

Commercial Bid & Scope of Work

ENQUIRY NO / DATE:	BGP/PLE/ NIT/22OE W/05	DUE DATE:	24.09.2022 14:00 Hrs	QUOTATION REF. DATE:	
NAME OF THE SUPPLIER					
FULL ADDRESS :					
TEL NO. & MOBILE NO:					
e-MAIL ID :					
GST #:					
MSME UDYAM REGISTRATION REFERENCE:					
ELECTRICAL WORKS FOR 4G EQUIPMENT TESTING IN F3 HANGAR AT ITI LIMITED, BANGALORE PLANT					
BOQ as well as Scope of work is mentioned in below format alongwith all makes and models of item required. All cables/wires should be RR/Polycab/Havells make. All MCB/MCCB/Circuit breakers should be Siemens/Schneider/ABB make. All DB/Switch/Socket should be Crompton/Hager/Legrand/Anchor make. This is a electrical turnkey project any minor work required due to site alteration and 4G equipment installations has to be carried out by the vendor. <i>Site visit is must before quoting</i>					
Sl.	Description	Unit	Qty	Rate	Amount
A	Providing power supply to three rectifiers from F2,F6&F7 LT s/s.				

1	Supply and laying of 3.5core 400 sqmm 1.1 kv grade XLPE insulated Aluminum conductor armoured cable.Cable to use for MCCB connection too.				
	From F2 electrical Panel to Rectifier No.1. 2Run x 110M = 220 Mtr				
	From F6 electrical Panel to Rectifier No.2. 2Run x 110M = 220 Mtr				
	From F7 electrical panel to Rectifier No.3. 2Run x 80M = 160 Mtr				
	Total 600 Mtr				
	Supply	Mtr	600		
	Erection	Mtr	600		
2	Making HDD (Horizontal directional drilling) along the concrete road in between F2, F6 & F7 and F3 proposed rectifier room and making 150 mm dia bore and trench with breaking concrete and refiling the same with cement and GI pipe wherever required as per site requirement				
	Erection	Mtr	180		

3	Supply installation, testing and commisioning of MCCB 630Amps 4pole 36KA 415 Volts housed in suitable SS enclosure of 1.6mm thick with 630A spreader link at both end and barriers including Rotary operated handle (ROH) near the SMPS rectifire unit at F3 Hangar with suitable supproting frame and hardware etc., to complete the installation in all respect. Siemens/Scheider/ABB make only. MCCB for collecting cables from LT substation				
	Supply	No	3		
	Erection	No	3		
4	Providing End termination of 3.5core 400 sqmm PVC /XLPE insulated aluminium conductor armoured cable in the panel board and switchgears. The rate shall include of DC brass cable gland and aluminum crimping type lugs, hibiting compound and PVC tape, hardware etc., as required. (Raychem make)				
	Supply	Set	24		
	Erection	Set	24		

5	Supply and erection of galvanized Perforated cable tray 2mm /1.6mm thick of the following size on position with supporting brackets / down rods / bolt nut and mouting sleeves fish plate etc., as required.				
5.1	450x60mmx2mm				
	<i>Supply</i>	Mtr	50		
	<i>Erection</i>	Mtr	50		
5.2	100x50mmx1.6mm				
	<i>Supply</i>	Mtr	80		
	<i>Erection</i>	Mtr	80		
B.	Providing raw power supply to Burning chamber and DC power supply from Rectifier units to Burning chambers				
6	Supply and running of single core DC cable 240 sqmm PVC / XLPE insulated copper conductor flexible cable with heat shrink and flixible/conduit as it is required. Run on existing cable tray from the rectifier unit to burning chamber . All the accessories used should be fire proof. 6R for each Burning chamber				
	Supply	Mtr	360		
	Erection	Mtr	360		

7	Providing end termination of 240sqmm single core PVC/XLPE insulated copper conductor Flexible cable in rectifier unit and burning chamber. The rate shall include of DC brass cable gland and copper crimping type lugs,hibiting compound and PVC tape, hardware etc., as required.				
7.1	Termination with PVC/Nylon gland (On burning chamber side)				
	Supply	Nos	18		
	Erection	Nos	18		
7.2	Termination without PVC/Nylon gland (On rectifier side)				
	Supply	Nos	18		
	Erection	Nos	18		
C.	Providing Busbar inside burning chamber and Tapping 48V DC powers supply for RRU Testing				
8	Supply and installation of aluminum busbar trunking Air insulated of the following capacity with 98% electrolytic grade with SMC / DMC support with standing capacity of 200 degree centi grade and supporting with 50x50x6mm/40x40x6mm angle /75x40mm channel with necessary hardwares and fastners as required.				
8.1	3000 Amps capacity 48 V DC (The busbar size is 3Runs 125x12mm)				

	Supply	Mtr	12		
	Erection	Mtr	12		
8.2	1000 Amps capacity 48 V DC (The busbar size is 3Runs 80x10mm) B.C1				
	Supply	Mtr	24		
	Erection	Mtr	24		
8.3	1500 Amps capacity 48 V DC (The busbar size is 1Runs 100x10mm) B.C2				
	Supply	Mtr	16		
	Erection	Mtr	16		
8.4	750 Amps capacity 48 V DC (The busbar size is 4Runs 10x40mm) B.C3				
	Supply	Mtr	32		
	Erection	Mtr	32		
9	Providing and fixing of Uninyvin cable No.22 at 0.347 sqmm (14Amps capacity) termination the same with suitable copper lugs inside the burning chamber for the RRU . Havells/Polycab/RR make. For providing DC output for racks				
	Supply	Mtr	1000		
	Erection	Mtr	1000		
D.	Providing power supply to 100kva UPS from existing panel and distributing Ups power supply to LDB's, Test benches, Power points etc with Local control on Test benches through MCB's				

10	Supply and laying of 4 core 95 sqmm PVC/XLPE insulated aluminum conductor armoured cable along the existing cable trench and over wall with supporting of necessary clamps and hardwares as required. Polycab/RR/Havells make only. UPS input cable				
	Supply	Mtr	65		
	Erection	Mtr	65		
11	Providing End termination of 4corex 95 sqmm PVC /XLPE insulated aluminium conductor armoured cable in the panel board and switchgears. The rate shall include of DC brass cable gland and aluminum crimping type lugs, hibiting compound and PVC tape, hardware etc., as required.				
	Supply	No	4		
	Erection	No	4		
12	UPS output Main DB				
	Supply, installation, testiong and commissioning of 8 way VTPN MCCB DB having 200Amps 4 pole MCCB 25kA as incomer with 200Amps Electroplated copper busbar and comprises the following outgoing MCB feeders having 63Amps TP MCBs - 6Nos. Fixing the DB at location with necessary support and hardware. Schneider/siemens/ABB make				

	Supply	No	1		
	Erection	No	1		
13	UPS output SDB				
	Supply, installation, testiong and commissioning of 4 way ETPN MCB DB having 63Amps 4 pole MCB as incomer with 100Amps Electroplated copper busbar and comprises the following outgoing MCB feeders having 40Amps DP MCBs - 3Nos. Fixing the DB at location with necessary support and hardware. Schneider/siemens/ABB make				
	Supply	No	2		
	Erection	No	2		
14	UPS Circuit Wiring Main				
	Supply and laying of 4core 16 sqmm PVC/XLPE insulated aluminum conductor armoured cable along the existing cable trench / over wall / on existing cable rack from UPS main DB to LDB 1,2 and UPS SDB 1 & 2.				
	Supply	Mtr	250		
	Erection	Mtr	250		

15	Providing end termination of 4corex 16 sqmm PVC /XLPE insulated aluminium conductor armoured cable in the panel board and switchgears. The rate shall include of DC brass cable gland and aluminum crimping type lugs, hibiting compound and PVC tape, hardware etc., as required.				
	Supply	No	8		
	Erection	No	8		
16	Local control for UPS circuits at test bench				
	Supply and installation of 63Amps 4 pole MCB in suitable SS Enclosure of double door IP43 class protection at test bench for local controller. For 3phase power				
	Supply	No	2		
	Erection	No	2		
17	Supply and installation of 32Amps 2 pole MCB in suitable SS Enclosure of double door IP43 class protection at test bench for local controller. For single phase.				
	Supply	No	12		
	Erection	No	12		
	UPS Circuit wiring				

18	Supply and running of following PVC insulated FRLS single core copper conductor cable in existing PVC / metal / SS conduit from the respective UPS DB to outlet point.in suitable flexible/ conduit as per site requirement				
18.1	4 run 10 sqmm and 2 run 4 sqmm				
	Supply	Mtr	60		
	Erection	Mtr	60		
18.2	2 run 6 sqmm and 1 run 2.5 sqmm				
	Supply	Mtr	360		
	Erection	Mtr	360		
18.3	2 run 4 sqmm and 1 run 2.5 sqmm				
	Supply	Mtr	50		
	Erection	Mtr	50		
18.4	2 run 2.5 sqmm and 1 run 1.5 sqmm				
	Supply	Mtr	150		
	Erection	Mtr	150		
19	Supply end termination of following size insulated copper wire with nylon / PVC cable gland and with copper ring type lugs / bullet etc., as required.				
19.1	4 run 10 sqmm and 2 run 4 sqmm				
	Supply	No	25		
	Erection	No	25		
19.2	2 run 6 sqmm and 1 run 2.5 sqmm				
	Supply	No	50		
	Erection	No	50		
19.3	2 run 4 sqmm and 1 run 2.5 sqmm				
	Supply	No	25		

	Erection	No	25		
19.4	2 run 2.5 sqmm and 1 run 1.5 sqmm				
	Supply	No	25		
	Erection	No	25		
20	UPS POWER POINT				
20.1	Supply and installation of 16Amps 3P+N+E power Plug & socket controlling with 25Amps TPN MCB housed in suitable SS enclosure. Fixing the same on test bench with necessary hardwares and all interconnections as required.				
	Supply	No	10		
	Erection	No	10		
20.2	Supply and installation of 6Amps Switch and socket 5 Nos plus 1No 16Amps Switch and socket housed in suitable PVC co box and mounting plate, fixing the same on test bench with necessary hardware and all interconnections as required.				
	Supply	No	50		
	Erection	No	50		
E.	Providing Raw power to Test benches.				

21	Supply and running of following PVC insulated FRLS single core copper conductor cable in existing PVC / metal / SS conduit from the respective UPS DB to outlet point in suitable flexible / conduit as per site requirement				
21.1	2 run 4 sqmm and 1 run 2.5sqmm				
	Supply	Mtr	300		
	Erection	Mtr	300		
21.2	2 run 2.5 sqmm and 1 run 1.5sqmm				
	Supply	Mtr	100		
	Erection	Mtr	100		
23	Supply end termination of following size insulated copper wire with nylon / PVC cable gland and with copper ring type lugs / bullet etc., as required.				
23.1	2 run 4 sqmm and 1 run 2.5 sqmm				
	Supply	No	40		
	Erection	No	40		
23.2	2 run 2.5 sqmm and 1 run 1.5 sqmm				
	Supply	No	20		
	Erection	No	20		
F.	Providing Power supply points to Conveyor belts ,Wave soldering machines and HVAC panel from existing panel				

24	Supply, installation, testing and commissioning of 400Amps 6 way Aluminum busbar unit with SS enclosure on location with necessary hardware etc., as required. Busbar for distribution of power to wave soldering i/c panel, conveyor belts supply and 6 nos tappings for ODU units				
	Supply	No	1		
	Erection	No	1		
25	Supply installation, testing and commissioning of MCCB 100Amps 4pole 25KA 415 Volts housed in suitable SS enclosure of 1.6mm thick with spreader links at both end , phase barrier and ROH for power supply to conveyor with suitable supporting frame and hardware etc., as required.				
	Supply	No	1		
	Erection	No	1		
26	Supply installation, testing and commissioning of MCCB 250Amps 4pole 25KA 415 Volts housed in suitable SS enclosure of 1.6mm thick with spreader links at both ends , phase barriers and ROH for power supply to wave soldering m/c with suitable supporting frame and hardware etc., as required.				
	Supply	No	1		

	Erection	No	1		
27	Providing and running of following size single core multistrand FRLS copper conductor flexible cable for interconnection of MCCB and busbar.				
27.1	25 sqmm single core cable				
	Supply	Mtr	4		
	Erection	Mtr	4		
27.2	70 sqmm single core cable				
	Supply	Mtr	4		
	Erection	Mtr	4		
28	Supply and laying 40mm dia Nylon / Reinforced PVC flexible pipe for drawing of 70 and 25 sqmm cable with necessary cable tie etc., as required.				
	Supply	Mtr	10		
	Erection	Mtr	10		
29	Providing and termination of 25 sqmm single core PVC insulated FRLS flexible copper cable with copper lugs for busbar box and MCCB				
	Supply	No	2		
	Erection	No	2		
30	Providing and termination of 70 sqmm single core PVC insulated FRLS flexible copper cable with copper lugs for busbar box and MCCB				
	Supply	No	2		
	Erection	No	2		

31	Supply and laying of following size PVC/XLPE insulated aluminum conductor armoured cable along the existing cable trench and over wall with supporting of necessary clamps and hardwares as required. Cable to conveyor belt panel and Wave soldering DB. Laying in suitable conduit/flexible/clamp as required on site for end to end connections				
31.1	3.5core x 70 sqmm				
	Supply	Mtr	40		
	Erection	Mtr	40		
31.2	3.5core x 35 sqmm				
	Supply	Mtr	20		
	Erection	Mtr	20		
32	Providing End termination of following size PVC /XLPE insulated aluminium conductor armoured cable in the panel board and switchgears. The rate shall include of DC brass cable gland and aluminum crimping type lugs, hibiting compound and PVC tape, hardware etc., as required.				
32.1	3.5core x 70 sqmm				
	Supply	No	2		
	Erection	No	2		
32.2	3.5core x 35 sqmm				
	Supply	No	2		
	Erection	No	2		
G.	Wave soldering room, Power distribution for Ligthing,switches, blowers, exhaust fans and two machines				

33	Design, manufacturing,Supply, installation, testing and commissioning of medium voltage power distribution panel, wall/floor mounting, cubicle type, dust and vermin proof, multitier compartmentalized system with 1.6mm thick CRCA sheet and powder coated painting of Siemens grey colour the panel comprises 250Amps TPN Aluminum busbar with associated following switchgears.				
	Incomer: 1No 250Amps 4P MCCB 25kA				
	LED Indicating lamps RYB for supply indication 1set				
	Control MCB 6Amps 3Nos for Indicating lamps				
	Outgoing Feeders 2No 125Amps 4P MCCB 25kA				
	1 No 63Amps 4Pole MCB 10kA				
	4 Nos 32Amps 4 Pole MCB 10kA				
	Installation of the panel at site with necessary angle supports hardwares etc., including transportation to site as required.				
	Supply	Set	1		
	Erection	Set	1		
	LDB AT WAVE SOLDERING M/C ROOM				

34	Supply, installation, testing and commissioning of 4 way ETPN MCB DB Double door IP42 class protection with 100Amps electro plate copper busbar and comprising the following switchgears:				
	Incomer: 32amps 4P MCB				
	Outgoing: 6Nos 10/16Amps SP MCB's				
	Fixing the same at location with necessary hardwares as required.				
	Supply	Set	1		
	Erection	Set	1		
35	Supply, installation, testing and commissioning of 2/3 HP DOL starter for the exhaust fan fixing with necessary hardwares as required with protection mcb 32amp				
	Supply	Set	3		
	Erection	Set	3		
H.	48V DC power supply to test bench (DC MCB DB)				
36	Supply, installation, testing and commissioning of Incomer as 125A 4 pole DC MCCB 48 Volts in suitable SS enclosure with 125A Spreader links and outgoing 12 Nos 32 DP DC MCB etc., Fixing the same on location with necessary hardwares as required phase barriers and ROH. Power supply from SMPS to 48v DB				

	Supply	Set	1		
	Erection	Set	1		
37	Local Control near testbench for DC power supply				
	Supply, installation , testing and commissioning of 40A DC MCB in suitable SS enclosure near the test bench , fixing the same with necessary hardwares as required				
	Supply	Set	10		
	Erection	Set	10		
38	DC ckt wiring				
	Providing and running of 2Run 10 sqmm insulated in existing conduits from the respective DB to the test bench in suitable PVC conduit/ flexible/pipe as required				
	Supply	Mtr	360		
	Erection	Mtr	360		
39	Supply and installation of 10Amps (4mm) Banana sockets Red & Black 2 sets on suitable box with cover plates fixing the same on test bench with necessary hardwares for DC outlets				
	Supply	No	50		
	Erection	No	50		
40	Earthing System wherever required to connect with existing earth pits with all necessary supporting hardwares etc				

40.1	Supply and installation of 25X6mm CU Flat in ground and wall from the earth electrode to the Rectifier panel and Raw power DB etc with necessary hardwares .				
	Supply	Mtr	100		
	Erection	Mtr	100		
40.2	Supply and installation of 25X3mm GI Flat in ground and wall from the earth electrode to the Rectifier panel and Raw power DB etc with necessary hardwares .				
	Supply	Mtr	100		
	Erection	Mtr	100		
I	Light and exhaust fan point wiring at wave soldering m/c room and burning chamber m/c room				
41	Point wiring for light & exhaust fan, wall fan with 3 runs 1.5 sqmm FLRS copper wire in 20mm dia PVC conduit and fittings on the position with supporting clamps and hardwares as required. Providing and fixing 5Amps control switch modular type on suitable front plate and back box for the same. The length of wiring is considered up to 7 mtrs. Point wiring includes fans,lights, switches required in Wave soldering room as well as nearby adjacent areas.				
	Supply	Pts	25		
	Erection	Pts	25		
	CIRCUIT WIRING				

42	Supply and running of following PVC insulated FRLS single core copper conductor cable in existing PVC / metal / SS conduit from the respective UPS DB to outlet point with end termination				
42.1	2 run 2.5 sqmm and 1 run 1.5sqmm				
	Supply	Mtr	100		
	Erection	Mtr	100		
42.2	2 run 4 sqmm and 1 run 2.5sqmm				
	Supply	Mtr	100		
	Erection	Mtr	100		
43	Supply and installation of 6/16Amps switched Socket with indicator Roma modular type and suitable mouning plate and housed in co box with necessary hardwares and interconnection as required.				
	Supply	No	4		
	Erection	No	4		
44	Supply and instllation of 380mm sweep Exhaust fan Compton/Usha /Orient/ Bajaj make with louver on location with necessary hardwares as required.				
	Supply	No	3		
	Erection	No	3		

45	Supply, fabrication, erection painting of steel items as required as per specification complete. Generally steel items include supporting arrangements. The rate shall also include painting with two coats of red oxide and primer and two coats of synthetic enamel paint of approved shade.				
	Supply	Kg	150		
	Erection	Kg	150		
46	3.5c 120sqmm cable with end terminations for Providing Raw power supply to HVAC panel and Burning chambers with end terminations and requisite hardwares etc				
	Supply	Mtr	80		
	Erection	Mtr	80		
	SUB TOTAL BASIC				
	REBATE				
	GST @ 18%				
	GRAND TOTAL INCLUDING GST				
	(IN WORDS)				