



**NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA – 769 008, ODISHA**

(Advertised Tender Notice No.: NITR/PW/EM/2019/166

Dated: 15.11.2019)

**(Electrical Work for Installation of Surge Protecting Devices for Network Racks vulnerable to lightning strike in NIT, Rourkela)**

Sealed tenders are invited through e-procurement module available in Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>) from reputed electrical Contractors having valid registration with PWD (Odisha State) / CPWD / PSUs /Autonomous Institutions and Valid Electrical License with State of Odisha having sound financial status, machinery, resources and experience in execution of similar works.

Name of the work	Estimated Tender Value in ₹	Time of completion
Electrical Work for Installation of Surge Protecting Devices for Network Racks vulnerable to lightning strike in NIT, Rourkela	4,23,150.00	6 months

1. Sealed tenders on item rate basis are invited in the prescribed form for execution of comprehensive annual electrical maintenance of academic area.

- (a) Validity of Tender : 120 days from the date of opening  
(b) Pre-bid Conference : 29/11/2019 at 03:00 PM  
(c) Last Date of Submission : 09/12/2019 by 11:00 AM  
(d) Date & Time of Opening of Tender (Cover I and II): 10/12/2019 at 11:00 AM

Questionnaire to tenders is given in the Annexure-I

2. A Pre-bid conference will be held in the **Conference Room, Estate Management, NIT, Rourkela** as per Schedule given above for clarifying issues and clearing doubts, if any, about the specification & other allied technical details. The prospective bidders may attend the pre-bid conference at the appointed date, time and place.
3. The tender papers may be downloaded from NIT website (i.e. [https://nitrkl.ac.in/OldWebsite/Jobs\\_Tenders/7Construction/Default.aspx](https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/7Construction/Default.aspx) ).
4. The submission of bids by the tenderer should be addressed to The Registrar, National Institute of Technology, Rourkela-769008, Odisha in three separate cover through e-procurement module available in Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>).

**(Electrical Work for Installation of Surge Protecting Devices for Network Racks vulnerable to lightning strike in NIT, Rourkela)**

Open Tender Notice No.: NITR/PW/EM/2019/166 Dated: 15/11/2019 Due Date: 09/12/2019 by 11:00 AM

**Cover No-I:** - To contain Bank Drafts towards Tender Fee & EMD

**Cover no-II:** - Technical bid

**Cover no III:** - Price bid (BOQ)

**NOTE:**

- a) Tenderers are advised not to make any alteration /modification in the Tender documents, item of work or any respect whatsoever. Violation of this requirement will make the tender liable for rejection.
  - b) In case schedule date becomes a holiday of NIT Rourkela, the next working date shall be the schedule date.
5. The tenderer must use only the tender forms issued for the purpose.
6. **Tender Cost and Bid Security (EMD):** Bid Security in shape of DD (Demand Draft) for **INR 9000 (Rupees Nine Thousand Only)** and Tender Cost (Non- refundable) in shape of DD (Demand Draft) **INR 500 (Rupees Five Hundred Only)** in favour of **Director, NIT Rourkela** Payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin bank. Bank DD (Demand Draft) for the Bid-Security should remain valid for a period of **45 days** beyond the bid validity period. Bid security of unsuccessful bidders would be returned to them at the earliest and latest. The EMD of successful bidder shall be converted to security deposit subjected to adjustment upto 5% of contract value & the same will be released after expiry of six months from the date of completion of contract period subject to adjustment/ deductions of NITR dues if any. EMD (Earnest Money deposit) and Tender Cost should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela - 769008, Odisha; on or before 10/12/2019 at 11:00 AM.**
7. The tender submitted on behalf of the firm shall be signed by its sole proprietor. However authorisations on behalf of the firm, subletting & sub-contracting are not allowed to this contract, otherwise the tender may be rejected.
8. No consideration will be given to a tender received after the time stipulated above and no extension will be allowed for submission of tender.
9. The NIT-Rourkela shall have the right to reject any tender not conforming to prescribed procedure (or all tenders) without assigning any reason.
10. The time allowed for completion of the work is **06 months**. The date of commencement of the work is reckoned from the date of Letter of Intent/Work Order. Time shall be considered the essence of the contract.
11. The rate quoted shall be firm throughout the tenure of the contract(including extension of time, if any, granted on request of the contractor) and will not be subject to any fluctuation due to increase in cost of materials, sales tax, octroi etc, unless specifically provided in the documents variation clause enclosed in the tender.
12. Water and electricity required for the completion of the construction shall be provided by the institute at free of cost. However, the contractor will have to make arrangement of pipe line for water and electric poles, wires, cable etc .for electricity.
13. **Labour rate** will be as per **GOI Ministry of Labour and Employment Notice** applicable for Group B City and will be revised as govt. Notification time to time. However contractor's profit will be remain unaltered throughout the contract period.
14. The tenderer shall submit his tender after carefully examining the whole of the tender document and the terms and conditions of contract, the drawing and specifications, the schedule of quantities etc. and also after examining the site and conditions prevailing in and around site.

- 15.** This notice inviting tenders, the conditions of tender and the duly completed form of tender etc. will form part of the Agreement to be executed by the successful tenderer with the Owner.
- 16.** The competent authority on behalf of National Institute of Technology, Rourkela does not bind him to accept the lowest or any other tender and reserves to himself the authority to reject any or all of the tenders received without the assignment of a reason. All tenders, in which any of the prescribed conditions is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer, shall be summarily rejected.
- 17.** Quotations shall remain valid for a period of **120 days** from the date of opening of the tender, which period may be extended by mutual agreement and the tenderer shall not cancel or withdraw the tender during the initial validity period 120 days .
- 18.** Tenderers must include in their rates, GST or any other tax & duty or other levy by the central and state government or any other tax & duty or other levy or to be levied in future by the central government or state government or local authority if applicable.
- 19.** The Contractor has to pay building and other construction workers welfare cess @ 1% on the cost incurred on the construction work under BOCW (RE & CS) Act 1996.
- 20.** The Contractor shall conform in all respects with the provision of any such Statue, Ordinance or Law as aforesaid and the rules, Regulations or Bye-Laws of any local or other duly constituted authority which may be applicable to the Works.
- 21.** The Contractor shall comply with all rules framed from time to time by Government (Central or State) or other local authority and legislations governing labour for the protection or health, sanitary arrangements, wages, welfare (including EPF, ESI etc.) and safety of workers.
- 22.** This contract shall be an item rate contract. The contractor shall be paid for actual quantity of work done, as measured at site including any deviation plus or minus. The rate of any non-schedule items (i.e. extra item) shall be derived as per conditions of this contract.
- 23.** The tender drawings exhibited/enclosed are preliminary drawings intended for the guidance of the Contractor only. They may be subject to revision and alteration without vitiating any of the terms of the contract and the contractor shall be bound to execute the works as shown on the final drawings without claiming any extra payment.
- 24.** No correspondence will be entertained in respect of this tender other than any clarification strictly pertaining to this tender.
- 25.** All the correspondence and documents shall be in English only.
- 26.** The tender price quoted by a tenderer shall be kept strictly confidential by them and shall not be divulged to any other party even approximately before the time limit for delivery of tender. The only exception be for obtaining an insurance quotation, you may give your insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about others tender price should be obtained and no arrangement with anyone else should be made whether or not he submitted the tender.
- 27.** For electrical works, tenderer must possess or obtain necessary license from the competent authority valid in Odisha, wherever applicable.

- 28.** For some items, unit quantity has been indicated in the BOQ for various buildings which may be executed if found necessary. No claim however will be entertained for any variation or deletion.
- 29.** List of approved Makes / Brands / Agencies is enclosed. However the final choice of brand will be as per the decision of the engineer-in-charge.
- 30.** In case of any variation of rate for similar non schedule items for various buildings, the lowest indicated rate shall be followed.
- 31.** In case of any typing error in the DSR item or rate, relevant item, and related Code number of DSR schedule shall be followed.
- 32.** During course of actual execution, any item available in one building can be followed for other building also, if found necessary, under the complete scope of work.
- 33.** Any clarification required by tenderer may be informed positively by **29/11/2019 at 03:00 PM** which will be clarified during Pre-bid meeting.
- 34.** Tenderers are requested to be present at the time of opening of the bids for discussions, if any.
- 35.** Details including our prescribed format for prequalification, BOQ, General Conditions and Special Conditions of Contracts etc. are available in our website at [https://nitrkl.ac.in/OldWebsite/Jobs\\_Tenders/7Construction/Default.aspx](https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/7Construction/Default.aspx)
- 36.** GST will be extra as per applicable rate.

**REGISTRAR**  
**National Institute of Technology**  
**Rourkela-769008 (Odisha)**  
**Fax: 0661-2462022**  
**Ph No: 0661-2462021**

**NAME OF WORK: Electrical Work for Installation of Surge Protecting Devices for Network Racks vulnerable to lightning strike in NIT, Rourkela.**

**QUESTIONNAIRE / INFORMATION TO BE SUBMITTED BY THE PROSPERITY BIDDERS**

Brief work plan (PERT/Bar Chart) for execution of the major projects within 6 months to be submitted.

1. What should be your site organization including engineers to be deployed at site?
2. Brief details of similar works executed by your firms during last 3 years. This should include cost, time of actual start/completion, analysis schedule, specifications adopted etc.

**REGISTRAR**  
**National Institute of Technology**  
**Rourkela-769008 (Odisha)**  
**Fax: 0661-2462022**  
**Ph No: 0661-2462021**

**CHECK LIST FOR PRE-QUALIFICATION**

Forms to be filled in properly.

1. Form-A: This form (check list)
2. Form-B: Letter of Transmit
3. Form-C
4. Form-D
5. Photocopy of documents to be attached.
  - a) Valid license should include valid Electrical license of State of ODISHA.
  - b) Work orders executed of last 3 years.
  - c) TAX Clearance Certificate, PAN Card & GST Registration
  - d) Performance report from authority/officer having rank not below Executive Engineer for Govt./PSUs and General Manager for private firms with specific mention about the project components, scheduled and actual time of completion, final project value etc. to be submitted.
  - e) List of equipment in possession.

**(Signature of the Agency)**

**PRE-QUALIFICATION INFORMATION**

**LETTER OF TRANSMITTAL**

(To be typed on the Agency's Letterhead)

**To**

**THE REGISTRAR**

**NATIONAL INSTITUTE OF TECHNOLOGY**

**ROURKELA - 769008**

**SUB: Electrical Work for Installation of Surge Protecting Devices for Network Racks vulnerable to lightning strike in NIT, Rourkela**

Sir,

Having examined the details of pre-qualification document, I hereby submit the pre-qualification documents and other relevant information.

1. I hereby certify that all the statements made and information supplied in the enclosed forms A to D and accompanying statements are true and correct to the best of my knowledge. I understand that if any information found incorrect, the application is liable to be cancelled.
2. I have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I certify that my firm is not **blacklisted/ banned** from business by any organization.
4. I hereby accept the rules and procedures of the Institute for pre-qualification of Contractor and agree that the Institute has the right to accept or reject any application without assigning a reason thereto.

**(Signature of the Agency)**



**NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA**

**APPLICATION FOR PRE-QUALIFICATION**

1. NAME OF AGENCY/FIRM: - \_\_\_\_\_
2. ADDRESS: - \_\_\_\_\_
3. FAX/TELEPHONE NUMBER: - \_\_\_\_\_
4. DETAILS OF REGISTRATION \_\_\_\_\_
5. PAN CARD, GST No. TAX CLEARANCE CERTIFICATE
6. VOLUME OF BUSINESS IN LAST THREE FINANCIAL YEARS  
2015-16 Rs \_\_\_\_\_  
2016-17 Rs \_\_\_\_\_  
2017-18 Rs \_\_\_\_\_
7. FIELD OF SPECIALIZATION
8. IMPORTANT JOBS EXECUTED IN GOVT./PSU INCLUDING SPECIFICATIONS, MATERIALS USED ETC.
9. IMPORTANT JOBS IN HAND AND THEIR STATUS
10. ANY OTHER INFORMATION REGARDING TECHNICAL CAPABILITY

**(Signature of the Agency)**



**Annexure to application for pre-qualification**

**WORKS COMPLETED AND IN PROGRESS DURING THE LAST 3 YEARS (INCLUDING ALL WORKS AWARDED)**

{ADD ADDITIONAL SHEETS, IF NECESSARY}

SL.NO	Name of work and work order number	Date of Start	Date of completion		Tendered Cost	Complete address of the Authority for whom the work was done
			Scheduled	Actual		

### APPROVED MAKE OF ELECTRICAL ITEMS

Sl. No.	Equipment description	Approved Make
01	ACB	Siemens (3WL), Schneider (MVS), Legrand (DMX3)
02	MCCB, MPCB	Siemens (3VL), Schneider (CVS), Legrand (DRX & DPX)
03	MCB, RCCB, RCBO, Surge Protectors, DB and other LT switchgear	Siemens (Betagard), Schneider (Acti9), Legrand (DXQ & Ekinox)
04	Change-over switch	Havells, Legrand, HPL
05	Motor Starter	Siemens, Kirloskar, Legrand
06	Push Buttons	Siemens, Esbee, Schneider
07	HT & LT XLPE Cable	Polycab, Havell's, V-guard, KEI, RR, Universal
08	FR & FRLS copper wires	Lapp, Polycab, Havell's, V-guard, KEI, RR
09	PVC Rigid Conduits	Berlia, Polycab, AKG, Anchor (Panasonic),
10	Piano reed type Switch and accessories	Anchor (Panasonic), Havell's, HPL
11	Modular Type Switches and Accessories	Legrand (Myris), Crabtree (Athena), Schneider (Zencello), Anchor (Ave),
12	FTL / CFL	Philips, CGL, Bajaj
13	LED Indoor Lights	Philips, CGL, Bajaj, Syska, Jaguar, Moserbear, Havells
14	Outdoor Lights	Philips, CGL, Bajaj, Syska
15	Energy Meters	Alstom, Secure, Schneider
16	Measuring Instruments	Siemens, Schneider, Esbee
17	Fans	Usha, CGL, Bajaj, Havell's, Almonard
18	Poles	Bajaj
19	CT & PT	Kappa, AE
20	Selector Switch	Kaycee, Esbee, Siemens, GE
21	Panel Builders	EAP, Konark Electronic, Swati Industries
22	Bus-trunking, risingmain	Legrand, Schneider, Godrej
23	Raceways and cable trays	Legrand Cablofil, Schneider
24	Cable Joint	3M, Raychem, Jonson
25	Cable Lugs	Dowels, Jonson
26	Cable gland	Dowels, Jonson
27	Astronomical Timer	Schneider, Siemens
28	Outdoor JB	Simtex, Hensel
Any other items as per the approval of the Engineer – in – Charge.		

**Note:**

1. Wherever makes have not been specified for certain terms as equivalent makes referred, the same shall be as per BIS and as per approved by Engineer in charge / Consultant.
2. Contractor shall be required to get the finishing items approved in respect of their make, finish, texture and colour etc.

## **1. DURATION OF THE CONTRACT**

- 1.1 The Contract will be valid for a period of **06 months** starting from the date of issue of work order.

## **2. SCOPE OF THE WORK**

**Details are in the BOQ**

## **3. PAYMENTS:**

- 3.1 The Contractor should submit his claim for the services rendered showing distinctly the charges payable.
- 3.2 Payment will be made to the contractor on actual work done basis after ascertaining the satisfactory performance of contractual responsibility carried out in the previous period.
- 3.3 No other advance payment claims or running bills will be entertained.
- 3.4 Income Tax and any other statutory levies will be deducted at source as per the rules in force from time to time.

## **4. INDEMNITY BOND**

Successful bidder shall indemnify NITR against any claim by any authority. In the event NITR has to pay any individual, statutory body or any agency for reasons directly or indirectly attributable to this contract, the contractor only should pay such claim/damages and even if NITR is called upon to pay such damages/penalties, the Contractor will reimburse the same. This is subject to the condition that NITR complies with various requirements in respect of the laws applicable to it.

## **5. TERMINATION OF THE CONTRACT**

NITR alone reserves the right to terminate a contract by giving 30 days notice and without assigning any reasons thereof.

## **6. OTHER TERMS AND CONDITIONS**

- 6.1 The contractor shall be responsible for the proper conduct of his staff. Any misconduct by the contractor's staff shall not be tolerated and appropriate action shall be taken by NITR.
- 6.2 The Contractor shall be responsible for payment of compensation and settlement of litigation arising out of dispute between employer and employees and before any including labour commissioner /labour courts relating to the present tender. NITR will no way be responsible on any account whatsoever relating to payment of wages and labour laws. There will be no relation of master and servant between NITR and labourers of the contractor employed for carrying out the day to day maintenance work.
- 6.3 NITR will not be responsible for any accident, death or injury to contractor's employees which would arise during the course of their duty nor shall be responsible or be liable to pay damage or compensation to such persons. The contractor should at all times indemnify and keep NITR indemnified against all claims which may be made under Workmen Compensation Act, 1923 or any statutory modifications thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury sustained by any workman or other person whose entry into NITR premises has been authorized by the contractor.

- 6.4 If, at any time, during the performance of the contract, the contractor encounter conditions impeding timely performance of service, then they should promptly notify NITR, in writing, of the fact of the delay, the cause of delay and its likely duration. NITR shall evaluate the situation and at its discretion extend the suppliers time for performance and the decision of NITR would be final and binding.
- 6.5 INSPECTION: Materials on its arrival at NITR will be inspected by NITR Engineer in-charge and his/her decision in the matter will be considered final. The rejected materials will be returned to the Contractor for replacement and all charges on the same will have to be borne by the Contractor. Replacement should be carried out within 3 days.
- 6.6 The contractor should have proper telephone numbers and email enabling NITR to contact them at any time.
- 6.7 The Contractor shall have no right, title or interest in the site made available by the NITR for the execution of the work or in the building, structure or work executive in the said site or in the goods, articles or materials etc. brought to the said site (unless the same specifically belong to the contractor) and the contractor shall not have or deem to have any lien whatsoever charge for unpaid bill will not be entitled to assume or retain possession or control of site or structures or materials or equipment and the NITR shall have an absolute right to take full possession of the site and to remove the Contractor, their servants, agents, representatives, materials etc. Belonging to the Contractor and lying on the site.
- 6.8 If any damage to any other person/persons at the premises or buildings of NITR is attributable to the Contractor, such damages should be made good by the Contractor. The contractor shall be responsible for any insurance coverage of their employees.

## **7. PERFORMANCE BANK GUARANTEE/ SECURITY DEPOSIT**

- 7.1 The Contractor should provide NITR with the Security Deposit through **Performance Bank Guarantee/ Demand Draft** equivalent to **5%** of **the contract value from any nationalized/ scheduled bank**, in the prescribed format valid for a period of 60 days beyond the date of completion of contractual obligation. The above Bank Guarantee should be submitted within 02 weeks from the date of award of contract and should be valid for over six months after the expiry of the period of the contract and extended in case of further renewals of the contract. NITR will be free to encash this Bank Guarantee in the event of any failure on the part of the Contractor to meet his obligations under the contract or in the event of any demand by the concerned Statutory Authorities for the dues from the Contractor at its sole discretion.
- 7.2 After acceptance of the contract if any/all the terms and conditions of the contract is/or violated, NITR reserves the right to terminate the contract. In such cases, the security deposit will be forfeited to NITR at its discretion.

## **8. DEDUCTIONS ON ACCOUNT OF NON-SATISFACTORY WORK**

- a) Damage to NITR assets or equipment's etc., caused by the contractor's staff, the acquisition cost of assets, will be levied as penalty as decided by NITR. The amount of losses/damages will be recovered from either bills/security deposit of the contractor.
- b) In case of any misbehaviour like quarrelling, abusing etc., between the staff employed by the contractor, causing disturbance in the premises: INR 500/- penalty per occasion and replacement of such personnel immediately.
- c) In NITR Campus smoking & chewing tobacco etc. is prohibited. Worker who is habitual of these items is deputed in campus if any found violating this rule will be asked to leave the premises and should be replaced immediately.
- d) If specified quality work is not maintained for on account of non-satisfactory work performance, a proportionate deduction for that non-satisfactory work will be made from the bill of the contractor by the competent authority of **NIT, Rourkela**. No correspondence shall be entertained from the contractor if deductions are made due to non-satisfactory work.
- e) LD will be deducted as per Institute Rule.

The decision of NITR will be final with regard to levying of penalty.

**SCOPE OF WORK FOR**  
**Electrical Work for Installation of Surge Protecting Devices for Network Racks**  
**vulnerable to lightning strike in NIT, Rourkela**

<b>Estimate for Installation of Surge Protecting Devices for network racks vulnerable to lightning strike in NIT, Rourkela</b>					
<b>Sl. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate in Rs</b>	<b>Quantity</b>	<b>Amount in Rs</b>
1	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required				
a	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	183.00	30	5,490.00
b	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	Metre	381.00	30	11,430.00
2	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.				-
a	25 mm	Metre	95.00	10	950.00
3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, 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)				-
a	2 + 4 way, Single door	Each	1,055.00	30	31,650.00
4	Supplying and fixing Surge Protecting Devices (SPD) for protection against transient overvoltage for 230/400 V AC power network (50/60 Hz). Imax 20KA/Pole, Up: 1.2 kV - In: 5 kA/pole - Uc: 320 V AC Legrand make Cat. No 4122 21 & 4122 23 or equivalent as approved) of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				-
a	2P	Each	5,810.00	55	319,550.00
b	4P	Each	10,816.00	5	54,080.00
	<b>SUB_TOTAL</b>				<b>423,150.00</b>
	GST extra @ 18 %				76,167.00
	<b>GRAND TOTAL (A+B)</b>				<b>499,317.00</b>

## **Special condition for Safety at the Work Site**

The contractor will take every step for implementation of Safety systems.

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

1. Smoking is strictly prohibited at workplace.
2. Nobody is allowed to work without wearing safety helmet. Chinstrap of safety helmet shall be always on. Drivers, helpers and operators are no exception.
3. No one is allowed to work at or more than three meters height without wearing safety belt and anchoring the lanyard of safety belt to firm support preferably at shoulder level.
4. No one is allowed to work without adequate foot protection.
5. 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.
6. All safety appliances like Safety shoes, Safety gloves, Safety helmet, Safety belt, Safety goggles etc. shall be arranged before starting the job.
7. All excavated pits shall be barricaded & barricading to be maintained till the backfilling is done. Safe approach to be ensured into every excavation.
8. Adequate illumination at workplace shall be ensured before starting the job at night.
9. All the dangerous moving parts of the portable / fixed machinery being used shall be adequately guarded.
10. Ladders being used at site shall be adequately secured at bottom and top. Ladders shall not be used as work platforms.
11. 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 tress-passers from entering the area.
12. Other than electricians no one is allowed to carry out electrical connections, repairs on electrical equipment or other jobs related thereto.
13. All electrical connections shall be made using 3 or 5 core cables, having a earth wire.
14. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.
15. A tools and tackles inspection register must be maintained and updated regularly.
16. 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.
17. All the unsafe conditions, unsafe acts identified by contractors, reported by site supervisors and / or safety personnel to be corrected on priority basis.
18. No children shall be allowed to enter the workplace.
19. All the lifting tools and tackles shall be stored properly when not in use.
20. Clamps shall be used on Return cables to ensure proper earthing for welding works.
21. Return cables shall be used for earthing.

22. All the pressure gauges used in gas cutting apparatus shall be in good working condition.
23. Proper eye washing facilities shall be made in areas where chemicals are handled.
24. Connectors and hose clamps are used for making welding hose connections.
25. All underground cables for supplying construction power shall be routed using conduit pipes.
26. Spill trays shall be used to contain the oil spills while transferring / storing them.
27. Tapping of power by cutting electric cables in between must be avoided. Proper junction boxes must be used.

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