



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
**ENGINEERING UNIT**  
**CHENNAI – 600 036**  
**ITEM RATE TENDER**  
**TENDER No. 7 / 2014-15 / ELDB**  
**FINANCIAL BID (PART- B)**

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## INDIAN INSTITUTE OF TECHNOLOGY MADRAS

ENGINEERING UNIT

CHENNAI – 600 036

### 1. Notice Inviting Tenders

#### **TENDER NO. 7 / 2014-15 / ELDB**

The Executive Engineer (E), Engineering Unit, Indian Institute of Technology Madras, Chennai on behalf of the Chairman, Board of Governors, IITM, invites sealed tenders, in two envelope system (Application for eligibility and Financial bid) for the following work from the contractors who satisfy the Eligibility Criteria.

#### **1. PARTICULARS OF WORK**

- |   |  |
|---|--|
| 1. Name of work:                                | Annual Comprehensive Maintenance of Air conditioners in various department ( Zone - 2) in IIT Madras for the year 2014-15          |
| 2. Estimated cost:                              | Rs. 24,93,000/-  |
| 3. Earnest Money Deposit (EMD):                 | Rs. 49,860/-   |
| 4. Cost of tender document:                     | Rs. 525/-  |
| 5. Time period for completion:                  | 12 months  |
| 6. Validity of the tender:                      | 3 months   |
| 7. Date of Pre-bid Meeting:                     | 24/02/2014 at 11:00 AM   |
| 8. Date and Time of submission of Tender        | 04/03/2014 at 3:00 PM  |
| 9. Date and time of opening of the Applications | 04/03/2014 at 3:10 PM  |
| 10. Place of Receipt of tenders:                | Office of the Executive Engineer (E),<br>Administrative Building,<br>3rd Floor, Engineering Unit,<br>IIT Madras, Chennai – 600 036 |

#### **1.1 Deadline for submission of tender**

Tenders must be received by the Employer at the following address not later than 3.00 PM on the date of opening mentioned. In the event of the specified date for the submission of the Tender being declared a holiday by the Employer, the Tenders will be received up to the appointed time on the next working day

## **1.2. Address for Submission of Tender**

The Executive Engineer (E),  
Engineering Unit, Administrative Building, 3<sup>rd</sup> floor,  
Indian Institute of Technology Madras  
Chennai – 600036

1.12 The Employer may extend the deadline for submission of Tenders by issuing an amendment in writing in which case all rights and obligations of the Employer and the Tenderer previously subject to the original deadline will be subject to new deadline.

## **1.3 LATE TENDER**

Tenders received late will not be accepted.

## **2. TENDER**

- 2.1. I/We have read and examined the notice inviting tender, schedules A & B, Specifications applicable, drawings, Conditions of contract and other documents and rules referred to in the conditions of contract and all other contents in the tender documents for the work.
- 2.2. I/We hereby tender for the execution of the work specified for the Indian Institute of Technology Madras, within the time specified in Schedule – ‘F’ and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in General Rules and Directions and in Clause 11 of Form 8 (General conditions of contract) and with such materials as are provided for, and in all respects in accordance with such conditions applicable.
- 2.3. I/We agree to keep the tender open for sixty (60) days from the date of opening of tender and not to make any modifications in its terms and conditions
- 2.4. I/We agree that the EMD deposited by me/us be retained by IITM towards Security Deposit to ensure execution of all works referred to in the tender documents on the terms and conditions contained or referred to therein.
- 2.4. If I/We fail to furnish the prescribed performance guarantee as mentioned elsewhere within prescribed period, I/we agree that IITM shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely.
- 2.5. I/we agree that in case of forfeiture of earnest money as aforesaid, I/we shall be debarred from participating in the re-tendering process of the work.
- 2.6. If I/we fail to commence work as specified in clause 3A of the contract, I/we agree that IITM shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely,
- 2.7. I/We agree to carry out such deviations as may be ordered, up to a maximum percentage mentioned in Schedule ‘F’ and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the contract.
- 2.8. I/we hereby declare that I/we shall treat the tender documents, drawings and other records connected with the work as secret / confidential documents and shall not

communicate the information derived therefrom to any person other than a person to whom I/we am / are authorised to communicate the same or use the information in any manner prejudicial to the safety of the State.

2.9. I/We hereby certify that the tender document downloaded is the exact copy of the document published by the IITM and no alterations and additions have been made by me / us in the tender document.

Contractor

Dated

Signature of the Tenderer  
Postal Address

Witness

Signature  
Name  
Postal Address  
Occupation

### **3. Acceptance**

The above tender is accepted by me for an on behalf of the Board of Governors, IITM for a sum of

Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_  
\_\_\_\_\_ )

The letters referred to below shall form part of this contract Agreement:

- a)
- b)
- c)

For & on behalf of the Board of Governors, IITM

Signature \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_

## **4.0. Conditions of contract**

### **4.1. Definitions**

In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-

1. The expression 'works' or 'work' shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered, substituted or additional.
2. The 'Site' shall mean the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
3. The 'contractor' shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
4. The 'Engineer-in-charge' means the Engineer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of IIT as mentioned in Schedule 'F' hereunder.
5. 'Accepting Authority' shall mean the authority mentioned in Schedule.
6. 'Excepted Risks' are riots (other than those on account of contractor's employees), war, acts of God such as earthquake, lightening and unprecedented floods, and other such causes over which the contractor has no control and accepted as such by the Accepting Authority.
7. 'Market Rate' shall be the rate as decided by the Engineer-in-charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover all overheads and profits.
8. 'Schedules(s)' referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard schedule of Rates of the CPWD mentioned in schedule 'F' hereunder, with the amendments thereto issued up to the date of receipt of the tender.
9. 'Department' means IITM which invites the tenders.
10. 'District specification' means the specifications followed by the state of Tamil Nadu in the area where the work is to be executed.
11. 'Tendered value' means the value of the entire work as stipulated in the letter of award.
12. 'Employer means IITM
13. Where the context so requires, words imparting the singular also include the plural and vice versa. Any reference to masculine gender shall whenever required shall refer to feminine gender and vice versa.
14. Wherever the expression "Divisional Officer" appears in the Clauses, it should be substituted by the expression "Executive Engineer (E)".
15. "Engineer in Charge" means Executive Engineer (E), IITM, and the Engineer means the officer representing the Engineer-in-Charge of the Project.

#### **4.2. Authority to sign the tender document**

The tender must be signed by the person / persons competent to sign as indicated below. Same stipulations will also apply in the case of Receipt of payments for the work done.

1. If the Applicant is an individual, he should sign above his full typewritten name and current address.
2. If the Applicant is a proprietary firm, the Proprietor should sign above his full typewritten name and the full name of his firm with its current address.
3. If the Applicant is a firm in partnership, the Documents should be signed by all the Partners of the firm above their full typewritten names and current addresses. Alternatively the Documents should be signed by a Partner holding Power of Attorney for the firm and in this case a certified copy of the Power of Attorney should accompany the tender documents. In both cases a certified copy of the Partnership Deed and current address of all the partners of the firms should be furnished.
4. If the Applicant is a limited Company, or a Corporation, the Documents shall be signed by a duly authorized person holding Power of Attorney for signing the Documents, accompanied by a copy of the Power of Attorney. The Applicant should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary

#### **4.3 .Instructions for filling the Bill of Quantities (Schedule A )**

1. Rate for each item shall be filled in words and figures and there shall be no discrepancy between the rate quoted in figures and words. However, if a discrepancy is found, the rate which corresponds with the amount worked out by the contractor shall unless otherwise proved, be taken as correct.
2. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct.
3. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor, will, unless otherwise proved, be taken as correct and not the amount.
4. If no rate has been quoted for any item(s), leaving space both in figure(s), words(s) and amount, it will be presumed that the contractor has included the cost of this / these item(s) in other items and rate for such items(s) will be considered as zero and work will be required to be executed accordingly.
5. Amount must be quoted in full rupees only.
6. Special care should be taken to write the rates in figures as well as in words and the amount in figures 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 the word ' P ' after the decimal figures, eg.' Rs 2.15P' and in case of words the word, "Rupees" should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only', it should invariably be up to two decimal places. While quoting each rate in schedule of tender, the word 'only' should be written closely following the rate and it should not be written in the next line.
7. In the case of item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected



8. Tenders containing proposal for any alteration in the work or in the time allowed for carrying out the work, or which contain any other condition including conditional rebates, will be summarily rejected.
9. The officer inviting tenders shall have the right to reject all or any of the tenders and will not be bound to accept the lowest or any other tender.
10. The tender for the work shall not be witnessed by a Contractor or Contractors who himself / themselves has/have tendered for the same work. Failure to observe this condition would render tenders of the Contractor tendering, as well as witnessing the tender, liable to summary rejection.
11. In the case of any tender where unit rate of any item/items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such tender is liable to be rejected.
12. The tenderers shall sign a declaration under the Official Secret Act, 1923, for maintaining secrecy of the tender documents, drawings or other records connected with the work given to them.

#### **4.4. Refund / forfeiture of EMD**

1. In the event of a tender being accepted, a receipt for the Earnest Money forwarded therewith shall thereupon be given to that Contractor.
2. In the event of a tender being rejected, the Earnest Money forwarded with such unaccepted tender shall thereupon be returned to the Contractor remitting the same, without any interest.
3. Tender for the work shall remain open for acceptance for a period of 60 days from the date of opening of the Tender.
4. If any tenderer withdraws his tender before the said period or issue of acceptance, whichever is earlier or makes any modification in the terms and conditions of the tender which are not acceptable to the Institute, then IITM, shall without prejudice to any other right or remedy, be at liberty to forfeit 50 % of the said earnest money.

#### **4.5 Documents to be submitted upon acceptance of the tender.**

1. 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 in writing to the Engineer in Charge.
2. The Contractor shall give a list of IITM employees related to him.

#### **4.6 Signing of Agreement.**

1. The successful contractor on acceptance of his tender shall within 14 days from the stipulated date of start of the work, sign the contract.
2. **Documents constituting the contract.**
  - a. Non judicial stamp paper for value not less than Rs.100 containing the brief description of the contract duly signed by both parties to the contract.
  - b. The notice inviting tender, the financial bid and all other the documents including drawings, if any, forming the tender as issued at the time invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - c. Decisions taken in the Pre-bid meeting if conducted.
  - d. Letter of acceptance
  - e. Letter of award (After submission of Performance Guarantee)

#### **4.7 Special conditions**

1. Child Labour is strictly prohibited.
2. Construction labour shall not be permitted (except staff for watch and ward) to stay inside the campus and no labour camp shall be allowed to be set up inside the campus.
3. The construction activities and storage of materials shall be restricted within the area earmarked around the proposed building, which shall be barricaded with materials approved by IITM.
4. The contractor shall abide by the restrictions imposed by the security wing of the Institute on the working and on movement of labour, materials etc. and nothing extra shall be payable on this account. The contractor shall arrange for necessary photo identity passes for the labour for entry into the campus. Advance action for obtaining such passes shall be taken by the contractor and no claim on this account shall be entrained.
5. Movement of labour should be restricted to the areas where work is carried out. Workers should be made to confine themselves to the work areas and should not wander into the near by areas / buildings/ forest.
6. The work should be executed during day time only. If the work is required to be carried out in the night, necessary permission of the Engineer-in-charge shall be obtained. Contractor will make his own arrangement for lighting the area and no extra amount for carrying out the work during night is payable. To the extent possible engaging women labour in the night shift should be avoided.
7. The work shall be carried out with least hindrance to the adjoining buildings and offices and the contractor will be responsible for any damage, caused to the existing fixtures, electric fittings, cables, roads, pipelines etc. in the course of execution and the contractor shall make good any such damages for which nothing extra is payable.
8. Water for construction shall be arranged by the contractor. The contractor will not be allowed to use any of the water resources available within the campus nor will be permitted to dig any bore well inside the campus.
9. No plot rent shall be charged for materials stocked in the institute land during the course of construction with the prior approval the Engineer. All such materials shall be removed at the time of completion of the work.
10. The contractor shall make his own arrangement for electricity required during the construction period.
11. Tenderers shall inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site and shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not. Submission of a tender implies that the tenderer has read the complete contract documents and is aware of the conditions, specification of the work to be done and of the local conditions and other factors having a bearing on the execution of work. Any claim either for extra amount or for additional time for execution due to ignorance about the site and working condition is not payable.
12. All documents forming the contract shall be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scaled.

13. In the case of discrepancy between the schedule of Quantities, the specifications and/or the Drawings, the following order of precedence shall be observed.
  - i. Description of item in the Schedule of Quantities.
  - ii. Particular Specifications and special conditions, if any
  - iii. Drawings.
  - iv. C.P.W.D Specifications
  - v. Specifications of B.I.S.
14. If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer-in-charge shall be the deciding authority with regard to the interpretation of the documents and his decision shall be final and binding on the contractor.
15. Any error in description, quantity or rate in schedule of Quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract. All such variations, errors additions, substitutions etc shall be decided as per the terms of the contract
16. The building work shall be carried out complying in all respects with the requirements of relevant bye-laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
17. The work of water supply, internal sanitary installations and drainage work etc. shall be carried out as per the local body bye-laws and the contractor shall produce necessary completion certificate from such authorities after completion of the work, if required.
18. Where CPWD specifications are not available for fittings and fixtures, the same should conform to bye-laws and specification of the local Body. The contractor should engage licensed plumbers for the work.
19. The contractor shall comply with all legal orders and directions of the local or public authority or municipality and abide by them.
20. The contractor shall give a performance test of the installation(s) as per specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
21. Any cement slurry added over base surface (or) for continuation of concreting to obtain better bond between old and new concrete is deemed to have been included in the items and nothing extra shall be payable or extra cement considered in consumption on this account
22. The Rate for RCC works includes cost of concreting in sloped & curved roof, chajjas & beams and no extra rate shall be payable for concreting in such situations.
23. The rate for Centering & shuttering under concrete items will be the same for Centering & shuttering in curves & arches also unless specified otherwise in BOQ.
24. The contractor should construct proper mortar bands of lean mix with adequate depth & size over the roof for flooding with water & proper curing. In case of Arches, wet gunny bags shall be used for a period of two weeks.
25. Holes and chase for water supply and drainage, etc, shall be provided as directed during progress of work without any claim for extra for finishing

26. The rate quoted for tiling on walls shall include providing the bevel edges for the corners or the PVC corner strips. No additional payment shall be payable on this account.
27. Sample of all materials, fixtures, flooring tiles, wall tiles, doors, windows, sanitary fittings, roofing sheets electrical fittings etc, shall be got approved in advance from the Engineer-in-Charge before taking up the respective work. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving the materials and clearance of the same before their use in work.
28. The contractor shall be furnished, free of cost one certified copy of the contract documents except Standard Specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract
29. For any dispute arising out of this agreement, the legal jurisdiction will be at Chennai in Tamil Nadu only.
30. It is not binding on the competent authority to accept the lowest or any other tender and any or all the tenders received can be rejected without assigning any reason.
31. Canvassing whether directly or indirectly, in connection with tender is strictly prohibited and the tenders of the contractors who resort to canvassing will be liable to rejection.
32. The competent authority reserves the right to accept part of the tender and the tenderer shall be bound to perform the same at the rates quoted.
33. The contractor shall associate an Electrical contractor of the appropriate class to carry out the electrical works. But it is the principal contractor who is responsible for completion of the Electrical work also as per contract. No agreement is created between the Electrical contractor associated by the tenderer and IITM in this regard.
34. Other agencies related to this project will also simultaneously execute their part of works and the contractor shall cooperate and allow smooth working of all such agencies. The contractor shall leave such holes, openings etc, for laying / burying of pipes, cable, conduits, clamps, boxes and hooks for fans etc. as may be required for other agencies. Conduits for electrical wiring shall be laid in such a way that they leave enough space for concreting and do not adversely affect the structural members. The rates quoted for the items of work are deemed to include charges for coordinating with all such agencies and nothing extra is payable on this account.
35. The following events will take place in the Campus which may hinder the progress of work. The duration of the events are
  - a. Shaastra and Saarang - 10 days (normally in January)
  - b. Convocation - 2 days (normally in July)The completion time stipulated in the contract is deemed to have included the above, if they happen during the duration of the contract.

## 5. SCHEDULES

**Schedule 'A'** - The Bill of Quantities enclosed in this document.

**Schedule 'B'** - Schedule of materials proposed to be issued to the tenderer

NO MATERIAL SHALL BE ISSUED TO THE TENDERER BY IITM

**Schedule 'C'**- Schedule of tools and plants proposed to be hired to the tenderer

NO TOOLS AND PLANTS SHALL BE HIRED TO THE CONTRATOR BY IITM

**Schedule 'D'** - Extra schedules for specific requirements / documents for the work, if any.

**Schedule 'E'**- Price escalation will be as per CLAUSES – 10C of the agreement. Apart from these price escalations no other claim for escalation for execution of work during the period/extended period of the contract is payable.

### **Schedule 'F'**

Name of work : Annual Comprehensive Maintenance of  
Air conditioners in various department ( Zone - 2)  
in IIT Madras for the year 2014-15

Estimated cost of work : Rs. 24,93,000/-

Earnest money : Rs. 49,860/-

Performance Bank Guarantee : 5% of the tendered value

Security Deposit : 5% of the tendered value

### **General Rules and Directions:**

Officer inviting tender Executive Engineer (E), IIT Madras

Maximum percentage for quantity of items work  
to be executed beyond which rates are to be  
determined in accordance with clause 12.2 and 12.3. } See below

### **Definition**

Engineer-in-charge Executive Engineer (E)

Accepting authority Director, IIT Madras

Percentage on cost of material and  
labour to cover all overheads and profit 15%

Standard schedule of rates CPWD DSR 2012

Department IIT Madras

Standard CPWD contract form CPWD form 8 with up to date  
Modification and correction

## Clause 1

- i.) Time allowed for submission of Performance  
Guarantee from the date of issue of letter of acceptance in days. 7 (Seven)\_Days
- (ii) Maximum allowable extension beyond the period provided above 7 (Seven) Days.

## Clause 2

Authority for levying compensation under clause 2. Superintending Engineer

## Clause 2a

Whether clause 2a shall be applicable : Yes applicable.

## Clause 5

Number of days from the date of issue of letter of acceptance for reckoning the date of start : 14 Days

Time allowed for execution of work : Twelve months

Authority to give fair and reasonable Extension of time for completion of work : EXECUTIVE ENGINEER (E), IITM

**Clause 6, 6A** : Clause 6A shall be applicable.

## Clause 7

Gross work to be done with net payment after adjustment of advances for material collected, if any, since the last such payments : Rs. 5.0 Lakhs  
for being eligible to interim payment.

**Whether Clause 10B (ii) shall be applicable** Yes

**Clause 10C** applicable.

## Clause 11

Specification to be followed for execution of work

Particular specifications CPWD Specifications for Heating ventilation and air conditioning works 2004, general specifications for electrical works part – I 2004, , general specifications for electrical works Part-IV Sub Station 20, American Society of Heating, Refrigeration and air conditioning Engineer guides, Data book and standards, Air conditioning and Refrigeration Institute. National Electrical code.

BIS codes, Manufacturer's specifications, General Engineering Practice.

(The specification mentioned earlier will prevail over the one mentioned later unless decided otherwise by the Engineer in Charge)

## Clause 12

Deviation limit beyond which clauses 30% for construction &

12.2 & 12.3 shall apply for building work  
(Excluding foundation) 50% for maintenance

Deviation limit beyond which  
clauses 12.2 & 12.3 shall apply for  
foundation work. } 100%

## Clause 16

Competent Authority for  
deciding reduced rates for items which  
are not as per specification Executive Engineer (E)  
IIT Madras

### Clause 36(i) Technical Personnel to be employed at site.

<b>Designation</b>	<b>Minimum qualification and experience required</b>	<b>Discipline</b>	<b>Rate of recovery per month for non employment</b>
Technical Representatives	Diploma in Engineering with minimum 5 years of experience – 1 No.	Electrical Engineering	Rs. 20000

## **6. ADDITIONAL SPECIFICATIONS**

The additional specification given below is not substitute to CPWD specifications or IS specifications. These shall be read along with CPWD specifications or IS specifications.

### **6.1. GENERAL**

1. The work shall be carried out using metric dimensions only and shall be measured and paid in metric dimensions. F.P.S. units, if any, mentioned in drawings etc are for guidance only.
2. Wherever any reference to any Indian Standard Specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued thereto or revision thereof if any, up to the date of receipt of tenders.
3. Unless otherwise specified in the schedule of quantities the rates for the various items are for execution at all heights, levels and locations.
4. Unless otherwise specified in the schedule of quantities the rate for the items of the work shall be considered as inclusive of pumping out or bailing out water during execution, if required, for which no extra payments will be made. This will include water encountered from any source, such as rains, floods, sub-soil water table being high or due to any other cause whatsoever.

### **6.2. Electrical Conduits Laying**

For fixing electrical conduits in walls the required chase should be cut using only electrically operated circular saw. Using of hammer and chisel is completely prohibited

## **7. STATUTORY REQUIREMENTS / APPROVAL FROM STATUTORY AUTHORITIES**

Work for electrical installation shall be carried out in accordance with this specification and complying with the relevant statutory requirements and national standards. It shall be the responsibility of the contractor to obtain approvals of competent Central or State Government authorities and satisfy them regarding the compliance with relevant regulations for this scope of work.

The work should be carried out only under the supervision of licensed supervisors. The licenses possessed by the Contractor's supervisor shall be made available to the Client for scrutiny before commencement.

Test certificate for installation shall be prepared in the form required by the Electrical Inspectorate Govt. of Tamilnadu and Tamilnadu Electricity Board. Any rework on account of remarks by Electrical Inspector shall have to be carried out by the Electrical contractor at no extra cost.



## 8.Forms

### **8.1 Guarantee bond**

Form of performance security (guarantee) Bank guarantee bond

In consideration of the Indian Institute of Technology Madras (hereinafter called “The Institute”) Having offered to accept the terms and conditions of the proposed agreement between .....and.....(hereinafter called “the said contractor (s)for the work..... (hereinafter called “the said agreement”) having agreed to production of a irrevocable bank Guarantee for Rs.....(Rupees.....only) as security / guarantee from the contractor (s) for compliance of his obligations in accordance with the terms and condition in the said agreement.

- 1) We.....(hereinafter referred to as “the Bank”) hereby (Indicate the name of the Bank) Undertake to pay to the Institute an amount not exceeding Rs.....(Rupees.....only) on demand by the Institute.
- 2) We.....do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from the Institute stating that the amount claimed is required to that recoveries due or likely to be due from the contractor (s). Any such demand on the Bank shall be conclusive as regard the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only)
- 3) We, the said bank further undertake to pay to IITM any money so demanded notwithstanding any dispute or disputes raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present guarantee being absolute and unequivocal.  
The payment so made by us under this bond shall be a valid discharge of our liability payment therein under and the contractor (s) shall have no claim against us for making such payment.
- 4) We.....further agree that the guarantee herein (indicate the name of the bank) Contained shall remain in full force and effect during the period that would be taken for the said performance of the said agreement and that it shall continue to be enforceable till all the dues of the Institute under or by virtue of the said agreement have been fully paid and claims satisfied or discharged or till Engineer-in-charge on behalf of the Institute certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor (s) and accordingly discharges this guarantee.
- 5) We.....further agree with the Institute that (Indicate the name of the Bank) the Institute shall have the fullest liberty without our consent without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Institute against the said contractor (s) and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor (s) or for any forbearance, act of omission on the part of the Institute on any indulgence by the Institute to the said contractor (s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6) This guarantee will not be discharged due to the change in the constitution of the bank or the contractor (s).

7) We.....lastly undertake not to revoke this (Indicate the name of the Bank) Guarantee except with the previous consent of the Institute in writing.

8) This guarantee shall be valid up to.....unless extended on demand by Institute. Notwithstanding anything mentioned above, our liabilities under this guarantee is restricted to Rs ..... (Rupees .....) and unless a claim of writing is lodged with us within six month of the date of expiry or extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharge.

Dated the.....day of.....for.....(Indicate the name of the Bank)

## 8.2. Form of guarantee bond for EMD

In consideration of the Indian Institute of Technology Madras (hereinafter called “The Institute”) Having offered to accept the terms and conditions of the proposed tender for the work of .....having agreed to production of an irrevocable bank Guarantee for Rs.....(Rupees.....only) as security from the contractor (s) for compliance of his obligations in accordance with the terms and condition in the tender.

- 1) We..... (hereinafter referred to as “the Bank”) hereby (Indicate the name of the Bank ) Undertake to pay to the Institute an amount not exceeding Rs.....(Rupees.....only) on demand by the Institute.
- 2) We.....do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from the Institute stating that the amount claimed is required to that recoveries due or likely to be due from the contractor (s). Any such demand on the Bank shall be conclusive as regard the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees.....only)
- 3) We, the said bank further undertake to pay to IITM any money so demanded notwithstanding any dispute or disputes raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability payment therein under and the contractor (s) shall have no claim against us for making such payment.
- 4) We.....further agree that the guarantee herein (indicate the name of the bank) Contained shall remain in full force during the **SIX months period**.
- 5) We.....further agree with the Institute that (Indicate the name of the Bank) the Institute shall have the fullest liberty without our consent without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Institute against the said contractor (s) and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor (s) or for any forbearance, act of omission on the part of the Institute on any indulgence by the Institute

to the said contractor (s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

- 6) This guarantee will not be discharged due to the change in the constitution of the bank or the contractor (s).
- 7) We.....lastly undertake not to revoke this (Indicate the name of the Bank) Guarantee except with the previous consent of the Institute in writing.
- 8) This guarantee shall be valid up to **SIX months** unless extended on demand by Institute. Notwithstanding anything mentioned above, our liabilities under this guarantee is restricted to Rs..... (Rupees .....) and unless a claim of writing is lodged with us within six month of the date of expiry or extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharge.

Dated the.....day of.....for.....(Indicate the name of the Bank)

## **9. Special conditions**

### **9.1 Protection of Environment**

1. The debris / construction waste and other waste generated from the work spot should not be thrown inside the campus. All waste material should be taken out of the campus or should be dumped at a place earmarked by the Engineer in charge. All construction material should be stored only at places earmarked by the engineer in charge.
2. Material like cement, aggregate, steel etc should not be stored in buildings that are in use. If any material stored in unauthorized location the same shall got removed at the cost of contractor and necessary rent shall be levied for the area used for storage.
3. For Intercarting of various materials use of animal drawn vehicles are strictly prohibited.
4. Preparation of concrete, mortars in the roads, pavements, bare floors under the building is strictly prohibited.
5. While transporting the materials along the road, spillage of material should be avoided. If any spillage occurs, the same should be got cleaned immediately.
6. No vegetation inside the campus should be damaged.
7. Smoking is strictly prohibited at workplace.

## 10. Safety at the Site

1. The contractor must appoint a qualified person (full time) for taking care of implementation of Safety systems
2. The Contractor shall submit the **Project Safety Plan** stating the methodology of implementation of systems to ensure the safe and environment friendly work place. The Safety Plan must include the following.
  - a. Organization Chart
  - b. Reporting relationship of the safety enforcement personal in a flow chart
  - c. Safety Committee Structure – Chairman, secretary and committee members

### 17.1 Roles & Responsibilities of the Safety committee

Enforcement of

1. applicable Statutory requirements, standards and codes related to safety and its adherence,
  2. General safety rules and regulations concerning use of personal protective equipment and safety devices relevant to site activities, Awareness and Training Programs, Motivational schemes, programs for safe Access, Egress and workstation safety
  3. Safe use of construction power supply and upkeep / maintenance of installations
  4. Work permit systems
  5. Use, maintenance and inspection of Plant & machinery
  6. Scaffold & formwork norms
  7. Use, maintenance and inspection of Lifting Tools
  8. Fire Protection and prevention
  9. Emergency preparedness
- 17.2 Status of Safety implementation at site will be discussed in the Weekly Review meeting. Contractor must submit the safety statistics every month in the enclosed format. Merit Certificate will be issued for the achievement of safety mile stones like 0.5 million safe man hours, one million safe man hours, 1.5 million safe man hours and so on.
- 17.3 The General Guidelines governing the safety implementation shall include the following Rules., while preparing the safety plan.
1. All the workmen shall undergo Safety Induction, screening before engaging them on the job. Physical fitness of the person to certain critical jobs like working at height or other dangerous locations to be ensured before engaging the person on work.

2. Sub-contractors shall ensure adequate supervision at workplace. They shall ensure that all persons working under them shall not create any hazard to self or to co-workers.
3. Nobody is allowed to work without wearing safety helmet. Chinstrap of safety helmet shall be always on. Drivers, helpers and operators are no exception.
4. All labour should be dressed properly attending to work wearing dhotis, lungies should be avoided to the extend possible.
5. The workmen shall wear suitable protection devices like mask, gloves, shoes etc,
6. 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.
7. No one is allowed to enter into workplace and work at site without adequate foot protection.
8. 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.
9. All PPE like Safety shoes, Safety helmet, Safety belt, Safety goggles etc. shall be arranged before starting the job.
10. All excavated pits shall be barricaded & barricading to be maintained till the backfilling is done. Safe approach to be ensured into every excavation.
11. Adequate illumination at workplace shall be ensured before starting the job at night.
12. All the dangerous moving parts of the portable / fixed machinery being used shall be adequately guarded. Ladders being used at site shall be adequately secured at bottom and top. Ladders shall not be used as work platforms.
13. Erection zone and dismantling zone shall be barricaded and nobody will be allowed to stand under suspended loads.
14. Contractors should spray water using Water browser periodically in the site to reduce the dust rising due to wind.
15. Horseplay is completely prohibited at workplace. Running at the site is completely prohibited, except in the case of emergency.
16. 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.
17. Other than electricians with red helmet no one is allowed to carry out electrical connections, repairs on electrical equipment or other jobs related thereto.
18. All electrical connections shall be made using 3 or 4 core cables, having a earth wire.
19. Proper Earthling pits at site to be constructed. And the sensitivity must be maintained less than 1 ohm

20. Main panel boards should have MCB's and RCCB / ELCB's ( 30 mA sensitivity).
21. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.
22. All major, minor accidents and near misses to be recorded and reported to the IITM and the management must take necessary steps to avoid the recurrence.
23. Scaffoldings used should be of proper construction. No Casuarina pole / bamboo scaffolding is permitted. It should be inspected by competent person(s) before use
24. All tools and tackles shall be inspected before use. Defects to be rectified immediately. No lifting tackle to be used unless it is certified by the competent authority.
25. All tools and tackles shall be tested and have a Identification no., SWL and date of next test marked on them.
26. A tools and tackles inspection register must be maintained and updated regularly.
27. Good housekeeping to be maintained. Passages shall not be blocked with materials. Materials like bricks shall not be stacked to the dangerous height at workplace.
28. Must have a reverse horn on all the Earth moving vehicles and Equipments used at site.
29. Debris, scrap and other materials to be cleared from time to time from the workplace and at the time of closing of work everyday.
30. Adequate fire fighting equipment shall be made available at workplace and persons are to be trained in fire fighting techniques with the co-ordination of site safety co-ordinator.
31. All the unsafe conditions, unsafe acts identified by contractors, reported by site supervisors and / or safety personnel to be corrected on priority basis.
32. No children shall be allowed to enter the workplace.
33. Other than the Driver / operator, no one shall travel in a tractor / tough rider etc.
34. All the lifting tools and tackles shall be stored properly when not in use.
35. Clamps shall be used on Return cables to ensure proper earthing for welding works.
36. Return cables shall be used for earthing.
37. All the pressure gauges used in gas cutting apparatus shall be in good working condition.
38. Proper eye washing facilities shall be made in areas where chemicals are handled.
39. Connectors and hose clamps are used for making welding hose connections.
40. Proper warning boards and caution notices to be displayed at required areas inside the site.
41. All cranes must have a trained signal man for signaling.



42. All underground cables for supplying construction power shall be routed using conduit pipes.
  43. Spill trays shall be used to contain the oil spills while transferring / storing them.
  44. Tapping of power by cutting electric cables in between must be avoided. Proper junction boxes must be used.
- 17.4 Any violation of above will attract levy of penalty by the engineer in charge on the contractor.

## **11. INSURANCE**

### **1. Insurance of Works**

The Contractor shall effect Contractor's all risk insurance policy (CAR policy) in the joint names of the Employer and the Contractor, the name of the former being placed first in the policy, covering the following:

(a) The Works at the contract price together with the materials for incorporation in the works at their replacement value.

(b) All plants and equipment and other things brought to the site by the Contractor at their replacement value.

The insurance shall be against all losses or damages from whatever causes, other than excepted risks, as defined in Clause 2 of Conditions of Contract, for which the Contractor is responsible under the Contract. The insurance cover shall be for the period of contract and also for the period of maintenance, for loss or damage arising from a cause prior to commencement of the period of maintenance, and for any loss or damage, occasioned by the Contractor in the course of any operations carried out for the purpose complying with his course of any operations carried out for the purpose of complying with his obligations during maintenance period under Clause 17 of Clauses of Contract. Such insurance shall be effected with an insurer and with terms approved by the Employer. The Contractor shall, whenever required, produce the policy or policies and the receipts for payment of the current premiums.

### **2. Third Party Insurance**

Before commencing the execution of the Works, the contractor shall insure against the liability for any material or physical damage, loss or injury which may occur to any property or life including that of the Employer or to any person, including any employee of the Employer, by or arising out of the execution of the works or in the carrying out of the Contract. The sum insured will be for Rs.5 lakhs. Such insurance shall be effected with an insurer and in terms approved by the Employer. The Contractor shall, whenever required, produce before the Engineer-in-charge the policy or policies of insurance and the receipts of payment of the current premiums.

### **3. Workmen's Insurance**

The Employer's shall not be liable for any payment in respect of any damages or compensation payable according to law in respect or in consequence of any accident or injury or loss of life to any workman or other person in the employment of the Contractor or any sub-contractor, except an accident or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall insure against such liability with an insurer approved by the Employer for sum of the established norms during the entire period till completion of Period of Maintenance.

### **4. Recovery from the Contractor**

Without prejudice for the other rights of the Employer against the Contractor in respect of default, the Employer shall be entitled to deduct from any sums payable to the Contractor the amount of any damages, compensation costs, charges and other expenses paid by the Employer and which are payable by the Contractor under this clause.

### **5. Extension of time**

The Contractor, in case of rebuilding or reinstatement, shall be entitled to such extension of time for completion as the Engineer-in-charge may deem fit, but shall, however not be entitled to reimbursement by the Employer of any shortfall or deficiency in the amount finally paid by the insurer in settlement of any claim arising as set out herein.

### **6. Insurance by Sub-Contractors**

Without prejudice to his liability under this clause the Contractor shall also cause all Sub-Contractors to effect, for their respective portions of the works, similar policies of insurance in accordance with the provisions of this clause and shall produce or cause to produce to the Employer such policies. The Contractor shall not permit a Sub-Contractor to commence work at the site unless the said insurance policies are submitted. In the event of failure of the Sub-Contractor to take out such a policy of insurance before commencing the works at the site, the Contractor shall be responsible for any claim or damage attributable to the said Sub-Contractor.

### **7. Period of Policies**

All the insurance covers mentioned above shall be kept alive during the complete period of the contract. If the Contractor shall fail to effect and keep in force the insurance referred to above, or any other insurance which he may be required to effect under the terms of the Contract, then and in any such case the Employer on advice of the Engineer-in-Charge may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any moneys due or which may become due to the Contractor, or recover the same as debt due from the Contractor.

## **8. Damage to Persons and Property – Employer to be Indemnified**

The Contractor shall indemnify the Employer against all losses and claims in respect of injuries or damages to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the works and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto, except any compensation or damages for or with respect to:

- (a) The permanent use or occupation of land by the works or any part thereof.
- (b) The right of the Employer to execute the works or any part thereof on, over, under, in  
or through any land.

(c) Injuries or damage to persons or property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents, such part of the compensations as may be just and equitable having regard to the extent of the responsibility of the Employer, his servant or agent or other Contractors, for the damage or injury.

Signature of Contractor

-Sd-  
Executive Engineer (E)

## 12. Progress Reports

The contractor shall submit monthly progress report of the work in a computerized form. The progress report shall contain the following.

1. Construction schedule of the various components of the work through bar chart for the next 3 quarters, showing the milestones, targeted tasks and up to date progress.
2. Progress chart of the various components of the work that are planned and achieved for the month as well as cumulative up to the month with reasons for deviations, if any, in a tabular 12.format.
3. Plant and machinery statement, indicating those deployed in the work, and their working status.
4. Man power statement, indicating the labour and staff employed in the work and the details of work carried out.
5. Financial statement, indicating the broad details of all the running account payments received up to date, such as gross value of work done. Advances taken, recoveries effected, amounts withheld, net payments, details of payments received, etc.
6. A statement showing the extra and substituted items submitted by the contractor and the payments received against them, items pending for sanctions / decisions by the Institute , broad details of the bank guarantees, indicating their validity period, board details of the insurance policies taken by the contractor, if any, advances received and adjusted from the department etc.
7. Progress photographs in colour of the various items / components of the work done up to date to indicate visually the actual progress of the work.
8. Quality assurance and quality control tts conducted during the month with results thereof.
9. Safety report.
10. Other details asked for by the engineer-in-charge.

**Proforma for Reports**

Physical Progress

Name of Item	Quantity as per Agreement	Quantity executed during the month	Total up to date quantity executed	Anticipated balance quantity
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Financial Progress

Amount of work done during the month	Total amount of work done up to date	Anticipated amount of balance work
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**TOTAL MANHOURS WORKED DURING THE MONTH**

S . N	Description	Number	Man-hours worked	OT Performed	Total
1	Company Staff				
2	Subcontractor's Workmen (including security personnel)				
	<b>GRAND TOTAL OF MANHOURS WORKED DURING THE MONTH</b>				

Total Man-hours worked since inception :  
 Safe man hours from last reported :  
 Lost time due to injury :

**Details of Reportable Lost Time Injury**

S N	Name of Injured	Date of Acci dent	Res ume d dut y on	Man days lost			Claim Status
				Up to last month (1)	This mont h (2)	Total (1+2)	

Man days Lost during the month (Cumulative of 2)

Number of Dangerous Occurrences : \_\_\_\_\_  
 No of Near Miss Cases : \_\_\_\_\_

Routed through Site In charge Keeper	Site Safety Co-ordinator /Time
Signature: _____	Signature: _____
Date: _____	Date: _____

The contractor has to submit the progress report to the Engineer-in-Charge in triplicate by 10<sup>th</sup> day of every month as per the above proforma along with photographs of the work done during that month. The contractor shall be charged @ Rs.5000 (Rupees five thousand only) in the event of non-receipt of monthly progress report on due date (i.e. on 10<sup>th</sup> of every month) in the manner prescribed above. In case 10<sup>th</sup> day happens to be a closed holiday then the progress report will be submitted on the next working day.

A videography of the work should be undertaken at various stages of construction right from the day of start of work to date of completion / occupation covering all major events inspections etc. The videography shall be reviewed time to time by the Engineer in charge.

**13.0 CPWD - FORM - 8**

ALL CLAUSES OF CONTRACT ARE AS APPLICABLE AND WILL BE ATTACHED AT  
THE TIME OF SIGNING THE AGREEMENT

## 14.0 C.P.W.D. SAFETY CODE

Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and If the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical.)

Scaffolding of staging more than 3.6 mt. (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.

Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.(3ft.)

Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11 1/2") for ladder upto and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least 1/4" for each additional 30 cm/1 foot of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.

Excavation and Trenching - All trenches of 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

Demolition - Before any demolition work is commenced and also during the progress of the work, All roads and open areas adjacent to the work site shall either be closed or suitably protected



No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.

All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves and goggles.

Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective gloves and goggles.

Those engaged in welding works shall be provided with welder's protective eye-shields.

Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :

Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.

At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.

Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

No smoking or open flames shall be allowed near the blocked manhole being cleaned.

The malba(debris) obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba(debris).

Workers should not be allowed to work inside the manhole continuously. He should be given rest

intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

Air-blowers should be used for flow of fresh air through the manholes. Whenever called for portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.

The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing tile limbs before working inside the sewer lines.

Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well. If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final. The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-

- i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
- ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
- iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
- iv) Facilities shall be provided to enable the working painters to wash during and on the cessation of work.

The following precaution should be taken while painting:

White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray. Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping. Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

Overall shall be worn by working painters during the whole of working period.

Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.

Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by Institute.

Institute may require, when necessary medical examination of workers.

Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :

i)

- (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
- (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.
- ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- iv) The contractor shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work who may get it verified.

Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by labour officer or other department or Engineer-in-Charge or their representatives.

Notwithstanding the above clauses from (1) to (15) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

## 1. APPLICATION

These rules shall apply to all buildings and construction works in IITM in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

## 2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

## 3. FIRST AID FACILITIES

- i) At every work place there shall be provided and maintained, so as to easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed..
- ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment
  - a) For work places in which the number of contract labour employed does not exceed 50 Each first-aid box shall
    1. 6 small sterilised dressings
    2. 3 medium size sterilized dressings.
    3. 3 large size sterilized dressings.
    4. 3 large sterilized burn dressings.
    5. 1 (30ml) bottle containing a two per cent alcoholic solution of iodine
    6. 1 (30 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
    7. 1 snakebite lancet.
    8. 1 (30 gms.) bottle of potassium permanganate crystals
    9. 1 pair scissors
    10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
    11. 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
    12. Ointment for burns
    13. A bottle of suitable surgical antiseptic solution.
  - b) For work places in which the number of contract labour exceed 50.  
Each first-aid box shall contain the following equipments.
    - 12 small sterilised dressings.
    - 6 medium size sterilised dressings.
    - 6 large size sterilised dressings.
    - 6 large size sterilised burn dressings.
    - 6 (15 gms.) packets sterilised cotton wool.
    - 1 (60 ml.) bottle containing two per cent alcoholic solution iodine.
    - 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
    - 1 roll of adhesive plaster.
    - 1 snake bite lancet.
    - 1 (30 Gms) bottle of potassium permanganate crystals.
    - 1 pair scissors
    - 1 copy of the first-aid leaflet issued by the director General Factory Advice Service and labour Institutes / government of India.
    - A bottle containing 100 tablets (each of 5 Gms) of aspirin.
    - Ointment for burns.
    - A bottle of suitable surgical antiseptic solution.
- iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- iv) Nothing except the prescribed contents shall be kept in the First-aid box.
- v) The first-aid box shall be kept in charge of a responsible person who shall always be readily

available during the working hours of the work place.

- vi) A person in Charge of the First aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.
- vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

#### **4. DRINKING WATER**

In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.

Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.

Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.

A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

#### **5. WASHING FACILITIES**

In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.

Separate and adequate cleaning facilities shall be provided for the use of male and female workers. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

#### **6. LATRINES AND URINALS**

i) Latrines shall be provided in every work place on the following scale namely:

Where female are employed there shall be at least one latrine for every 25 females.

Where males are employed, there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be up to the first 100, and one for every 50 thereafter.

ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.

iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting non-absorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.

iv) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.

The notice shall also bear the figure of a man or of a woman, as the case may be.

v) There shall be at least one urinal for male workers up to 50 and one for female workers up to fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereafter.

vi) a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.

vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near

the latrines and urinals.

viii) Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).

ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

## 7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour, The height of each shelter shall not be less than 3 m (10ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

## 8. CRECHES

At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a, b & c.

The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.

The contractor shall provide one ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.

The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

## 9. CANTEENS

In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more is ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.

The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.

The canteen shall be sufficiently lighted at all times when any person has access to it.

The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed at least once in each year.

Provided that the inside walls of the kitchen shall be lime-washed every four months.

The premises of the canteen shall be maintained in a clean and sanitary condition.

Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.

Suitable arrangements shall be made for the collection and disposal of garbage.

The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.

The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.

(xi) a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.

b) Washing places for woman shall be separate and screened to secure privacy.

(xii) Sufficient tables, stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.

(xiii) a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.

2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.

b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.

2. A service counter, if provided, shall have top of smooth and impervious material.

3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.

xiv. The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.

xv. The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.

xvi. In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:

a) The rent of land and building.

b) The depreciation and maintenance charges for the building and equipments provided for the canteen.

The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.

The water charges and other charges incurred for lighting and ventilation.

The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.

xvii. The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

#### 10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

**11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

#### 12. AMENDMENTS

Institute may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

## 15.0 C.P.W.D. Contractor's Labour Regulations

### 1. SHORT TITLE

These regulations may be called the CPWD/PWD (DA Contractors Labour Regulations).

### 2. DEFINITIONS

**1) Workman** means any person employed by contractor directly or indirectly through a subcontractor with or without the knowledge of the Institute to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :

a) Who is employed mainly in a managerial or administrative capacity: or

b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or

c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the age of 18 years shall be employed to act as a workman.

**ii) Fair wages** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

**iii) Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

**iv) Wages** shall have the same meaning as defined in the Payment of Wages Act.

i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b) Where the minimum wages prescribed by the Government under the minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

### 4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and



other relevant information as per Appendix 'III'.

## 5. PAYMENT OF WAGES

The contractor shall fix wage periods in respect of which wages shall be payable.

No wage period shall exceed one month.

The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.

Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.

All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.

Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.

All wages shall be paid in current coin or currency or in both.

Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.

It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Junior Engineer or any other authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.

The contractor shall obtain from the Junior Engineer or any other authorised representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No      has been paid to the workman concerned in my presence on      at....."

## 6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

(i) The wages of a worker shall be paid to him without any deduction of any kind except the following:

a) Fines

b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.

d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.

e) Any other deduction which the Central Government may from time to time allow.

ii) No fines should be impose on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

**Note:** - An approved list of Acts and omissions for which fines can be imposed is enclosed. Appendix 'X'

iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

- iv) The total amount of fine which may be imposed in anyone wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

## 7. LABOUR RECORDS

The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL (R &A) Central Rules 1971 (Appendix IV)

The contractor shall maintain a **Muster Roll** register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).

The contractor shall maintain a **Wage Register** in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI)

(iv) Register of accident : The contractor shall maintain a register of accidents in such form may be convenient at the work place but the same shall include the following particulars :

Full particulars of the labourers who met with accident

Rate of wages

Sex

Age

Nature of accident and cause of accident

Time and date of accident

Date and time when admitted in Hospital

Date of discharge from the Hospital

Period of treatment and result of treatment.

Percentage of loss of earning capacity and disability as assessed by Medical officer.

Claim required to be paid under Workmen's Compensation Act.

Date of payment of compensation

Amount paid with details of the person to whom the same was paid.

Authority by whom the compensation was assessed.

Remarks

v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL (R &A) Rules 1971 (Appendix-XI)

The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)

vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)

viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

## 8. ATTENDANCE CARD-CUM-WAGE SLIP

The contractor shall issue an **Attendance card – cum – wage slip** to each workman employed by him in the specimen form at (Appendix-VII)

The card shall be valid for each wage period.

The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.

The card shall remain in possession of the worker during the wage period under reference.

The contractor shall complete the wage slip portion of the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.

The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

## 9. EMPLOYMENT CARD

The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

## 10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX)

## 11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6&7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Institute in this behalf,

## 12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The labour officer or any person authorised by Institute on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

## 13. REPORT OF LABOUR OFFICER

The labour officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned, In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-charge after a decision has been given on such appeal

i) The Engineer-in-charge shall arrange payments to the labour concerned within 45 days from the receipt of the report.

## 14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the labour officer or other person so authorised may appeal against such decision to the Chairman (EU) concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Superintending Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

## 15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :-

- a) An officer of a registered trade union of which he is a member.
- b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
- c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :-

An officer of an association of employers of which he is a member

An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.

Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer in engaged.

- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

#### 16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf.

#### 17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

#### 18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application/Interpretation or effect of those regulations the decision of the Superintending Engineer concerned shall be final.

**Scope of work:**

- 1) The successful tenderer to keep all the ACs as per the list in proper working conditions as per the schedule of maintenance prescribed by the manufacturers.
- 2) All the machines should be checked once in three months about the cooling efficiency, noise and air flow, thermal insulation of refrigerant piping, top up of gas & leaking, water leaking etc and cleaning of filters and machines. The checking and cleaning of diffusers and ducts at least once in 6 months in case of ductable/package type ACs. The report should be submitted every machines after carrying out the each routine or breakdown maintenance.
- 3) This contract is comprehensive maintenance of ACs which includes all major components from compressors to capacitors. This contract includes replacement of failure parts with new parts such as compressors of same make/model, evaporators, indoor and outdoor fan motors, blades, remote controllers, remote PCB board, chord wires and whatever parts required for all type ACs. All removed parts can be taken by the contractor only at the time of leaving the contract. At no cause, the removed parts will not be allowed in middle of the contract unless otherwise if the parts are not available in the market. All failure parts will be replaced with new one, no reconditioning parts will be allowed.
- 4) No payment will be made if the machine not attended either breakdown or routine maintenance works. At the time of breakdown of the machines, the routine maintenance can also be carried out.
- 5) Generally, all the machines in the list are good working conditions and the successful tenderer can check the same and intimate to us to enable to get it done thro' the present AMC contractor if the machines are not working properly/failure of parts if any. Once you have entered the contract, it is responsibility of the contractor to carry out the repair and replacement of parts till the contract will go to successful contractor of subsequent year. Likewise, all the machines and spares should be in good working condition at the time of leaving the contract to enable to take over by the next year contract smoothly otherwise the same shall be carried out/replaced through the successful contractor at the risk & cost of the present contract. Moreover, the final bill will be released after taken over by the successful contractor in all respects.
- 6) The contact will start from 0801 hrs of starting date and will end on 0800 hours of closing date.
- 7) List of breakdown calls received by this office will be intimated to your site in-charge in the form of job card and the same should be returned to us on the same day after attending the breakdown/status of complaints. All complaints will be attended by the same day. The complaints falls under the category of compressor replacement, indoor & outdoor fan motor/blades and remote controller should be attended within 4 working days otherwise penalty will be imposed at the rate of one month AMC charges. If the complaints have not attended in the prescribed time mentioned above and additional grace time of 3 working

days will be allowed. Even if the complaints not attended after the grace period, the complaints will be attended through other contractor at the risk & cost of the original contractor as per the clause of the contract. The contractor shall also be able to carry out any extra/substituted items and excess quantities as and when required. The service report for attending the breakdown/routine maintenance should obtain the signature from the concerned department in charge.

- 8) The routine maintenance schedule should be prepared by the contractor in such a way that all the machines should be serviced once in two months or we will provide the list accordingly.
- 9) The working hours of our Institute will be 0800 hours to 1730 hours on all days except Sundays. The technician/mechanic shall be well conversant with attending the fault in ACs. Avoid disturbances to the user while attending the fault. The contractor shall ready to attend emergency fault during holidays and other than office hours if found essential so that the contractor should give the mobile number of the contact person during emergency. The contractor shall provide required technician/mechanic/supervisor with required qualification and experience at this Institute during the term of contract to attend the routine/breakdown maintenance.
- 10) The successful tenderer shall get the photo identity card from our Security Section of our Institute for their staff before entering the contract and the staff should always carry this photo ID wherever they go for attending the works.
- 11) At the end of every three months, the contractor should submit their invoices along with the details of machines attended for routine/breakdown maintenance in the format as required by us on or before 7<sup>th</sup> day of the consecutive month.
- 12) It is the responsibility of the contractor to provide suitable/necessary tools required for attending all types ACs including ladders to reach the outdoor/indoor units, welding/brazing machines, blowers, cylinders and meters for checking the cooling efficiency and air delivery of the machines.
- 13) Always ensure the availability of the required spares at your stores in the campus.

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**Annual Comprehensive Maintenance of Air conditioners in various department ( Zone - 2) in IIT Madras for the year 2014-2015.**

S.No	Page NO.	Department/Block Name	Total No. of AC	Total Tonnage	0.8/1.0/1.5/2.0 /2.5 TR	3.0/4.0 TR	5.0/5.5 TR	7.5/8.0/8.3TR	10.0/11.0 TR	16.5 TR
1	1	Administration Block	101	193.7	94	1	1	3	1	
2	2	Alumini Association	2	3.5	2					
3	2	Bio Technology	92	263.8	65		20	7		
4	5	CCW	10	15.0	10					
5	5	Chemistry	116	180.0	114					
6	8	Civil Engineering	110	180.5	97	13				
7	11	Computer Science Engineering	119	333.5	86	5	15	12	1	
8	15	CLT	3	49.5	3					3
9	15	Residence	16	26.5	16					
10	16	Director's Bungalow	9	13.5	9					
11	16	Hospital	51	74.5	49	2				
12	17	Hostels	29	42.8	29					
13	18	IC & SR	79	314.1	48	2	17	7		5
14	20	Main Guest House	25	46.4	25					
15	21	Network Station	18	26.0	18					
16	22	Ocean Engineering	78	133.0	74		4			
17	24	Taramani Guest House	88	124.5	88					
<b>Total</b>			<b>946</b>	<b>2020.8</b>	<b>827</b>	<b>23</b>	<b>57</b>	<b>29</b>	<b>2</b>	<b>8</b>

**Indian Institute of Technology Madras**

Chennai - 36

**Annual Comprehensive Maintenance of Air conditioners in various department ( Zone - 2) in IIT Madras for the year 2014-2015.**

S.No	Department/Block Name	Total No. of AC	Total Tonnage	Window Ac		Split Ac		Ductable Split		Package		Cassette Ac	
				Nos	TR	Nos	TR	Nos	TR	Nos	TR	Nos	TR
1	Administration Block	101	193.7	13	195	50	74.5	2	16.5	3	24.9	32	58.3
2	Alumini Association	2	3.5			2	3.5						
3	Bio Technology	92	263.8	32	46.3	33	51	27	166.5				
4	CCW	10	15.0			10	15						
5	Chemistry	116	180.0	37	54	79	126						
6	Civil Engineering	110	180.5	22	32.5	73	108	11	33			4	7
7	Computer Science Engineering	119	333.5	47	69.5	29	64.5	28	190.5			5	9
8	CLT	3	49.5							3	49.5		
9	Residence	16	26.5	10	16.5	6	10						
10	Director's Bungalow	9	13.5			9	13.5						
11	Hospital	51	74.5	36	49	15	25.5						
12	Hostels	29	42.8	14	20.3	15	22.5						
13	IC & SR	79	314.1			48	75	14	87.8	17	151		
14	Main Guest House	25	46.4			25	46.4						
15	Network Station	18	26.0	3	4.5	15	21.5						
16	Ocean Engineering	78	133.0	13	19.5	61	91.5	4	22				
17	Taramani Guest House	88	124.5	24	36	64	88.5						
<b>Total</b>		<b>946</b>	<b>2020.8</b>	<b>251</b>	<b>543.1</b>	<b>534</b>	<b>836.9</b>	<b>86</b>	<b>516.3</b>	<b>23</b>	<b>226</b>	<b>41</b>	<b>74.3</b>



**17. BILL OF QUANTITIES - SCHEDULE A**

**Tender No. 7 / 2014-15 / ELDB**

**Name of the work : Annual Comprehensive Maintenance of Air conditioners in various department ( Zone - 2) in IIT Madras for the year 2014-15**

PART - A					
Sl. No	Description of work	Qty	Rate/ annum	Per	Amount
1	Comprehensive annual maintenance charges for the Window, split, package, ductable, cassette model air conditioners of following capacity including replacement with new compressors and all spares of the machines like indoor units, fan motors and blades, condensers, remote controllers, control wirings and terminal blocks & cover, vacuumising, pressure testing and gas filling if necessary during maintenance. <b>(Machine details and locations as per Annexure)</b>				
a	0.8/1.0/1.5/2.0 TR	827		Each	
Rate in words Rupees .....					
b	3.0/4.0 TR	23		Each	
Rate in words Rupees .....					
c	5.0/5.5 TR	57		Each	
Rate in words Rupees .....					
d	7.5/8.0/8.3 TR	29		Each	
Rate in words Rupees .....					
e	10.0/11.0 TR	2		Each	
Rate in words Rupees .....					
f	16.5TR	8		Each	
Rate in words Rupees .....					

Sl. No	Description of work	Qty	Rate/ annum	Per	Amount
2	Comprehensive annual maintenance charges for the Clean room type Airconditioners including replacement with new compressors and all spares of the machines/spares like indoor units, fan motors and blades, condensers, remote controllers, timers contactors, gaskets, temperature indicators, toggle switch & bulb, control wirings and terminal blocks & cover, vacuumising, pressure testing and gas filling if necessary during maintenance.				
A	5.5 TR at Hospital Operation Theatre	1		Each	
Rate in words Rupees .....					
<b>TOTAL for part A</b>					

**Total Amount Part-A in words Rupees .....**

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PART - B (Special Allied Works)					
Sl. NO	Description of work	Qty	Rate	Per	Amount
1	Charges for removing the following rating /model air conditioners from the existing position including transport and safely handed over to store.				
1a	Upto 2.0 TR window model Acs	50		Each	
Rate in words Rupees .....					
1b	Upto 2.0 TR split model Acs(both indoor & Outdoor unit)	50		Each	
Rate in words Rupees .....					
1c	3.0/4.0 TR multi split Acs	10		Each	
Rate in words Rupees .....					
2	Installation charges for the following rating split/ductable split/package and cassette type air conditioners from one position to other position including the pump down, nitrogen pressure testing, vaccumising and refilling of gas and making the machine in good working condition. (ACs will be supplied from our stores at free of cost. The contractor should arrange for transport from stores to respective locations.				
2a	Upto 2.0 TR window model Acs	20		Each	
Rate in words Rupees .....					
2b	Upto 2.0 TR split model Acs(both indoor & Outdoor unit)	20		Each	
Rate in words Rupees .....					
3	Gas charging for 1.5TR/2.0 TR compressor including pressure holding and leak testing.	20		Each	
Rate in words Rupees .....					

Sl. NO	Description of work	Qty	Rate	Per	Amount
4	Refrigerant copper piping(Suction & discharge) for split ductable split and cassette type air conditioners upto 3.0 TR.	100		Metre	
Rate in words Rupees .....					
5	Thermal insulation for copper pipes by one coat of aero of cotton nada with good finishing, necessary insulating materials (Necessary scaffolding / ladder to be provided by the contractor).	100		Metre	
Rate in words Rupees .....					
6	Supplying & replacement of condensing/evaporator coil with copper tube with aluminium fins in place of aluminium tube with aluminium fins of the following Acs				
a	Upto 1.5 TR window AC	5		Each	
Rate in words Rupees .....					
b	Upto 2.0 TR split model Acs	5		Each	
Rate in words Rupees .....					
7	Supply and fixing of following accessories while attending shifting the Acs from one location to other location/not covered under the AMC/warranty.				
a	2.0 TR compressor	2		Each	
Rate in words Rupees .....					
b	1.0TR/1.5 TR compressor	2		Each	
Rate in words Rupees .....					
c	45 MFD capacitor	10		Each	
Rate in words Rupees .....					
d	Reconditioning of Outdoor fan motor suitable for split Acs upto 2.0TR	3		Each	
Rate in words Rupees .....					

Sl. NO	Description of work	Qty	Rate	Per	Amount
e	Reconditioning Indoor fan motor suitable for split Acs upto 2.0TR	3		Each	
Rate in words Rupees .....					
f	25 mm water line drain pipe	150		Metre	
Rate in words Rupees .....					
g	38/40 mm water line drain pipe	100		Metre	
Rate in words Rupees .....					
h	50mm dia water line drain pipe	100		Metre	
Rate in words Rupees .....					
i	3 core 2.5 sq.mm copper Chord wire	100		Metre	
Rate in words Rupees .....					
j	out door fan blade	6		Each	
Rate in words Rupees .....					
k	Mounting angle for outdoor AC unit	6		Each	
Rate in words Rupees .....					
l	PCB serving for Acs upto 2.0 TR	6		Each	
Rate in words Rupees .....					
m	Strainer capillary tube	6		Each	
Rate in words Rupees .....					

Sl. NO	Description of work	Qty	Rate	Per	Amount
n	Fan capacitor	10		Each	
Rate in words Rupees .....					
<b>Total for Part B</b>					

**Total Amount Part-B in words Rupees .....**

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PART - C					
S.No	Description of work	Qty	Rate	Per	Amount
<b>1</b>	BUY BACK OF OLD ITEMS/SPARES				
	Buy back cost of existing condemned air conditioners and spares of following capacities as is where is conditions including refrigerant pipes drain pipes and power chord etc. The removed items should be safely disposed from the campus once in a fortnight. No any spares/items should be left any locations in the campus. The charges shall be inclusive of transport/man power required for dismantling etc. The contractor shall quote the negative value of each items.				
<b>1a</b>	Upto 2.0 TR window model Acs	25		Each	
Rate in words Rupees .....					
<b>1b</b>	Upto 2.0 TR split type Acs(both indoor & outdoor)	50		Each	
Rate in words Rupees .....					
<b>1c</b>	Upto 8.5 TR ductable split Acs(both indoor & outdoor)	5		Each	
Rate in words Rupees .....					
<b>Total for Part C</b>					

**Total Amount Part-C in words Rupees .....**

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**TENDER NO. 7/2014-15/ELDB**

Name of work: **Annual Comprehensive Maintenance of Air conditioners in various department ( Zone - 2) in IIT Madras for the year 2014-15**

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

**Grand Total Amount in words Rupees .....**

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**-Sd-**

**Signature of the Contractor**

**Executive Engineer (E)**