point (Indoor)	NOS	18	12		
5	Manual Call Point (Outdoor)	NOS	2	2		
6	Hooter	NOS	12	8		
7	Modules for Hooter	NOS	12	8		Not required if the hooters are loop powered
8	Isolator Modules	NOS	15	5		Not required if the devices have in-built fault isolators
9	24V dc convertor	NOS	8	5		Not required if the hooters are loop powered
10	Inert Gas cylinder	NOS	1	1		
11	Nozzles	NOS	4	4		
12	Discharge Hose	NOS	1	1		
13	Check valve	NOS	1	1		
14	Electric Actuator	NOS	1	1		
15	Contact pressure gauge	NOS	1	1		
16	Pressure switch	NOS	1	1		
17	Pressure Gauge	NOS	1	1		
18	Pipe	Mtrs.	18	18		
19	Structural steel	Lot	1	1		
20	Fittings	Lot	1	1		
21	Control modules for IGES	NOS	5	5		
22	Monitor Modules for IGES	NOS	5	5		
23	6kg DCP type Fire extinguishers	NOS	16	10		
24	Any other items required to complete the FDA & IGES system	Lot	1	1		

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	Dimension (LxDxH) mm		40MW	25MW		
25	Network Cable	Mtrs.	3500	4500		
26	Network components	Lot	1	1		