CONSTRUCTION AND MAINTENANCE CIRCLE, CHENNAI-5.

Chepauk, Chennai-600 005

<u>Name of work:</u> Providing Temporary 11 KV HT installation with 2Nos 500 kVA Transformers for the 44th- Chess Olympiad in Mamallapuram at Chengalpet District .

SI. No.	Quantity in Figures and in Words	Description	T.N.B.P No. or NBC No.	Rate in Figures and in words	Unit in Figures and in words	Amount
1	2	3	4	5	6	7
1	30.00 Days. (Thirty Days only)	Hire charges for 800A Single Panel 11 KV HT VCB including transportation-1No (HT Supply receiving side)			1 Day (One Day)	
2	30.00 Days. (Thirty Days only)	Hire charges for 800A Single Panel 11 KV HT VCB including transportation-1No (Consumer side incoming side)			1 Day (One Day)	
3	30.00 Days. (Thirty Days only)	Hire charges for 630A Two Panel 11 KV HT VCB including transportation-1Set (For 2Nos 500 KVA Transformer control)			1 Day (One Day)	
4	30.00 Days. (Thirty Days only)	Hire charges for 2 Nos 500 KVA Transformer Off Load 11KV/433V including transportation 1 Day Hire charge-Rs.8500/per transformer 8500x2 Nos=17000/-			1 Day (One Day)	
					ending Enginee nstn. and Maint	

SCHEDULE - A

1	2	3	4	5	6	7
5	140.00 R.M. (One hundred and forty Running Metres only)	Supply and laying of 11KV 3 Core 240 Sqmm XLPE UG cable in a trench to be excavated at a depth of 1.0 mtr. Putting 0.15 mtr. Layers of sand covering the HTUG cable completely with 120mm/103.5mm HDPE Pipe and refilling the earth to make good (From TNEB Pole to Single panel HT VCB , Single panel HT VCB to 3 Panel HTVCB incoming).			1 RM. (One running metre)	
6	40.00 R.M. (Forty Running Metres only)	Supply and clamping at 11KV 3 core 240 sq.mm XLPE UG cable on wall with M.S. special clamps.			1 RM. (One running metre)	
7	1.00 No. (One Number only)	Supply and providing cable end termination suitable for 11KV 3 core 240sq.mm XLPE HTUG cable with necessary Outdoor type heat / cold shinkable joint kit and accessories (Make:RayChem/M.Seal.(TNEP Pole-1No)			1 No (Each)	
8	3.00 Nos. (Three Numbers only)	Supply and providing cable end termination suitable for 11KV 3 core 240sq.mm XLPE HTUG cable with necessary indoor type heat / cold shinkable joint kit and accessories (Make:RayChem/M.Seal.(Single panel HT VCB-2 Nos& 3 Panel HT VCB-1No)			1 No (Each)	
9	90.00 R.M. (Ninety Running Metres only)	Supply and clamping at 11KV 3 core 185 sq.mm XLPE UG cable on wall with M.S. special clamps.			1 RM. (One running metre)	

1	2	3	4	5	6	7
10	4.00 Nos. (Four Numbers only)	Supply and providing cable end termination suitable for 11KV 3 core 185sq.mm XLPE HTUG cable with necessary indoor type heat / cold shinkable joint kit and accessories (Make:RayChem/M.Seal.)(3 Panel HT VCB-2Nos & 500 kva Transformer1&2-2 Nos)			1 No (Each)	
11	1.00 Job. (One Job only)	Erection, and commissioning of Single panel HTVCB-1 No (Point of supply receiving) complete connection etc.			1 Job. (One Job)	
12	1.00 Job. (One Job only)	Erection, and commissioning of Single panel HTVCB coupled with Two Panel HT VCB complete connection etc.			1 Job. (One Job)	
13	2.00 Nos. (Two Numbers only)	High voltage Testing for 11KV/433v 500KVA Old transformer in CEIG Testing laboratory/Approved laboratory for before installation at site			1 No (Each)	
14	2.00 Nos. (Two Numbers only)	Inspecting and Testing for Old 11 KV HT VCB in reputed service company complete etc. (single panel-1 No TNEB side & consumer side-1 No)			1 No (Each)	
15	1.00 No. (One Number only)	Inspecting and Testing for Old 11 KV 2 Panel HT VCB in reputed service company complete etc.			1 No (Each)	
c	Contractor	Page 3		Bldgs. (Co	ending Engined nstn. and Maint epauk, Chennai	t. Circle),

1	2	3	4	5	6	7
16	10.00 Nos. (Ten Numbers only)	Earthing as per ISI specification with an earth electrode of 2.1m class 'B' GI pipe of dia not less than 40mm, with copper earth plate of size 125mm X 50mm X 6mm with necessary funneling arrangements with necessary masonary work and with 38mm RCC cover slab for the brick masonary.			1 No (Each)	
17	8.00 Nos. (Eight Numbers only)	Supply and providing of maintenance free earthling electrode dual pipe flat technology model maintenance free earth 502 consist of 2mtr long 47mm dia outer pipe with 3.2mm thick 25mm dia inner pipe 2.6mm thick terminal flat of 30x10/12 x 12mm, the entire construction processed with hot tip galvanizing, outer surface up to100 microns all inner annular space filled with highly conductive and non- corrosive nature crystalline material along with electrode moisture booster compound of 1x25 kg bags will be supplied to fill surround the pipe at the time of installation. (Moisure retention, conduction and non-corrosive nature (Galaxy /Ashlok or equivalent) For 500 kva Transformer 1&2 Neutral Earth. & UPS- 4Nos			1 No (Each)	
18	160.00 R.M. (One hundred and sixty Running Metres only)	Supply and laying 3 Runs 3 ½ x400 sqmm PVC armoured LTUG cable in a trench to be excavated at a depth of 0.75 Mtr Putting 0.15mt layer of sand and covering the three sides of the cable with bricks and refilling the earth to make good. (SD-214 Rs.2165 x3 nos =6495)For 500 KVA Transformer Secondary side & 500 KVA Genset for lighting C/O Switch			1 RM. (One running metre)	
19	18.00 Nos. (Eighteen Numbers only)	Supply and fixing of brass cable gland for 3 ½ x400 sq.mm PVC LTUG armoured cable with earth connection			1 No (Each)	
	Contractor	Page 4		Bldgs. (C	ntending Engine onstn. and Main	t. Circle),

Chepauk, Chennai-600 005

1	2	3	4	5	6	7
20	18.00 Nos. (Eighteen Numbers only)	Supply and providing cable end termination of 3 1/2 x400 sqmm PVC LTUG Aluminium armoured cable withnecessary aluminium cable sockets by crimping etc. with electrical connection complete			1 No (Each)	
21	70.00 R.M. (Seventy Running Metres only)	Supply and run of 25mm x6mm(1" X 1/4") copper flat with porcelain insulator with screws on wall/floor for earth connection			1 RM. (One running metre)	
22	100.00 R.M. (One hundred Running Metres only)	Supply and run of 25mm x 3mm $(1'' \times 1/8'')$ Cu.flat with porcelain insulator with screws on wall/floor for earth connection			1 RM. (One running metre)	
23	30.00 Days. (Thirty Days only)	Hire charges for 15A UPS Input 3 phase and out put 3 phase/Single phase for intrupted supply for Spring charged all HT VCB's and temporary Sub-station lighting including transportation , testig and comissioning.			1 Day (Per DAy)	
24	100.00 R.M. (One hundred Running Metres only)	Supply and clamping of 2x 10sqmm PVC armoured LTUG cable on post or wall and existing trench with MS Clamps.			1 RM. (One running metre)	
25	4.00 Nos. (Four Numbers only)	Supply and fixing of brass cable gland for 2X10 Sq.mm PVC armored LTUG cable with earth connection			1 No (Each)	
26	35.00 R.M. (Thirty five Running Metres only)	Supply and clamping of 3 1/2x 35sqmm PVC armoured LTUG cable on post or wall and existing trench with MS Clamps.			1 RM. (One running metre)	
				Superir	ntending Engine	er, PWD.,

Superintending Engineer, PWD., Bldgs. (Constn. and Maint. Circle), Chepauk, Chennai-600 005

1	2	3	4	5	6	7
27	2.00 Nos. (Two Numbers only)	Supply and fixing of brass cable gland for 3 1/2 x 35sqmm PVC armored LTUG cable with earth connection			1 No (Each)	
28	2.00 Nos. (Two Numbers only)	Supply and providing cable end termination of 3½ x 35 Sqmm PVC LTUG Alu.armoured cable with necessary alu.cable sockets by crimping etc with electrical connection complete			1 No (Each)	
29	1.00 No. (One Number only)	Design, Supply, erection, testing and commissioning of 800A draw out type floor mounted MV cubical panel board bus bar chamber dust and vermin proof and accommodating the following Microprocessor Based R 18G ACB's and Thermal magnetic MCCB's complete to satisfy the latest IE rules and CEIG guidelines. Supply and fixing of suitable bus bar chamber made up of 16SWG MS sheet steel(1.6mm) with 4Nos. 2" X 1/2" tinned copper bus bar for 3 phases and neutral (50mm x 12mm) and 2 Nos. of ear thing bus of size 1" X 1/8 tinned copper bus(25mm x 3mm) unsuitable bus bar insulator(Epoxy insulator) with maximum creep age distance and supported on MS Base channel frame work of size 4"X 2"X ¼"-1Set Incoming 1)Supply and fixing of 3 Nos. 800A 65ka basic rating 4 pole 433V LT ACB EDO confirming to IS 13947-2 IEC 60947-2 with suitable capacity and 65 KA breaking capacity of 690V AC with all accessories for standard horizontal Electricaly draw out type ACB equipped with auxiliary contacts and all accessories for closing and opening operation with Micro processor			1 No (Each)	

1	2	3	4	5	6	7
		Based SR 18 G relay, over current trip device adjustable to LTD, STD andrelease for over current protection UV release with time delay, EF release short circuit protection, Mains CTs for 3 phases lockout features, separate mold base for each pole for easy maintenance all relevant protection safety accessories as per CEIG, IE rules in force with inter connection and terminations as required in specification. Interlock arrangement for 3Locks with 1 key Outgoing 1) Supply and fixing of 400A TPN MCCB-2Nos 3) Supply and fixing of 250A TPN MCCB-2Nos 3) Supply and fixing of 125A TPN MCCB-2Nos Inter connecting the all LT ACB's and MCCB's to bus bar with suitable insulated tinned copper flats and painting/PVC sleeve color coding of phases and neutral indication. Double Earth connection of the MCCB's and ACB's to earth bus using suitable tinned copper flats by 2 runs of 1" X 1/8" Supply and fixing of LED lamp arrangements with toggle switches to the control to each phases and with rigid connection in suitable separate compartments within the cubicle by CEIG rules with ,3 sets of supply and fixing Electronic Trivector EC,300N class 0.5 flush mounting L&T or equivalent				

1	2	3	4	5	6	7
		 make–ModelER300N. ACB's to earth bus using suitable tinned copper flats by 2 runs of 1" X 1/8" Supply and fixing of LED lamp arrangements with toggle switches to the control to each phases and with rigid connection in suitable separate compartments within the cubicle by CEIG rules Supply and fixing of danger board with Siemens grey powder coating with super scribing the names of places to which supply is fed feeder sizes of cables direction of cables etc. Erection of panel board complete with suitable foundation bolts and nuts including suitable M.S Channel, concreting ,testing andcommissioning (L&T,C&S,SIEMENS,ABB) 				
30	1.00 Job. (One Job only)	Preparation of Electrical schematic diagram, site plans, physical layout 5 copies and payment of CEIG fees submission of completion report, rectification report, obtaining drawing approval, safety certification etc., complete including lamination copy fixed at HT sub station			1 Job. (One Job)	
31		SUB-STATION EQUIPMENTS:-Supply and Erecting of safety items.				
а	2.00 Nos. (Two Numbers only)	Supply, fixing, testing and commissioning of AC Chargeable emergency lamp $2 \times 11W$ PL lamp with all connected accessories			1 No (Each)	
b	3.00 Sets. (Three Sets only)	Supply and installation of 2m x1m Rubber Mat suitable for 11KV installation confirming to IS			1 Set (Set)	
с	1.00 No. (One Number only)	Supply and Providing approved make First aid box complete with all first aid medicines			1 No (Each)	
d	1.00 No. (One Number only)	Supply and providing shock treatment chart fixed in glassed frame (Tamil and English)			ending Engine nstn. and Main	
(Contractor	Page 8			epauk, Chennai	

1	2	3	4	5	6	7
е	1.00 Set. (One Set only)	Supplying and erecting of 4Nos Fire buckets made out of 40 x40 x6mm MS Angle			1 Set (One Set)	
f	1.00 Pair. (One Pair only)	Supply of hand gloves 11 KV grade			1 Pair (Pair)	
g	4.00 Nos. (Four Numbers only)	Supply and installation of Danger Board as required by the electrical authorities			1 No (One Each)	
h	4.00 Nos. (Four Numbers only)	Supply and erection of Fire extinguisher Co2, 4.5 Kg confirming to TAC norms			1 No (Each)	
i	1.00 No. (One Number only)	Earth Discharge Rod			1 No (Each)	
32	1.00 job. (One Job only)	 Temporary roofing shed for the size of 60 Feet x30Feet x15 Feet height 11 KV /433V Sub-station and if necessary materials at site for the following and cleaning the HT Yard area using the JCB Vehicle 1)3"x3"x 3mm thick square pipe 20 feet length-14 Nos 2)3"x 11/2 "x 2mm thick square pipe 20 feet length-32 Nos. 3)11/2"x 11/2 "x 2mm thick square pipe 20 feet length-80 Nos. 4)11/4"x 11/4 "x 2mm thick square pipe 20 feet length-35 Nos.5)MS Plate 175x175x8mm thick-108 Nos (150kg) 6)2" x1/4" MS Angle-200 kg Approx. 7) Roofing sheet Top and sides -650 sq ft approx. 8)Bolt and nut-LS 9) Front side 10 Feet gate-1 No and Rear side 5 Feet gate-1 No10) 60Feet x30Feet alround 1 feet brick wall with completely plastering 			1 Job (One Job)	

1	2	3	4	5	6	7
33	25.00 Pts. (Twenty five Points only)	wiring with 2x1.5sqmm(22/0.3) PVC insulated unsheathed SC. Cu.Conductor of 1100V grade in suitable PVC rigid pipe on wall and ceiling with PVC accessories with TW Switch box with 5 A FT switch with paintig of suitable colour for open PVC light / fan point (For electronic regulator)			1 Pts (Points)	
34	10.00 Nos. (Ten Numbers only)	Supply and fixing of 4' 20w LED Twin Box type fitting complete with TW round block on wall with conduit pipe suspension from the ceiling with PVC unsheathed Copper leads from terminals to the fitting with 2Nos 20w LED Tubes (Essential Led tube 20W B2B 86 T8)			1 No (Each)	
35	5.00 Nos. (Five Numbers only)	supply and fixing of 1200mm sweep AC ceiling fan(crompton High Speed) complete with 2 module stepped electronic regulator with 1mtr down rod on the existing clamp with connection complete.			1 No (Each)	
36	30.00 Days. (Thirty Days only)	Hire charges for Vertical type 4Way 3 phase triple pole and neutral MCB Distribution board sheet steel Double door enclosure with 100A 4pole MCB as incoming and 12 Nos. 6A-32A SPMCB as outgoing in flush with wall and making good of the concealed portion with earth connection.			1 Day (Day)	

1	2	3	4	5	6	7
37	10.00 Nos. (Ten Numbers only)	Supply and fixing of 100w High bay fitting (Philips/ or Equiv) GreenPerform Prime is a new age highbay range that offers an industry leading efficacy of 150Lm/W specially designed to deliver unmatched performance in adverse industrial enviroments with its robust housing design and cater to diverse applications with multiple options of beam angles on Suspension (cat no.BY515P LED100S 5700 NB PSU GR0with Supply and fixing of ceiling fan hook on fitting fixing withPVC unsheathed copper leads from terminals to the fitting with complete connection etc.,			1 No (Each)	
38	600.00 Kg. (Six hundred Kilograms only)	Supply and fabrication of MS Channel/MS Angle iron frame work with one coat of red oxide and two coat of synthetic enamel paint pedestal for Transformers, HT VCB's, MV Panel board and cable laying for spl type clamp ladder type etc			1 KG (Kilogram)	
39	120.00 R.M. (One hundred and twenty Running Metres only)	Supply and Run of 12 core 2.5 sqmm copper control cable FRLS in suitable PVC rigid pipe on wall/ Ground/ ceiling with connection			1 RM. (One running metre)	
40	4.00 Nos. (Four Numbers only)	Supply and fixing of 63 A TPN switch with angle iron frame work with complete connection			1 No (Each)	

1	2	3	4	5	6	7
41	2.00 Nos. (Two Numbers only)	250A PANEL:-Design, Supply, erection, testing and commissioning of 250A floor mounted cubical panel board bus bar chamber dust and vermin proof and accommodating the following d sine with Thermal Magnetic Release MCCB's Incomer & outgoing units with the following items of work complete to satisfy the latest IE rules and CEIG guidelines. Supply and fixing of suitable bus bar chamber made up of 16SWG MS sheet steel(1.6mm) with 4 Nos. of 1" X ¼ " tinned copper bus bar for 3 phases and neutral (25mm x 6mm) and 2Nos. of ear thing bus of size 1" X 1/8 tinned copper bus(25mm x 3mm) on suitable bus bar insulator(Epoxy insulator) with maximum cree page distance and supported on MS Base channel frame work of size 4"X 2"X ¼"-1Set Incoming 1)Supply and fixing of 250A 4pole MCCB with spreader link and rotary handle -1No Outgoing 1)Supply and fixing of 63A 3Pole MCCB with spreader link and rotary handle—3Nos Inter connecting the all LT MCCB's to bus bar with suitable insulated tinned copper flats and painting/PVC sleeve colour coding of phases and neutral indication. Double			1 No (Each)	

1	2	3	4	5	6	7
		Earthconnection of the MCCB's to earth bus colour coding of phases and neutral indication. Double Earth connection of the MCCB's to earth bus using suitable tinned copper flats by 2 runs of 1" X 1/8" Supply and fixing of LED lamp arrangements with toggle switches to the control to each phases and with rigid connection in suitable separate compartments within the cubicle by CEIG rules with , 1 set of supply and fixing Electronic Multifunction Meter class 0.2S flush mounting L&T or equivalent make. Supply and fixing of danger board withSiemens grey powder coating with super Scribing the names of places to which supply is fed feeder sizes of cables direction of cables etc. Erection of panel board complete with suitable foundation bolts and nuts including suitable M.S Channel, concreting, testing and commissioning(L&T, C&S, SIEMENS, ABB)				
42	4.00 Nos. (Four Numbers only)	Supply and fixing of 63 A 4 pole changeover switch with enclosure arrangement with angle iron frame work pedestal type with complete connection			1 No (Each)	
43	2.00 Nos. (Two Numbers only)	Hire charges forTemporary arrangement of 500 KVA Generator set for supplying 440v Alternative current supply for lighting for 20 days			1 No (Each)	
44	240.00 R.M. (Two hundred and forty Running Metres only)	Hire charge for 4 of 240 sqmm copper cables for 2Nos 500 kva genset for 20 Days (MR)20 Days x240 Mtrs xRs.100)			1 RM. (One running metre)	
45	6.00 Person (Six Persons only)	Labour charges for Operating the Genset for 20 Days (20Days xRs.1000=20000)			1 Person. (Person)	
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1	2	3	4	5	6	7
46	1800.00 R.M. (One thousand and eight hundred Running Metres only)	Supply and clamping of 4 X 25 Sqmm PVC LTUG armoured cable on post, Existing trench/cable tray or on wall with MS clamps.			1 RM. (One running metre)	
47	28.00 Nos. (Twenty eight Numbers only)	Supply and fixing of brass cable gland for 4 x 25sqmm PVC armored LTUG cable with earth connection			1 No (Each)	
48	28.00 Nos. (Twenty eight Numbers only)	Supply and providing cable end termination of 4x 25 Sqmm PVC LTUG Alu.armoured cable with necessary alu.cable sockets by crimping etc with electrical connection complete			1 No (Each)	
49	120.00 R.M. (One hundred and twenty Running Metres only)	Supply and clamping of 3 1/2 X 185 Sqmm PVC LTUG armoured cable on post, Existing trench/cable tray or on wall with MS clamps.			1 RM. (One running metre)	
50	4.00 Nos. (Four Numbers only)	Renewal by Supply and fixing of brass cable gland for 31/2x 185 sqmm PVC armoured LTUG cable with earth connection.			1 No (Each)	
51	4.00 Nos. (Four Numbers only)	Renewal by Supply and providing cable end termination of 3½ x 185 sqmm PVC LTUG Aluminium armoured cable with necessary aluminium cable sockets by crimping etc. with electrical connection complete.			1 No (Each)	
52	120.00 R.M. (One hundred and twenty Running Metres only)	Supply and run of 4 of 25 Sqmm PVC insulated SC unsheathed Cu. Conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with suitable colour.			1 RM. (One running metre)	

1	2	3	4	5	6	7
53	32.00 Sets. (Thirty two Sets only)	Supply and providing end termination of 4Corex 25 sqmm PVC Copper cable with necessary Copper cable sockets by crimping etc. with electrical connection complete.			1 Set (Set)	
54	48.00 R.M. (Forty eight Running Metres only)	Supply and laying 160mm PVC Pipe (6") (6kgf/cm2) in a existing trench in a trench to be excavated at a depth of 0.75 meter puttig 0.15 meter layer of 'M' sand and covering the above pipe completely and refilling the earth to make good.			1 RM. (One running metre)	
55	1.00 No. (One Number only)	OUTDOOR CHANGEOVER SWITCH-:- Supply ,erection, testing and commissioning of 800A change over switch Outdoor type with suitable cable box and pedestal arrangement with copper bus bar for connect the end termination as per specification			1 No (Each)	
56		LABOUR CHARGES FOR HT Operator, wireman & Helper				
а	40.00 Person (Forty Persons only)	HT Operator (2 Shift /per shift-1 person (20 days x2 Person=40 person)			1 Person. (Person)	
b	40.00 Person (Forty Persons only)	Wireman Grade-1 (2 Shift /per shift-1 person (20 days x2 Person=40 person)			1 Person. (Person)	
С	40.00 Person (Forty Persons only)	Electrical Helper (2 Shift /per shift-1 person (20 days x2 Person=40 person)		1 Person. (Person)		
57	1.00 job. (One Job only)	Less credit for HT Cable, LT Cable and MV Panels			1 Job (Job)	

ADD 12% GST