



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM::HYDERABAD::32
FACTORY CIVIL & PROJECTS DEPARTMENT

SCHEDULE- A

Tender Notice No:

PROJ-EC/ELEC/OT-13/2013-14 Dt: 23.01.14

PRICE BID

Item no. 2

Name of work: HT & LT Works for New Substations in 02 Shop.

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
1	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.	2	Nos	25,820.00	51,640.00
2	Shifting, Assembly, Erection, Testing and Commissioning of LT ACB panel of the following combinations. 2nos. 3200A ACBs I/C and 6nos. 1000A ACBs O/Gs, 6nos 800A O/Gs & 1no 3200A ACB buscoupler. Approx. Size: 7200x1600x2400mm & Wt:4.0 Tons.	2	Nos	12,110.00	24,220.00
3	Shifting, Assembly, Erection, Testing and Commissioning of of the following 11KV HT panels, The panels shall be erected on the trenches by providing MS material. The job includes primary injection, secondary injection and testing of protection relays mounted on HT panels by reputed agency. Test results shall be given in proper format for submitting to CEA.				
a	11KV, 1250A, VM-12 BHEL make, indoor type VCB, Extensible Cubicle. Approx. Size: 820(L) x 2355(W) x 2700(H) mm and Wt: 1500kgs. These VCBs are to be attached to the existing VCBs in T10ab & T12 Sub-stations.	2	No	7,700.00	15,400.00
b	11KV, 1250A, VM-12 BHEL make, indoor type VCB, Stand Alone Cubicle. Approx. Size: 1640(L) x 2355(W) x 2700(H) mm and Wt: 1800kgs.	2	No	7,700.00	15,400.00
4	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.	2	Nos	3,360.00	6,720.00
5	Supply and Fixing of 8way single door steel sheet enclosure MCBDB, KSS type with 1no 32A TPN MCB & 4nos 10A SP MCBs, Internal wiring. Cat. No: DSDMSNHOS108, Make: Standard.	2	Nos	3,065.00	6,130.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
6	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.	6	Nos	4,025.00	24,150.00
7	Shifting, Erection and Commissioning of 3 phase Fuse Distribution Board (FDB) as per site engineers instruction.				
	a) 32A, 12 way	4	Nos	2,413.00	9,652.00
	b) 63A, 8 way	2	Nos	2,413.00	4,826.00
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.	4	Nos	14,175.00	56,700.00
9	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.	8	Nos	7,492.00	59,936.00
10	Shifting & Erection of cable tray upto 600mm width of ladder / perforated type. The job includes fabrication of cable tray bends wherever required.	300	Mts	50.00	15,000.00
11	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.	300	Mts	24.00	7,200.00
12	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 is in the scope of contractor.	2	Ton	9,066.00	18,132.00
13	Shifting and Erection of 63A, 415V ICTPN switches for Air Conditioning System in 6-Axis Tapping Hall.	4	Nos	620.00	2,480.00
14	SUBSTATION 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 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.	20	Nos	590.00	11,800.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
b	Shifting, Assembly, Erection, Testing & Commissioning of ceiling fan along with 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.	10	Nos	388.00	3,880.00
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.	36	Nos	282.00	10,152.00
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.	6	Nos	435.00	2,610.00
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 / Radiant / 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 conduit / PVC pipe etc. Each circuit should not have more than 7 points 700 watts.	42	Pts	1,162.00	48,804.00
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.	4	Nos	17,514.00	70,056.00
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)	6	Nos	3,095.00	18,570.00
h	Shifting, Assembly & installation 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.	8	Nos	620.00	4,960.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
i	Dismantling of Medium Bay light fittings in 6-Axis Tapping Hall and handing over to stores or as per the instructions of site Engineer.	20	Nos	248.00	4,960.00
15	Shifting and laying of the following HT power cables (UE). The job includes Dressing, Fixing of free issued trefoil clamps at 1mt interval etc.				
a	1C x 630sq.mm 11KV armoured XLPE aluminium cable	600	Mts	20.00	12,000.00
b	3C x 95sq.mm 11KV armoured XLPE aluminium cable	500	Mts	24.00	12,000.00
16	Execution of the following HT Cable End terminations /Joints with Heat Shrinkable joint kits by qualified cable joiner.				
a	1C x 630sq.mm 11KV(UE) armoured XLPE aluminium cable indoor type joints.	24	Nos	910.00	21,840.00
17	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.	2	Nos	13,205.00	26,410.00
18	Shifting, Laying & Dressing of the following LT cables				
a	1C x 400 sq.mm LT armoured PVC Aluminium cable	2000	Mts	18.00	36,000.00
b	3 1/2C x 240 sq.mm LT armoured PVC Aluminium cable	2000	Mts	26.00	52,000.00
c	3 1/2C x 50 sq.mm LT armoured PVC Aluminium cable	300	Mts	15.00	4,500.00
d	3 1/2C x 35 sq.mm LT armoured PVC Aluminium cable	250	Mts	13.00	3,250.00
e	4C x 10 sq.mm LT armoured PVC Aluminium/Cu cable	50	Mts	12.00	600.00
f	4C/3C x 2.5sq.mm copper armoured PVC cable	500	Mts	11.00	5,500.00
g	1C x 630 sq.mm LT armoured PVC Aluminium cable	900	Mts	20.00	18,000.00
19	Termination of the following cable. Copper/Aluminium lug, glands and other items are in the scope of the contractor.				
a	1C x 400 sq.mm LT armoured PVC Aluminium cable	110	Nos	374.00	41,140.00
b	3 1/2C x 240 sq.mm LT armoured PVC Aluminium cable	28	Nos	1,600.00	44,800.00
c	3 1/2C x 50 sq.mm LT armoured PVC Aluminium cable	16	Nos	392.00	6,272.00
d	3 1/2C x 35 sq.mm LT armoured PVC Aluminium cable	8	Nos	286.00	2,288.00
e	4C x 10 sq.mm LT armoured PVC Aluminium/Cu cable	8	Nos	237.00	1,896.00
f	4C/3C x 2.5sq.mm copper armoured PVC cable	52	Nos	150.00	7,800.00
g	1C x 630 sq.mm LT armoured PVC Aluminium cable	12	Nos	615.00	7,380.00
20	Excavation of cable trench(500x1000mm)				
	i) In soil, excavation of 1000mm 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.	50	Mts	343.00	17,150.00
	ii) Cutting of Road, RCC & Hard rock	10	Mts	435.00	4,350.00
	iii) Supply & laying of 9" dia 2 M long RCC hume pipes at Road and Railway track crossings.	10	Nos	762.00	7,620.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
21	Supply, Erection and Commissioning of Isolator/Switch Disconnector with Panel of Melfabers / Powertech Make with the following specifications for Micamation Hydraulic Coil Press. 415V, TPN Disconnector / Isolator in MS enclosure made with 2mm CRCA sheet, Powder coated, suitable Al busbars, Supporting insulators, GI earth bus in compliance with all applicable IS standards, stand mounting, top entry for incoming & bottom entry for outgoing cables, Aluminium gland plate shall be provided for single core cables i.e. for both top & Bottom entry. Isolator ON / OFF operation shall take place from door along with door interlock. Suitable Terminals shall be provided for terminating Incoming & Out going power cables as mentioned below. ON / OFF indication shall be provided on the door. Lifting Hooks and Double earthing terminals shall be provided. Make of Switch : Siemens / GE.				
a	1000A, 415V TPN Switch / Disconnector. Holes shall be provided on top cable gland plate suitable for Incoming cables of 6R x 1C x 630sq.mm & 1R x 1C x 400sq.mm Al armoured PVC cables and on bottom cable gland plate suitable for outgoing cables of 6R x 1C x 240sq.mm & 1R x 1C x 95sq.mm CU Flexible Elastomer cables.	1	No	62,320.00	62,320.00
	Total value of work			₹	8,88,494.00
Total : ₹ Eight lakhs eighty eight thousand four hundred ninety four only					

Note:

1	The above rates are exclusive of VAT and SERVICE TAX .
2	The contractor shall indicate VAT & Service Tax separately as extra in price bid.
3	The Contractor has to submit separate VAT and Service tax invoice along with 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.
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.

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
12	The contractor should follow all the statutory requirements, Environmental Management System(EMS), Occupational Health and Safety Management System(OHSAS) while executing the work.				
13	The works are to be carried out in accordance with IE rules 1956.				
14	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.				

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 figure	In words
Excess		
Less		
Estimated value		