

BILL OF MATERIALS

Name of the work: F.T.S Modernisation Work

SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Erection ,Testing and commissioning of Converter transformer 3 PH,11 KV/2 X 1800 V,4000 KVA outdoor Transformer size of 3150 L X 2800 D X 3200 H (Dimensions in mm) with necessary Along with Supply of 40 mm size blue metals and spread throughout the 4000 KVA Transformer yard for a height of 100 mm . Yard size and Supply and erection of fence for the 8 mX8 m yard, (4 Side) Each panel size should be 1m width X 1.8 m height. The Panel outer frame shall be fabricated using 50 X 6 angles with an intermediate support. The panel shall be fabricated using 3 mm thick wire mesh which is having a maximum of 50 mm X 25 mm holes. The entry door to the yard shall be provided using the same panel with hinges and pad lock. The fence shall be supported at least once in 2 m length of the fence by providing proper concrete foundation at least for 0.5 m depth below ground level. Painting with one coat of Red oxide and Two coat of Aluminum Paint. OEM supplier will be available for the supervision of the work. Transformer will be provided by BHEL at free of cost.	Set	1		
2	Erection ,Testing and commissioning of Isolation transformer 3 PH,415/415 V,700 KVA Transformer size of 1750 L X 1500 D X 1800 H (Dimensions in mm) with necessary fixtures etc. necessary fixtures etc. Along with Supply of40 mm size blue metals and spread throughout the 700 KVA Transformer yard for a height of 100 mm . Yard size =8 m X 8 m, of 6.4 cubic metre. and	NO'S	1		

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	Supply and erection of fence for the 8 m X 8 m yard, (3 Side) Each panel size should be 1m width X 1.8 m height. The Panel outer frame shall be fabricated using 50 X 6 angle With an intermediate support. The panel shall be fabricated using 3 mm thick wire mesh which is having a maximum of 50 mm X 25 mm holes . The entry door to the yard shall be provided using the same panel with hinges and pad lock. The fence shall be supported at least once in 2 m length of the fence by providing proper concrete foundation at least for 0.5 m depth below ground level. Painting with one coat of Red oxide and Two coat of Aluminum Paint. OEM supplier will be available for the supervision of the work. Transformer will be provided by BHEL at free of cost.				
3	Erection and Commissioning of IGBT based VFD 3000KW Panel size of 3200 L x 1200 D x 2600 H (Dimensions in mm) with necessary materials etc. approximate weight is 2500kg. OEM supplier will be available for the supervision of the work. IGBT based VFD 3000KW panel will be provided by BHEL at free of cost.	NO'S	1		
4	Erection and Commissioning of IGBT based VFD 500 KW Panel size of 2600 L x 600 D x 2300 H (Dimensions in mm) with necessary materials etc. approximate weight is 1500 kg. OEM supplier will be available for the supervision of the work. IGBT based VFD 500 KW panel will be provided by BHEL at free of cost.	NO'S	1		
5	Erection, Testing & Commissioning of Resistor Panel size of 1500 L X 1400 D X 3000 H (Dimensions in mm) [for VFD 3000 KW motor] with necessary materials etc. approximate weight is 500kg.	NO'S	2		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6	Erection ,Testing & commissioning of PLC panel of size 800 L X 800 D X 2500 H (Dimensions in mm) [for 3000 KW motor] with necessary materials etc. approximate weight is 300 kg. OEM supplier will be available for the supervision of the work. PLC panel will be provided by BHEL at free of cost.	NO'S	1		
7	Erection ,Testing and commissioning of control panel of size 750 L X 600 D X 2200 H (Dimensions in mm) [for 500 KW&3000 KW motor] with necessary materials etc. approximate weight is 300 kg. OEM supplier will be available for the supervision of the work. Control panel will be provided by BHEL at free of cost.	NO'S	1		
8	Erection ,Testing and Commissioning of control Desk of size 1000 L X 1000 D X 1300 H (Dimensions in mm) [for 500KW motor] with necessary materials etc. approximate weight is 500 kg. OEM supplier will be available for the supervision of the work. Control desk will be provided by BHEL at free of cost.	NO'S	1		
9	Erection ,Testing and Commissioning of control Desk of size 1000 L X 1000 D X 1300 H (Dimensions in mm) [for 3000 KW motor] with necessary materials etc. approximate weight is 500 kg. OEM supplier will be available for the supervision of the work. Control desk will be provided by BHEL at free of cost.	NO'S	1		
10	Erection and Commissioning of HT isolator of size 750 L X 1100 D X 2400 H (Dimensions in mm) [for 3000 KW motor] with required materials etc. approximate weight is 1500 kg.	NO'S	2		
11	Erection and Commissioning of LT isolator of size 700 L X 600 D X 2200 H (Dimensions in mm) [for 500 KW motor] with necessary materials etc. approximate weight is 1200 kg.	NO'S	2		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
12	Erection, Testing and Commissioning of LT cubical type Main Panel-B consisting of 800A EDO ACB-1 No as incomer , 400A FSU-3 Nos,200A-3Nos,100A-1No,63/32A-4Nos as outgoing size of 1750 L X 900 D X 2300 H (Dimensions in mm) with necessary fixtures etc. approximate weight is 1500 kg.	NO'S	1		
13	Erection, Testing and Commissioning of LT cubical type Main Panel-A consisting of 800A EDO ACB-1 No as incomer , 400A SFU-3 Nos,200A SFU-3Nos,100A SFU-4Nos as outgoing size of 1750 L X 900 D X 2300 H (Dimensions in mm) with necessary fixtures etc. approximate weight is 1500kg.	NO'S	1		
14	Erection , Testing and Commissioning of junction Box of size 485 L X 200 D X 360 H (Dimensions in mm) With necessary fixtures etc. approximate weight is 60kg.	NO'S	5		
15	Fixing of push button Box of size 100 L X 50 D X 150 H (Dimensions in mm) with necessary fixtures etc. approximate weight is 12 kg.	NO'S	4		
16	Fixing of 150/300 mm cable Tray on trench and overhead columns/tress including fabrication and erection of cable Tray supporting structure. The necessary Cable trays, Angles, channels, welding and gas cutting set supplied by BHEL-as per instruction given by engineer in charge. The necessary fasteners, Red oxide and smoke gray paint to be supplied by Contractor.Size of cable tray of 150 W/300 W.	MTR	600		
17	Laying of 11 KV, 3C X 95 sq.mm HT XLPE Copper unarmored cable on cable Trench.	MTR	125		
18	Laying of 3.3 KV, 3C X 300 sq.mm HT XLPE Copper unarmored cable on cable Trench and overhead cable Trays.	MTR	600		
19	Laying of 1.1 KV,3.5C X 300 sq.mm LT XLPE unarmored Copper cable on Trench and overhead cable Trays.	MTR	700		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
20	Laying of 1.1 KV, 4C X 2.5 sq.mm LT XLPE unarmored Copper cable on Trench	MTR	900		
21	Laying of Special Screened cable and control cable on Trench/Cable Trays	MTR	2500		
22	Laying of 25 x 3 mm GI Flat for earthing. (Earth flat will be given by BHEL free of cost from stores.)	MTR	100		
23	Laying of 50 X 6mm GI Flat for earthing. (Earth flat will be given by BHEL free of cost from stores.)	MTR	400		
24	Laying of 3 mm Dia GI wire for C & I items to main earth grid. (3mm Dia GI wire will be given by BHEL free of cost from stores)	MTR	200		
25	Supply, Laying of 14 swg bare copper for earthing.	MTR	100		
26	Supply & Erection of earth Electrode as per drawing no BAP: M&S : EL : PLNG : 001-08 enclosed and also as per IS 3043.	NO'S	6		
27	Supply & Erection of earth Electrode as per drawing no BAP: M&S : EL : PLNG : 001-08 enclosed and also as per IS 3043.(Note: Copper plate earthing for Electronic device)	NO'S	4		
28	Supply and making End Termination of 3C X 95 sq.mm 11 KV HT X LPE Cu cable unarmored.HT Termination Kit, Gland and lug contractor scope.	NO'S	5		
29	Supply and making End Termination of 3C X 300 sq.mm 3.3 KV HT XLPE Cu cable unarmored. HT Termination Kit, Gland and lug contractor scope.	NO'S	18		
30	Supply and making End Termination for 1.1 KV LT X LPE Cu. Cables unarmored. LT/ HT Termination using double compressor Gland and copper lug (All materials under contractor scope.)				
	a) 3.5C X 300/ 185/95 sq.mm, 1.1 KV LT XLPE Cu. unarmoredCable	NO'S	40		
	b) 3.5C X 50/25 sq.mm, 1.1 KV LT XLPE Cu. Unarmored Cables	NO'S	90		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
31	Supply and making End Termination of 4C X 2.5 sq.mm unarmored Cu cable ,Gland and lug (All materials under contractor scope.)	NO'S	20		
32	Supply and making End Termination of 3.5Cx 25sqmm-- 3.5 C X 95 sq.mm 1.1 kV grade armored aluminum cable for LT panel Gland and lug (All materials under contractor scope.)	NO'S	15		
33	Supply and making End Termination of 3.5 C X 185 sq.mm 1.1 kV grade armored aluminum cable for LT panel Gland and lug.(All materials under contractor scope.)	NO'S	6		
34	Supply & Laying Of 50 mm X 6 mm Copper Flat for Transformer neutral earth	MTR	25		
35	Preparing necessary Electrical Drawing, submitting the same to central electricity authority obtaining approval from the concerned authorities. All the LT Main Panel boards, HT and LT isolator panels and drive panels, FDB and switches should be properly identified with white paint using the stencil with standard size letters as per the engineer-in-charge instructions. All the electrical installations are to be properly documented (i.e drawing location arrangement details etc.)	LUMS UM	1		
36	Supply & Fixing of wall socket with necessary Fixtures etc 15 A & 5 A Multipin Flash type switched socket in suitable M.S box. Make: Anchor	NO'S	4		
37	Supply & Fixing of 1200 mm sweep Ceiling fan with regulator and necessary Fixtures etc.Make :khaitan/Crompton greaves/usha	NO'S	4		
38	Supply & Fixing of 25 W CFL with necessary Fixtures etc. Philips/ Crompton/Havells	NO'S	8		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
39	Supply & Fixing of 150 W Metal Halide street Light Fitting including Suitable pipe Bract with necessary Fixtures etc.philips/Crompton greaves/havells.	NO'S	12		
40	Supply & wiring with 2 Runs of 1.5 sq.mm Stranded Copper Conductor on suitable rigid PVC/Flat capping casing with necessary Fixtures etc. for TL,Ceiling fan, street light &Wall socket With 1 Run of 1.5 Sq.mm Copper cable for Earthing .with suitable M.S box with switches.	POINT	20		
41	Supply & wiring with 2 Runs of 2.5 sq.mm Stranded Copper Conductor on suitable rigid PVC/Flat capping casing with necessary Fixtures etc. for street light with 1 Run of 2.5 Sq.mm Copper cable for Earthing with suitable m.s. box with switches.	POINT	12		
42	Supply & Fixing of 20 A metal Clad single phase S&C make socket with 20A SP MC B control on suitable Ms-box with necessary fixtures etc.	NO'S	2		
43	Supply & Fixing of MCB DB 32 ATPN MCB -1No as incomer 32A DP MCB-3 as outgoing with Suitable Ms-box For light/AC Distribution. Make: L&T/SIEMENS/GE	NO'S	1		
44	Supply & Fixing of MCB DB 32 A DP-1No as incomer 6A SP MCB-10No as outgoing with Suitable Ms-Box for light Distribution. Make :L&T/SIEMENS/GE	NO'S	2		
45	Dismantling of Existing LT panel including BUSBAR disconnection, cable end termination removing and etc.	SET	1		
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SL. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
46	Service Tax %				
47	VAT %				
48	TOTAL Rs.				
<p>NOTE: The dimensions and weight mentioned above are indicative for handling purpose only The laying of cable and earth strips are per meter price only subject to physical laying of the above</p>					
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