



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS
ENGINEERING UNIT**

CHENNAI – 600 036

Price Bid (Volume 2)

T. No 02/2013-14/Eldb

Name of the work : Annual contract day to day maintenance work for Street Lights, Substations and cables in IIT Madras Campus for the year 2013-14

Date of Submission of Technical & Price bid : 03.00 pm on 28/01/2013

Date of opening of Technical bid : 03.10 pm on 28/01/2013

Date of opening of Price bid : Will be intimated later

**Bid Submitted to : The Executive Engineer (E),
Engineering Unit,
Administrative Block III Floor,
IITM, Chennai-36**

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Consultant (Elec)

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Executive Engineer (Elec)

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INDIAN INSTITUTE OF TECHNOLOGY MADRAS
ENGINEERING UNIT

CHENNAI – 600 036

TENDER DOCUMENT FOR Annual contract day to day maintenance work for Street Lights, Substations and Cables in IIT Madras Campus for the year 2013-14.
VOLUME-2(PRICE BID)
BILL OF QUANTITIES
Other volume:
Vol-1: Notice inviting tenders, Conditions of Contract, Additional specifications, General Conditions of Contract , list of approved makes etc.,

**INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI-36**

Tender No. 02/2013-14/ELDB

Name of work: Annual contract day to day maintenance work for street lights, substations and cables in IIT Madras campus for the year 2013/14

Part A - STREET LIGHT					
S.L No	Description of item	Qty	Rate	Each	Amount
1	Labour charges (2Wiremen &2 helper)for rectification of fault in control boxes timer boxes meant for street lights ,fuse of calls, replacement of spares shifting of fittings cleaning tightening cable faults and making the fitting in good working condition	12		Month	
(Rate in words Rupees.....)					
2	Supplying of following accessories for replacement in item no.1 and when required during the contract period.				
2.1	400w MH Fitting choke	40		Each	
(Rate in words Rupees.....)					
2.2	400w MH Fitting Lamp	40		Each	
(Rate in words Rupees.....)					
2.3	400w MH Lamp Holder	10		Each	
(Rate in words Rupees.....)					
2.4	150w MH Fitting choke	15		Each	
(Rate in words Rupees.....)					

2.5	150w MH Fitting Lamp	15		Each	
(Rate in words Rupees.....)					
2.6	150w MH Lamp Holder	8		Each	
(Rate in words Rupees.....)					
2.7	150w SV lamp choke	200		Each	
(Rate in words Rupees.....)					
2.8	150w SV lamp	200		Each	
(Rate in words Rupees.....)					
2.9	150w SV lamp ignitor	200		Each	
(Rate in words Rupees.....)					
2.10	70w SV lamp choke	250		Each	
(Rate in words Rupees.....)					
2.11	70w SV lamp	250		Each	
(Rate in words Rupees.....)					
2.12	70w SV lamp ignitor	250		Each	
(Rate in words Rupees.....)					
2.13	70/150w SV Lamp Holder	25		Each	
(Rate in words Rupees.....)					
2.14	20 MFD 440v Condenser	100		Each	
(Rate in words Rupees.....)					

2.15	Supplying and fixing of 9w CFL lamp.	100		Each	
(Rate in words Rupees.....)					
2.16	Supplying and fixing of 9w/11w choke.	100		Each	
(Rate in words Rupees.....)					
2.17	Supplying and fixing of 36w CFL lamp.	30		Each	
(Rate in words Rupees.....)					
2.18	Supplying and fixing of 36w CFL choke.	30		Each	
(Rate in words Rupees.....)					
3	Supplying and fixing of following street light/garden/gate light fittings on the existing MS tubular poles/pipes with necessary connections. The model will be got approved from the Engineer In-charge before installation				
3.1	Street light LED fitting complete set with built in Drive (Philips Model BRP 020 1x 10LED-HP/CW/PSU GR)				
	(i) Supply	25		Each	
(Rate in words Rupees.....)					
	(ii) Erection	25		Each	
(Rate in words Rupees.....)					

3.2	150w SV Street light fitting complete set with bulb.				
	(i) Supply	15		Each	
(Rate in words Rupees.....)					
	(ii) Erection	15		Each	
(Rate in words Rupees.....)					
3.3	Gate light fitting with MH/Mercury/SV lamps and connection.				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					
	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
3.4	Gate light fitting with 45w CFL Lamps with built-in choke and connections.				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					
	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
3.5	Supply and fixing of 1000W halogen lamp fitting complete set	6		Each	
(Rate in words Rupees.....)					

3.6	1 X 45w CFL Street light fitting complete set with bulb. Model Havells LHRC24145099 OR Eqvt in approved make				
	(i) Supply	25		Each	
(Rate in words Rupees.....)					
	(ii) Erection	25		Each	
(Rate in words Rupees.....)					
3.7	1 X 35w CFL Street light fitting complete set with bulb. Model Havells LHRC24136099 OR Eqvt in approved makes				
	(i) Supply	25		Each	
(Rate in words Rupees.....)					
	(ii) Erection	25		Each	
(Rate in words Rupees.....)					
4	Supplying and Replacing of acrylic cover suitable for the following street light fittings				
4.1	70W S.V Lamp fitting	30		Each	
(Rate in words Rupees.....)					
4.2	150W S.V Lamp fitting	30		Each	
(Rate in words Rupees.....)					

5	Supply and replacing the modular timer switches Maxi Rex 4QTB Eqvt in L&T and GE with IP53 on the existing hylem sheet with necessary connection	25		Each	
(Rate in words Rupees.....)					
6	Supply and replacing the faulty L&T/Siemens/ Legrand make 40A power contactor on the existing hylem sheet with necessary connection	15		Each	
(Rate in words Rupees.....)					
7	Supply and fixing of streetlight PVC control box of 200x150x100mm size with suitable clamp with hylem sheet inside comprising 63A 4 way connector and a 10A SP MCB with necessary connections.	50		Each	
(Rate in words Rupees.....)					
8	Supplying and fixing of single MS cowl for street light fitting on the existing pole with necessary bolts and nuts	10		Each	
(Rate in words Rupees.....)					
9	Supply and fixing of 1.5m length and 25mm dia MS pipes for cable entry for the street light with suitable bend at the bottom.	20		Each	
(Rate in words Rupees.....)					
10	Removing of 8/6mts damaged MS street light poles and handed over to electrical maintenance office	5		Each	
(Rate in words Rupees.....)					

11	Erection of MS tubular confirming of 8/6mts long and fixing of 2m long of 40mm dia Cowl pipe including earth work excavation in all soils and subsoil including cement concrete for foundation and construction of masonry pedestal plastering the pedestal coping and white washing the same.	5		Each	
(Rate in words Rupees.....)					
12	Foundation, construction and plastering of masonry pedestal coping with necessary MS pipes for incoming and outgoing street light cables.	5		Each	
(Rate in words Rupees.....)					
13	Supply, Erection, Testing and Commissioning of wall /pedestal mounted street lighting control panel comprising with 63A TP MCCB-1no, 63A neutral link, earth link , Timer switch- 1 no , Auto/ Manual Toggle switch , 40A TP Power Contactor , 40A 3 phase Digital Energy meter with CT's and 32A TP MCB's for outgoing with inter connections and earth connections.				
	(i) Supply	10		Each	
(Rate in words Rupees.....)					
	(ii) Erection	10		Each	
(Rate in words Rupees.....)					
	Total (Part A)				

Total Amount for Part A in words Rupees

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Part-B - SUBSTATION					
1	Attending day to day maintenance of HT/ LT equipments, break down work, fuse of calls, emergency faults, major break down inside the entire campus on round the clock service on shift duty work with the following designated staff. (Shift Duty: 3 shifts/day) 1 no Electrical Supervisor with valid C License and 1 No Electrician with valid B license and 1 No helper in each shift and total three shifts in a day. The Electrical Supervisor, Electrician and helper should have minimum three years experience in maintenance of Substations up to 33kV Supply System in shift duty.				
	In Addition to the above one sweeper has to be posted in General shift to clean the main substation and the other unmanned substations as instructed by the Engineer in charge .(Relevant document proofs should be submitted and got approved from the Engineer In-charge before engaging the above staff.	12		Month	
(Rate in words Rupees.....)					
2	Supplying and Terminating the ends of the following 11kV XLPE sheathed alu stranded conductor armored under ground cable with suitable lug / Ferrules socket and using necessary jointing materials with RPG/ Denson make heat Shrinkable Joint Kit.				
2.1	(a) 3C x 120 Sq.mm	2		Each	
(Rate in words Rupees.....)					
2.2	(b) 3C x 240 Sq.mm	2		Each	
(Rate in words Rupees.....)					

2.3	(c) 3C x 300 Sq.mm	2		Each	
(Rate in words Rupees.....)					
3	Supplying and making Straight Through Joint for the following 11kV XLPE sheathed alu stranded conductor armored under ground cable with suitable lugs/Ferrules socket and using necessary jointing materials with RPG make heat Shrinkable Joint Kit.				
3.1	(a) 3C x 120 Sq.mm	2		Each	
(Rate in words Rupees.....)					
3.2	(b) 3C x 240 Sq.mm	2		Each	
(Rate in words Rupees.....)					
3.3	(c) 3C x 300 Sq.mm	2		Each	
(Rate in words Rupees.....)					
4	Supplying and replacing of following ratings of the HRC DMC Fuse links in the distribution pillar-boxes. The rate should be inclusive of making holes on the existing copper bus bars and removal of terminations for the existing cable if necessary when attending fault.				
4.1	a) 63 A DMC HRC Fuse Link	50		Each	
(Rate in words Rupees.....)					
4.2	b) 125A DMC HRC Fuse Link	50		Each	
(Rate in words Rupees.....)					

4.3	c) 250A DMC HRC Fuse Link	50		Each	
(Rate in words Rupees.....)					
4.4	d) 400A DMC HRC Fuse Link	30		Each	
(Rate in words Rupees.....)					
5	Supplying and replacing of following ratings of the HRC DMC Fuse bases in the distribution pillar-boxes. The rate should be inclusive of making holes on the existing copper bus bars and removal of terminations for the existing cable if necessary when attending fault.				
5.1	a) 63A DMC HRC Fuse base	50		Each	
(Rate in words Rupees.....)					
5.2	b) 125A DMC HRC Fuse base	50		Each	
(Rate in words Rupees.....)					
5.3	c) 250A DMC HRC Fuse base	50		Each	
(Rate in words Rupees.....)					
5.4	d) 400A DMC HRC Fuse base	30		Each	
(Rate in words Rupees.....)					

6	Removing the following sizes LT UG cable of size up to 3.5c x400 sq.mm from the trench of 75cm depth including earth work excavation in all soils and sub soils for identifying the faults and relaying the same cable / other cable in the trench, sand filling and brick cover protection of the cable using existing burnt bricks/ removed RCC troughs etc and back filling. consolidated etc as required.	4500		Mtrs	
(Rate in words Rupees.....)					
7	Supplying& Laying of following sizes PVC XLPE insulated alu. Conductor armored LTUG cable in trench of 50cm wide and 75cm depth including earth work excavation in all soils and sub soils spreading 6cm thick river sand at the bed of the trench and brick cover protection top of the cable using burnt bricks and back filling, consolidated in a regular interval of 25cm thick rammed and complying with standard specification.				
7.1	4c x 6 sq.mm PVC insulated armoured aluminium cable.	500		Mtrs	
(Rate in words Rupees.....)					
7.2	4c x 10 sq.mm PVC insulated armoured aluminium cable.	300		Mtrs	
(Rate in words Rupees.....)					
7.3	3.5c x 35 sq.mm XLPE insulated armoured aluminium cable.	500		Mtrs	
(Rate in words Rupees.....)					

7.4	3.5c x 70sqmm XLPE insulated armoured aluminium cable.	500		Mtrs	
(Rate in words Rupees.....)					
7.5	3.5c x 150 sq.mm XLPE insulated armoured aluminium cable	500		Mtrs	
(Rate in words Rupees.....)					
7.6	3.5c x 240 sq.mm XLPE insulated armoured aluminium cable.	300		Mtrs	
(Rate in words Rupees.....)					
7.7	3.5c x 400 sq.mm XLPE insulated armoured aluminium cable	300		Mtrs	
(Rate in words Rupees.....)					
8	Supplying and making end termination for following sizes alu. Conductor LT UG cable using suitable compression gland with required copper ferulles / socket and other jointing materials				
8.1	4c x 6 sq.mm	30		Each	
(Rate in words Rupees.....)					
8.2	4c x 10 sq.mm	30		Each	
(Rate in words Rupees.....)					
8.3	3.5c x 35 sq.mm	30		Each	
(Rate in words Rupees.....)					
8.4	3.5c x 70sqmm	30		Each	
(Rate in words Rupees.....)					

8.5	3.5c x 150 sq.mm	20		Each	
(Rate in words Rupees.....)					
8.6	3.5c x 240 sq.mm	20		Each	
(Rate in words Rupees.....)					
8.7	3.5c x 400 sq.mm	20		Each	
(Rate in words Rupees.....)					
9	Supplying and making straight thro cable joint for following sizes alu. Conductor LT UG cable using cast resin compound materials (Make M-Seal) with required copper ferulles / socket and other jointing materials.				
9.1	(a) 3.5 core 35 sq.mm	10		Each	
(Rate in words Rupees.....)					
9.2	(b) 3.5 core 50 sq.mm	10		Each	
(Rate in words Rupees.....)					
9.3	(c) 3.5 core 70 sq.mm	10		Each	
(Rate in words Rupees.....)					
9.4	(d) 3.5 core 150 sq.mm	10		Each	
(Rate in words Rupees.....)					
9.5	(e) 3.5 core 240 sq.mm	10		Each	
(Rate in words Rupees.....)					
9.6	(f) 3.5 core 300 sq.mm	5		Each	
(Rate in words Rupees.....)					

9.7	(g) 3.5 core 400 sq.mm	5		Each	
(Rate in words Rupees.....)					
9.8	(h) 4 core 6 or 10 sq.mm	30		Each	
(Rate in words Rupees.....)					
10	Supplying and replacing the faulty SFU/FSU/MCCB's in the existing MV panel with necessary incoming and outgoing connections without enclosure and including extended bars /wires if required				
10.1	63 A TPN MCCB Fixed Thermal and Magnetic release				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					
	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
10.2	125 A TPN MCCB,25 KA Fixed Thermal and Magnetic release				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					
	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
10.3	200 A TPN MCCB,35 KA Adjustable Thermal and Magnetic release				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					

	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
10.4	250 A TPN MCCB,35 KA with Adjustable Thermal and Magnetic release				
	(i) Supply	5		Each	
(Rate in words Rupees.....)					
	(ii) Erection	5		Each	
(Rate in words Rupees.....)					
10.5	400A TPN MCCB,35 KA with Adjustable Thermal and Magnetic release				
	(i) Supply	3		Each	
(Rate in words Rupees.....)					
	(ii) Erection	3		Each	
(Rate in words Rupees.....)					
10.6	400A 4 P MCCB,35 KA with Adjustable Thermal and Magnetic release				
	(i) Supply	2		Each	
(Rate in words Rupees.....)					
	(ii) Erection	2		Each	
(Rate in words Rupees.....)					

10.7	630A TPN MCCB,35 KA with Adjustable Thermal and Magnetic release				
	(i) Supply	1		Each	
(Rate in words Rupees.....)					
	(ii) Erection	1		Each	
(Rate in words Rupees.....)					
10.8	800A TPN MCCB,35 KA with Adjustable Thermal and Magnetic release				
	(i) Supply	1		Each	
(Rate in words Rupees.....)					
	(ii) Erection	1		Each	
(Rate in words Rupees.....)					
10.9	800A 4P FSU				
	(i) Supply	1		Each	
(Rate in words Rupees.....)					
	(ii) Erection	1		Each	
(Rate in words Rupees.....)					

11	Earthing with copper earth plate 600x600x3mmthick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7m long etc with charcoal/coke and salt as required.	10		Each	
(Rate in words Rupees.....)					
12	Earthing with GI earth plate 600x600x6 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7m long etc with charcoal/coke and salt as required.	10		Each	
(Rate in words Rupees.....)					
13	Supplying and laying of following size earth flats at 0.50 mt below the earth including soldering/welding as required				-
13.1	Single run of 16 sqmm multi stranded copper wire in a suitable PVC pipe and clamps	150		Mtrs	
(Rate in words Rupees.....)					
13.2	25 x 5mm copper strip	50		Mtrs	
(Rate in words Rupees.....)					
13.3	25 x 5mm GI strip	150		Mtrs	
(Rate in words Rupees.....)					
13.4	a) 50 x 6 mm GI Flat	80		Each	
(Rate in words Rupees.....)					

13.5	Supplying and replacing of 230/110V AC/DC indication LED lamps as instructed by the Engineer in-charge.	100		Each	
(Rate in words Rupees.....)					
14	Testing of earth electrodes using necessary testing equipment and improve the earth by excavating the soil and sub soil and refilling the same with alternate layer of charcoal/coke and salt if required. The values are to be entered in a separate register and submitted to the Engineer in-charge . The work should be inclusive of replacement of bolts and nuts, white washing the masonry pedestals , paint marking the earth values, date of testing done , due date for the next test and pit number on the enclosures and also inside the earth pit.	200		Each	
(Rate in words Rupees.....)					
15	Labour charges for making temporary connections to pump motors / streetlights / Residential buildings in case of existing cable failure by laying copper / aluminium wires from the nearest source of supply. (Necessary wires has to be supplied by the contractors and removed after making permanent connections)	50		Each	
(Rate in words Rupees.....)					

16	Removing the existing LT panel with bus coupler from the foundation by removing the existing LT UG cable feeders of size varying from 70 to 400 sq.mm (App. 12 terminations / Panel) and transport the LT panel to the other substation / Godown inside the premises.	3		Each	
(Rate in words Rupees.....)					
17	Erection, testing and commissioning of the LT panel with Bus coupler on the existing trench with necessary channels. L angles, civil works, chipping and grouting etc. The rate should be inclusive of earthwork for removing the existing LTUG cable with suitable glands and sockets (app 12 terminations/ panel with cable size varies from 70 to 400 sq.mm) the tenderer should inspect the site before quoting.	3		Each	
(Rate in words Rupees.....)					
18	Supplying and fixing of 1200mm x 28 w T5 single box type fitting with HF ballast and Tubes. (LHIT01128032/T5GP28EB/TMS 122 M 1XTL5 28W EBT or Eqvt in BAJAJ)	20		Each	
(Rate in words Rupees.....)					
19	Supplying and fixing of 1200 mm sweep AC ceiling fan on the existing hook with necessary connections.	20		Each	
(Rate in words Rupees.....)					

20	Supplying and replacing of following items while attending fault				
20.1	1200mm x 40 w flourescent tube	100		Each	
(Rate in words Rupees.....)					
20.2	28w T5 FTL (HPL-6500K) warm/cool	50		Each	
(Rate in words Rupees.....)					
20.3	2.5MFD fan Condensor	30		Each	
(Rate in words Rupees.....)					
20.4	40 watts electronics ballast	20		Each	
(Rate in words Rupees.....)					
20.5	40w starter	100		Each	
(Rate in words Rupees.....)					
21	Supplying and replacing of silica Gel for the Power/ Distribution transformer breathers	80		kg	
(Rate in words Rupees.....)					
22	Supplying and replacing of mineral oil suitable for Power/ Distribution transformer as per IS 335/1993	630		lts	
(Rate in words Rupees.....)					
TOTAL (PART-B)					

Total Amount for Part B in words Rupees

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TENDER NO.02/2013-14/ELDB

Name of work: **Annual contract day to day maintenance work for Street Lights, Substations and Cables in IIT Madras Campus for the year 2013-14**

Description	Amount in Rs.
Part-A	Rs.
Part-B	Rs.
Grand Total	Rs.

Grand Total Amount in words Rupees

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Signature of the Contractor

-sd-
Consultant (Elect)

-sd-
Executive Engineer (E)