

Appendix-I

Sr. No.	Name of Items/ Materials	Specification	Make Preferable	Qty.
1	250kva,Diesel Generator	Supplying and erecting, commissioning and testing diesel generating set having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, feeder gauge, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12/24 volts electric starting equipment complete with standard battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer and vertical hot air duct both logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load.	Cummins/Caterpillar/ Kirloskar/Ingersoll Rand/Atlas Copco	1 Nos.

		Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity, indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 18 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms. Erection, commissioning and satisfactory testing as per requirement with first filling of fuel, oil, etc. with guarantee of complete system for One year. & with obtaining all necessary certificate from Electrical Inspector.		
2	185sq.mm, 3.5 Core Cable With installation	3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core) XLPE Cable XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV.Cable shall be fixed in cable trays in and cables shall be clamped with flat clamps and galvanised bolts /nuts.& erection in concealed as per requirement	Polycab/RR/Finolex/Havells	80 Mtr.
3	70sq.mm, 3.5 Core Cable With installation	3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core) XLPE Cable.XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. The thickness of XLPE insulation shall be as set out in the relevant standards Cable shall be fixed	Polycab/RR/Finolex/Havells	150 Mtr.

		in cable trays in and cables shall be clamped with flat clamps and galvanised bolts /nuts.& erection in concealed as per requirement		
4	25sq.mm, 3.5 Core Cable With installation	3 1/2 core 25 Sq. mm (16 Sq. mm 1/2 core) XLPE Cable.XLPE(IS:7098)(I)-88 ISI armoured cable multi-strand Aluminium conductor for 1.1 KV. The thickness of XLPE insulation shall be as set out in the relevant standards Cable shall be fixed in cable trays in and cables shall be clamped with flat clamps and galvanised bolts /nuts.& erection in concealed as per requirement	Polycab/RR/Finolex/Havells	490 Mtr.
5	Chemical Earthing With installation	Earth pit of minimum bore dia.150mm,depth 2mtr,25KG Chemical for each chemical earthing point. approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications.,Main earthing conductors shall be taken from the earth connections at the main L T panel to an earth electrode withwhich the connection is to be made. All earths must be interconnected at the earth pit	As per Approval of Government R&B Department	04 Nos.
6	Earthing strip With installation	406 mm GI Strip Fixing with proper clamp installation as per site requirement.	As per Approval of Government R&B Department	230 kg.
7	100A MCCB,4P With installation	Four pole moulded case circuit breaker having breaking capacity ICU of 25 KA. at 415 V,having normal current rating up to 100A. with Fixed thermal & magnetic release suitable to work on A.C. supply 50 c/s.	C&S/Havells/L&T/Legrand	11 Nos.

8	Change Over Switch With Enclosure & installation	4pole,3phase,415v,300A	C&S/Havells/L&T/Legrand	1 Nos.
9	Electrical Panel With installation	5 mm thickness,Powder Coating with stand and arrangement of 400A -1no.change over switch, 400A MCCB-1 No, 7Nos 100A MCCB, COPPER BUSBAR according size of 400 AMPERE & LENGTH 1Mtr. 4(R,Y,B,N), digital meter for 3phase power, voltage, current measurement with indication	Standard	1 Nos.
10	Miscellaneous Items	Example-Insulation tape,cable clam,screw,With installation	Standard	
11	10 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	50 Nos.
12	25 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	50 Nos.
13	70 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	30 Nos.
14	185 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	20 Nos.
15	95 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	5 Nos.
16	35 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	5 Nos.
17	16 Sq.mm. lugs With installation	Aluminum Lugs	3D/Dovells/Janson/Hex /Active/Oswal	5 Nos.
18	3 & 1/2 /4 core 25 Sq. mm Cable Gland With installation	High Grade S.S/Copper	3D/Dovells/Janson/Hex /Active/Oswal	12 Nos.
19	3 & 1/2 core 70 Sq. mm Cable Gland With installation	High Grade S.S/Copper	3D/Dovells/Janson/Hex /Active/Oswal	6 Nos.
20	3 & 1/2 core 185 Sq. mm Cable Gland With installation	High Grade S.S/Copper	3D/Dovells/Janson/Hex /Active/Oswal	4 Nos.
21	100A MCCB BOX COVER With installation	Metal BoX Cover with suitable mccb size	5 mm thickness,Powder Coating electrical panel with 100A, 4PMCCB suitable 0.5mtr COPPER Busbar 4.(R,Y,B,N),100A MCCB arrangement, 6Nos. 4P 32A MCB With indication	4 Nos.
22	electrical panel With installation	5 mm thickness,Powder Coating electrical panel with 100A, 4PMCCB suitable 0.5mtr COPPER Busbar 4.(R,Y,B,N),100A MCCB arrangement, 6Nos. 4P 32A MCB With indication	C&S/Havells/L&T/Legrand	1 Nos.

23	10SQ.mm cable 4core With installation	XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. The thickness of XLPE insulation shall be as set out in the relevant standards Cable shall be fixed in cable trays in and cables shall be clamped with flat clamps and galvanised bolts /nuts.& erection in concealed as per requirement	Polycab/RR/Finolex/ Havells	50 Mtr.
24	400A MCCB With installation	Four pole moulded case cir- cuit breaker having breaking capacity ICU of 50 KA at 415 V having Normal cur- rent rating up to 400A. with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. With all internal connections & com- plete erected in existing 16 G.M.S. housing.	C&S/Havells/L&T/ Legrand	01 Nos.
25	400A MCCB with suitable metal box cover & installation	Four pole moulded case cir- cuit breaker having breaking capacity ICU of 50 KA at 415 V having Normal cur- rent rating up to 400A. with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. With all internal connections	C&S/Havells/L&T/ Legrand	1 Nos.
26	32A MCB With in- stallation	Class A/B/C Type 415V- 440V AC,50Hz Breaking Capacity-10kA	C&S/Havells/L&T/ Legrand	6 Nos.