

BHARAT HEAVY ELECTRICALS LIMITED**RAMACHANDRAPURAM:: HYDERABAD::32****FACTORY CIVIL & PROJECTS DEPARTMENT****Phone nos: 040-23185059, 23182376 Fax: 040-23186122****email Id: shankarproj@bhelhyd.co.in****Tender Notice No. HY/PROJ-EC/ELEC/OT-22/2015-16****Date: 19.09.2015****SCHEDULE-A****PRICE BID**

Name of the work: HT & LT works for PE & SD building					
SCOPE OF WORK:					
1) Shifting, assembly, erection & commissioning of VCBs, compact substation, etc.					
2) Panel room lighting					
3) Street lighting system and					
4) Concreting of street light poles etc.					
Sl.No	Work Description	Unit	Qty	Rate / Unit in Rs.	Total Amount in Rs.
1	Shifting, Assembly, Erection and Commissioning of 11KV, 1600 A, VM-12 , BHEL make, Indoor type VCBs. The VCBs shall erect on the trenches by providing MS material in GT sub-station. The job includes primary injection, secondary injection and testing of relays mounted on VCB panels. Approx. Size: 820(L) x 2355(W) x 2600(H) mm and Wt: 1000kgs each.	Nos	1	6468.00	6,468.00
2	Shifting, Erection, Testing & Commissioning of free issued Compact Sub-station of 2000KVA capacity. a) Shifting of 2000KVA Compact Sub-station consisting of HT breakers, Dry type Transformer & LT Breakers from stores to erection site. Approx. Size: 3230 (L) x 2330 (W) x 2415 (H) mm & Wt: 6800kgs. b) Removal of Packing material of CSS and check up for the intactness of all items / components. c) Erection of CSS on the foundation. d) Tightening of all busbars from panel to panel, inside fasteners, clean up with cleaning agent and apply grease where ever it is required. e) All control wiring (AC & DC) has to be done for individual panel and panel to panel etc. f) Fixing up of all loose items such as PTs, CTs, Relays, Measuring Instruments (meters) and indication accessories etc. g) Checking up of CSS top with spirit level and align properly. h) Double earthing with free issued GI flat of 50 x 6mm size for all panels. i) Testing of primary injection, secondary injection and healthness of relays mounted, IR value etc. Test results are to be submitted in proper format. j) Checking of Mechanical & Electrical operation of HT & LT breakers etc.	No	1	38232.00	38,232.00

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3	Shifting, Erection, Testing & Commissioning of free issued APFC panel of 300KVAR capacity or more.	No	1	4982.00	4,982.00
4	Shifting, Assembly, Erection, Testing and Commissioning of Power Control Centre (PCC) panel consisting of different SFUs combination of 2nos. 800A I/C and 3nos 200A, 4nos 100A, 3nos 63A O/G. Approx. Size: 2000 x 600 x 2400mm & Wt 2.0 T.	Nos	4	4465.00	17,860.00
5	Supply and Erection of Earth pits for power distribution transformer neutral earthing with 1200x1200x12mm GI plate, 50mm dia 2500mm long GI pipe with holes of 1/4" dia at 4" apart at random & 75x10, 2250mm long GI flat material as per drawing. The work including supply of material for alternate layers of charcoal(75kgs), salt(150kgs) and making RCC/Brick chambers with MS/Cast iron cover. Contractor shall dig 300mm depth and 200mm width trench in the soil for laying the copper cable from earth pit electrode to transformer neutral.	Nos	2	11907.00	23,814.00
6	Supply and Erection of Earth pits for Equipment body earthing with 65mm dia GI pipe Medium (class-B), strictly as per IS: 3043, 3000mm long with holes of 12mm dia at 150mm apart at random & 50x6x260mm MS Earthing plate welded to pipe as per drawing. The work including supply of material for alternate layers of charcoal(75kgs), salt(150kgs) and making RCC/brick chambers with MS/cast iron cover. Contractor shall dig 300mm depth and 200mm width trench in the soil for laying the earth flat from earth pit electrode to earth mat/equipment.	Nos	6	6293.28	37,759.68
7	Shifting & Erection of cable tray upto 600mm width of ladder / perforated type. The job includes fabrication of cable tray bends wherever required.	Mts	200	42.00	8,400.00
8	Shifting & Earthing of Equipment from nearest Earth riser with 50x6mm/ 25x3mm GI flat. Work includes supply and apply of Aluminium paint at each welding points.	Mts	300	20.16	6,048.00
9	Shifting, Fabrication and Erection of structural steel for equipment/cable tray support etc.including 2 coats of red oxide painting. Supply of red oxide paint & Welding rods are in the scope of contractor.	Ton	2	7615.44	15,230.88
10	PANEL ROOM (15X3X4M) LIGHTING				
	a) Shifting, Assembly, Erection, Testing & Commissioning of 2x36W different types of Tube light fittings. The light fitting shall be fixed with suitable down rod, ball & socket etc and the supply of the material is in the contractor's scope .The job includes supply of 1.5sq.mm copper wire for connection between ceiling rose and TL.	Nos	10	495.60	4,956.00

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	b) Fixing, connecting and testing of ceiling fan. The job includes supply of Anchor roma ceiling rose & 1.5sq.mm copper wire for connection between ceiling rose and fan. Fixing of free issued electronic regulator on the Roma switch board.	Nos	5	325.92	1,629.60
	c) Supply and fixing of 10 Amps 250 V. SP switches for control of light fitting and fans with Roma Type code : 21011 of Anchor or North West make . Fixed on a suitable modular type concealed box with suitable top cover. Testing & commissioning.	Nos	21	236.88	4,974.48
	d) Supply and fixing of 3pin, 250 V. 10 Amps power socket cum switch with indication Roma type code 21113 and 21033 of Anchor make or North West. Fixed on suitable modular type concealed box top cover. Testing & commissioning.	Nos	5	365.40	1,827.00
	e) Supply and execute the concealed / surface PVC/MS Pipe wiring with 1.5 sq. mm 660 / 1100. V. Grad PVC insulated copper wire multi strand of make Finolex / Rediant / fincab/ Havells/ L&T. In PVC pipe of suitable dia (As per IS for wiring points) with 14 G/1.5sq.mm green colour copper wire for earth continuity. Each light / fan point should be connected to three plate ceiling rose code 30090 of Roma modular type of Anchor or North West make / connector suspended duly with couduit / PVC pipe etc. Each circuit should not have more than 7 points 700 watts.	Pts	26	976.08	25,378.08
	f) Supply and Installation of MCB DB with MCB 415V, 8 way consisting of 10 to 20A -- 8nos MCBs on each phase , sheet enclosed, dust & vermin proof. Type KSTIL of STANDARD/ KOPP MAKE along with controlling 100A ICTPN in sheet enclosure with HRC fuses, PVC marking ferrules etc. It is to be fixed on a neatly fabricated steel frame and mounted on to walls or as required for lighting distribution. The job includes painting of steel frames, labelling / writing the connection chart inside the door with WHITE duco paint as required, double earthing, testing & commissioning.	Nos	1	14711.76	14,711.76
	g) Shifting, Assembly & installatiobn of BHEL free issued Periphery light luminaire with POT OPTICS reflector and toughened glass cover for use with SON - T 150 W. lamps complete with all accessories by providing BHEL free issued GI Pipe neatly bent (120degrees) and fixed at a height of 15 Mtrs. or as per site Engineers instructions / as required by site conditions. Testing and commissioning.	Nos	6	520.80	3,124.80
11	Excavation of cable trench(500x600mm)				
	i) In soil, excavation of 600mm deep and 500mm width trench, supply & spreading of sand, supply & laying of bricks & shabad stone as per IS:1255 1983 and back filling after cable laid with marking plates.	Mts	300	288.12	86,436.00

	ii) Cutting of Road, RCC & Hard rock	Mts	25	365.40	9,135.00
	iii) Supply & laying of 9" dia 2 M long RCC hume pipes at Road and Railway track crossings.	Nos	10	640.08	6,400.80
12	Supply, Erection and Commissioning of LED Street Lighting System suitable for Industrial applications, Philips / Fortune Art make with the following specifications.				
a	Supply and Fixing of 230V, 70W LED Street Light Fitting consisting of 24nos WHITE LEDs each of 3W with lens mounted on PCB. (Code:LST70/W, Lamp:Nichia, Lumen:8050) or equivalent.	Nos	30	8700.00	2,61,000.00
b	Supply and Erection of street light pole of 6mts long, 3" (76mm) OD, 4mm thick (B-class) made with GI pipe alongwith the following accessories. These poles are to be grouted as shown in the sketch. Required steel and cement will be issued free of cost by BHEL. Cable entry provision is to be made at Bottom as shown in sketch. Make: Melfabers / Powertech/ Eq.	Nos	30	6500.00	1,95,000.00
	i) 42mm dia, 1000mm long cross arm (bent as per sketch) made with GI pipe	Nos	30		
	ii) Suitable GI clamps and hardware as per enclosed sketch.	set	30		
	iii) Suitable GI Junction Box (200 x 250 x 100mm) with 4-way Elmax make 6sq.mm TBs and one 6A Kitkat fuse / 6A SP MCB. This JB is to be welded / fixed to pole as shown in sketch. Earthing provision is to be given on both sides of JB.	Nos	30		
c	Supply and fixing of 1mt long 65mm GI pipe, B class for cable entry (2R x 4C x 6sq.mm Al PVC arm cable) as shown in sketch.	Mts	30	383.00	11,490.00
d	Supply, Laying and Termination of 3Cx2.5 Sq.mm Cu flexible PVC cable for connecting between light fitting and Elmax TBs in JB.	Mts	200	60.31	12,062.00
e	Supply, Erection and Commissioning of Outdoor type Feeder Pillar Panel as per the following spec, enclosed drawing and Bill of material. Make: Powertech / Melfabers/Hulasi Metals Pvt Ltd.	NO	1	25000.00	25,000.00

	The panel shall be made out of 14SWG Cold Rolled Close Annealed(CRCA) sheet steel with powder coated finish to shade 631 of IS 5 after pretreatment and standard black enamel paint. The panel shall be of out door type, stand mounting, dust and vermin proof with IP-55 protection. Cable entry shall be at the bottom and through a detachable gland plate. Labels shall be aluminium anodized. Stand for mounting shall be made with 40 x 40 x 5 MS Angle. The panel shall have pad locking arrangement. Suitable elmax make Terminal Blocks are to be provided (for incoming 50sq.mm and outgoing 16sq.mm) and also aluminium busbar for neutral. Sufficient clearance is to be provided between cable gland plate and Terminal Blocks for easy bending terminations of cables.				
13	Shifting, Laying & Dressing of 3C x 95 sq.mm armoured PVC XLPE 11KV aluminium cable.	Mts	150	19.32	2,898.00
14	Supply and Execution of uniterm heat shrinkable HT end termination joint kits of Raychem make suitable for 3C x 95 sq.mm, 11KV(UE), XLPE PVC Al armoured cable.	Nos	2	11092.20	22,184.40
15	Shifting and laying of LT power PVC armoured aluminium cable including Dressing				
	a) 1C x 630sq.mm	Mts	1000	16.80	16,800.00
	b) 31/2C X 240sq.mm	Mts	1500	21.84	32,760.00
	c) 31/2C X 50sq.mm	Mts	100	12.60	1,260.00
	d) 31/2C X 35sq.mm	Mts	200	10.92	2,184.00
	e) 4C X 16 /10/6/4sq.mm	Mts	500	10.08	5,040.00
	f) upto 4C X 2.5sq.mm CU	Mts	200	9.24	1,848.00
16	Power cable termination including supply of cable glands & lugs(Copper/Aluminium).				
	a) 1C x 630sq.mm	Nos	10	516.60	5,166.00
	b) 31/2C X 240sq.mm	Nos	32	1344.00	43,008.00
	c) 31/2C X 50sq.mm	Nos	4	329.28	1,317.12
	d) 31/2C X 35sq.mm	Nos	6	240.24	1,441.44
	e) 4C X 16 /10/6/4sq.mm	Nos	70	199.08	13,935.60
	f) upto 4C X 2.5sq.mm CU	Nos	10	126.00	1,260.00
17	CONCRETING OF STREET LIGHTING POLES (FOUNDATIONS - 30Nos)				
a	Earth work in excavation in all soils by mechanical means (Hydraulic excavators) / manual means in foundations, trenches or drains (not exceeding 1.5m in width or 10sq.m on plan) including dressing of sides and ramming of bottoms. Lift upto 1.5m getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m.	Cu.m	17	97.82	1,662.94
b	..do.. Upto 3.0m 1st additional depth	Cu.m	1	115.70	115.70

c	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering. Including consolidation by vibrations for all works upto plinth level with 1:4:8 (1 cement: 4 coarse sand:8 graded stone aggregate of 20mm nominal size). Only cement will be issued by BHEL on free of cost at their stores.	Cu.m	2	1476.23	2,952.46
d	Reinforcement for RCC work including straightening , cutting, bending, placing in position and binding grills with binding wire all complete by cold twisted bars. Only reinforcement steel will be issued by BHEL on free of cost at their stores.	Tons	1	3786.84	3,786.84
e	Providing and laying in position specified grade of Reinforced Cement Concrete excluding the cost of centering, shuttering, finishing and reinforcement. All work up above plinth level upto floor V with 1:(1.5):3 (1 cement: 1.5 coarse sand:3 graded stone aggregate of 20mm nominal size). Only cement will be issued by BHEL on free of cost at their stores.	Cu.m	15	1552.65	23,289.75
f	Centering and Shuttering including strutting, propping etc., and removal form-work, for columns. Pillars. Piers, abutments, machine foundations. Posts and struts.	Sq.m	95	170.66	16,212.70
g	Filling with available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc., in layers not exceeding 20cm in depth. Consolidation of each deposited layer by ramming and watering lead upto 50m and lift upto 1.5m.	Cu.m	1	43.23	43.23
h	Conveyance of excavated soil upto lead of 2 kms including loading, unloading and spreading etc., as directed by Engineer-in-charge.	Cu.m	16	53.36	853.76
			TOTAL		10,21,940.02

Total: Rupees Ten lakhs twenty one thousand nine hundred and forty and Paise two only.

NOTE 1) The above rates are inclusive of **VAT** and exclusive of **SERVICE TAX**.

2) Service tax will be paid extra on submission of valid documentary proof.

3) The Contractor has to submit separate Service tax invoice alongwith RAB (Running Account Bill)

4) The quantities indicated in the schedule are tentative and may increase or decrease or delete.

5) Any other works not mentioned but required for completion of the project are to be carried out by the contractor with mutually agreed rates and vetted by finance.

6) The contractor shall mark with paint on all panels regarding power cables size & FROM/TO

7) Contractor shall shift the materials from different locations inside the factory to the project site and return back the left over materials after completion of the work to the project stores or as per the instructions of the site engineer.

8) After completion of erection works, the contractor has to arrange inspection by CEA and obtain the permission for charging the sub-station. BHEL will provide all relevant drgs and pay the processing fee indicated by CEA and other necessary arrangements will be born by the contractor.

9) The quantities indicated are tentative and may increase or decrease.

10) Any other works not mentioned but required for completion of the project are to be carried out by the contractor.

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11) The contractor should follow all the statutory requirements, Environmental Management System (EMS), Occupation Health and Safety Management System (OHSAS) while executing the work.

12) Payment Terms: Payment will be based on work % completion/milestone basis.

13) Penalty: 0.50 % of the gross value of work will be levied for every week's or part thereof delay by the agency subject to a maximum of 10 % gross value of the work executed after the schedule period of completion.

14) The agencies are advised to visit the site to understand the nature of work/quantum of work in its true perspective to avoid any complications.

15) The works are to be carried out in accordance with IE rules 1956.

Note: The bidders are required to quote the tender value on percentage (%) basis at excess or less or on par with estimate value in figures and words.

Tender %	In Figures	In words
Excess		
Less		
On par with Estimate		