



## **BHARAT HEAVY ELECTRICALS LIMITED**

RAMACHANDRAPURAM :: HYDERABAD-32  
TOWNSHIP ADMINISTRATION

### **TENDER DOCUMENTS ( PRICE BID )**

#### **ANNUAL WORKS CONTRACT FOR ATTENDING COMPLAINTS AND MAINTENANCE OF STREET-LIGHTS, HT/LT LINES AND ASSOCIATED WORKS IN TOWNSHIP.**

**Tender Notice : HY/TA/E/OT-01/2020-21, Dt. 16.06.2020 ( N0ATX00153 )**

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1. Schedule - A : Schedule of rates and approximate quantities

NAME & ADDRESS OF TENDERER:

PHONE NO. : \_\_\_\_\_

E-mail : \_\_\_\_\_

**BHARAT HEAVY ELECTRICALS LIMITED**  
**RAMACHANDRAPURAM :: HYDERABAD - 32**  
**TOWNSHIP ADMINISTRATION / ELECTRICAL DEPARTMENT**

**Tender No.: HY/TA/E/OT-01/2020-21**  
**Date : 16.06.2020**  
**( N0ATX00153 )**

**SCHEDULE - 'A'**

**ANNUAL WORKS CONTRACT FOR ATTENDING COMPLAINTS AND MAINTENANCE OF STREET-LIGHTS,  
 HT/LT LINES AND ASSOCIATED WORKS IN TOWNSHIP.**

SI. No.	SAC Code	Nature of work	Unit	Qty.	Rate	Amount (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		<b>STREET LIGHTS MAINTENANCE</b>				
1	995469	Attending street light complaints including on-site repair works, checking and rectification of loose contacts at joints/ terminations/ control panels etc. and if required, removing & conveyance of faulty light fitting and accessories to TA-Electrical Dept etc.; complete all as directed by Engineer-in-charge.	Each	<b>2000</b>	75.00	1,50,000.00
2	995469	Fixing, connecting & testing of new / repaired light fitting on existing street light brackets/ arms including conveyance; complete all as directed by Engineer-in-charge.	Each	<b>1200</b>	43.75	52,500.00
3		Repair / replacement of following items as required; complete as directed by Engineer-in-charge. (items will be issued by BHEL)				-
a)	995469	Contactors	Each	<b>15</b>	87.50	1,312.50
b)	995469	MCB / fuse unit of all capacities	Each	<b>20</b>	31.83	636.60
c)	995469	2-core flexible cable upto 2.5 sq.mm	Metre	<b>50</b>	23.85	1,192.50
4	995469	Supply & fixing of timer switch type TSQ-100 of L&T make including connections etc.; complete all as directed by Engineer-in-charge.	Each	<b>3</b>	3,474.34	10,423.02
5	995469	Supplying and fixing of 32 mm dia X 2.00 metres long G.I. pipe (medium class) bracket along with 2 nos. 40 mm X 3 mm flat iron clamps with nuts, bolts and washers for mounting of street light fitting on pole including bending the pipe to the required shape, painting the clamps with primer and finish paint etc. including cost of all materials as required; complete all as directed by Engineer-in-charge.	Set	<b>20</b>	639.88	12,797.60
6	995469	Cleaning of luminaire body, reflector, glass, domes etc., including removing and refixing the luminaire and its parts as required; complete all as directed by Engineer-in-charge.	Each	<b>80</b>	54.50	4,360.00
7	995469	Periodical checking and repair of the internal wiring, ropes, winch & motor operation, contactors, timers, MCBs of high-mast towers once in three months; complete all as directed by Engineer-in-charge. (Rate is per high-mast per year)	Each	<b>2</b>	1,789.79	3,579.58
8	995469	Arrangement of temporary lighting during VIP visit/ special requirement/ emergency by shifting of materials from Dept., laying of cables, fixing & connecting flood lights and switches etc.; complete all as directed by Engineer-in-charge. After meeting the requirement, the items are to be carefully removed and handed over to Dept. (Charges are per light basis)	Each	<b>20</b>	270.70	5,414.00
9	995469	Maintenance of signage board at main check post which includes servicing, cleaning, checking, rectification and replacement of cables / wires / LED drivers / boards etc., (required materials will be supplied by dept.). Providing of necessary safety equipment and taking safety precautions for the above operation is a must and sole responsibility of the contractor. The above operation to be completed as directed by engineering incharge.	operation	<b>1</b>	17,838.00	17,838.00
10	995469	Fortnightly inspection of street lights and area lights during the evening hours, covering all road lights, park lights, flood lights, low masts, high masts etc. in township and giving report on failures / other issues; all complete as directed by Engineer-in-charge. (cost including of manpower & conveyance charges)	operation	<b>24</b>	400.00	9,600.00

Sl. No.	SAC Code	Nature of work	Unit	Qty.	Rate	Amount (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		<b>POLE ERECTION, HT/LT LINES ETC.</b>				-
11	995468	Transportation & Erection of Heavy Duty RCC pole of length above 8.0m and upto 11.0m in brick ballast and ramming the foundation, finishing with 150mm thick cement concrete (1:3:6) layer on top including excavation and refilling etc as required; complete all as directed by Engineer-in-charge.	Each	25	2,699.25	67,481.25
12	995469	Dismantling of pole embedded in cement concrete foundation along with over head conductor, G.I. wire, cross arms, insulators, streetlight fillings etc. as required; complete all as directed by Engineer-in-Charge.	Each	20	851.27	17,025.40
13	995468	Supply & erection of MS plain ended swaged tubular pole [specifications as per IS 2713 -1980, 410 SP25] of 8.50m length, in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size ) foundation including excavation and refilling etc. as required. The pole shall have single arm arrangement, junction box etc. and painted with primary coat of red oxide and black bituminous paint upto ground level with base plate; complete all as directed by Engineer-in-charge.	No.	3	7,750.32	23,250.96
14	995479	Coping of poles in proper sloping above the foundation with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 stone aggregate 20mm) of specified size and shape including form work, plastering if required, curing etc. as required; complete all as directed by Engineer-in-charge.	Cu.M	5	3,859.28	19,296.40
15	995469	Erection of angle iron/ channel iron cross-arm on RCC/ steel pole etc. for LT line as required; complete all as directed by Engineer-in-charge.	Set	25	97.00	2,425.00
16	995469	Erection of LV / MV shackle / pin insulator etc. as required; complete all as directed by Engineer-in-charge.	Each	100	26.50	2,650.00
17	995469	Erection of pole top/ straight / V-shape angle iron/ channel iron cross-arm on steel / RCC pole for 11 KV as required; complete all as directed by Engineer-in-charge.	Set	25	176.00	4,400.00
18	995469	Erection of disc/ pin insulator for 11 KV over head lines as required; complete all as directed by Engineer-in-charge.	Each	75	53.00	3,975.00
19	995469	Erection/ stringing/ re-stringing of ACSR conductor including binding etc. as required; complete all as directed by Engineer-in-charge.	Metre	1500	8.32	12,480.00
20	995468	Supplying and erection of stay set complete (galvanised) with 19/20 mm dia X 1.8 metres long stay rod, anchor plate of size 45 cm X 45 cm X 7.5 mm, thimble, stay clamps, turn buckle ( 20 mm X 60 cm ), 7/ 3.15 mm dia G.I. stay wire and strain insulator etc in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size ) foundation including excavation and refilling etc. as required; complete all as directed by Engineer-in-charge.	Each	10	2,969.93	29,699.30
21	995468	Supply & fixing of stay wire stranded galvanised of size 7/10 SWG as directed by engineer incharge	Mtr.	10	100.41	1,004.10
22	995468	Supply & engineering fixing in position, binding of GI guarding for road crossing with necessary cradle guard etc., as directed by engineer incharge.	Mtr.	50	93.72	4,686.00
23	995469	Supplying and erection of 75 mm X 90 mm shackle insulator for a working pressure of 1100V, with G.I. Bolt, nuts and straps etc. as required; complete all as directed by Engineer-in-charge.	Each	30	123.48	3,704.40
24	995469	Supplying and erection of 11 KV disc insulator for 11 KV over head lines with galvanised insulator fittings, ball and socket type and complete with galvanised strain clamps, bolts, nuts, washers etc. as required; complete all as directed by engineer incharge	Each	3	371.11	1,113.33
25	995469	Supply & erection of single run of ACSR conductor, 7/2.11mm diameter including binding wire on to the existing insulators; complete all as directed by Engineer-in-charge.	Mtr.	55	22.00	1,210.00

Sl. No.	SAC Code	Nature of work	Unit	Qty.	Rate	Amount (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
26	995469	Supply & erection of single run of ACSR conductor, 7/2.59mm diameter including binding wire on to the existing insulators; complete all as directed by Engineer-in-charge.	Mtr.	50	29.65	1,482.50
27	995469	Supply & erection of single run of ACSR conductor, 7/3.60mm diameter including binding wire on to the existing insulators; complete all as directed by Engineer-in-charge.	Mtr.	10	47.82	478.20
28	-	Supply & fixing of following sizes of copper flat / strips on surface or in recess for connections as required; complete all as directed by Engineer-in-charge.			-	-
(a)	995469	25mm x 5mm copper strip. ( 1.12 kg/m )	Metre	5	728.39	3,641.95
(b)	995469	50mm x 5mm copper strip. ( 2.24 kg/m )	Metre	5	1,366.92	6,834.60
29	995469	Supply & fixing of HT side porcelain bushes for 250 kVA transformer should have test certificate as directed by engineer incharge.	Each	3	194.08	582.24
30	995469	Supply & fixing of LT side porcelain bushes for 250 kVA transformer should have test certificate as directed by engineer incharge.	Each	1	173.15	173.15
31	995468	Supply, fabrication & fixing of MS channel horizontal / V-shape cross arms / ring arms etc. of different sizes including drilling holes for insulator pins, bolts, nuts and washers etc. and painting with primer and finish paint as required; complete all as directed by Engineer-in-charge.	Kg.	75	194.58	14,593.50
32	995468	Supply, fabrication & fixing of MS flat iron clamps including drilling holes for fixing of cross arms etc. as required; complete all as directed by Engineer-in-charge.	Kg.	20	90.61	1,812.20
33	995469	Restraining of loose hanging guardings wherever necessary as required; complete all as directed by Engineer-in-charge.	Mtr.	10	7.93	79.30
34	995468	Supply, fabrication and mounting of 1.6 mm thick MS sheet enclosure for power control cubicle panel / boxes with hinges & mechanical locking arrangements etc., including cutting, bending, drilling, welding & reveting etc., complete and painting with powder coating including cost and conveyance of all materials and labour charges; complete all as directed by Engineer-in-charge.	Kg.	10	175.50	1,755.00
	-	<b>MISC. PAINTING WORKS</b>			-	-
35	995473	Applying two coats of snowcem or equivalent cement paint of approved brand to old surface including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	100	58.98	5,898.00
36	995473	Cleaning and applying of two coats of Red-oxide primer paint including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	400	58.02	23,208.00
37	995473	Cleaning and applying of two coats of Al. base paint for final painting including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	400	68.50	27,400.00
38	995473	Cleaning and applying of two coats of postal Red paint on the poles etc. including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	5	68.50	342.50
39	995473	Cleaning and applying of two coats of Dark admiral grey paint for MD boards, panel boards, transformers etc. including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	10	68.50	685.00
40	995473	Painting of BHEL serial no. on Electrical poles with black paint on white painted surface etc. including cost & conveyance of all materials etc. as directed by Engineer-in-charge.	Sq.M	10	58.03	580.30
	-	<b>CABLE TRENCHES &amp; MISC. ITEMS</b>			-	-
41	-	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation (0.6 x 0.9m), sand cushioning, protective covering and refilling the trench etc as required; complete all as directed by Engineer-in-charge. ( cable will be supplied by BHEL )			-	-
(a)	995469	Upto 35 sq. mm	Metre	200	161.40	32,280.00
(b)	995469	Above 35 sq. mm and upto 95 sq. mm	Metre	250	167.35	41,837.50

Sl. No.	SAC Code	Nature of work	Unit	Qty.	Rate	Amount (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
42	-	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation including sand cushioning, protective covering and refilling the trench etc as required; complete all as directed by Engineer-in-charge. (cable will be supplied by BHEL)			-	-
(a)	995469	Upto 35 sq. mm	Metre	100	111.05	11,105.00
(b)	995469	Above 35 sq. mm and upto 95 sq. mm	Metre	15	117.01	1,755.15
43	995469	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of size upto 120 sq.mm direct in ground including excavation (0.6 x 0.9 m), sand cushioning, protective covering (using shahabad stones) and refilling the trench etc as required; complete all as directed by Engineer-in-charge. ( cable will be supplied by BHEL )	Metre	30	206.99	6,209.70
44	995433	Earth work excavation for laying of additional cable, replacing of damaged cables and diverting the existing cable trenches in different routes as directed by engineer in charge.	Cu.M	50	64.41	3,220.50
45	995469	Providing earthing conforming to IS:3043 with 40 mm dia G.I. earth pipe and all accessories including excavation of pit, filling with homogenous layers of coke/charcoal & salt and providing masonry enclosure with hinged cover plate having locking arrangement and watering pipe etc.; including cost and conveyance of all materials; complete as directed by Engineer-in-charge.	Set	1	3,252.07	3,252.07
46	995433	Supply and laying of local sand including cost of conveyance to site and spreading for sub stations.	MetricTon	4	433.45	1,733.80
47	995433	Providing and laying in position cement concrete 1:3:6 (1 cement : 2 coarse sand : 6 graded stone aggregate 40 mm nominal size) including form work etc. as required; complete all as directed by Engineer-in-charge.	Cu.M	6	3,512.62	21,075.72
48	995433	Supplying, stacking at site, laying and spreading 63mm to 45mm size stone aggregate as required (for laying at substation); complete all as directed by Engineer-in-charge.	Cu.M	10	1,184.09	11,840.90
49	-	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required; complete all as directed by Engineer-in-charge.			-	-
(a)	995469	50 mm dia G.I. pipe	Metre	10	314.08	3,140.80
(b)	995469	100 mm dia G.I. pipe	Metre	30	708.57	21,257.10
50	-	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required; complete all as directed by Engineer-in-charge.			-	-
(a)	995424	150 mm dia	Metre	5	316.62	1,583.10
(b)	995424	250 mm dia	Metre	5	379.89	1,899.45
51	995469	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for 3 core - 120 sq. mm. XLPE aluminium conductor cable of 11 KV grade as required; complete all as directed by Engineer-in-charge.	Each	2	7,785.54	15,571.08
52	998599	Cutting / trimming of trees / branches including shrubs and bushes along the overhead HT & LT electrical lines and at substations in township by engaging a minimum of 4 persons with tools such as rope, axe, power saw etc. as required for effective work including all safeguards & incidental; all complete as per the instructions of the Engineer-in-charge or his authorized representative.	Day	15	2,180.20	32,703.00
53	998599	Supply of Glycel chemical for eradication of grass at all electrical substations in township; all complete as directed by Engineer-in-charge.	Litre	10	364.19	3,641.90

Sl. No.	SAC Code	Nature of work	Unit	Qty.	Rate	Amount (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
54	997319	Engaging a tractor (along with driver) with trolley / water tanker for transporting of cables and electrical material from factory main store to Township Electrical store including loading & unloading and Watering of all substations and earth pits with one unskilled person to be deployed along with the tractor etc. complete as directed by Engineer-in-charge. (The tractor shall have a valid fitness certificate) (water supplied by BHEL)	Day	7	807.67	5,653.69
55	997319	Engaging a JCB for levelling of ground, clearing of thick bushes, removal of roots after cutting of trees, etc. as required; all complete as directed by Engineer-in-charge. The hiring cost shall be inclusive of all, such as operator, helper, fuel, transportation etc.	Hour	17	743.25	12,635.25
56	997319	Engaging a Crane for loading & unloading of transformers on to the plinth of substations across the township, lifting of RCC poles for erection at site and other miscellaneous lifting & loading-unloading jobs etc. as required; all complete as directed by Engineer-in-charge. The hiring cost shall be inclusive of all, such as operator, helper, fuel, transportation etc.	Hour	40	991.00	39,640.00
		<b>HT BREAKERS MAINTENANCE</b>				-
57	998719	Preventive maintenance of HT (11kV) VCB panels (BHEL Bhopal make) as per detailed scope of work given in annexure; complete all as directed by Engineer-in-charge. (Required spares will be issued by BHEL)	Each	11	1,446.69	15,913.59
			<b>GRAND TOTAL ... ..</b>			<b>8,41,550.68</b>

**Note:- The tenderers are required to quote their tender value on %age basis at Excess / Less / on par with estimated value.**

Tender %	In Words	In Figures
Excess		
Less		
Estimate rate only		

**Conditions :**

1	<b>Taxes &amp; Duties:</b> The rate quoted by the contractor shall be exclusive of GST. All the terms & conditions of the contract with respect to Taxes & Duties are subject to the new taxation laws introduced from time to time (e.g., GST). The terms & conditions will be modified in accordance with the provisions of new laws (e.g., GST).
2	<b>Contract Period &amp; Maintenance Period:</b> Period of contract : One (1) year from the date of commencement Maintenance period : Six (6) months from the date of completion
3	<b>Penalty:</b> Penalty amount determined as per penalty clause (as mentioned in pg. 5 of NIT) of the contract along with GST if applicable thereon shall be recovered

**Notes :**

1	All necessary tools, tackles & equipment etc. required for effective execution of the work are to be invariably provided by contractor only. Carriage of necessary tools, tackles & equipment etc. to site is a part of the work.
2	Contractor shall maintain proper record of complaints / works attended with proof of completion.
3	Compiled data of complaints / works as directed by Engineer-in-charge must be produced before submission of bill for payment.

**ANNEXURE for Item No. 57 of Schedule-A**  
**(Scope of Work for Preventive maintenance of HT (11kV) VCB panels)**

- a) Opening of all doors, side covers, drawl of breaker from the unit and cleaning & dusting of the panels with Cora-cloth and vacuum cleaner. Contractor shall provide all cleaning agents and equipment for the above activity.
- b) Checking and tightening of the contacts and contact assembly for any pitting, hot spots or any abnormal conditions and replacing damaged contacts with new spares.
- c) Cleaning the operation mechanism including spring charge mechanism/ motor operation, limit switches etc., of the breaker.
- d) Checking and correction of the internal wiring of the unit, testing of the wiring by simulation and submission of the report based on the status.
- e) Oiling of the moving mechanism and check for proper operation.
- f) Checking and replacing the magnetic coils used for the closing and tripping operations.
- g) Checking the total interlocking by simulation.
- h) Checking, cleaning including replacement of the damaged bushings/ insulators/ spouts.
- i) Checking the healthiness of the CTs & PTs and also replacing the defective items.
- j) Checking the internal wiring of the unit including metering, indication lamps, switches, connectors and replacing the defective items.
- k) Checking the wiring of the protective relays, simulation of condition and testing of relays for its healthiness.
- l) Checking and cleaning the vacuum interrupters and replacement of defective units.
- m) Checking and tightening of all bus bars of switchgear, CTs, PTs terminal blocks and checking for any hotspots.
- n) Checking of total earth continuity for non-conducting items of the switchgear panels.
- o) Replacement of damaged gaskets for prevention of dust and entry of insects. Cleaning and closing of any openings at the bottom/ side for prevention of entry of rats.
- p) Checking the alignment of panels and if required correcting the same.
- q) Checking and connecting the external earth flat to meet safety and statutory norms. (Concerned earth pit values are to be recorded)
- r) Record and submission of IR values of each panel and combination of the panels.