



**ESTATE (E &M) WORKS SECTION  
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR  
KHARAGPUR 721302**

NIT No. : IIT/E/E&amp;M/T/72/2018-19

Dated : 01.01.2019

**TENDER NOTICE**

The Sr. Executive Engineer (Electrical Works), IIT Kharagpur invites sealed item rate tenders in **Single Bid System** containing Technical Bid & Financial Bid from enlisted and approved Electrical contractors of IIT Kharagpur/CPWD/MES/WBPWD/Kharagpur municipality and Other bonafide contractors of the Indian Institute of Technology, Kharagpur/CPWD /WBPWD/MES/Railways (SER)/Kharagpur Municipality/PSUs and other bonafied agencies meeting the minimum qualification criteria for the following Work:

Sl. No.	Name of Work	Estimated Amount (₹)	Earnest Money (₹)	Cost of Tender Document (₹)	Completion Time
1	Electrical renovation and modification Work in various departments (Ranbir Chitra Gupta School, Metallurgical department, Tech. Co-operative credit society, Phy. department & CRF VSM Lab.) in the Institute academic area at IIT Kharagpur.	2,07,940/-	4160/- (To be submitted in a separate envelope)	500.00 (non-refundable)	60 days

The above estimate, however, is given merely as a rough guide.

TENDER DOCUMENTS can be downloaded from the Institute website [www.iitkgp.ac.in](http://www.iitkgp.ac.in) & <https://eprocure.gov.in>. Requisite Tender fee (non-refundable) and Earnest Money to be paid by demand draft in favour of "Indian Institute of Technology Kharagpur" on any nationalized Bank of India payable at Kharagpur Branch as stated above at the time of submission of Bid. Tenders without Tender fee and Earnest Money shall be summarily rejected.

For any amendment /corrigendum please visit the Institute website [www.iitkgp.ac.in](http://www.iitkgp.ac.in) & <https://eprocure.gov.in>.

**The following documents to be submitted at the time of submission of bid:**

- i) GST
- ii) PAN
- iii) Work Completion Certificates justifying eligibility criteria
- iv) Updated Electrical Contractor License
- v) Updated Trade License
- vi) Make list format to be submitted along with bid (Format enclosed).

**Eligibility criteria:****Contractors who fulfill the following requirement shall be eligible to apply:**

The bidder must have done at least ONE similar work of value of 80% of the estimated cost or TWO similar works for projects each of value 60% of the estimated cost or THREE similar work for projects each of value 40% of the estimated cost.

Kindly note the following information as per the Table below:

Date of Submission of Bid	16 <sup>th</sup> January 2019 up to 3:30 P.M.
Date of opening of Bid	16 <sup>th</sup> January 2019 at 4:30 P.M.
Tender Paper Cost (Non-refundable) & Earnest Money Deposit	To be paid by demand draft in favour of "IIT Kharagpur" on any nationalized Bank of India payable at Kharagpur Branch in two separate envelopes. Earnest Money will be converted to Security Deposit of successful tenderer.
<b>The submission of bid must have a forwarding application along with self-attested all relevant documents as required.</b>	

The scope of work under the Tender shall include supply of Plant and Machinery, Erection of Equipment, Testing and Commissioning, supply of working Drawing, Elimination of teething problems and handing over the plant.

The Tenderers are requested to inspect the sites and satisfy themselves about the working conditions and site requirements before submitting the Tender.

(S. Ghosh)  
Sr. Executive Engineer (Electrical)

Copy to:

- 1) Registrar, I.I.T Kharagpur.
- 2) Chief Engineer
- 3) Prof. in -Charge (IIC) :- with a request for publication of tender notice  
In Institute Web site
- 4) Joint Registrar (S&P)
- 5) Superintending Engineer (E&M)
- 6) Dy. Registrar (F &A)
- 7) Notice Board, EPDS.
- 8) Notice Board, Estate (E &M) Head office, Old Building
- 9) Upload to Institute website and Cppp portal
- 10) Office file.

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Signature of Contractor

Indian Institute of Technology, Kharagpur  
Estate (E&M) Works Section

**Tender Document**

For

**Name of the Work:** Electrical renovation and modification Work in various departments (Ranbir Chitra Gupta School, Metallurgical department, Tech. Co-operative credit society, Phy. Department & CRF VSM Lab.) in the Institute academic area at IIT Kharagpur.

1. The site for the work is available/or the site for the work shall be made available in the parts as specified below.
2. The time allowed for carrying out the work will be **60 days** from the day after the date of written orders to commence the work.
3. The contractor should quote the figures as well as in words the rate and amount tendered by them. The amount for each item should be worked out and the requisite totals given.
4. When a contractor signs a tender in an Indian Language the total amount tendered should also be written in the same language.
5. Earnest Money, amounting to **Rs. 4160/-** (Rupees Four Thousand One Hundred Sixty only) in Demand Draft in favour of "Indian Institute of Technology Kharagpur" on SBI, Kharagpur must accompany each tender and each tender is to be in a sealed cover superscribed with, "**Electrical renovation and modification Work in various departments (Ranbir Chitra Gupta School, Metallurgical department, Tech. Co-operative credit society, Phy. department & CRF VSM Lab.) in the Institute academic area at IIT Kharagpur.**" and the NIT No. IIT/E/E&M/T/72/2018-19, **Tenders without Earnest Money shall be summarily rejected.**
6. Earnest Money of the successful bidder is to be converted into security deposit, further sum amounting 10% or as applicable will be deducted from your running bill(s)/final bill. Contractor liable for damages, defects during Maintenance (Defect Liability Period) If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within **12 months (6 months in the case of work costing Rs. 10,00,000/- and below except road work)** after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defective or improper materials or workmanship, the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense, or in default, the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due, or at any time thereafter may become due to the contractor, or from his security deposit, or the proceed of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of **12 months (6 months in the case of work costing Rs. 10,00,000/- and below except road work)** after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.
7. The acceptance of a tender, will rest with the authority who does not bind himself to accept the lowest tender, and reserves to himself the authority to reject any or all the tenders received without the assignment of a reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.
8. Canvassing in connections with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
9. All rates shall be quoted on the proper form of the tender alone.
10. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated to the Engineer-in-Charge.
11. Special care should be taken to write the rates in figures as well as in words, and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word "Rs." should be written before the figure of rupees and words "P" after the decimal figures, "e.g., Rs.2.15P" and in case of words "Rupees" should precede and the word "Paise" should be written at the end. Unless the rate is in whole rupees and followed by the words "only" it should invariably be upto two decimal places. While quoting the rate in schedule of quantities, the word "only" should be written closely following the amount and it should not be written in the next line.
12. The Institute does not bind himself to accept the lowest or any tender and reserve to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

13. GST, labour cess insurance or any other tax on materials, machinery and T&P, labour or any other item/service in respect of this contract shall be payable by the contractor and Institute will not entertain any claim whatsoever in respect of the same.
14. The contractor shall not be permitted to tender for works in the Institute in which his near relative is posted as Divisional Accountant or as an Officer in any capacity between the grades of Superintending Engineer and Engineer (Both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Officer in the Institute. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Institute.
15. The contractor shall give a list of Institute employees related to him.
16. No Engineer of Officer Rank or other employees employed in Engineering or Administrative duties in an Engineering Department of the Govt. of India Institute is allowed to work as a contractor for a period of two years of the retirement from Govt. service Institute, without the previous permission of the Govt. of India Institute. This contractor is liable to be cancelled if either the contractor or any of this employees is found at any time to be such a person who had not obtained the permission of the Govt. of India Institute as aforesaid before submission of the tender or engagement in the contractor's service.
17. The tender for the work shall remain open for acceptance for period of 120 days from the date of opening of the tender. If any tenderer withdraws his tender before the said period or makes any modifications in terms & conditions which are not acceptable to the Engineer-in-charge then Institute shall without prejudice to any other right or remedy be a liberty to forfeit the said earnest money.
18. The contractors exempted from payment of earnest money/security deposit in individual cases should attach with the tender an attested copy of the Institute's letter exempting them from the payment of earnest money and security deposit and should produce the original whenever called upon to do so.
19. The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render tenders of the contractors tendering as well as witnessing the tender liable to summary rejection.
20. All Bidders are requested to witness the bid opening.
21. **The Contractor shall submit list of works which are in hand (Progress) in the following form:**

Name of Work	Name and particulars of Division where work is being executed.	Amount of work	Position of works in progress	Remarks
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21. Rates quoted by the contractors in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures, and in word. However, if a discrepancy is found the rates which correspond with the amount worked out by the contractor shall be taken as correct.
22. If the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figures or in words that the rate quote by the contractor in words should be taken as correct.
23. Where the rate quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rate quoted by the contractor will be taken as correct, not the amount.
24. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub soil, laying route, the form and nature of site, the means to access the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost of materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the bid documents. Submission of tender by a tenderer implies that he has read this notice and all other tender documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors having bearing on the execution of the work.
- 25 All the Govt. labour rules, regulations and latest Indian Electricity Rule are followed by the contractor while executing the Electrical work.
- 26 The Tenderer whose tender is not accepted shall not be entitled to claim any costs, charges and expenses incidental to or incurred by him through or in connection with his submission of tender or its consideration by the Purchaser, even though the Purchaser may elect to modify/withdraw the Invitation to Tender or does not accept the tender.

## Schedule of Quantities

**Name of Work:** Electrical renovation and modification Work in various departments (Ranbir Chitra Gupta School, Metallurgical department, Tech. Co-operative credit society, Phy. Department & CRF VSM Lab.) in the Institute academic area at IIT Kharagpur.

Sl. No.	Description	Unit	Qty.	Rate (₹)	Amount (₹)
<b>1</b>	Wiring for light point / fan point /call bell point / exhaust fan point with 1.5 sq mm FRLS PVCinsulated copper conductor single core cable in surface / recessed medium class PVC conduit,with modular switch, modular plate, suitable size GI box and earthing the point with 1.5 sq mm FRLS PVCinsulated copper conductor single core cable etc as required .Make - Wire:-Finolex/RR Kabel/Havells.Pipe:-(MMS type) Prestoplast/Precision/polycab / AKG, Switch Socket :-crabtree Thames range/Legrand Myrius range/MK(wraparound plus) / Equivalent approved by EIC.				
<b>a)</b>	Upto 6 metres.	Point	17		
<b>b)</b>	Above 6 metres .	Point	4		
<b>2</b>	Wiring for circuit / submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor , single core cable in surface / recessed medium class PVC conduit as required .Make-Wire:- Finolex/Havells/RR Kabel/.Pipe:- Prestoplast/Precision /polycab(MMS type) / Equivalent approved by EIC				
<b>a)</b>	2 X 2.5 sq mm +1 X 2.5 sq mm for E.C.C	Mtr.	71.3		
<b>b)</b>	2 X 4 sq mm +1 X 4 sq mm for E.C.C	Mtr.	187		
<b>c)</b>	4 X 6 sq mm +2 X 6 sq mm for E.C.C	Mtr.	20		
<b>d)</b>	2 X 10 sq mm +1 X 6 sq mm for E.C.C	Mtr.	5		
<b>3</b>	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface / recess including cutting the wall and making good the same in case of recessed conduit as required.Make-Pipe- (MMS) Presto plast/Precision /polycab / Equivalent approved by EIC				
<b>a)</b>	20 mm	Mtr.	9		
<b>b)</b>	25 mm	Mtr.	15		
<b>c)</b>	40 mm	Mtr.	5		
<b>4</b>	Supplying and fixing following sizes / modules ,GI box along with modular base & cover plate for modular switches in recess etc as required .Make-Crabtree Thames range/Legrand Myrius range/MK(wraparound plus) / Equivalent approved by EIC				

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Signature of Contractor

<b>a)</b>	6 Module	Each	18		
<b>5</b>	Supplying and fixing following modular switch / socket on the existing modular plate & switch box including connections but excluding modular plate etc as required .Make- Crabtree Thames range/Legrand Myrius range/MK(wraparound plus) / Equivalent approved by EIC				
<b>a)</b>	5 /6 amps switch	Each	18		
<b>b)</b>	15 /16 amps switch	Each	18		
<b>c)</b>	3 pin 5 /6 amps socket outlet	Each	18		
<b>d)</b>	6 pin 15 / 16 amps socket outlet	Each	18		
<b>6</b>	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.Make-Crabtree Thames range/ Legrand Myrius /MK(wraparound plus) / Equivalent approved by EIC	Each	6		
<b>7</b>	Supplying & Fixing suitable size GI box with modular plate and cover in front on surface or in recess,including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections,painting etc.as required.Make-Crabtree Thames /Legrand Myrius./ (MK wraparound plus) / Equivalent approved by EIC	Each	9		
<b>8</b>	Supplying & Fixing of outdoor Luminaires LED type fittings 25 watt 5700 K Lumen> 1800 Efficacy > 100 CRI>80 THD< 15% /Philips/Bajaj / Equivalent approved by EIC including making holes to building, S&F 40 mm dia GI pipe (ISI-Medium) 1.50 mtr average length with rust free GI socket nut bolts at one end and thread at the other end & suitable bend to house the fitting & making necy connections with S&F necy length of 1.5 sqmm PVC insulated single core stranded annealed copper wire and making connections as required and mending good damage to wall and painting. nut ,bolt etc as required.With 5 years warrenty at site free of cost for LED lamp and driver permanent numbering of LED luminaires are mandatory during installation at site.	Each	2		
<b>9</b>	Supplying & fixing of 2 X 18 watt watt LED fittings along with 18 watt LED tube 6000 k Lumen> 1800 Efficacy > 100 CRI>80 THD< 15% -Regal Batten LED fittings along with 18 watt LED tube 6000 k -Regal Batten Make:- Havells/Philips/Bajaj/ Equivalent approved by EIC.II the luminaires should be warranted for 5 years at site with free of cost.Permanent numbering of LED luminaires are mandatary during installation at site.	Each	11		

<b>10</b>	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on wall surface as required incl. S+F of 1 X 10 SWG GI wire for E.C.C making holes and manding good the damages to original finish incl painting.( Cable Dept supply)				
a)	Upto 35 sq mm (clamped with 1 mm thick saddle)	Mtr.	217		
<b>11</b>	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, sand cushioning, protective covering @ 8 bricks per metre on each cable and refilling the trench etc. as required.				
a)	Above 35 sq. mm and upto 95 sq. mm	Mtr.	50		
<b>12</b>	Supplying and making end termination with brass compression gland and lugs for following size of PVC insulated and PVC sheathed/XLPE aluminium conductor cable of 1.1 kV grade as required.Make- ARUN/Dowells/ Equivalent approved by EIC		0		
a)	4 X 16 sq mm		16		
b)	3.5 X 25 sq mm	Each	2		
c)	3.5 X 70sq mm	Each	2		
<b>13</b>	Earthing with perforated GI earth pipe 4.5 mtr long, 40 mm dia including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/coke and salt as required.Make- GI pipe- TATA(Medium)/Bansal(Medium)/Jindal(Medium) / Equivalent approved by EIC	Each	1		
<b>14</b>	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.All Joints should be done by welding with 4"over lapping of the strips .	Mtr.	0.5		
<b>15</b>	Supplying and fixing TPN sheet steel Enclosure on surface/recess complete with connection, testing and commissioning etc.as required with out MCB.Make- Legrand/Hager/L&T./siemens/Schneider / Equivalent approved by EIC	Each	9		
<b>16</b>	Supplying and fixing DP sheet steel Enclosure on surface/recess complete with connection, testing and commissioning etc.as required without MCB. Make- Legrand/Hager/L&T./siemens/Schneider / Equivalent approved by EIC	Each	2		

<b>17</b>	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, ip-43 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) Make- Legrand/Hager/L&T/Siemens/Schneider./ Equivalent approved by EIC				
<b>a)</b>	6 way , Double door		2		
<b>b)</b>	8 way , Double door		1		
<b>18</b>	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, “C” curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. Make- Legrand/Hager/L&T/.Siemens/Schneider / Equivalent approved by EIC				
<b>a)</b>	Single pole	Each	10		
<b>b)</b>	Double Pole	Each	8		
<b>19</b>	Supplying and fixing 40 A to 63A rating, 240/415 V, 10 kA, “C” curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. Make-Legrand/Hager/L&T/Siemens/Schneider / Equivalent approved by EIC				
<b>a)</b>	Triple pole	Each	9		
<b>b)</b>	Four pole	Each	9		
<b>20</b>	Supplying and fixing 160 A rating, 240/415 V, 16 kA, MCCB with $i_{cu}=i_{cs}$ (for 1 sec) adjustable overload setting (Thermal magnetic MCCB) with 2 sets of copper spreader terminals. suitable for inductive load of following poles in the existing MCCB DB complete with connections, testing and commissioning etc. as required. Make- Legrand/Hager/L&T/Siemens/Schneider / Equivalent approved by EIC				
<b>a)</b>	Four pole	Each	1		
<b>21</b>	Supply and fixing of Wall mounted fan 400 mm sweep with roof control speed regulator with connection as required model Mist Air Duos, white colour of Usha Make:- Usha/Polar/ Bajaj/CG/Orient/Havells/ Equivalent approved by EIC	Each	10		
<b>22</b>	Supplying and fixing of following ways surface/ recess mounting, Vertical type, 415 V, up to 160 amp TPN MCB distribution board ip-43 of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCCBs/MCBs (but without MCCBs as incomer) as required. (Note : Vertical type MCCB TPDB is normally used where 3 phase outlets are required.) Make- Legrand/L&T/Hager/.Siemens/Schneider / Equivalent approved by EIC				
<b>a)</b>	12 way	Each	1		



23	Fixing only 240V SPN/415V TPN Sheet Steel Main Switch or DP/TP/FP sheet steel enclosure or SP/TP Industrial Plug,Socket directly on surface / recessed /on flat iron legs on wall along with required DP/TP/FP MCB including necessary connection, testing as required. (Enclosure/Main switch / Industrial Socket : Department supply ).	Each	1		
		<b>Total</b>			

**Amount in words Inclusive GST**

**(Please mention applicable % of GST)**

**N.B:1) All materials to be used after prior approval of Engineer in charge.**

**2 .a) All LED Light Fittings should be numbered with permanent marker before installation**

**2.b) 5 years replacement warranty for LED luminaries along with Driver are to be given at site free cost after successfully commissioning at site unless otherwise specially mentioned in the BOQ.**

**3) Suitable connectors are to be used for making connections of the neutral and earth wire in the switch boards.**

**4) No electrical wiring are allowed to lay on the false ceiling .**

**5) No joints are allowed in the wiring.**

6) suitable Al or Cu lugs are to be used during any connection, connection without using lugs are not allowed

7)suitable brass glanding of the cables are to be done for cable end termination .

8)GI anti rust screws are to be used during fixing of pipes, cables, conduits,light fittings etc on the wall.

9) valid challans and test/guarantee certificates of all the materials supplied by the contractor are to be submitted before execution of work.

### **Make list format**

**Name of the Work:** Electrical renovation and modification Work in various departments (Ranbir Chitra Gupta School, Metallurgical department, Tech. Co-operative credit society, Phy. Department & CRF VSM Lab.) in the Institute academic area at IIT Kharagpur.

Sl. No.	Description of items	Approved makes proposed by the contractor	Makes approved by the Department
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Signature of E (EW)

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Signature of Sr.E.E.(EW)

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Signature of S.E (E&M)

**GENERAL SPECIFICATION AND CONDITIONS**

1. The work shall be carried out as per National Code or P.W.D. specifications for works at West Bengal or otherwise as specified in the Schedule of Quantities for the works.
2. The rates on percentage quoted by the contractors shall be for all leads, lifts, depth etc. unless otherwise specified in the schedule of quantities attached to agreement.
3. The work will be carried out as per instructions given by the Engineer-in-Charge and as per layout plan and the contractor shall be bound to carry out the work in accordance with the revised instruction and /OR modified drawing.

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Signature of Contractor

4. The brick shall be second class and / or first class bricks or a specified in the schedule of quantities and shall be of local best available size. To use first class brick only for construction of feeder pillar foundation.
5. All the materials such as stone chips. Sand pipes and other materials to be used in the work shall have to be approved by the Engineer-in-Charge not below the rank of Assistant Engineer.
6. No pipe line shall be covered until the same has been approved by the Engineer-in-Charge.
7. All charges for the Municipal fees and other taxes that may be payable as per local Municipal rules be paid by the contractors and his rates for such items shall be inclusive of all such charges. Nothing extra will be paid on this account by the department.
8. The contractor shall construct suitable go-down at the site of work for storing the materials safe against damage by Sun, Rain, dampness, fire, theft, etc. at his own cost. He shall also employ necessary watch and ward establishment for tools and plant and other materials issued to him at his own cost. No extra payment shall be made on this account.
9. After laying of cable in underground the trench must be strictly mended and duly rammed with a rammer or rolled with a roller.
10. The fences damaged while digging the trench in individual quarters must be mended using barbed wire and bamboo or concrete pillars.
11. All G.I. items mentioned in the entire tender should be or hot dipped galvanization.
12. All light brackets are to be made first as specified in the tender and then hot dipped galvanizations are to perform. No cracks are acceptable on brackets.
13. Empty cable drums are to be deposited to the Section or Store as desired by Site-in-Charge.
14. Any item used while execution of the work, should be duly approved by the department.
15. Prior to commencement of the work Registration from labour enforcement office has to be taken. Also it may be noted that minimum wages as per minimum wages Act must be paid to the contract labours. Currently the minimum wage as per G.O.I norms is Rs.283/- which must be followed.
16. The Site Supervisors should possess supervisory competency certificate and the Electricians should have proper work permits.
17. Safety of materials issued by the Department to the Contractor is the contractors' responsibility.
18. Safety of engaged manpower of Contractor is the Contractor's responsibility. The successful tenderer shall at all times indemnify the Institute, consequent on this work contract. The successful Tenderer shall be liable, in accordance with Indian law & Regulations for any accident occurring due to any cause and the Institute shall not be responsible for any accident and damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipment under the supervision of the successful bidder in so far as the latter is responsible. The successful Tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful Tenderer due to above.

**Special Condition for Electrical works**

1. The work shall be carried out as per national code or C. P. W. D specifications for works with correction slips issued up-to date unless otherwise specified in the schedule of quantities for the works.
2. The following Indian Standard Specifications and Codes of Practice will apply to the equipment and the work covered by the scope of this contract. In addition the relevant clauses of the Indian Electricity Act 1910 and Indian Electricity Rules 1956 as amended upto date shall also apply. Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable.

\_\_\_\_\_ Signature of Contractor

3. BIS certified equipment shall be used as a part of the Contract in line with Government regulations. Necessary test certificates in support of the certification shall be submitted prior to supply of the equipment.

It is to be noted that updated and current Standards shall be applicable irrespective of those listed below.

Low voltage Switchgear and Controlgear specifications	IS 13947 : 1993
Part 1 – General	
Part 2 – Circuit Breakers	
Part 3 – Switch Fuse Units	
Part 4 – Contactors and Motor Starters	
Part 5 – Control Circuit Devices	
Electrical Relays for power system protection	IS 3231 : 1986
Low voltage Switchgear and Control gear assemblies	IS 8623 : 1993
Marking of Switchgear busbars	IS 11353 : 1985
Degree of Protection of Enclosures for low voltage switchgear	IS 2147 : 1962
Code of Practice for selection, installation and maintenance of Switchgear	IS 10118 : 1982

4. No under-ground work or above the false ceiling shall be covered until the same has got approved by the Engineer-in-charge. The contractor will supply the drawings of specific works for approval, if required
5. All the old wiring has to be dismantled with proper care. The reusable old materials if any are to be handed over to departmental store with proper documentation and the other non reusable (nil reselling value) will be disposed by the contractor. The contractor shall clear the site thoroughly of all scaffolding materials & rubbish etc. left out of his work & dress the site around the building to the satisfactions & his decision in writing shall be final & binding on all concerned
6. Special care to be taken to avoid any theft of electrical fittings and fixtures while executing the work.
7. The location of Panel / DB / Switch board / Light point / Fan point will be as per existing location or as per the instruction of Engineer-in-charge.
8. All the wiring will be done with feruling and cable / Wire termination by required size or lugs of required materials and It should be noted that license wire man shall only be allowed for the wiring work.

#### **Electrical safety at work site**

The contractor will identify one of the supervisors for taking care of implementation of Safety systems.

The Contractor should follow the following General Guidelines governing the safety rules as laid down under:

1. Usage of eye protection equipment shall be ensured when workmen are engaged for grinding, chipping, welding and gas-cutting. For other jobs as and when site safety co-coordinator insists eye protection has to be provided.

\_\_\_\_\_ Signature of Contractor

2. All safety appliances like Safety shoes, Safety gloves, Safety helmet, Safety belt, Safety goggles etc. shall be arranged before starting the job.
3. All excavated pits shall be barricaded & barricading to be maintained till the backfilling is done. Safe approach to be ensured into every excavation.
4. All the dangerous moving parts of the portable / fixed machinery being used shall be adequately guarded.
5. Ladders being used at site shall be adequately secured at bottom and top. Ladders shall not be used as work platforms.
6. Material shall not be thrown from the height. If required, the area shall be barricaded and one person shall be posted outside the barricading for preventing the tre-passers from entering the area.
7. Other than electricians no one is allowed to carry out electrical connections, repairs on electrical equipment or other jobs related thereto.
8. All electrical connections shall be made using 3 or 5 core cables, having a earth wire.
9. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.
10. A tools and tackles inspection register must be maintained and updated regularly.
11. Debris, scrap and other materials to be cleared from time to time from the workplace and at the time of closing of work every day.
12. All the unsafe conditions, unsafe acts identified by contractors, reported by site supervisors and / or safety personnel to be corrected on priority basis.
13. No children shall be allowed to enter the workplace.
14. All the lifting tools and tackles shall be stored properly when not in use.
15. Clamps shall be used on Return cables to ensure proper earthing for welding works.
16. All the pressure gauges used in gas cutting apparatus shall be in good working condition.
17. Proper eye washing facilities shall be made in areas where chemicals are handled.
18. Connectors and hose clamps are used for making welding hose connections.
19. All underground cables for supplying construction power shall be routed using conduit pipes.
20. Spill trays shall be used to contain the oil spills while transferring / storing them.
21. Tapping of power by cutting electric cables in between must be avoided. Proper junction boxes must be used.
22. Non-compliance to above shall invite a penalty recovery as per rule.