

 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-15/2015-16 Item No.2 Date: 20.07.2015					
Schedule-A					
PRICE BID					
Name of the work: HT & LT WORKS FOR 2x4MLD SEWAGE TREATMENT PLANT					
Scope of work : 1) Shifting, assembling, erection and commissioning of 11 KV,1250A VM-12 BHEL make indoor type VCBs etc. 2) Substation lighting etc. 3) Highmast lighting system etc. 4) Concreting of highmast lighting poles.					
Sl.No	Work Description	Unit	Qty	Rate in Rs / Unit	Total Amount in Rs.
1	Shifting, Assembly, Erection and Commissioning of 11KV, 1250 A, VM-12 , BHEL make, Indoor type VCBs. The VCBs shall erect on the trenches by providing MS material in STP 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	2	6468.00	12936.00
2	Shifting, Assembly, Erection, Testing & Commissioning of 2MVA, 11/0.415KV, Indoor type, oil immersed distribution transformer . The transformer shall be placed on foundation with MS channel.The job includes oil filling, filtration, BDV test, all protection checks etc as per IS. The approximate weight with oil is 4.9 T and dimensions are 2825(L) x 2770(W)x 2450(H)mm & Oil Qty:1200 litres. Oil Will be issued free of cost by BHEL.	Nos	1	21688.80	21688.80
3	Shifting, Erection, Testing and Commissioning of 30V DC, 100AH Lead Acid (VRLA) battery bank and charger for VCB & LT ACB panel operation. The job includes assembly of battery cells.	Nos	1	2822.40	2822.40
4	Shifting, Erection and Commissioning of 3 phase Fuse Distribution Board (FDB) as per site engineers instruction.				
	a) 32A, 12 way	Nos	1	2026.92	2026.92
5	SUBSTATION LIGHTING (18 x 6 x 4mts)				
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 and 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	4956.00
b	Shifting, Assembly, Erection, Testing & Commissioning of ceiling fan alongwith free issued Electronic Regulator. The job includes supply of 1.5sq.mm copper wire for connection between ceiling rose and fan. Scope includes supply and fixing of fan hook / anchor bolt.	Nos	4	325.92	1303.68
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	15	236.88	3553.20
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	6	365.40	2192.40

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	21	976.08	20497.68
f	Supply and Installation of MCB DB with TPN 415V, 8 way (for lighting circuits) consisting of 10 to 20A -- 8 nos MCBs on each phase with double door metallic cover having transparent window, sheet enclosed, dust & vermin proof. Model S210 of STANDARD/ KOPP MAKE along with controlling 100A ICTPN (sheet enclosure, Standard/KOPP make) switch fuse unit with HRC fuses, cable entry & reverse entry box, cable glands, PVC marking ferrules etc. It is to be concealed in the wall or as per the site engineer's instructions. The job includes labelling / writing the connection chart inside the door with WHITE duco paint as required, double earthing, testing & commissioning.	Nos	1	14711.76	14711.76
g	Supply, Erection and Testing of 230V ,12" dia(305mm), 50W, 900rpm, 1200cu.M/hr, Heavy duty Exhaust Fan. Make: USHA/GEC/CG/Almonard, complete unit, wall mounting.(The job involves making suitable holes in the wall inclusive of masonry work or by making suitable MS frame above +20 ft. approximately from ground level)	Nos	1	2599.80	2599.80
h	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	4	520.80	2083.20
6	HIGHMAST LIGHTING SYSTEM				
	Shifting, Assembly, Erection, Testing and Commissioning of 16/20Mt height Polygonal Highmast Lighting System with 8nos 400W HPSV luminaires. The luminaires are to fixed on 710mm dia carriage. The highmast is in two sections of top 5470/9520mm and bottom 10980/10980mm length. The luminaire carriage is operating through double drum winch with 2HP integral motor, 5Cx4sq.mm trailing copper cable and stainless steel wire rope, control panel etc.	Nos	2	28451.00	56902.00
7	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	37759.68
8	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	23814.00
9	Shifting & Erection of cable tray upto 600mm width of ladder / perforated type. The job includes fabrication of cable tray bends wherever required.	Mts	100	42.00	4200.00

10	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	6048.00
11	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	1	7615.44	7615.44
12	Shifting and laying of the following HT power cables (UE) in Hume pipe trench.				
	3C x 95sq.mm 11KV armoured XLPE aluminium cable	Mts	600	23.00	13800.00
13	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	4	11092.20	44368.80
14	Shifting, Laying & Dressing of the following LT cables				
a	3 1/2C x 300 sq.mm LT armoured PVC Aluminium cable	Mts	1000	21.00	21000.00
b	1C x 400 sq.mm LT armoured PVC Aluminium cable	Mts	500	16.00	8000.00
c	4 1/2C x 150 sq.mm LT armoured PVC Aluminium cable	Mts	100	19.00	1900.00
d	31/2C x 50sq.mm	Mts	200	14.00	2800.00
e	4C X 16 /10/6/4sq.mm	Mts	150	13.00	1950.00
f	upto 4C X 2.5sq.mm CU	Mts	160	11.00	1760.00
15	Termination of the following cable. Copper/Aluminium lug, glands and other items are in the scope of the contractor.				
a	3 1/2C x 300 sq.mm LT armoured PVC Aluminium cable	Nos	4	1179.00	4716.00
b	1C x 400 sq.mm LT armoured PVC Aluminium cable	Nos	40	395.00	15800.00
c	4 1/2C x 150 sq.mm LT armoured PVC Aluminium cable	Nos	2	595.00	1190.00
d	31/2C x 50sq.mm	Nos	6	310.00	1860.00
e	4C X 16 /10/6/4sq.mm	Nos	4	207.00	828.00
f	upto 4C X 2.5sq.mm CU	Nos	16	156.00	2496.00
16	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	100	281.26	28126.00
	ii) Cutting of Road, RCC & Hard rock	Mts	25	356.70	8917.50
	iii) Supply & laying of 9" dia 2 M long RCC hume pipes at Road and Railway track crossings.	Nos	20	624.84	12496.80
17	Execution of 3 x 95sq.mm 11KV XLPE armoured PVC cable straight through joint	NO	1	1364.00	1364.00
18	CONCRETING OF HIGHMAST LIGHTING POLES (FOUNDATIONS - 2Nos)				
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	19	103.40	1964.60
b	..do.. Upto 3.0m 1st additional depth	Cu.m	7	122.50	857.50
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	1	1560.00	1560.00
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	0.2	4003.00	800.60
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	4	2002.00	8008.00

f	Centering and Shuttering including strutting, propping etc., and removal form-work, for columns. Pillars. Piers, abutments, machine foundations. Posts and struts.	Sq.m	30	180.40	5412.00
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	15	45.70	685.50
h	Conveyance of excavated soil upto lead of 2 kms including loading, unloading and spreading etc., as directed by Engineer-in-charge.	Cu.m	4	56.41	225.64
	TOTAL				420597.90

Total : Rupees Four lakh Twenty thousand Five hundred and Ninety Seven and Paise Ninety only.

NOTE 1) The above rates are inclusive of VAT.

- 2)** Service Tax is extra, as applicable and the contractor shall indicate Service Tax separately as extra in price bid.
- 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 destinations.
- 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) Safety :** Contractor has to ensure usage of safety shoes, safety helmets, safety belts, safety net & anchoring rope, hand gloves etc. during erection and commissioning for all his personnel.
- 9)** Contractor should ensure the availability of calibration certificates for all the equipments likely to be used.
- 10)** Contractor has to follow the work permit system strictly wherever applicable.
- 11)** Contractor has to ensure neatness of the site by removing unwanted materials/scrap materials.
- 12)** The contractor should follow all the statutory requirements, Environmental Management System (EMS), Occupation Health and Safety Management System (OHSAS) while executing the work.
- 13)** 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 shall be born by the contractor.
- 14) Payment Terms:** Payment will be based on work % completion/milestone basis.
- 15)** The works are to be carried out according to IE Rules 1956.
- 16)** The contractor should have valid HT electrical license issued by competent authority.

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 Estimates		