

**TENDER**  
**FOR**  
**SUPPLY INSTALLATION TESTING AND**  
**COMMISSIONING OF AIR CONDITIONING SYSTEM**  
**AT OPD OF W&C HOSPITAL, JIPMER,**  
**PUDUCHERRY**

**PART-II -(GCC) & General Conditions of Contract &**  
**PART-III Price Schedule**

**TENDER NO. HITES/FMD/JIPMER//2017-18/001**



**HLL INFRA TECH SERVICES LTD.**  
**FACILITY MANAGEMENT DIVISION**  
**GOLDEN JUBILEE BLOCK, HLL BHAVAN, POOJAPUURA**  
**THIRUVANANTHAPURAM – 695012**  
**PHONE: 0471-2775530**

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**HLL INFRA TECH SERVICES LIMITED  
(A GOVT. OF INDIA ENTERPRISE)**

**HLL Infra Tech Services Ltd.  
Facility Management Division  
Golden Jubilee Block, HLL Bhavan  
Poojappura  
Thiruvananthapuram – 695 012**

**Item Rate Tender & Contract for Works**

Tender for the work of Supply **Installation Testing and Commissioning of Air-Conditioning System at OPD of W&C hospital at JIPMER, Puducherry.**

- (i) To be submitted by 12.00 noon on 20.04.2017 to **Chief Engineer (FM), HLL Infra Tech Services Ltd. Facility Management Division , Golden Jubilee Block, HLL Bhavan, Poojappura , Thiruvananthapuram -695012.**
- (ii) To be opened in presence of tenderer who may be present at 15:30 am on 20.04.2017 in the office of **Chief Engineer (FM), HLL Infra Tech Services Ltd. Facility Management Division , Golden Jubilee Block, HLL Bhavan, Poojappura , Thiruvananthapuram - 695012.**
- (iii)

Issued to: \_\_\_\_\_

(Contractor)

Signature of officer issuing the documents \_\_\_\_\_

Designation \_\_\_\_\_

Date of Issue \_\_\_\_\_

**T E N D E R**

I/We have read and examined notice inviting tender, schedule, A, B, C, D, E & F. specifications applicable, Drawings & Design, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the Conditions of Contract and all other contents in the tender document for the work (Tender documents comprising of Part I, II & III,).

I/We hereby tender for the execution of the work specified for the HLL Infra Tech Services Ltd. within the time specified in schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of the contract and with such materials as are provided for, by and in respect in accordance with, such conditions so far as applicable.

We agree to keep the tender open for 120 days from the date of opening of financial bid and not to make any modifications in its terms and conditions.

A sum of **Rs 1,91,000** /-is hereby forwarded in demand draft of a scheduled bank in favor of HLL Infra Tech Services Ltd as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said competent authority of HITES shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money

absolutely. Further, if I/We fail to commence work as specified, I/We agree that competent authority of HITES 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, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to 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 tender form. Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We agree that, in case of works of estimated cost exceeding Rs.1 Crore to deposit an amount equal to 5% of Tendered value of the work as performance guarantee in the form of bond of any Scheduled Bank of India in accordance with the proforma prescribed within 20 days of the issue of letter of acceptance of Tender by the HITES. I/We am/are aware that in the event of failure on my/our part to furnish the Bank Guarantee within 20 days, the earnest money will be forfeited and tender cancelled.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in HITES in future forever. Also, if such a violation comes to the notice of HITES before date of start of work, the HITES Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

The information in respect of works in hand is as per proforma enclosed.

Dated.....

Witness: (\_\_\_\_\_) Signature of Contractor  
Address: Postal Address: -  
Occupation:

\*\*\*\*\*

### ACCEPTANCE

The above tender (as modified by you (Contractor) and as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the HLL Infra Tech Services Ltd for a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_)

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

- (a)
- (b)

**For & on behalf of the HLL Infra Tech Services Ltd**  
Signature \_\_\_\_\_

Dated.....

Designation \_\_\_\_\_

## ADDITIONAL CONDITIONS

- I. The intending tenderers have to satisfy the provisions of EPF & Misc. Provisions Act 1952 & Employees' Provident Fund Scheme 1952, by the contractors in respect of labourers/Employees engaged by them for performing the works of HITES.
  - (a) Each claim bill of contractors must accompany the (I) list showing the details of labourers/employees engaged. (II) duration of their engagement (III) the amount of wages paid to such labourers/employees for the duration in question, (IV) amount of EPF contributions (both employer's & employees' contribution) for the duration of engagement in question, paid to the EPF authorities, (V) copies of authenticated documents of payments of such contribution to EPF authorities and (VI) a declaration from the contractors regarding compliance of the conditions of EPF Act, 1952.
  - (b) The contractors claim will be passed by the bill passing authority only if the contractor complies with the terms and conditions of EPF Act, 1952.
- II. "Cess under Building and Other Construction Workers' Welfare Cess Act, 1996 and Building and Other Construction Workers Cess Rules 1998. Notwithstanding anything contained in this contract, Cess at the rate stipulated under Clause 3(1) of the Building and other construction workers' Welfare Cess Act 1996, shall be recovered from the gross amount of the bill/bills payable under this Contract".
- III. TDS for Work Contract Tax and Income Tax at the rate applicable shall be recovered from the gross amount of the bill/bills payable under the contract.
- IV. Sales-tax/VAT, service tax, purchase tax, turnover tax or any other tax applicable in respect of this contract shall be payable by the Contractor and HLL Infra Tech Services Ltd. will not entertain any claim whatsoever in respect of the same.

**CONTRACTOR**

**HLL Infra Tech Services Ltd.  
Facility Management Division  
Thiruvananthapuram – 695012**

## PROFORMA OF SCHEDULES

### SCHEDULE "A"

Schedule of Quantities (as per Part –III – Bill of Quantities)

### SCHEDULE "B"

- c

Schedule of Materials to be issued to the Contractor

SI No.	Description of Item	Quantity	Rates in figures & words at which the materials will be charged from the contractor	Place of issue
1	2	3	4	5
NIL				

### SCHEDULE "C"

Tools and Plants to be hired to the contractor

SI No.	Description of Item	Hire charges per day	Place of issue
1	2	3	4
Not Applicable			

### SCHEDULE "D"

Nil

### SCHEDULE "E"

Reference to General Conditions of Contract

#### Name of Work

Estimated cost of Work Rs. 95.76 Lakhs

Earnest Money Rs. 1,91,000/-

#### Performance Guarantee

(5 % of the tendered value in two parts in the form of Bank Guarantee from Scheduled Bank)

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

#### Security Deposit

(5 % of the tendered value in the form of Bank Guarantee from Scheduled Bank)

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

### SCHEDULE "F"

#### GENERAL RULES AND DIRECTIONS

Officer inviting tender

Chief Engineer (FM), HITES

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2 & 12.3 - **30%**

	<b>Definition</b>	<b>See Below</b>
2(v)	Engineer - in charge	Project Manager or any officer Nominated By Chief Engineer (FM)
2(viii)	Accepting Authority	Chief Engineer (FM) HLL Infra Tech Services Ltd.
2(x)	materials and labour to cover all overheads and profit	15%
2(xi)	Standard schedule of rates	CPWD Schedule of Rates for Delhi 2016
9(ii)	Standard HITES Contract Form	HITES W - 8 form as modified and corrected upto date

**Clause 1**

- a) Time allowed for submission of Performance Guarantee - From the date of issue of letter of acceptance- 30 days
- b) Maximum allowable extension beyond the period –

**Clause 2**

Authority for fixing compensation under Clause 2 – **Competent authority of HITES**

**Clause 2 A**

Whether Clause 2 A shall be applicable - *Not applicable*

**Clause 5**

- a) Number of days from the date of issue of letter of acceptance for reckoning date of start – handing over of site by HITES Engineer in Charge/ from the date of issue of LOA whichever is later.
- b) Mile stone(s) as per table given below

<b>S. No.</b>	<b>Description of Milestone (Physical)</b>	<b>Time allowed in days (from date of start)</b>	<b>Amount to be with-held in cases of non-achievement of milestone</b>
	To be jointly prepared and finalized by HITES Engineer in charge and contractor within 5 days of LOA		

**Time allowed for execution of work – 4 months from the date of issuance of LOA**

**Clause 6, 6A**

- a) Clause applicable (6 or 6A) - 6A

**Clause 7- Not Applicable**

**Clause 10A - List of Testing Equipment to be provided by the contractor at site lab:**

1. Any other testing equipment as instructed by engineer in charge of HITES
2. Electrical testing apparatus

**Clause 10 B (ii)**

- a) Whether Clause 10 B (ii) – *not applicable*

**Clause 10C - not applicable**

### Clause 11

- a) Specification to be followed for execution of work – CPWD Specifications for Electrical Works Part 1 ( Internal – 2005), Part II (External – 1994)

### Clause 12

- a) 12.2 & 12.3 – Deviation limit beyond which Clauses 12.2 & 12.3 shall apply for building work – **30%**  
b) 12.5 – Deviation limit beyond which Clauses 12.2 & 12.3 shall apply for foundation work – **No Limit**

### Clause 16

- a) Competent authority for deciding reduced rates – **Engineer in charge of HITES**

### Clause 18

- a) List of mandatory machinery, T & P to be deployed by the contractor at site – As per requirements of Description of work in BOQ and provisions of Clause 34.

### Clause 25

- a) Constitution of Dispute Redressal Committee – **Chairman: Chief Engineer (FM)**  
**Member: Manager (FM)**  
**Member: Manager (F&A)**  
**Member: Deputy Manager (FM), FMD-JIPMER**  
**Member: Site Engineer (Mechanical) FMD-JIPMER**

### Clause 36(i)

- a) Requirement of Technical Representative(s) and recovery Rate

Sl. No	Minimum Qualification of Technical Representative	Discipline	Designation Principal Technical Representative (Technical representative )	Minimum Experience	Number	Rate at which recovery shall be made from the contractor <i>in the event of not fulfilling provision of clause 36(i)</i>	
						Figures	Words
1	Graduate in Mechanical Engineering	Mechanical Engineering	Principal technical Rep (Project Manager)	5 yrs	1	15000.00	
2	Diploma in Mechanical Engineering	Mechanical Engineering	Technical Rep (Supervisor)	3 yrs	2	10000.00	

### NOTE:

1. Technical personnel to be employed as per above requirement and shall be subject to the approval of their CVs by the Engineer-in-Charge.
2. Any change in the personnel already employed shall be done only with the prior approval of the Engineer-in-Charge.
3. Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers
4. The contractor shall ensure that each of the specialized agencies employed by him for the various



components of this work, engage at least one graduate engineer as Senior Technical representative **and adequate number of supervisors.**

**Clause 42 - not applicable**

- a) Schedule statement for determining theoretical quantity of cement on the basis of Delhi Schedule of Rates - Printed by C.P.W.D
- b) Variations permissible on theoretical quantities
  - Cement - 2% plus/minus
  - Steel Reinforcement and structural steel sections for each diameter, section and category - 2% plus/minus

**PROFORMA FOR AGREEMENT  
(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)**

CONTRACT AGREEMENT FOR THE WORK OF ----- DATED -----  
Between M/s ----- (refer note) in the town of -----  
hereinafter called the **contractor** (which term shall unless excluded by or repugnant to be subject or context include its successors and permitted assigns) of the one part and HLL Infra Tech Services Ltd. hereinafter called the HITES (which term shall unless excluded by or repugnant to the subject or context include its successes and assigns) of the other part.

**WHEREAS**

- a. The HITES is desirous that the \_\_\_\_\_ of \_\_\_\_\_ at \_\_\_\_\_ should be executed as mentioned, enumerated or referred to in the tender including Press Notice Inviting Tender, General Conditions of the Contract, Specifications, Drawings, Plans, Time Schedule of completion of jobs, Schedule of Quantities and Rates, Agreed Variations, other documents, has called for Tender.
- b. The contractor has inspected the site and surroundings of the work specified in the tender documents and has satisfied himself by carefully examination before submitting his tender as to the nature of the site and local conditions the quantities, nature and magnitude of the work the availability of labour and materials necessary for the execution of work, the means of access to site, the supply of power and water thereto and the accommodation he may require and has made local and independent enquiries and obtained complete information as to the matters and things referred to or implied in the tender documents or having any connection therewith, and has considered the nature and extent of all the probable and possible situations, delays, hindrances or interferences to or with the execution and completion of the work to be carried out under the contract, and has examined and considered all other matters, conditions and things and probable and possible contingencies, and generally all matters incidental thereto and ancillary thereof affecting the execution and completion of the work and which might have influenced him in making his tender.
- c. The tender documents including the HITES's Press Notice Inviting Tender, General conditions of contract, Schedule of Quantities and rates, General obligations, Specifications, Drawings, plan, time schedule for completion of work. Letter of Acceptance of tender and any statement of agreed variations with its enclosures copies of which are hereto annexed form part of this contract though separately set out herein and are included in the expression Contract wherever herein used.

**AND WHEREAS**

The HITES accepted the tender of M/s ----- (refer note below) (Contractor) for the ..... of ----- at ----- and conveyed vide letter No.----- - dated ----- at the rates stated in the Schedule of quantities for the work and accepted by the HITES (hereinafter called the Schedule of Rates) upon the terms and subject to the conditions of the contract.

**NOW THIS AGREEMENT WITNESSTH & IT IS HEREBY AGREED AND DECLARED AS FOLLOWS.**

1. In consideration of the payment to be made to the contract for the work to be executed by him, the contractor hereby covenant with the HITES that the contractor shall and will duly provide,

execute, complete and maintain the said work and shall do and perform all other acts and things in the contract mentioned or described or which are to be implied and there-from or may be reasonably necessary for the completion of the said works and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in the contract, AND

2. In consideration of the due provisions execution, completion and maintenance of the said work, the HITES does hereby agree with the contractor that the HITES will pay to contractor the respective amounts for the work actually done by him and approved by the HITES at the Schedule or Rates and such other sum payable to the contractor under provision of the contract, such payment to be made at such time in such manner as prescribed for in the contract.

It is specifically and distinctly understood and agreed between the HITES and the contractor that the contractor shall have no right, title or interest in the site made available by the HITES for execution of the works or in the building, structures or works executed on the said site by the contractor or in the goods, articles, materials, etc. brought on the said site (unless the same specifically belongs to the contractor) and the contractor shall not have or deemed to have any lien whatsoever charge for unpaid bills will not be entitled to assume or retain possession or control of the site or structures and the HITES shall have an absolute and unfettered right to take full possession of site and to remove the contractor, their servants, agents and materials belonging to the contractor and lying on the site.

In Witness whereof the parties hereto have here-into set their respective hands and seals in the day and the year first above written.

Signed and delivered for and on behalf of HITES

Signed and delivered for and on behalf of the contractor

(HLL INFRA TECH SERVICES LTD.)  
OFFICIAL ADDRESS

(Contractor)

Date  
Place

Date  
Place

IN PRESENCE OF TWO WITNESSES

SIGNATURE  
NAME  
SIGNATURE  
NAME

SIGNATURE  
NAME  
SIGNATURE  
NAME

**FORM OF PERFORMANCE SECURITY  
BANK GUARANTEE BOND**

1. In consideration of the HLL Infra Tech Services Ltd. (hereinafter called "HITES") having agreed under the terms and conditions of agreement No..... dated..... made between ..... and ..... (herein after called "the said contractor(s)") for the ..... work (herein after called "the said agreement") for compliance of his obligation in accordance with the terms and conditions in the said agreement.

We ..... (indicate the name of the Bank) (herein after referred to as "as Bank) hereby undertake to pay to HITES and amount not exceeding Rs..... (Rupees ..... only) on demand by HITES.

2. We ..... (Indicate the name of the Bank) do hereby undertake to pay the amount due and payable under this Guarantee without any demure, merely on a demand from HITES stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards 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 undertake to pay to HITES 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 being absolute and unequivocal. The payment made by us under this bond shall be valid discharge of our liability for payment to there-under and the contractor(s) shall have no claim against us making such payment.

4. We ..... (Indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the HITES under or by virtue of the said agreement have been fully paid and it is claims satisfied or discharged or till Engineer-in-charge on behalf of the HITES. Certified that he terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) accordingly discharges this guarantee.

5. We..... (Indicate the name of Bank) further agree with the HITES that the HITES shall have the fullest liberty without our consent and without affecting 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 of the powers exercisable by the HITES against the said contractor(s) and to forebear or enforce any of the terms and conditions relating to the said agreement we shall not be relieved from our liability by reasons of any such variation or extension being granted to the said contractor(s) or for any forbearance act of omission on that part of the HITES or any indulgence by HITES to the said contract(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effected or so relieving us.

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

7. We..... (indicate the name of Bank) lastly undertake not to revoke this guarantee except with the previous consent of the HITES in writing.

8. This guarantee shall be valid upto ..... unless extended on demand by HITES. Notwithstanding anything mentioned above our liability against this Guarantee is restricted to Rs..... (Rupees.....only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee, all our liabilities under the Guarantee shall stand discharged.

Dated the ..... day of 20....

For .....(Indicate the name of Bank)

**AFFIDAVIT**

I/We have submitted a bank guarantee for the work .....  
..... (Name of Work), Agreement No..... Dated:.....  
from..... (Name of the bank with full address)  
TO M/s HLL Infra Tech Services Ltd.with a view to seek exemption from payment of performance  
guarantee in cash. This Bank guarantee expired on .....

I /We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at  
my/our own initiative upto a period of ..... months after the recorded date of  
completion of the work or as directed by the Engineer in charge.

I / WE also indemnify the HLL Infra Tech Services Ltd. against any losses arising out of non-encashment  
of the bank guarantee if any.

(Deponent)  
Signature of Contractor

Note: The affidavit is to be given by the Executants before a first class Magistrate.

**Form of Earnest Money Deposit  
Bank Guarantee Bond**

KNOW ALL PEOPLE by these presents that we ..... (name of bank) having our registered office at ..... (hereinafter called "the Bank") are bound unto .... HLL Infra Tech Services Ltd., Facility Management Division, Thiruvananthapuram (hereinafter called "HITES") in the sum of Rs..... (Rs. in words ..) for which payment well and truly to be made to the said HITES the Bank binds itself, his successors and assigns by these presents.

WHEREAS, contractor..... (Name of contractor) (hereinafter called "the contractor") has submitted his tender dated..... (date) for the construction of...(name of work) (hereinafter called "the Tender")  
SEALED with the Common Seal of the said Bank this .....day of..... 20.....

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
  - (2) If the contractor having been notified of the acceptance of his tender by HITES:
    - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required;
- OR
- (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,
- OR
- (c) fails or refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor,

We undertake to pay to the HITES up to the above amount upon receipt of his first written demand, without HITES having to substantiate his demand, provided that in his demand the HITES will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date\* ..... after the deadline for Submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the HITES , notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE .....

SIGNATURE OF THE BANK

WITNESS .....

SEAL

(SIGNATURE, NAME AND ADDRESS)

\*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

## **General Rules and Directions**

1. All work proposed for execution by contractor will be notified in a form of invitation to tender pasted in public places and signed by the officer inviting tender or by publication in Newspapers as the case may be.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
4. Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. Tender shall have the name of the works to which they refer, written on the envelopes.

The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

5. The officer inviting tender or his duly authorized assistant will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule-I. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them.
  - 7a. Use of correcting fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.
8. 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. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved to be taken as correct. 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. 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. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

9. 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 a tender is liable to be disqualified and rejected.
10. All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' 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 upto two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
11. (i) The Contractor whose tender is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10,000/-) or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.  
  
(ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.
12. 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.
13. Sales-tax/VAT, purchase tax, turnover tax, Service tax or any other tax applicable in respect of this contract shall be payable by the Contractor and HLL Infra Tech Services Ltd.. will not entertain any claim whatsoever in respect of the same.
14. The contractor shall give a list of both Executive/Non Executive of HLL Infra Tech Services Ltd./ MoHFW employees related to him.
15. The tender for the work shall not be witnessed by a contractor or contractors who himself/ themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
16. The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
17. The contractor shall submit list of works which are in hand (progress) in the following form:-



Name of Work	Name and Particulars Divn. Where work is being executed	Value of Work	Position of works in Progress	Remarks

18. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the HLL Infra Tech Services Ltd. may in their discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

## CONDITIONS OF CONTRACT

### Definitions

1. The Contract means the documents forming the tender and acceptance thereof and the formal the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the HITES Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-
  - i 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.
  - ii 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.
  - iii 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.
  - iv “**Client/ Owner**” shall mean HLL Infra Tech Services Ltd.
  - v “**HITES**” shall mean **HLL Infra Tech Services Ltd.**
  - vi
  - vii The Engineer-in-charge means the Engineer Officer who shall supervise and be in-charge of the work as mentioned in Schedule 'F' hereunder. The Engineer in charge is Project Manager or any other officer designated by HITES
  - viii Accepting Authority shall mean the authority mentioned in Schedule 'F'.
  - ix Excepted Risk are risks due to riots (other than those on account of contractor's

employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.

- x 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.
- xi Schedule(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 government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender.
- xii Tendered value means the value of the entire work as stipulated in the letter of award.
- xiii Date of commencement of work: The date of commencement of work shall be the date of start as specified in schedule 'F' or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicated in the tender document.

### **Scope and Performance**

3. Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
5. 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.
6. The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule-A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.
7. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
8. The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.

8.1 In the case of discrepancy between the schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:-

- i) Description of Schedule of Quantities.
- ii) Specification and Special specification, if any.
- iii) Drawings
- iv) CPWD Specifications.
- v) Indian Standard Specifications of B.I.S.

8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority or his authorized representative shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

8.3 Any error in description, quantity or rate in Schedule of 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.

9. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 5 days from the date of letter of acceptance, sign the contract consisting of:-

- i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- ii) Standard HITES Form as mentioned in Schedule 'F' consisting of:
  - a) Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexure thereto.
  - b) Safety Code.
  - c) Model Rules for the protection of health, sanitary arrangements for workers employed by HITES or its contractors.
  - d) Contractor's Labour Regulations.
  - e) List of Acts and omissions for which fines can be imposed.
- iii) No payment for the work done will be made unless contract is signed by the contractor.

## CLAUSES OF CONTRACT

- **CLAUSE 1**

- i) The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule F from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge upto a maximum period as specified in Schedule F on written request of the contractor stating the reason for delays in procuring the Bank Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of a Bank Guarantee of a Scheduled Bank or State Bank of India.
- ii) The Performance Guarantee shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of the Performance Guarantee extended to cover such enlarged time for completion of work. After recording the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
- iii) The Engineer-in- Charge shall not make a claim under the performance guarantee except for amounts to which HITES is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
  - a. Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
  - b. Failure by the contractor to pay HITES any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by the Engineer-in-Charge.
- iv) In the event of the contract being determined or rescinded under provision of any of the Clause/ Condition of the Agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of HITES

- **CLAUSE 1 A - Recovery of Security Deposit**

The person/persons whose tender(s) may be accepted (Hereinafter called the contractor) shall permit HITES at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of gross amount of each running bill till the sum along-with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. **Earnest money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the up-to-date amount of security deposit starts exceeding the earnest money.** Such deductions will be made and held by HITES by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts or Guarantee Bonds of any Scheduled Bank or the State Bank Of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any bank is furnished by the contractor to the HITES as part of the security Deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the HITES to make good the deficit.

All compensations or the other sums of the money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by HITES on any account whatsoever and in the event of his Security Deposit

being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or Guarantee Bond in favour of the Chairman & Managing Director, HLL Infra Tech Services Ltd. or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks (in case of guarantee offered by Scheduled Banks, the amount shall be within the financial limit prescribed by the Reserve Bank of India); or Government Securities (if deposited for more than 12 month) endorsed in favour of the Engineer-in Charge, any sum or sums which may have been deducted from, or raised by the sale of his security deposit or any part thereof. The Security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the Earnest Money, if deposited at the time of tenders, will be treated a part of the Security Deposit.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. 5 lakh subject to the condition that amount of such bank guarantee except last one shall not be less than Rs. 5 lakh. Provided further that the validity of Bank Guarantee including the one given against the earnest money shall be in conformity with provisions contained in clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of clause 2 and clause 5.

**Note-1:** Government papers tendered as security will be taken at 5 % (Five per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the HITES paper will be withheld if necessary.

**Note-2:** Government securities will include all forms of securities mentioned in Rule No.274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

• **CLAUSE 2 - Compensation for Delay**

If the contractor fails to maintain the required proportionate progress of the work at the stages specified in Clause 5 or to complete the work and fails to clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to HITES on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below or such smaller amount as the authority specified in Schedule 'F' may decide on the amount of tendered value of work for every completed day/week (as applicable) in which the progress remains below than the specified in Clause 5 or that the work remains incomplete. The decision of the aforesaid authority in writing shall be final and binding on the contractor.

This will also apply to items or group of items for which separate period of completion has been specified.

(i) Compensation For delay of work	@1.5% per month of delay to be computed on per day basis
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The table of milestones has to be jointly finalised by the Engineer in Charge and the contractor within 5 days of issue of LOA and this table showing milestones will form part of agreement. Wherever physical milestones are not specified, the financial milestone table shown below will be in force.

**TABLE SHOWING  
PHYSICAL MILE STONES**

S. No.	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of milestone
1.			In the event of not achieving a milestone in

2.			time, 1.25% of the tendered value of work will be withheld for failure of achieving each milestone.
Etc..			

**OR** (In cases where physical milestones are not specified)

**TABLE SHOWING  
FINANCIAL MILE STONES**

S. No.	Financial Progress	Time Allowed (From date of Start)	Amount to be with-held in case of non-achievement of milestone
1	1/8th (of the whole work)	1/4th (of the completion period)	In the event of not achieving the necessary progress as assessed from the running payments, 1.25% of the tendered value of work will be withheld for failure of each mile stone.
2	3/8th (-do-)	1/2 (-do-)	
3	3/4th (-do-)	3/4th (-do-)	
4	full	full	

Provided always that the total amount of compensation for delay to be paid under this condition including penalty based on milestones shall not exceed 10 % of the tendered value of work on or of the Tendered Value of the item or group of items of work for which a separate period of completion is originally given.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4 the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest whatsoever, shall be payable on such withheld amount.

• **CLAUSE 3 - When Contract can be determined**

Subject to other provisions contained in this clause, the Engineer-Charge may, without prejudices to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- (i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkmanlike manner shall omit to comply with the requirement of such note for a period of seven days thereafter.
- (ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in- Charge.
- (iii) If the contractor fails to complete the work, within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such dates of completion and does not complete them within the period specified in a notice given in writing in that

behalf by the Engineer-in-charge.

- (iv) If the contractor persistently neglects to carry out his obligations under the contract and or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- (v) If the contractor shall offer or give or agree to give to any person in Government service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining r execution of this or any other contract for HITES.
- (vi) If the contractor shall enter into a contract with HITES in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in -Charge.
- (vii) If the contractor shall obtain a contract with HITES as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.
- (viii) If the contractor being an individual or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition ( other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
- (ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- (x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- (xi) If the contractor assigns, transfers sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion the thereof without the prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer- in-charge shall have powers:

- (a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge. shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.
- (b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract

is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him due to reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work on the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

- **CLAUSE 3A**

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8<sup>th</sup> of the stipulated time for completion of work, either party may close the contract in such eventually, the earnest Money Deposit and the Performance Guarantee of the contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc shall be payable at all.

- **CLAUSE 4 - Contractor liable to pay compensation even if action not taken under clause 3**

In any case in which any of the powers conferred upon the Engineer-in-Charge by clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the engineer-in-charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the Engineer-in-Charge which shall be final and binding on the contractor use an on hire (the amount of the hire money being also in the final determination of the site thereof belonging to the contractor, or procured by the contractor and intended to be used to the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge whose certificate thereof shall be final, and binding on the contractor clerk of the works, foreman or other authorized agent to remove such notice) in the event of the contractor failing to comply with any such falling to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate for the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

- **CLAUSE 5 - Time and Extension for Delay:**

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the execution of the work as aforesaid, HITES shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.



5.1 As soon as possible after the Contract is concluded, the Contractor shall submit a Time and progress chart for each milestone and get it approved by the Department. The Chart shall be prepared in direct relating to the time stated in the Contract documents for completion for items of the works. It shall indicate the forecast of the dates of commencement and completion of various traders of sections of the work and may be amended as necessary by agreement between the Engineer-in-charge and the Contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 1'F'.

5.2 If the work(s) be delayed by:-

- (i) Force majeure, or
- (ii) Abnormally bad weather, or
- (iii) Serious loss or damage by fire, or
- (iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the contract, or
- (vi) Non-availability of stores, which are the responsibility of government to supply or
- (vii) Non-availability or break down of tools and Plant to be supplied or supplied by government or
- (viii) Any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works.

5.3 Request for rescheduling of Milestones and extension of time, to be eligible for consideration shall be made by the contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

5.4 In any such case the engineer-in-Charge may give a fair and reasonable extension of time and reschedule the milestones for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-charge in writing, with 3 months of the date of receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and this shall be binding on the contractor.

#### • **CLAUSE 6 - Measurements of Work Done**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurements the value of work done in accordance with the contract. The measurements of all items (having financial value) shall be entered in Measurement Book and/or level field book so that a complete record is maintained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurement shall be signed and dated by the Engineer-in-Charge and the contractor(s) or his/their representative in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reasons and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the

work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and HITES shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all the assistance with every appliance, labour and other things necessary for measurements and recording levels. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of the measurement or any general or local custom. In the case of items, which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed. The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in-charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurements and shall not cover-up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in-charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of the measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof, no payment or allowance shall be made for extra work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause, either themselves or through another Officer of HITES, to check the measurements recorded, jointly or otherwise, as aforesaid, and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill, shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

- **CLAUSE 6A - Computerized Measurement book**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time. During the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per the interval or program fixed in consultation with Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-charge and /or his authorized representative. The contractor will, thereafter, incorporate such charges as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered.

The engineer-in-Charge and /or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed, if at all any error is noticed, the contractor shall have to submit a fresh computerized pages duly MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MB\ s for the purpose of reference and record by the various officers of the department.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement issued by the Bureau of Indian Standards and if for any item no such standards is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and /or test checking the measurement of any work in order that the same may be checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and /or test checking measurement and shall not cover up and place beyond reach of measurements any work without consent in writing of the Engineer -in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice been given or the Engineer-in-charge's consent being obtained in writing the same shall r be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurement recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and /or test checking the measurements of any item of work in the measurement of book and /or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

- **CLAUSE 7 - Payment on Intermediate Certificate to be regarded as Advances**

Interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of HITES in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule "F", in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible will as far as possible be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asst. Engineer together with the account of the material issued by HITES, or dismantled materials, if any. In the case of works outside the headquarter of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days.

All such interim payments shall be regarded as payment by way of advances against final payment only, and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion interim payments shall continue to be made as herein provided, without prejudice to the right of HITES to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion, on the basis of a certificate from the Site Engineer to the effect, that the work has been completed upto the level in question may make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) upto lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.

In composite tenders, in case the main contractor fails to make payment to the specialist agency employed by him for a minor component of work within 15 days of receipt of each corresponding running account payment, then on the written complaint of the affected agency the Engineer in Charge shall serve show cause notice to the main contractor and if the reply is either not received or found unsatisfactory, he may make payment directly to the agency employed for the minor component as per the terms and conditions of the contract drawn between the main contractor and the agency employed by him. Such payment made to the associate agency shall be recovered by the Engineer in Charge from the next RA Bill or Final Bill of the main contractor.

- **CLAUSE 8 - Completion Certificate & Completion Plans**

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, wall, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession, for the purpose of the execution thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this clause, as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim whatsoever in this regard except for any sum actually realized by the sale thereof.

- **CLAUSE 8 A - Completion Plans to be submitted by the Contractor**

- (i) The Contractor shall within one month of the date of completion of the work submit completion plan as required vide General Specification for Electrical works (Part I Internal) 2005 and (Part-II External) 1994, as applicable,
- (ii) completion plans of internal and external sanitary, water supply and drainage installations by marking on a set of drawings, the route, position and details of the pipes, fixtures, fittings in the manner specified by the Engineer-in-Charge.

The Contractor shall also arrange statutory inspection and certification of the aforesaid installation by local authorities in conformity with the bylaws, if any.

If the contractor fails to submit the completion plans and obtain necessary statutory certificates from the local authority as aforesaid he shall be liable to indemnify by a sum equivalent to, spent by HITES for preparation of the completion plans and in obtaining necessary statutory certificates as aforesaid.

- **CLAUSE 9 - Payment of Final Bill**

The contractor shall submit the final bill in the same manner as specified in interim bills within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by the Engineer-in-Charge, will, as far as possible, be made within six months, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge, complete with account of materials issued by HITES and dismantled materials.

- **CLAUSE 9A - Payment of Contractor's Bill to Banks**

Payments due to the contractor may, if so desired by him, be made to his bank instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge

- (1) an authorization in the form of a legally valid document such as a power of attorney

conferring authority on the bank to receive payments, and,

(2) his own acceptance of the correctness of the amount made out as being due to him by HITES or his signature on the bill or other claim preferred against HITES before settlement by the Engineer-in-Charge of the account or claim by payment to the bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment, the contractor shall wherever possible present bills duly receipted and discharged through his bankers.

(3) Nothing herein contained shall operate to create in favor of the bank any rights or equities vis-à-vis the HLL Infra Tech Services Ltd..

- **CLAUSE 10 A - Materials to be provided by the Contractor**

The contractor shall, at his own expense, provide all materials, required for the works.

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge, furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require, intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with the specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall, at all time, have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal, from the premises, of all materials which in his opinion are not in accordance with the specifications and in case of default the Engineer-in-Charge shall be at liberty to employ at the expenses of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default the Engineer-in-Charge may cause the same to be supplied and all costs, which may attend such removal, and substitution shall be borne by the Contractor.

**CLAUSE 10 B**

(i) **Secured Advance on Non-perishable Materials provided by the Contractor:** The contractor on signing an indenture in the form to be specified by the Engineer-In-Charge, shall entitled to be paid during the progress of the execution of the work up to 90% of the assessed value of any materials

which are in the opinion of the Engineers-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and /or protected against damage by weather on other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered /deducted from the next payment made under any of the clause or clause of the contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such the contractor in this matter. No secured advance shall however, be paid on high –risk materials such as ordinary glass, sand, petrol, diesel etc.

**(ii) Mobilization**

**Advance:** not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work and on concurrence from the Client. In such a case, the contractor shall execute a Bank Guarantee bond from a Scheduled Bank as specified by the Engineer-in-charge for the full amount of mobilization advance before such advance is release. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge at his sole discretion. The first installment of such advance shall be released by the Engineer-in- Charge to the contractor on a request made by contractor to the Engineer-in-Charge in this behalf. The second and subsequent installment shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier satisfaction of the Engineer- in-Charge.

Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from scheduled bank for the amount of advance & valid for the contract period. This shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery, together with interest.

Provided always that provision of Clause 10B (ii) shall be applicable only when so provided in schedule F

(iii) **Interest & Recovery:** The mobilization advance in (ii) above bear simple interest at the rate of 10 per cent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contactors bills commencing after first ten per cent of the gross value of the work is executed and paid, on pro- rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty per cent of the gross value of the contract is executed and paid, on pro-rata percentage basis to the gross value work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

(iv) If the circumstances are considered reasonable by the Engineer-in-Charge, the period mentioned in (ii) and (iii) for request by the contractor in writing for grant of Mobilization advance and plant and equipment advance may be extended in the discretion of the Engineer-in-Charge.

(v) The said bank guarantee for advances shall initially be made for the full amount and valid for the contract period, and be kept renewed from time to time to cover the balance amount and likely period of complete recovery together with interest.

• **CLAUSE 10 C - Payment on Account of increase in Prices Wages due to Statutory Order(s)**

- **Not applicable**

- **CLAUSE 10 CA - Not applicable**
- **CLAUSE 10 CC - Not applicable**
- **CLAUSE 10 D - Dismantled Materials Govt. Property**

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc as HITES's property and such materials shall be disposed off to the best advantage of HITES according to the instructions in writing issued by the Engineer-in-Charge.

- **CLAUSE 11 - Work to be executed in Accordance with Specifications, Drawings, Orders, etc.**

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publications referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

- **CLAUSE 12 - Deviations, Variations Extent and Pricing:**

The Engineer-in-Charge shall have power to make alteration in, omission from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and contractor shall be bound to carry out the work in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and alterations/omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 The time for completion of the work shall, in the event of any deviations resulting. In additional cost cover the tendered value; be extended if requested by the contractor, as follows:

- i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value (+) plus
- ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.2 **Deviations, Extra items and Pricing:** In the case of extra item(s) the contractor may within fifteen days of receipt of order or occurrence of the items(s) claim rates, supported by proper analysis, for the work and the engineer-in-charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determines the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items, the rate for the agreement item (to be substituted item shall also



be determined in the manner as mentioned in the aforesaid para.

#### **Deviations, Substituted Items, Pricing:**

- a. If the market rate for the substitute item so determined is more than the market rate for the substituted item shall be the rate for the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted)
- b. In the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement. Item (to be substituted)

#### **Deviations, Deviated Quantities, Pricing**

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess, of the above mention limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

12.4 The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Superintending Engineer may authorize consideration of such claims on merits.

12.5 Any operation incidental to or necessarily has to be in contemplation of tenderer which filing tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item in the and the relevant specification, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be Nothing extra shall be admissible for such operations.

12.6 Under no circumstances the contractor shall suspend the work on the plea of non-Settlement of rates of or disputes in the rates fixed by the Engineer-in-Charge of the items falling under the above clauses.

- **CLAUSE 13 - Foreclosure of Contract due to Abandonment or Reduction in Scope of Work**

If at any time after acceptance of the tender HITES shall decide to abandon or reduce the scope of the work for any reason whatsoever, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he

might have derived from the execution of the work. Further, the contractor shall not have any claim for compensation by reasons of an alteration having been made in the original specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated.

The contractor shall be paid at contract rates full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to full extent due to curtailment in the scope of the work or foreclosure of the contract.

- i) Proportionate expenditure, incurred on preliminary site work (e.g. temporary access roads, temporary labour huts, staff quarters and site offices, storage accommodation and water storage tanks) and tool and plants.
- ii) The Engineer-in-Charge shall have the option to take over contractor's materials or any part thereof brought to site. For materials taken over or to be taken over by the Engineer-in-Charge, the cost of such materials shall however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
- iii) For contractor's materials not retained by the Engineer-in-Charge, reasonable cost of transporting such materials and tools and plants from site to contractor's permanent stores or to his other works, whichever is less, shall be payable.
- iv) If any materials supplied by HITES are rendered surplus, the same except normal wastage shall be returned by the contractor to HITES at rates not exceeding those at which these were originally issued less allowances for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to HITES stores, if so required by HITES, shall be paid.

The contractor shall, if required by the Engineer-in-Charge, furnish to him books of account, wage books, time sheets and other relevant documents as may be necessary to enable him to assess and certify the reasonable amount payable.

The reasonable amount of item on (i) and (iv) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Government as per item(ii) above Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Government from the contractor under the terms of the contact.

• **CLAUSE 14 - Carrying out part works at risk and cost of contractor**

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing or 7 days in this respect from the Engineer-in-charge or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7days even after a notice in writing is given in that behalf by the Engineer-in-charge:. Or
- (iii) Fails to complete the work(s) or items of work with individual dates of completions, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in- Charge.

The engineer-in-charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to government by a notice in writing to take the part work/part incomplete work of any item(s) out of his hands and shall have powers to:

- (a) Take possession of the site and any materials, constructional plant, implements, stores, etc thereon ; and/or
- (b) Carry out the part work/part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work / part incomplete work of any 6 item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government because of action under the clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by government in completing the part work/part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by government as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc., and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding. It shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

• **CLAUSE 15 - Suspension of work**

- (i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
  - a) On account of any default on the part of the contractor or ;
  - b) For proper execution of the works or part thereof for reasons other than the default of the contractor; or
  - c) For safety of works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent

necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

- (ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
- a) The contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
  - b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor, provided the contractor submits his claim supported by details to the Engineer-in-Charge within 15 days of the expiry of the period of 30 days,
- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within 15 days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the work as an omission or such part by HITES or where it affects whole of the works, as an abandonment of the works by HITES, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by HITES, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and /or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of three months.

Provided, further, that the contractor shall not be entitled to claim any compensation from HITES for the loss suffered by him on account of delay by HITES in the supply of materials in schedule 'B' where such delay is covered by difficulties relating to the supply of wagons, force majeure including non-allotment of such materials by controlling authorities, acts of God, acts of enemies of the State/Country or any reasonable cause beyond the control of HITES.

- **CLAUSE 16 Inspection and supervision of work:**

All works under or in course of execution or executed in pursuance of the contract shall at all times be opened and accessible to the inspection and supervision of Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, Officer of the Quality Control Organization of HITES, and contractor shall at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

- **CLAUSE 16 A Rectification of defects**

If it shall appear to the Engineer-in-Charge or his authorized subordinates in-charge of the work, that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials or articles provided by him for the execution of work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing

which shall be made within six months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so, within a period specified by the Engineer-in-Charge in his demand aforesaid, the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case, the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the competent authority may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work out right without any payment and/or get it and other connected and incidental items rectified or removed and re- executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

- **CLAUSE 17 - Contractor liable for damages, defects during maintenance period**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post which the work or any part is being executed, or if any damage shall happen to the work while in progress from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

- **CLAUSE 18 - Contractor to supply Tools and Plants etc.**

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specification or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting weighing and assisting the measurement for examination at any time and from time to time of the work or materials. On his failing to do so, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or a sufficient portions thereof.

- **CLAUSE 18 A - Recovery of compensation paid to workman**

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's

Compensation Act, 1923, HITES is obliged to pay compensation to a workman employed by the contractor, in execution of the works, HITES will recover from the contractor the amount of the compensation so paid; and, without prejudice to the rights of the HITES under sub-section (2) of Section 12, of the said Act, HITES shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by HITES to the contractor whether under this contract or otherwise. HITES shall not be bound to contest any claim made against it under sub-section (1) Section 12, of the said Act, except on the written request of the contractor and upon his giving to HITES full security for all costs for which HITES might become liable in consequence of contesting such claim.

- **CLAUSE 18 B - Ensuring Payment & Amenities to Workers, if Contractor Fails**

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, HITES is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the Contractor, HITES will recover from the contractor the amount of wages so paid or the amount of expenditure so incurred ; and without prejudice to the rights of HITES under Sub-Section (2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, HITES shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by HITES to the contractor whether under this contract or otherwise HITES shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to HITES full security for all costs for which HITES might become liable in contesting such claim

- **CLAUSE 19 - Labour Laws to be complied by the Contractor**

The contractor shall obtain a valid Licence under the Contract Labour (R&A) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules 1971, before the commencement of the work and continue to have a valid license until the completion of the work.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.”

Any failure to fulfill this requirement shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

- **CLAUSE 19 A**

No labour below the age of eighteen years shall be employed on the work.

- **CLAUSE 19 B - Payment of wages**

i) The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as defined in the contractor's Labour Regulation or as per the provisions of the contract labour (Regulation and Abolition) Act 1970, and the contract labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

iii) In respect of all labour directly or indirectly employed in the works for performance of the

contractor's part of this contract, the contractor shall comply with or cause to be complied with the contractor's Labour Regulations made by the Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the contract labour(Regulation & Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

iv)

- a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
- b) Under the provisions of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for six days continuous work and pay wages at the same rate as for duty. In the event of default the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.
- c) In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12 (162) MWO/DAB/43884-91, dated 31.12.1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.
- v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act 1938, workmen's compensation Act, 1923, industrial disputes Act, 1947, Maternity benefits act, 1961, and the contractor's labour (Regulation and Abolition) Act, 1970, or the modifications their of or any other laws relating their to and the rules made their under from time to time.
- vi) The contractor shall indemnify and keep indemnified HITES against payments to be made under and for the observance of the Laws aforesaid and the contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the Workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

• **CLAUSE 19 C**

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall, at his own expense, arrange for the safety provisions as per Safety Code framed from time to time and shall, at his own expense, provide for all facilities in connection therewith. In case the contractor fails to make arrangements and provide necessary facilities as aforesaid he shall be liable to pay a penalty of Rs.200/- for each default and in addition the Engineer- in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

- **CLAUSE 19 D**

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) the number of labourers employed by him on the work,
- (2) their working hours,
- (3) the wages paid to them,
- (4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of the damages and injury caused by them, and,
- (5) the number of female workers who have been allowed maternity benefit according to Clause 19 F and the amount paid to them.

Failing which the contractor shall be liable to pay to HITES a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer-in-Charge shall be final in deducting from any bill due to the contractor the amount levied as fine and be binding on the Contractor.

- **CLAUSE 19 E**

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by HITES and its contractors.

- **CLAUSE 19 F**

Leave and pay during leave shall be regulated as follows:-

- 1. Leave:**

- (i) in the case of delivery-maternity leave not exceeding 8 weeks, 4 weeks, upto and including the day of delivery and 4 weeks following that day,
- (ii) in case of miscarriage-upto 3 weeks from the date of miscarriage.

- 2. Pay:**

- (i) in case of delivery- leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during the period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
- (ii) in the case of miscarriage – leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

- 3. Conditions for the grant of Maternity Leave:**

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave,

4. The contractor shall maintain a register of Maternity (Benefit) in the prescribed form as shown in Appendix-I and II, and the same shall be kept at the place of work



- **CLAUSE 19 G**

In the event of the contractor(s) committing a default or breach of any of the provisions of the Contractor's Labour Regulation and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulation and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the HITES a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor (s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 percent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/ are not properly observing and complying with the provisions of the Contractor's Labour Regulations and Model Rules and the provisions of the Contract labour (Regulation and Abolition) Act, 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health and sanitary arrangements for the work-people employed by the contractor(s)(hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules to be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/or observe the said Rules and to provide the amenities to the workpeople as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities herein before mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved Standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be re-modeled and/ or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

- **CLAUSE 19 H**

- (i) The contractor(s) shall at his/their own cost provide his /their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.
  - a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and floor area to be provided will be at the rate of 2.7 Sq.ms. (30 Sq.Ft.) for each member of the workers family staying with the labourers.
  - b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m X 1.50m (6'X5') adjacent to the hut for each family.
  - c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
  - d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutchra but plastered with mud gobri and shall be atleast 15 cm (6") above the surrounding ground. The roofs shall be laid with

thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that through out the period of their occupation the roofs remain watertight.

- a) The contractor(s) shall provide each hut with proper ventilation.
- b) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
- c) There shall be kept an open space of at least 7.2m (8yds.) between the rows of huts which may be reduced to 6m(20ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.

(iii) **Water Supply-** The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purpose. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks, which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/their own cost make arrangements for laying pipe lines for water supply to his/their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.

(iv) The site selected for the camp shall be high ground, removed from jungle.

(v) **Disposal of Excreta** - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration, which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/Authority

and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.

(vi) **Drainage:-** The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.

(vii) The Contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.

(viii) **Sanitation:-** The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

- **CLAUSE 19 I**

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractor's employment upon the work who may be incompetent or misconducts himself and the contractor shall forthwith comply with such requirements.

- **CLAUSE 19 J**

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay a levy upto 5% of the tendered value of work may be imposed by the competent authority of HITES whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the competent authority of HITES, through a notice, may require the contractor to

remove the illegal occupation any time on or before construction and delivery.

- **CLAUSE 19K**

The contractor shall at all stages of work deploy skilled semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute Industrial Training Institute / national Institute of construction Management and Research (NICMAR) National Academy of Construction. CIDC or any similar reputed and recognized institute managed/certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled / semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen alongwith requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

- **CLAUSE 20 - Minimum wages Act to be compiled with**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

- **CLAUSE 21 - Work not to be sublet, Action in case of Insolvency**

The contract as a whole or part thereof shall not be assigned or sublet or transferred either directly or indirectly whether by creating agent on the basis of General Power of Attorney or in any other manner or given on general power of attorney without the written approval of the Engineer-in-Charge. If the contractor shall assign or sublet or give on general power of attorney or transferred either directly or indirectly whether by creating agent on the basis of General Power of Attorney or in any other manner, his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employment of HITES in any way relating to his office or employment or if any such officer or person shall become in any way directly or indirectly interested in the contractor, or if the contractor shall obtain a contract with the HITES as a result of wrong tendering or by non bonafide methods, the Engineer-in-Charge on behalf of the HITES Limited shall have powers to adopt any or all of the courses specified in Clause 3 hereof as he may deem best suited to the interest of HITES and in the event of any or all of these courses being adopted the consequences specified in the said Clause 3 shall ensue.

- **CLAUSE 22**

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to use of HITES without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

- **CLAUSE 23 - Changes in Firm's Constitution to be intimated**

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge

shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where-under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

- **CLAUSE 24**

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

- **CLAUSE 25 - Settlement of Disputes and Arbitration**

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:-

- i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Chief Engineer in charge of the work in writing for written instruction or decision. Thereupon, the Chief Engineer shall give his written instructions or decision within a period of one month from the receipt of the contractor's letter.

If the **Chief Engineer** fails to give his instructions or decision in writing within the aforesaid period or if the contractor is dissatisfied with the instructions or decision of the **Chief Engineer**, the contractor may, within 15 days of the receipt of Chief Engineer's decision, appeal to the CEO HITES who shall afford an opportunity to the contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. CEO HITES shall give his decision within 30 days of receipt of contractor's appeal.

If the contractor is dissatisfied with the decision of the CEO HITES the contractor may within 30 days from the receipt of the CEO HITES's decision, appeal to the before the Dispute Redressal Committee (DRC) along with a list of disputes with amounts claimed in respect of each such dispute and giving reference to the rejection of his disputes by the CEO HITES The Dispute Redressal Committee (DRC) shall give his decision within a period of 90 days from the receipt of Contractor's appeal. The constitution of Dispute Redressal Committee (DRC) shall be as indicated in Schedule 'F'. **If the contract is dissatisfied with this decision the contractor shall within a period of 30 days from the receipt of the decision, give notice to the Chairman & Managing Director, HLL Lifecare Limited for appointment of Arbitrator on prescribed proforma as per Appendix XV, failing which the said decision shall be final, binding and conclusive and not referable to adjudication by the Arbitrator.**

- ii) Except where the decisions have become final, binding and conclusive in terms of Sub Para i) above, disputes or difference shall be referred for adjudication through arbitration by a Sole Arbitrator appointed by the Chairman & Managing Director, HLL Lifecare Limited. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another sole arbitrator shall be appointed in the manner aforesaid by the said Chairman & Managing Director. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the DRC of the appeal.

It is also a term of this contract that no person other than a person appointed by such Chairman & Managing Director, HLL Lifecare Limited as aforesaid should act as arbitrator and if for any reasons that is not possible, the matter shall not be referred to arbitration at all.

It is also a term of this contract that if the contractor does not make any demand for appointment of Arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and HLL Infra Tech Services Ltd. shall be discharged and released of all liabilities under the contract in respect of these claims.

The arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 (26 of 1996) or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of this contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each disputes and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs.1,00,000/- the Arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties.

It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any, by whom and in what manner, such costs or any part thereof, shall be paid and fix or settle the amount of costs to be so paid.

- **CLAUSE 26 - Contractor to Indemnify HITES against Patent Rights**

The contractor shall fully indemnify and keep indemnified the HITES against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against HITES in respect of any such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the HLL Infra Tech Services Ltd if the infringement of the patent or design or any alleged patents or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

- **CLAUSE 27 - Lumpsum Provisions in Tender**

When the estimate on which a tender is made includes Lumpsum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge, payable by measurement, the Engineer-in-Charge may at his discretion pay the Lumpsum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any

sum or sums payable to him under the provisions of this clause.

- **CLAUSE 28 - Action where no Specifications are stipulated**

In case of any class of work for which there are no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards specifications. In case there is no such specification in Bureau of Indian Standards, the work shall be carried out as per manufacturer's specifications. In case no such manufacturer's specifications is available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

- **CLAUSE 29 - Withholding and lien in respect of sum due from the Contractor**

(i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the HITES shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purposes aforesaid, the Engineer-in-Charge or HITES shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the HITES shall be entitled to withhold and have a lien to retain such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge or the HITES or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or HITES will be kept withheld or retained as such, by the Engineer-in-Charge, till the claim arising out of or under the contract is determined by the arbitrator (if the contract is governed by the arbitration clause) or by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-charge or the HITES shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

(ii) HITES shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for HITES to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by the HITES to the contractor, without any interest thereon whatsoever.

Provided that the HITES shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Engineer-in-charge on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Engineer-in-charge.

- **CLAUSE 29 A - Lien in respect of claims in other contracts**

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the HITES or any other contracting person or persons or through Engineer-in-Charge against any claim of the Engineer-in-Charge of HITES or such other person or persons in respect of payment of a sum of money arising out or under any other contract made by the contractor with the Engineer-in-Charge or of the HITES or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the HITES will be kept withheld or retained as such by the Engineer-in-Charge or the HITES or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

- **CLAUSE 30 - Water Supply and Power Supply**

The Contractor (s) shall make his/their own arrangements for water and power supply required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

- i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.
- ii) The Engineer-in-charge shall make alternative arrangements for water supply at the risk and cost of the contractor (s) if the arrangements made by the contractor (s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.
- iii) The contractor shall make his own arrangement for temporary electric connection and shall make necessary payment for it direct to the concerned authority. On completion of the work he shall furnish a no dues certificate from the concerned authority failing which the claims/dues of the concerned authority shall be settled by the Engineer-in-Charge at the contractor's risk and cost.

- **CLAUSE 31 - Departmental power & water supply, if available**

Water and power supply if available may be supplied to the contractor by the HITES subject to the following conditions:

- i) The water charges at actuals as decided by the Engineer in charge shall be recovered on gross amount of the work done.
- ii) The contractor (s) shall make his/their own arrangement of water connection and laying of pipelines from existing main source of supply
- iii) The contractor shall make his own arrangement to extend the power supply from the tapping point and install a sub meter for recording consumption of power in the work. The consumption charges thereof shall be recovered from the contractor by deduction from his bills or from any other dues.
- iv) The HITES do not guarantee to maintain uninterrupted supply of water and power and it will be incumbent on the contractor (s) to make alternative arrangements for water and power at his/their own cost in the event of any break down in the supply so that the progress of his/their work is not held up. No claim of damage or refund of water and power charges will be entertained on account of such break down.

- **CLAUSE 32 - Alternate water arrangements**

- (i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the HITES no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.

- (ii) The contractor shall be allowed to construct temporary wells in HITES land for taking water for construction purposes only after he has got the permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

• **CLAUSE 33 - Return of Surplus Materials**

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of HITES either by issue from HITES stocks or purchase made under orders or permits or license issued by HITES, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose off them without the written permission of the Government/HITES and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and/or for criminal breach of trust, be liable to HITES for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

• **CLAUSE 34 - Hire of Plant & Machinery**

- i) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T & P) required for execution of the work except for the plant Machinery listed in Schedule 'C' and stipulated for issue to the Contractor. If the contractor requires any item of T & P on hire from the T & P available with the HITES over and above the T&P stipulated for issue, the HITES will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer-in-Charge. In such a case all the conditions hereunder for issue of T&P, shall also be applicable to such T&P as is agreed to be issued.
- ii) Plant and Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the HITES equipment yard/shed shown in Schedule 'C' and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with the same condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant & machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-in-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- iii) The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the HITES.
- iv) The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over upto and inclusive of the date of the return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer-in-Charge when any plant or machinery gets out of order requiring major repairs as aforesaid. The Engineer-in-Charge shall record the date and time of receipt of such



intimation in the log sheet of the plant or machinery. Based on this if the breakdown before lunch period or major breakdown will be computed considering half a day's breakdown on the day of complaint. If the breakdown occurs in the post lunch period of major break down will be computed starting from the next working day. In case of any dispute under this clause the decision of the Superintending Engineer shall be final and binding on the contractor.

- v) The hire charges shown above are for each day of 8 hours (inclusive of the one-hour lunch break) or part thereof.
- vi) Hire charges will include service of operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved type, firewood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be fully responsible for the safeguard and security of plant and machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the HITES against any loss or damage caused to the plant and machinery either during transit or at site of work.
- vii) Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of one-hour lunch break. In case of an urgent work however, the Engineer-in-Charge may, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case the hourly hire charges for overtime to be borne by the contractor shall be 50 % more than the normal proportionate hourly charge ( $1/8^{\text{th}}$  of the daily charges) subject to a minimum of half day's normal charges on any particular day. For working out hire charges for over time a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- viii) The contractor shall release the plant and machinery every seventh day for periodical servicing and/or wash out which may take about three to four hours or more. Hire charges for full day shall be recovered from the contractor for the day of servicing/wash out irrespective of the period employed in servicing.
- ix) The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer-in-Charge the work or a portion of work for which the same was issued is completed.
- x) Logbook for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the HITES and will be countersigned by the contractor or his authorized agent daily. In case the contractor contests the correctness of the entries and/or fails to sign the Log Book the decision of the Engineer-in-Charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure)
- xi) In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or occasion.
- xii) In case rollers for consolidation are employed by the contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of HITES rollers, maximum quantity of any items to be consolidated for each roller-day shall also be same as in Annexure to Clause 34(x). For less use of roller recovery for the less roller days shall be made at the stipulated issue rate.
- xiii) The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including

damage to or loss of parts, and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-in-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.

- xiv) The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-Charge to suspend execution of the work, provided HITES plant and machinery in question have, in fact, remained idle with the contractor because of the suspension.
- xv) In the event of the contractor not requiring any item of plant and machinery issued by HITES though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-Charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

- **CLAUSE 35 - Conditions relating to use of Asphaltic Materials**

- i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before using the same, and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specification and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material returned to the contractor. Although the materials are hypothecated to HITES, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.
- iii) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of security deposit relating to asphaltic work shall be refunded after the expiry of this period

- **CLAUSE 36 - Employment of Technical Staff and employees**

Contractors Superintendence, Supervision, Technical Staff & Employees

- (i) The contractor shall provide all necessary superintendence during execution of the work and as long thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge the name, qualifications, experience, age, address and other particulars along with certificates, of the principal technical representative to be in charge of the work. Such qualifications and experience shall not be lower than specified in Schedule 'F'. The Engineer-in-Charge shall within 15 days of receipt of such communication intimate in writing his approval or otherwise of such representative to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative according to the provisions of this clause. Decision of the Engineer-in-Charge shall be final and binding on the contractor in this respect. Such a principal technical representative shall be appointed by the contractor soon after receipt of the approval from the Engineer-in-Charge and shall be available at site within fifteen days of start of the work.

If the contractor (or any partner in case of firm/company) who himself has such qualifications, it will not be necessary for the said contractor to appoint such a principal technical representative but the contractor shall designate and appoint a responsible agent to represent him and to be present at the work whenever the contractor is not in a position to be so present. All the provisions applicable to the

principal technical representative under the Clause will also be applicable in such a case to contractor or his responsible agent. The principal technical representative and/or the contractor shall on receiving reasonable notice from the Engineer-in-Charge or his designated representative(s) in charge of the work in writing or in person or otherwise, present himself to the Engineer-in-Charge and/or at the site of work, as required, to take instructions. Instructions given to the Principal technical representative or the responsible agent shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and/or the contractor or his responsible authorized agent shall be actually available at site atleast two working days every week, these days shall be determined in consultation with the Engineer-in-Charge as well as fully during important stages of execution of work, during recording measurement of works and whenever so required by the Engineer-in-Charge by a notice as aforesaid and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative in the site order book and shall affix his signature in token of noting down the instructions and in token of acceptance of measurements. There shall be no objection if the representative/agent looks after more than one work and not more than three works in the same station provided these details are disclosed to the Engineer-in-Charge and he shall be satisfied that the provisions and purpose of this clause are fulfilled satisfactorily.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative or agent is effectively appointed or is effectively attending or fulfilling the provisions of this clause, a recovery shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint a suitable technical representative or responsible agent and if such appointed persons are not effectively present or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as a suitable agent is appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative/ responsible agent along-with every on account bill/ final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

- (ii) The contractor shall also provide and employ on the site the required complement of technical assistants and foreman who are skilled and experienced in their respective fields for proper supervision of the work.

The contractor shall provide and employ skilled, semi-skilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the person so removed shall be replaced as soon as possible by competent substitutes.

- **CLAUSE 37 - Levy/ Taxes Payable by Contractor**

- i) **Sales Tax/VAT (except Service Tax), or any other tax or Cess in respect of this contract shall be payable by the contractor and HITES /Client shall not entertain any claim whatsoever in this respect. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to the contractor by HITES after satisfying with documentary proof that it has been actually and genuinely paid by the contractor.**
- ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.
- iii) If pursuant to or under any law, notification or order any royalty, Cess or the like becomes payable by HLL Infra Tech Services Ltd and does not anytime become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in

such a case, it shall be lawful to HITES and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

• **CLAUSE 38 - Conditions for reimbursement of Levy/ Taxes, if levied after receipt of tenders**

- i) All tendered rates shall be inclusive of all taxes and levies (except Service Tax) payable under respective statutes. However, if any further tax or levy or cess is imposed by statute, after the last stipulated date for the receipt of tender including extensions, if any, and the contractor thereupon necessarily and properly pays such taxes/levies/cess the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the competent authority of HITES (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.
- ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of HITES and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.
- iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

• **CLAUSE 39 - Termination of Contract on death of Contractor**

Without prejudice to any of the rights or remedies under this contract if the contractor dies, the Engineer-in-Charge on behalf of the HITES shall have the option of terminating the contract without compensation to the contractor.

• **CLAUSE 40 - If relation working in HITES, then Contractor not allowed to tender**

The Contractor shall not be permitted to tender for works in HITES ID Division in which his near relative (s) (directly recruited or on deputation in HITES) is/are posted in any capacity either non-executive or executive employee.

The contractor shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any executive employee/ gazetted officer in HITES

Any breach of these conditions by the Company or Firm or any other person, the tender/work will be cancelled and Earnest Money/ Security Deposit will be forfeited at any stage, whenever it is so noticed. The department will not pay any damages to the company or Firm or the concerned person. The Company or Firm or the person will also be debarred for further participation in the tender in the concerned HITES FM Division. Further, any breach of this condition by the tenderer would also render him liable to be removed from the approved list of contractors or this Department. If however the contractor is registered in any other Department he shall also be debarred from tendering in HITES for any breach of this condition.

NOTE:- Near relative (s) for this purpose is/are defined as : –

- (i) Member of Hindu Undivided family (UHF).
- (ii) They are Husband and Wife.
- (iii) The one is related to other in the manner as father, mother, son(s) & Son's wife (daughter-in-law), Daughter(s), Daughter's husband (son-in-law), brother(s), brother's wife, sister(s), sister's husband (brother-in-law).

- **CLAUSE 41 - No Gazetted Officer/ Engineer to work as Contractor within one year of Retirement**

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from Government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

- **CLAUSE 42 - Compensation during warlike situations**

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected there-with, shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall, when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provisions of the agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-in-Charge upto Rs.5000/- and by the Head (FMD) for a higher amount. The contractor shall be paid for the damages/destruction suffered and for the restoring the material at the rate based on analysis of rates tendered for in accordance with the provisions of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operation (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any materials etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer-in-Charge.

- **CLAUSE 43 Apprentices Act provisions to be complied with**

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Engineer-in-charge may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

- **CLAUSE 44 - Release of Security Deposit after labour clearance**

Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually completed the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after the completion of the defects liability period and/or no communication is received from the Labour Officer to this effect till six months after the date of completion of the defects liability period, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

- **CLAUSE 46 - Insurance**

Without limiting the Contractor's obligations and responsibilities stated elsewhere in the Contract, the Contractor shall at his own cost arrange, secure and maintain insurance in the joint names of the HITES and the contractor with any of the subsidiary of the General Insurance Corporation of India in such a manner that the HITES and the contractor are covered for all time during the period of contract i.e. the time period allowed for completion of work, extended period and the defect liability period.

The insurance shall be affected in accordance with terms approved by the HITES and the contractor shall submit the insurance policies to the Engineer-In-Charge **within one week of signing of the agreement along with the receipt of premium.** The contractor shall timely pay and submit the receipts of payment of premiums for extensions of policies, if any. The insurance shall cover the following:-

- A. **Contractor's All Risks Insurance:** The contractor shall insure the work for a sum equivalent to the Contract value or such additional sums as specified and the interests of the HITES against ALL RISKS claims, proceedings, loss or damages, costs, charges and expenses from whatsoever cause arising out of or in consequence of the execution and maintenance of the work for which the contractor is responsible under the contract
- B. **Workman Compensation & Employers Liability Insurance:** This insurance shall be affected for all the contractor's employees engaged in the performance of the contract. The HITES shall not be liable in respect of any damages or compensation payable at law in respect of or in consequence of any accident or injury to any workman or any other person in the employment of the contractor and the contractor shall indemnify and keep indemnified the HITES against all such damages and compensation and against all claims, demands, proceedings, costs, charges and expenses, whatsoever in respect or in relation thereof.
- C. **Third Party Insurance:** The contractor shall be responsible for making good to the satisfaction of the Engineer-in-Charge any loss or any damage to all structures and properties belonging to the HITES or being executed or procured or being procured by the HITES or of the other agencies within the premises of all work of the HITES. If such loss or damage is due to fault and or the negligence or willful acts or omissions of the contractor, his employees, agents, representatives.

The contractor shall take sufficient care in moving his plants, equipments and materials from one place to another so that they do not cause any damage to any person or to the property of the HITES or any third party including overhead and underground cables and in the event of any damage resulting to the property of the HITES or to a third party during the movement of the aforesaid plant, equipment or materials, the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by the HITES or ascertained or demanded by the third party, shall be borne by the contractor.

Before commencing the execution of the work, the contractor, shall insure and indemnify and keep the HITES harmless of all claims, against the contractor's liability for any materials or physical damage, loss or injury which may occur to any property, including that of the HITES or to any person including any employee of HITES, or arising out of the execution of the work or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to (a) above. Such insurance shall be affected for an amount sufficient to cover such risks. The terms shall include a provision whereby, in the event of any claim in respect of which the contractor, would be entitled to receive indemnify under the policy being brought or made against the HITES, the insurer willfully indemnify HITES against such claims and any costs, charges and expenses in respect thereof.

- D. The contractor shall also at times indemnify the HITES against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workman's Compensation Act, 1947, Industrial Disputes Act, 1947 and Maternity Benefit Act, 1961, or any modification thereof or any other law relating thereof and rules made there under from time to time.

E. Contractor shall also at his own cost carry and maintain any and all other insurance(s) which he may be required to take out under any law or regulation from time to time. He shall also carry and maintain any other insurance, which may be required by the Engineer-in-Charge.

46.1 The Contractor shall prove to the Engineer-in-charge from time to time he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period.

46.2 The aforesaid insurance policies shall provide that they shall not be cancelled till the Engineer-in-charge has agreed for cancellation.

46.3 **Remedy on the contractor's failure to insure:** If the contractor shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the contract then and in any such case Engineer-in-charge may without being bound to, 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 Engineer-in-charge from any moneys due or which may become due to the contractor or recover the same as a debt due from the contractor.

### **SAFETY CODE**

1. 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  $\frac{1}{4}$  to 1 ( $\frac{1}{4}$  horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6 m (12 ft.) 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 atleast 90 cm (3 ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof 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.
3. 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 ms (12 ft.) 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.
4. 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 (3 ft.).
5. 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 9 m (30 ft) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11  $\frac{1}{2}$ "") for ladder upto and including 3 metre (10 ft.) in length. For longer ladders this width should be increased atleast  $\frac{1}{4}$ " 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 maybe 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.

6. Excavation and trenching- All trenches 1.2 m (4 ft.) or more in depth, shall at all times be supplied with atleast one ladder for each 30 metre (100 ft) in length or fraction thereof. Ladder shall extend from bottom of the trench to atleast 90 cm. (3 ft) above the surface of the ground. The sides of the trenches, which are 1.5 m (5 ft) 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 material shall not be placed within 1.5 m (5 ft) 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.
7. Demolition. - Before any demolition work is commenced and also during the progress of the work,
  - i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
  - ii) 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.
  - iii) 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.
8. 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.
  - i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
  - ii) Those engaged in whitewashing and mixing or stacking of cement bags or any material, which is injurious to the eyes, shall be provided with protective goggles.
  - iii) Those engaged in welding works shall be provided with welder's protective eye shields.
  - iv) Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
  - v) 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 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 measures are adhered to:-
    - a) Entry for workers into the line shall not be allowed except under supervision of the Engineer in Charge or any other higher officer.
    - b) Atleast 5 to 6 manholes upstream and downstream should be kept open for atleast 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
    - c) 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.
    - d) Presence of oxygen should be verified by lowering a detector lamp into the manhole. In case, no oxygen is found inside the sewer line, worker should be send only with oxygen kit.
    - e) Safety belt with rope should be provided to the workers. While working inside the manhole such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
    - f) 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 for the cleaning works are undertaken during night or day.
    - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.



- h) The malba 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.
  - i) 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 upto which worker may be allowed to work continuously inside the manhole.
  - j) Gas masks with Oxygen cylinder should be kept at site for use in emergency.
  - k) 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 vapor 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 the source of friction on any inflammable gas that might be present.
  - l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing working in the manhole.
  - m) The worker shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non-sparking tools and safety lights and gas masks and portable air-blowers (when necessary). They must be supplied with barrier cream for anointing the limits before working inside the sewer lines.
  - n) 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.
  - o) 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.
  - p) The extents 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.
- vi) 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. Whenever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken: -
- a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
  - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
  - c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
9. The Contractor shall not employ women and men below the age of 18 years on the work of painting with product containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
- (i) White lead, sulphate of lead or product containing these pigments, 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 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 scrapping.

- (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
  - (v) Overall shall be worn by working painters during the whole of working period.
  - (vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
  - (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by the competent authority of HITES
  - (viii) HITES may require, when necessary, medical examination of workers.
  - (ix) Instructions with regard to special hygienic precautions, to be taken in the painting trade, shall be distributed to working painters.
10. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided & 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.
11. 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 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 blocks 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 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) In case of HITES machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regard contractor's machines the contractors shall notify the safe working load of the machines to the Engineer-in-Charge whenever he brings any machinery to the site of work and get it verified by the Electrical Engineer concerned.
12. 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 energized, 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.
13. 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.

14. 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.
15. 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 the Engineer-in-Charge or their representatives.
16. 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.

### **CONTRACTOR'S LABOUR REGULATIONS**

1. **SHORT TITLE:** These regulations may be called the Contractors Labour Regulations.

2. **DEFINITIONS:**

- i) **Workman** means, any person employed by HITES or its contractor directly or indirectly, through a subcontractor, with or without the knowledge of the HITES, 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 same other premises, not being premises under the control and management of the principal employer.
- ii) **Fair Wages** means wages whether for time or piecework fixed and notified under the provision 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.

3.

- i) Normally working hours of an adult employee should not exceed 9 hours a day and in case of child 4½ 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. Children shall not be made to work extra hours.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of 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 HITES, 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 the 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 local Indian languages spoken by the majority of the workers, giving the minimum rates of the 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:**

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

ii) No wage period shall exceed one month.

iii) 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.

iv) 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.

v) 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.

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

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

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

ix) 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 acknowledgement.

x) It shall be the duty of the contractor to ensure the disbursement of wages in presence of authorized representative of the Engineer-in-Charge who will be required to be present at the place and time of the disbursement of wages by the contractor to workmen.

xi) The contractor shall obtain from the or any other authorized 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 the 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) Deductions for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deductions 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, allows.

(ii) No fines should be imposed 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 Omission for which fines can be imposed is enclosed at 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 any one-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

(i) 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)

(ii) 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)

(iii) 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 as may be convenient at the work place but the same shall include the following particulars:

- a) Full Particulars of the labourers who met with accident.
- b) Rate of wages.
- c) sex

- d) Age
- e) Nature of accident and cause of accident
- f) Time and date of accident
- g) Date and time when admitted in hospital
- h) Date of discharge from the hospital
- i) Period of treatment and result of treatment
- j) Percentage of loss of earning capacity and disability as assessed by Medical Officer
- k) Claim required to be paid under Workmen's Compensation Act.
- l) Date of payment of compensation
- m) Amount paid with details of the person to whom the same was paid
- n) Authority by whom the compensation was assessed
- o) 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 omission 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**

- i) The contractor shall issue an **Attendance card cum wage slip** to each workman employed by him in the specimen form at (Appendix-VII).
- ii) The card shall be valid for each wage period.
- iii) 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.
- iv) The card shall remain in possession of the worker during the wage period under reference.
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) 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 him.

**9. EMPLOYMENT CARD:** The contractor shall issue an **Employment Card** in the Form XIV of 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 the 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 authorized by the Ministry of Communication in this behalf.

**12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY:** The labour officer or any person authorized by the HITES 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 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 authorized 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 made on such appeal.

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

**14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER:** Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorized may appeal against such decision to the Superintending Engineer concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Executive 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 inquiry 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 inquiry under these regulations by:-
  - a) An officer of an association of employers of which he is a member.
  - b) An officer of a federation of associations of employers to which association referred to in Clause (a) is affiliated.
  - c) Where the employer 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 is engaged.
- iii) No party shall be entitled to be represented by a legal practitioner in any investigation inquiry 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, authorized by the Central Government on his behalf.

**17. SUBMISSION OF RETURNS:** The contractor shall submit periodical returns as may be specified from time to time.

**18. AMENDMENTS:** The HITES 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.



**LABOUR BOARD**

Name of work: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_

Address of Contractor: \_\_\_\_\_

Name and address of HITES Cenet: \_\_\_\_\_

Name of HITES Labour Officer : \_\_\_\_\_

Address of HITES Labour Officer: \_\_\_\_\_

Name of Labour Enforcement Officer: \_\_\_\_\_

Address of Labour Enforcement Officer: \_\_\_\_\_

Sl.No	Category	Minimum wage Fixed	Actual wage paid	Number Present	Remarks

Weekly holiday \_\_\_\_\_

Wage period \_\_\_\_\_

Date of payment of Wages \_\_\_\_\_

Working hours \_\_\_\_\_

Rest interval \_\_\_\_\_

**Form-XIII (See Rule 75)  
Register of Workmen Employed by Contractor**

Name and address of contractor \_\_\_\_\_

Name and address of establishment under which contract is carried on \_\_\_\_\_

Nature and location of Work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Sl. No.	Name and surname of Workman	Age and Sex	Father's/ Husband's Name	Nature of employment / designation.	Permanent home address of the workman (Village and Tehsil, Taluka and District)	Local Address	Date of commencement of employment	Signature or thumb impression of the workman	Date Termination of employment.	Reasons For termination.	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Form –XVII (See Rule 78(2)(a))

Register of Wages

Name and address of the contractor\_\_\_\_\_

Name and address of establishment under which contract is carried on\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Wages period\_\_\_\_\_ Monthly/fortnightly

Sl.No.	Name of workman	Serial No.in the register of workman	Designation Nature of work done	No. of days worked	Units of work done	Daily rate of wages/piece rate	Basic Wages
1	2	3	4	5	6	7	8

Dearness allowances	Overtime	Other cash payments(Indicate nature)	Total	Deductions if any, (indicate nature)	Net amount paid	Signature or thumb impression of the workman	Initial of contractor or his representative
9	10	11	12	13	14	15	16

Wage Card No. \_\_\_\_\_

**Wage Card**

Name and address of the contractor \_\_\_\_\_ Date of issue \_\_\_\_\_

Name and location of work \_\_\_\_\_ Designation \_\_\_\_\_

Name of Workman \_\_\_\_\_ Month/fortnight \_\_\_\_\_

Rate of Wages \_\_\_\_\_

	DATE																															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
Morning																																
Evening																																
Initial																																

Rate \_\_\_\_\_

Amount \_\_\_\_\_

Received from \_\_\_\_\_ the sum of Rs. \_\_\_\_\_ on account of my wages.

Signature

**Form-XIX**  
**(See rule 78(2)(b))**

**Wages Slip**

Name and address of the contractor\_\_\_\_\_

Name and Father's/Husband's name of workman\_\_\_\_\_

Nature and location of work\_\_\_\_\_

For the Week/Fortnight/Month ending\_\_\_\_\_

1. No. of days worked \_\_\_\_\_
2. No. of units worked in case of piece rate workers\_\_\_\_\_
3. Rate of daily wages/piece rate\_\_\_\_\_
4. Amount of overtime wages\_\_\_\_\_
5. Gross wages payable\_\_\_\_\_
6. Deduction, if any\_\_\_\_\_
7. Net amount of wages paid\_\_\_\_\_

Initials of the Contractors or his representative

Form-XIV  
(See rule 76)

**Employment Card**

Name and address of the contractor\_\_\_\_\_

Name and address of establishment under which contract is carried  
on\_\_\_\_\_

Nature of work and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

1. Name of Workman\_\_\_\_\_

2. SI No. in the register of workman employed\_\_\_\_\_

3. Nature of employment/designation\_\_\_\_\_

4. Wage rate (with particulars of unit in case of piece work)\_\_\_\_\_

5. Wages period\_\_\_\_\_

6. Tenure of employment\_\_\_\_\_

7. Remarks\_\_\_\_\_

Signature of contractor

Form-XV (See Rule 77)  
**Service Certificate**

Name and address of the contractor\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and Address of workman\_\_\_\_\_

Age or date of birth\_\_\_\_\_

Identification marks\_\_\_\_\_

Father's/Husband's name\_\_\_\_\_

Name and address of establishment in/under which contract is carried  
 on\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl.No.	Total period for which employed		Nature of work done	Rate of Wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Signature

## LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7 (v) of the HITES Contractors Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Wilful insubordination or disobedience, whether along or in combination with other.
2. Theft fraud or dishonestly in connection with the contractors beside a business or property of HITES.
3. Taking or giving bribes or any illegal gratifications.
4. Habitual late attendance.
5. Drunkenness fighting, riotous or disorderly or indifferent behavior.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the HITES or of the contractor.
10. Sleeping on duty.
11. Malingering or showing down work.
12. Giving of false information regarding name and father's name etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized articles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the HITES and for which the contractors are compelled to undertake rectification.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishment.
18. Any unauthorized divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employer during the working hours within the premises.



Form-XII (See Rule 78(2)(d))

**Register of Fines**

Name and address of the contractors\_\_\_\_\_

Name and address of establishment under which contract is carried on\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl.No.	Name of workman	Father's/Husband's name	Designation/nature of employment	Act/Omission For which fine imposed	Date of Offence
1	2	3	4	5	6

Whether workman Showed cause against fine	Name of person in whose presence employees explanation was heard	Wage period and wages payable	Amount of fine imposed	Date on which fine realized	Remarks.
7	8	9	10	11	12

Form-XX(See Rule 78(2)(d))

**Register of Deduction for Damage or Loss**

Name and address of the contractors\_\_\_\_\_

Name and address of establishment under which contract is carried on\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl.No.	Name of workman	Father's/Husband's name	Designation/nature of employment	Particulars of damage or loss	Date of damage or loss
1	2	3	4	5	6

Whether workman showed cause against fine	Name of person in whose presence employees explanation was heard	Amount of deduction imposed	No. of installments	Date of recovery		Remarks
				First installment	Last installment	
7	8	9	10	11	12	13

Form-XXII (See Rule 78(2)(d))

**Register of Advances**

Name and address of the contractors \_\_\_\_\_

Name and address of establishment under which contract is carried on \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Sl. No.	Name of workman	Father's/Husband's name	Designation nature of employment	Wage period and wages payable	Date and Amount of Advance given	Purpose(s) for which Advance made	Number of Installments by which advance to be repaid	Date and amount of each installments repaid	Date on which last Installments was repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11

Form-XXIII (See Rule 78(2)(e))  
**Register of Overtime**

Name and address of the contractors \_\_\_\_\_

Name and address of establishment under which contract is carried on  
 \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Sl.No.	Name of workman	Father's/husband's name	Sex	Designation /nature of employment	Date on which Overtime worked	Total overtime worked or production increase of piece-rated	Normal rate of wages	Overtime rate of wages	Overtime earnings	Rate on which overtime wages paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

## Appendix XV'

### Notice for appointment of Arbitrator [Refer Clause 25]

To  
Chairman & Managing Director  
HLL Infra Tech Services Ltd.  
Sir,

In terms of clause 25 of the agreement, particulars of which are given below, I/we hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm/Partnership Firm/Ltd. Co.
3. Full address of the applicant
4. Name of the work and contract number in which arbitration sought
5. Name of the Division which entered into contract
6. Contract amount in the work
7. Date of contract
8. Date of contract Date of initiation of work
9. Stipulated date of completion of work
10. Actual date of completion of work (if completed)
11. Total number of claims made
12. Total amount claimed
13. Date of intimation of final bill (if work is completed)
14. Date of payment of final bill (if work is completed)
15. Amount of final bill (if work is completed)
16. Date of request made to Engineer in charge for decision
17. Date of receipt of Engineer in charge's decision
18. Date of appeal to Chief Engineer/ Principal Chief Engineer
19. Date of receipt of Chief Engineer/ Principal Chief Engineer's decision.
20. Date of appeal to DRC
21. Date of receipt of DRC's decision

Specimen signatures of the applicant  
(only the person/authority who signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of claims with amount of claims.
- 2.
- 3.

Yours faithfully, (Signatures)

Copy in duplicate to:

1. The Engineer-in-Charge

## **TECHNICAL SPECIFICATIONS**

### **Air conditioning System**

#### **SECTION - I**

#### **BRIEF DESCRIPTION OF WORK**

##### **1.1 SCOPE OF WORK**

The scope of work covers supply, installation, testing and commissioning of Air-conditioning System at Women & Children Hospital at JIPMER Puducherry

##### **1.2 SPACE TO BE AIR CONDITIONED**

The space to be air-conditioned is tentatively as per the drawings attached. Tenderers are advised to visit the site before submitting their bids.

##### **1.3 BILL OF QUANTITIES & EQUIPMENT**

The details of equipment and the bill of quantities required are furnished in relevant sections of this document. The technical specifications are also described. The tenderers are required to fill in the prices item wise all inclusive, as per format and submit the Bill of Quantities. The rate quoted should be inclusive of taxes, duties, freight, packing and forwarding, Octroi entry tax, loading, unloading, handling at site, etc. The tenderer shall not be eligible for any extra amount due to change in taxes, duties, etc.

##### **1.4 TECHNICAL DATA**

The tenderers are required to submit technical data documents as per the format. The data proposal sheets are enclosed in the tender document. The tenderer shall fill in all the data required.

## SECTION- II

### TECHNICAL DETAILS

#### 2.1 SCOPE OF WORK

The complete scope of work shall cover supply, installation, testing and commissioning of Air Conditioning System at Women & Children Hospital at JIPMER Puducherry including sizing of ducts, pipes routing & exhaust ventilation for toilets including ducting. The contractor shall submit the design & drawings for approval and obtain approval from Consultant/Client before commencement of works.

#### 2.2 Basis of Design

The entire system has been designed based on climatological data available as given under the section basis of Design. The technical requirements given under here are only indicative and not descriptive and the contractor shall ensure that the whole system supplied is complete in all respects for the smooth operation of the plant and should be suitable for the rated performance.

#### 2.3 Terms and Definitions

The following terms have been used in the tender specifications, drawings, etc.

BIS Bureau of Indian Standards

ASHRAE American society of Heating, Refrigeration and Air-conditioning Engineers, USA.

ASME American Society of Mechanical Engineers.

ASA American Standard Association.

B.S British Standards

CMH Cubic Meter per Hour

CFM Cubic Feet per Minute

US GPM US Gallons per Minute

IGPM Imperial Gallons per Minute.

RPM Revolutions per Minute

BTU/Hr. British Thermal Unit per Hour

KCal/Hr. Kilo Calories per Hour

HZ Hertz

H.P. Horse Power

Kg/CM<sup>2</sup> Kilo Gram per Square Centimeter

SG Supply Air Grilles

SD Supply Air Diffuser

SAF Supply Air Filters

FD Fire Damper

VCD Volume Control Damper

RG Return Air Grilles

RD Return air diffuser

FAD Fresh Air Damper

RH Relative Humidity

DB Dry Bulb Temperature

WB Wet Bulb Temperature

MV Mechanical Ventilation

DP Drain Point.

RO Rate Only

The design, manufacture, identification of material and testing of the equipment covered in this specification shall comply with the latest edition of the appropriate standard of the following:

- 1) Duct Work - IS:655 (latest edition)
- 2) Welding - IS:3589
- 3) Refrigeration and Air-conditioning - As per ASHRAE/ISI air-conditioning and refrigeration institute standards.
- 4) Sluice Valves for Water Lines - IS:778-1980
- 5) Copper alloy Gate/ Globe / Check Valve for water lines - IS:778
- 6) Colour code for the identification of pipe lines - IS:2379-1963
- 7) Specific requirements for the direct switching of the individual motors - IS:4064 (Part-II)-1978
- 8) PVC insulated (HD) Electric Cables for working voltage up including 1100 Volts - IS:1554 (Part I)
- 9) Starters - IS:8554 (Part-I) 1979
- 10) HRC Cartridge fuse links upto 650 Volts - IS:2208
- 11) Inspection and testing of installation  
IS:732 (Part-III) 1979
- 12) Galvanized steel wire for fencing - IS:277-1977
- 13) Three phase induction motors - IS:325
- 14) Horizontal centrifugal pumps - IS:1620
- 15) Wrought aluminum and aluminum alloy sheet and strip for general engineering purposes - IS:737
- 16) Bourdan tube pressure & vacuum gauges - IS:3624
- 17) Glossary of terms used in refrigeration and air-conditioning - IS:3615
- 18) Code for practice for standard for selection of standard worm and helical gears - IS:7403
- 19) PVC insulated (heavy duty) electric cables for working voltage upto and including 1100 watts: -IS:1554 (Part-I)
- 20) Expanded Polystyrene (EPS) : - IS 4671.
- 21) Resin bonded glass wool: - IS 8183.

## 2.4 Safety Codes

The following IS codes shall be followed:

- Safety code for mechanical refrigeration - IS:660
- Safety code for air-conditioning - IS:659
- Safety code for scaffolds & ladders -IS:3696
- Code of practice for fire precautions in welding & cutting operations - IS:3016
- Code for safety procedures and practices in electrical works - IS:5216
- Code of practice for safety and health requirements in electrical & gas welding and cutting operations - IS:3696
- Indian Electricity Act 1910
- Electricity Supply Act and Indian Electricity Rules.

## 2.5 MACHINERY

### AIR COOLED PACKAGED/DUCTABLE AIR CONDITIONING UNIT

#### 1. Cabinet



The packaged split air conditioning units shall have metal cabinet of min 1.6mm thick (16 gauge) galvanized sheet steel. The body should be machine pressed and adequately stiffened. The body should be chemically treated for corrosion resistance and Polyester powder coated.

## **2.Compressor**

All compressors shall be hermetically sealed scroll type of suitable capacities. Compressor shall be suitable for R22 refrigerant. The compressor shall be electrically interlocked with indoor and outdoor fan motors, HP/LP cutouts and thermostat in the evaporator. The compressor shall be housed inside the Condenser.

## **3.Condenser (Air cooled)**

The coils shall be made of copper hydraulically bonded with aluminium fins. The tubes shall have a minimum of 9.5 mm outer diameter, firmly bonded with aluminium fins spaced at 12-14 fins/inch. The air velocity across the face of the coil shall not exceed 200 m/min. The coils shall be designed for a maximum working pressure of 35 kg./sq.cm. The condenser coil shall be protected on the open end by a wire mesh duly powder coated/plastic coated.

## **4.Evaporator coil**

The coils shall be made of copper hydraulically bonded with aluminium fins. The coils shall be hydrophilic in nature. The tubes shall have a minimum of 9.5 mm outer diameter, firmly bonded with aluminium fins spaced at 12-14 fins/inch. The air velocity across the face of the coil shall not exceed 170 m/min. The coils shall be designed for a maximum working pressure of 35 kg/sq.cm. The circuit should include a thermostatic expansion valve/capillary tube, distributor, liquid strainer, suction line shut off valve and liquid line shut off valve.

## **5.Condenser motor**

The condenser motor shall be of IP-55 rating.

## **6.Refrigeration piping and accessories**

Only hard drawn copper shall be used in piping with brass fittings wherever required. Brazing shall be with silver copper phosphorous alloy. Horizontal lines shall have a grading of at least 1:250 away from the compressor and towards condenser to prevent gravity draining of oil to compressor. Liquid lines shall be sized to ensure that flashing of liquid refrigerant does not occur. The circuit should include a thermostatic expansion valve, distributors, liquid strainer, de-hydrator and liquid lines shut off valve and suction line shut off valve.

Leaks shall be tested with soap solution at a minimum pressure of 21 kg/sq.cm. After all leaks have been repaired, system shall be tested with the test pressure maintained for a period of not less than 8 hours. No measurable drop in pressure should be detected after the pressure readings are adjusted for temperature changes. After satisfactory completion of the pressure test, the system shall be evacuated to reduce the pressure to 0.1 Kg/Sq.cm. for a period of 6 hours and vacuum broken. A vacuum pump connected to the refrigeration system shall be used to create the vacuum and the installed compressor shall not be used to create the purpose. The system shall again be evacuated and a vacuum of 0.01 Kg/Sq.cm. maintain for 24 hours before charging with correct quantity of refrigerant and oil. The system shall be operated for 12 hours and then again tested for leaks.

## **7.Drain Piping**

Drain pipe shall be of 32mm dia. PVC pipes. All Ductable Split units shall be provided with independent drain lines. And all the drain line above false ceiling shall be insulated. The drain shall be taken to the nearest exit points.

## **8.Fan**

Fan section including wheel and housing shall be of heavy gauge steel/aluminium. Fans shall be centrifugal, forward curved multi-blade type. Fan housing shall have inlets and guide vanes for smooth air flow. Fans shall be complete with drive motor. The fans should be

statically and dynamically balanced. The fan motor should be resilient mounted. The fan should deliver a static pressure of 125 mm.

#### **9. Dampers**

All fresh air intakes shall be provided with dampers. The fan outlets should be controllable with a damper. The supply collars, wherever mentioned, shall be provided with collar dampers.

#### **10. Filters**

All evaporator units shall be provided with air filters capable for filtration unto 20 microns. The filters shall be of washable synthetic fibre type.

#### **11. Control Panel**

All units shall have independent electrical control panels housing contactors, overload relays, voltage cutouts, time delays, interlocks, strip connectors, indication lamps, and control fuse. All these have to be housed inside the Outdoor unit of each circuit.

#### **12. Thermostat**

The Thermostat shall be control wired with the control panel and shall be placed in the return air path inside the boxing.

#### **13. Installation**

Adequate vibration isolation using rubber/neoprene pads/vibration springs in order to reduce transmission of vibrations to the floor shall be provided for all condensing units.

#### **14. Testing**

Ductable units after installation shall be tested for its conformity to specifications. Units shall also be tested for the rated capacity and power consumption.

#### **15. Electric motor**

The electric motor driving the compressor shall be as per manufacturer's standard for this compressor and motor shall be suitable for operation on A.C. supply. The motor shall be continuous duty rated for the application. The motor shall be selected such a way that the motor rating is for actual requirement.

The motor shall be provided with suitable bearing to take care of loads/thrust. Necessary lubricators shall be provided to enable the bearings to be correctly greased as required. The tenderer shall also calculate KW/TR.

#### **16. AHU**

The AHU shall be AR certified floor mounted/ceiling suspended type, double skinned type made of 0.6mm pre-coated GI sheets on both sides min 40mm thick PUF CFC free, 40kg/m<sup>3</sup> between sheets, SS 304 drain pan with nitrile rubber insulation, GSS base channel. Suitable for DX coil of copper 6 rows min, Aluminum fins, with synthetic non-woven type pre (EU4) and fine filters (EU 7) filtration up to 3microns. The AHU shall be with suitable static blower DIDW, centrifugal, forward curved blade, belt driven for hepa filter application comprising of suitable rated motor min EFF1 rated. The AHU shall also be provided with manual volume control damper on supply, return and fresh air sides to control the air volume. The AHU shall be UL certified for safety. The AHU shall be provided with access doors for filter cleaning and maintenance etc.

## **2.6 DUCTING SYSTEM**

This section deals with supply, erection, testing and commissioning of all sheet metal ductwork conforming to specifications given below. The ducts shall be of factory fabricated.

### 2.6.1 Material for Ducting

All ducts shall be fabricated from galvanized sheet of 120 gm/sq.m (Class VIII) conforming to IS 277-1962 (revised). The fabrication of duct shall strictly conform to ISS 655-1963. The thickness of the sheet shall be as follows:

Maximum size (mm)	Thickness of sheet (mm)	Type of transverse joint connections	Bracing (if any)
Upto 300	0.63 24 G	S-drive, pocket or bar slips, on 2.5m centres	None
301 to 600 601 to 750	0.63 24 G	S-drive, pocket or bar slips, on 2.5m centres S-drive, 25mm pocket or 25mm bar slips on 2.5m centres drive	None 25x25x3mm angle 1.2m from joint
751 to 1000 1001 to 1500	0.80 22 G	40x40mm angle connections, or 40mm pocket or 40mm bar slips, with 35x3mm bar reinforcing on 2.5m centres	40x40x2mm angle 1.2m from joint
1501 to 2250	1.00 20 G	40x40mm angle connections, or 40mm pocket or 40mm bar slips, 1 m maximum centres with 35x3mm bar reinforcing	40x40x3mm angle / 40x40x3 mm angle 60mm from joint.
2251 & above	1.25 18 G	50x50mm angle connections, or 40mm pocket or 40mm bar slips, 1 m maximum centres with 35x3mm bar reinforcing	40x40x3mm angle / 40x40x3 mm angle 60mm from joint.

The following points shall be also taken into account while fabrication of ducts.

- a) All ducts shall be as per gauges, etc. indicated on the approved drawings.
- b) All ducts of size larger than 450 mm shall be cross broken.
- c) All ducts shall be supported from RCC/truss by means of MS rods, angles, etc.
- d) The ductwork shall not extend outside and beyond height limits as specified on the approved drawings.
- e) All ducts shall be reinforced, if necessary and must be secured in place so as to avoid shifting of the ducts on its supports.
- f) The vanes shall be provided and securely fastened to prevent noise and vibration.
- g) The rubber gasket shall be installed between duct flanges in all connections and joints.
- h) The ductwork can be modified in consultation with Purchaser to suit actual conditions in the building.
- i) All flanges and supports should be primer coated on all surfaces before erection and painted with aluminum paint thereafter.

- j) The flexible joints are to be fitted to the suction and delivery of all fans with double heavy canvass. The length of flexible joints should not be less than 150 mm.
- k) All sheet metal gauges and fabrication procedure as given in BIS specification shall be strictly adhered to. The BIS specification shall form part of this contract.

### **2.6.2 Grilles/Diffusers**

Material of construction - Extruded Aluminum

Supply air and return air grilles shall be continuous type and shall be fixed as given in the approved drawing. The square/rectangular diffusers shall be flush or step down type to match false ceiling pattern. The diffuser blades shall be die formed, flush mounted with single or double direction airflow. Supply of frames for fixing the grilles/diffusers, if required, is also in the scope of the contractor.

Return air grilles shall be with blanks and return air provisions. The size and appearance shall match with supply air grilles. The supply air grilles shall form part of the continuous return air grilles. The fixing of grilles/diffusers should be done in close co-ordination with false ceiling work and as directed by Purchaser.

The aluminum grilles/diffusers, etc. shall be powder coated of colours to match the interiors. However, successful bidder shall have to obtain prior approval regarding colour, finish, shape, etc. of grilles/diffusers and sample should be submitted to Purchaser for approval.

### **2.6.3 Testing**

The complete duct system shall be tested for air leakage and complete air distribution systems shall be balanced in accordance with the approved drawings for achieving designed values inside the building.

## **2.7 THERMAL / ACOUSTIC INSULATION**

### **2.7.1 Material**

- ◆ Insulation material shall be Closed Cell Elastomeric Nitrile Butadiene Rubber.
- ◆ Insulation material shall have anti-microbial product protection. The antimicrobial product protection shall be an integral part of insulation that is built-in during the manufacturing process and the product protection should not allow the microbes to function, grow and reproduce.
- ◆ Resistance towards microbiological growth on insulation surface should confirm to following standards: Fungi Resistance – ASTM G21 where the fungal growth on the surface is NIL after 28 days of incubation at 28 – 30 deg C and Bacterial resistance – ASTM E 2180 where the reduction of bacterial growth is minimum 99.9% after 24 hours of incubation at 34 – 38 deg C.
- ◆ Thermal conductivity of Elastomeric Nitrile rubber shall not exceed 0.035 W/m<sup>2</sup>K at an average temperature of 20°C in accordance to EN12667
- ◆ The insulation shall have fire performance such that it passes Class 1 as per BS476 Part 7 for surface spread of flame as per BS 476 and also pass Fire Propagation requirement as per BS476 Part 6 to meet the Class ‘O’ Fire category as per 1991 Building Regulations (England & Wales) and the Building Standards (Scotland) Regulations 1990.
- ◆ Water vapour permeability shall not exceed  $1.74 \times 10^{-14}$  Kg/m.s.Pa, i.e. Moisture Diffusion Resistance Factor or ‘μ’ value should be minimum 10,000 according to EN 12086

- ◆ Density of Material shall be between 40 to 60 Kg/m<sup>3</sup>.

### 2.7.2 Duct Insulation

External thermal insulation shall be provided as follow:

- ◆ The thickness of Nitrile rubber shall be as shown on drawing or identified in the schedule of quantity. Following procedure shall be adhered to:
- ◆ Duct surfaces shall be cleaned to remove all grease, oil, dirt, etc. prior to carrying out insulation work. Measurement of surface dimensions shall be taken properly to cut closed cell elastomeric rubbers sheets to size with sufficient allowance in dimension.
- ◆ Material shall be fitted under compression and no stretching of material shall be permitted. A thin film of adhesive shall be applied on the back of the insulating material sheet and then on to the metal surface. When adhesive is tack dry, insulating material sheet shall be placed in position and pressed firmly to achieve a good bond. All longitudinal and transverse joints shall be sealed as per manufacturer recommendations. The adhesive shall be strictly as recommended by the manufacturer.
- ◆ The detailed Application specifications are mentioned separately.

### 2.7.3 Insulation of Ducts Exposed Directly to Sunlight

For installations exposed to sunlight, after giving 36 hours curing time for the adhesive apply manufacturer's recommended UV/Mechanical Protection. Please refer the separate detailed guidelines on UV/Mechanical Protection.

### 2.7.4 Piping Insulation

All chilled water, refrigerant and condensate drain pipe shall be insulated in the manner specified herein. An air gap of 25 mm shall be present between adjacent insulation surfaces carrying chilled water or refrigerant. Before applying insulation, all pipes shall be brushed and cleaned. All Pipe surfaces shall be free from dirt, dust, mortar, grease, oil, etc. Nitrile Rubber insulation shall be applied as follows:

- ◆ Insulating material in tube form shall be sleeved on the pipes.
- ◆ On existing piping, slit opened tube of the insulating material (slit with a very sharp knife in a straight line) shall be placed over the pipe and adhesive shall be applied as suggested by the manufacturer.
- ◆ Adhesive must be allowed to tack dry and then press surface firmly together starting from butt ends and working towards centre.
- ◆ Wherever flat sheets shall be used it shall be cut out in correct dimension. All longitudinal and transverse joints shall be sealed as per manufacturer recommendations.
- ◆ The insulation shall be continuous over the entire run of piping, fittings and valves.
- ◆ All valves, fittings, joints, strainers, etc. in chilled water piping shall be insulated to the same thickness as specified for the main run of piping and application shall be same as above. Valves bonnet, yokes and spindles shall be insulated in such a manner as not to cause damage to insulation when the valve is used or serviced.

The detailed application specifications are as mentioned separately. The manufacturer's trained installer should only be used for installation.

### 2.7.5 Recommended Adhesive

In all cases, the manufacturer's recommended Adhesive should be used for the specified purpose.

### 2.7.6 Acoustic Insulation

Material shall be engineered Nitrile Rubber open cell foam.

The Random Incidence Sound Absorption Coefficients (RISACs) across the octave band frequencies; tested as per ISO 354, and Noise Reduction Coefficients (NRCs) for the Acoustic Insulation should be minimum as per the below chart:

Freq (Hz)	125	250	500	1000	2000	4000	NRC
10 mm	0.03	0.04	0.14	0.40	0.88	1.00	0.40
15 mm	0.01	0.09	0.29	0.74	1.08	0.83	0.55
20 mm	0.04	0.13	0.40	0.90	1.04	0.90	0.60
25 mm	0.05	0.25	0.86	1.14	0.88	0.99	0.80
30 mm	0.07	0.32	0.99	1.16	0.93	1.08	0.85
50 mm	0.23	0.73	1.29	0.99	1.09	1.11	1.05

- The material should be fibre free.
- The density of the acoustic insulation should be minimum 140 Kg/m<sup>3</sup>
- The insulation should have Microban<sup>®\*</sup>; Built-in Anti-Microbial Product Protection, and should pass Fungi Resistance as per ASTM G 21 and Bacterial Resistance as per ASTM E 2180.
- The insulation should be non-eroding & should pass Air Erosion Resistance Test in accordance to ASTM Standard C 1071-05 (section 12.7).
- The material should have a thermal conductivity not exceeding 0.047 W/m.K @ 20 Deg. C
- The material should withstand maximum surface temperature of +85<sup>0</sup>C and minimum surface temperature of -20<sup>0</sup>C
- The material should confirm to Class 1 rating for surface spread of Flame in accordance to BS 476 Part 7 & UL 94 (HBF, HF 1 & HF 2) in accordance to UL 94, 1996.
- Thickness shall be 10mm for Duct Acoustic Lining
- Duct so identified and marked on Drawings and included in Schedule of Quantities shall be provided with internal acoustic lining for a distance of minimum 6 meters (or 30% of the duct length whichever is more)
- Thickness of the insulation material shall be as specified for the individual application. The insulation should be installed as per manufacturer's recommendation.

### 2.7.7 Accessories

Adhesive to adhere insulation to the inside walls of the duct shall be from the Insulation manufacturer only.

### 2.7.8 Under deck insulation

- ◆ Insulation material shall be Closed Cell Elastomeric Nitrile Rubber
- ◆ Density of Material shall be between 40 to 60 Kg/m<sup>3</sup>
- ◆ Thermal conductivity of elastomeric nitrile rubber shall not exceed 0.035 W/m<sup>2</sup>K at an average temperature of 0°C
- ◆ The insulation shall have fire performance such that it passes Class 1 as per BS476 Part 7 for surface spread of flame as per BS 476 and also pass Fire Propagation requirement as per BS476 Part 6 to meet the Class 'O' Fire category as per 1991 Building Regulations (England & Wales) and the Building Standards (Scotland) Regulations 1990
- ◆ Material should be FM (Factory Mutual), USA approved.
- ◆ Water vapour permeability shall not exceed 0.017 Perm inch (2.48 x 10<sup>-14</sup> Kg/m.s.Pa), i.e. Moisture Diffusion Resistance Factor 'μ' value should be minimum 7000.

### 2.7.9 Installation procedure:

- The ceiling surface shall be cleaned with brush to remove all dirt, cement etc. If surface is uneven it should be made smooth prior to carrying out insulation work.
- A layer of synthetic rubber adhesive should be applied on the ceiling with the help of brush so that all the pores are filled and surface becomes smooth and allow it to dry.
- Allow an additional 5 mm to the total dimensions while cutting Insulation sheet. Ensure you measure the cutting dimensions on the top surface of the insulation sheet. This can be identified by the products markings; "they are always on the top surface. This surface is the one you will see after installation.
- All Insulation sheet and ceiling surfaces shall have all-over adhesive coverage. Adhesive should be applied on the side that has no product markings and identification printing. This side is the one that curves inwards.
- During installation avoid air bubbles. Always apply pressure while fixing the Insulation sheet, this action will ensure maximum bond strength.
- All cut Insulation sheet edges shall be of a "clean cut nature and not cut rough".
- All seams and joint shall be sealed with synthetic rubber adhesive.
- Measurement of surface dimensions shall be taken properly to cut closed cell elastomeric rubbers sheets to size with sufficient allowance in dimension. Material shall be fitted under compression and no stretching of material shall be permitted. A thin film of adhesive shall be applied on the ceiling with brush and then on to the back of the insulating material sheet with brush/small piece of sheet metal having smooth edges. When adhesive is tack dry, insulating material sheet shall be placed in position and pressed firmly to achieve a good bond. All joints shall be sealed. The adhesive shall be strictly as recommended by the manufacturer. There is no need to make holes for wires etc. as no supporting wires/screws are required.

While doing installation on the metal roofing, it is important to ensure that metal roof should not face direct sun light, as metal sheets becomes very hot and adhesive may not work. In such conditions work should be done in the evening / night

## 2.8 FIRE DAMPERS

This section deals with supply, erection, testing and commissioning of fire dampers and box type dampers, conforming to general specification and suitable for duty selected, indicated in schedule of equipment/material.

### 2.8.1 Dampers

- a) The fire dampers of at least two hour rating shall be provided in all return air ducts at wall crossing. All fire dampers shall be fire tested by CBRI Roorkee for 120 minutes fire rating as per UL555-1995.
- b) 6G GSS sheet blade and frame with 165mm casing, heavy duty interlocking blades and fully enclosed blade linkage mechanism, SS lateral seal blade seals, self-lubricating sintered bronze bushes, fire rating as per UL555-1995 tested as per BS-476 part 20 with 18G extended sleeve 450mm and with fusible link, spring mechanism control panel temp sensor, smoke sensor, limit switch with lever for auto shut off in case of fire/smoke
- c) In the normal position the blades of the dampers shall remain open to allow maximum air to flow. The dampers shall be actuated using fusible link and spring mechanism. The fire damper shall also close due to temperature rise above 74°C.
- d) All fire dampers shall be mounted on wall with a duct sleeve 400 mm long depending on the wall thickness. The sleeve shall be factory fitted on the fire damper. The joint at the sleeve end shall be slip on type. Minimum thickness of GI sheet used for sleeves shall be 18G.

### 2.8.2 Exhaust Air Blowers

line exhaust air flow duct blowers suitable for single phase operations with direct driven class F motor, IP 54 insulation, max 1400rpm, necessary steel frame, and complete with GI box, with an operating sound level not exceeding 60dB at 3m distance.

### 2.8.3 Hepa Filter

Hepa Filter shall be of efficiency 99.97%. HEPA filters shall be aluminium corrugated and Mini pleat style. All filters shall made up of high quality micro-fine glass fiber media. Filter frames shall made up of Galvanized steel. Hepa filter shall ensure low pressure drop even at high airflows & with Antimicrobial protection.

All filters shall be made in accordance and tested to EN 1822 / ASHRAE 52.2 standards. These filters shall be tested at factory and test certificates from OEM's shall be produced. The Hepa filter shall be fixed in a plenum constructed at the AHU mouth.

## 2.9 PAINTING WORK

**2.9.1** All equipment shall be painted as specified under respective headings. Grilles/ diffusers shall be powder coated as per approved colour matching with interiors. The contractor has to get approval of the quality and colour of paints for all types of painting work.

All pipes for chilled water shall be painted as per standard code of practice and arrows indicating direction of flow of water shall be marked.

### 2.9.2 Colour scheme for the plant and equipment

- |       |                                                    |                               |
|-------|----------------------------------------------------|-------------------------------|
| i)    | Compressor                                         | .. Battle ship grey           |
| ii)   | Condenser                                          | .. Battle ship grey           |
| iii)  | Refrigerant discharge line                         | .. Red                        |
| iv)   | Refrigerant liquid line                            | .. Yellow                     |
| v)    | Steel supports                                     | .. Black                      |
| vi)   | Direction of flow of water                         | .. White arrows               |
| vii)  | Electrical panels/sub-panel/remote control console | .. Light grey or any approved |
| viii) | Cable trays                                        | .. Black                      |
| xi)   | Supports for ducts/open ducts                      | .. Black.                     |



## SECTION- III

### MODE OF MEASUREMENT

**THE FOLLOWING MEASUREMENT CODE SHALL APPLY TO THIS CONTRACT:-**

#### **3.1 MECHANICAL ITEMS**

##### **3.1.1 Ducting**

- i) All sheet metal ducting work shall be measured in terms of final sheet area installed in Sq. m.  
Eg:- Measurement of 600 mm x 300 mm duct of 1 m length =  $[(600+300) \times 2 \times 1] = 1.80$  Sq.m.  
1000
- ii) Duct fittings such as bends, elbows, tap-offs, collars, transformation pieces etc. shall be treated as ordinary duct pieces with their length measured along their centre line as mentioned in point (i).
- iii) Vanes, splitters, duct dampers, deflectors, access doors, etc. which are required to be installed in the duct work shall not be measured separately as it shall form part of the duct work.
- iv) Duct supports, stiffening members, etc. shall not be measured separately. All such supports/hangers shall form part of duct work.
- v) Equipment connections such as canvas/asbestos/rexine shall be deemed to be part of the duct work, and no separate measurement shall be allowed.
- vi) No separate special measurement shall be made for bends, transformation pieces, tap offset, elbows, etc.

##### **3.1.2 Grilles:**

All grilles will be measured in terms of effective area in Sq.m.

##### **3.1.3 Diffusers:**

Diffusers will be measured in terms of effective area in Sq.m.

##### **3.1.4 Ducting Insulation**

- d) Ducting insulation will be measured on the basis of centerline of insulation and not the outer line of insulation.  
Eg:- Measurement of 25mm thick insulation on 600 mmx300mm duct of 1m length =  $[(600+25)+(300+25)] \times 2 \times 1$  Sq.m  
1000
- ii) No separate special measurement shall be made for insulation of bends, transformation pieces, tap offs, elbows, etc. All such insulation shall be treated as standard duct insulation.

- iii) Insulation item shall include all accessories and finishes as specified. No separate measurement will be made for such items.

## **3.2 Electrical items**

### **Mode of Measurement of Electrical Items**

The Works shall be measured, as prescribed in the specification of work, notwithstanding any general or local custom, except where otherwise specifically described or prescribed in the Contract. Wherever not specifically mentioned in the Contract, the mode of measurement as prescribed in the relevant IS codes shall be applicable and binding to the Contract. Only the latest editions of all the codes of practices including all latest official amendments and revisions shall be applicable.

## SECTION-IV

### TESTING OF AIR-CONDITIONING SYSTEM

4.1 Routine and type tests for the various items of equipment of the system shall be performed at the Contractor's own cost and test certificates are to be submitted.

4.2 The performance tests to determine whether or not the full intent of the specification is met shall be conducted by the contractor. After notification to Purchaser that the installation has been completed and the system has run continuously for a period of at least one week, the contractor shall conduct under the direction and the presence of Purchaser such tests as specified to establish the capacity of various equipment supplied and installed by the contractor.

4.3 The contractor shall operate, test and adjust the air-conditioning system units, fan, motors, all air handling appliances including adjustment of regulators, dampers, etc. All testing equipments, labour, operating personnel, oil, refrigerant or any other item required for these tests shall be provided by the contractor to enable the plant to be put in a continuous running test.

#### 4.4 **TEST PROCEDURE:**

##### 4.4.1 Design Conditions:

The inside and outside conditions shall be recorded on hourly basis. The outside and inside dry bulb and wet bulb temperatures shall be recorded by means of a sling psychrometer with mercury thermometers. The relative humidity shall be computed from the psychometric chart. The inside dry bulb temperature and relative humidity shall fall within the specified limits.

The contractor should conduct performance such tests as indicated in the rated Technical Part and produce sufficient documentary proof that the plant is operating at the rated capacity.

4.5 The following readings shall be recorded hourly during the tests and capacity of the plant shall be computed.

#### 1. **Compressor**

- a. Suction pressure - Kg/cm<sup>2</sup> (psi)
- b. Suction temperature - °C (°F)
- c. Discharge pressure - Kg/cm<sup>2</sup> (psi)
- d. Condensing Tempr. - °C (°F)
- e. Oil pressure - Kg/cm<sup>2</sup> (psi)
- f. Compressor Speed - RPM

#### 2. **Compressor motor**

- a. Rated capacity - HP
- b. Rated volts - Volts
- c. Rated current - Amps
- d. Starting current - Amps

#### 3. **Inside unit**

- a. Air velocity - M/Hr. (FPM)
- b. Face area - M<sup>2</sup> (SFT)
- c. Air quantity - M<sup>3</sup>/Hr. (CFM)

- d. Entering air temp. DB - °C (°F)
- e. Entering air temp. WB - °C (°F)
- f. Leaving air temp. DB - °C (°F)
- g. Leaving air temp. WB - °C (°F)

**4. Air Grilles**

- a. Area of Grilles - M<sup>2</sup> (Sft)
- b. Velocity - M/Hr (FPM)
- c. Air flow rate - M<sup>3</sup> (FPM)
- d. Temperature DB - °C (°F)
- e. Temperature WB - °C (°F)

**5. Air Diffusers**

- a. Area - M<sup>2</sup> (Sft)
- b. Velocity - M/Hr (FPM)
- c. Air flow rate - M<sup>3</sup> (FPM)
- d. Temperature DB - °C (°F)
- e. Temperature WB - °C (°F)

**6. Filters**

- a. Total area - M<sup>2</sup> (Sft)
- b. Effective area - M<sup>2</sup> (Sft)
- c. Velocity of air - M/Hr (FPM)
- d. Quantity of air - M<sup>3</sup> (CFM)

**SECTION-V**

**TECHNICAL DATA**

**(To be submitted along with the tender)**

**5.0** The following data shall be furnished along with the offer: (REFER LIST OF APPROVED MAKES)  
(Attach catalogues, brochures, etc.)

**1. Ductable Split unit**

Manufacturer  
Model  
Actual capacity TR  
Overall dimensions  
Over all weight  
Operating weight  
Refrigerant

**Compressor**

Manufacturer  
Model  
Type  
Capacity at the specified water temp. and flow rates - in TR  
Type of capacity control provided  
Type of lubrication  
KW / TR

**Motor**

Model  
Manufacturer  
Number of motors  
Capacity HP  
Whether provided with part winding  
Type  
Class of insulation  
Speed RPM  
Characteristics  
Type of starter  
Rating  
Whether the following protections are provided.

- |                                                                |        |
|----------------------------------------------------------------|--------|
| i) Overload                                                    | Yes/No |
| ii) Under voltage                                              | Yes/No |
| i) Single phase protection<br>(for three phase motor starters) | Yes/No |

**2. Inside units**

Manufacturer  
Model  
Type of fan

Fan speed (R.P.M.)  
 No. of fans.  
 Fan wheel diameter (mm)  
 Drive arrangement  
 Material and thickness of fan wheel and blades.  
 Materials and thickness of housing.  
 Fan outlet area  
 Outlet velocity.  
 Total air quantity  
 Static pressure at outlet. (mm. of water)  
 Whether statically and dynamically balanced.  
 B.H.P. Consumed  
 Total weight of all items

### **Cooling Coil**

Material of Tubes  
 Material of fins  
 Tube diameter  
 Tube thickness  
 Fin thickness  
 Method of bonding of fins  
 No. of fins/cm.  
 Total tube surface outside  
 Test pressure  
 Coil face area

### **Filter**

Manufacturer  
 Type of filters  
 Filter medium  
 Material of frame work and its thickness  
 Face area  
 Face velocity across filters  
 Pressure drop across filters (mm of water)

### **Motor**

Manufacturer  
 Model  
 Number of motors  
 Capacity HP  
 Type  
 Class of insulation  
 Speed RPM  
 Characteristics  
 Type of starter  
 Rating  
 Whether the following protections are provided.

- |     |                                                                  |        |
|-----|------------------------------------------------------------------|--------|
| i)  | Overload                                                         | Yes/No |
| ii) | Under voltage                                                    | Yes/No |
|     | iii) Single phase protection<br>(for three phase motor starters) | Yes/No |

**3. Ducting**

Material

Manufacturer

**4. Insulation (for ducting)**

Manufacturer

Material

'k' Value at 10 (°C) mean temperature

Thickness.

Density

Fire Retardant property

Note : Any other data relevant to each equipment shall also be furnished.

**Approved make of items –HVAC**

1.	AC Condensing Outdoor Units/Ductable Units /Split AC	-	Blue star/ Voltas/ Carrier /Hitachi/ Daikin/Samsung/
2.	AC AHU's& IDU's	-	Blue star/ Voltas/ Carrier/ Edgetech/ Daikin/ VTS/ Zeco
3.	De-humidifier	-	Bry Air/Dessicant Rotor
4.	Copper Pipes	-	Totaline/Mandev/Piyush
5.	Three phase motors	-	Siemens/Kirloskar/Crompton/Bharath Bijlee /ABB /Alsthom
6.	Aluminium Conductor Cables	-	Finolex/NICCO/Havells//Gloster
7.	Stabilizer	-	V Guard/VOLTAS/Everest
8.	GI/Al Sheets	-	SAIL/TATA/JINDAL/HINDALCO/NACL
9	Resin bonded Glass wool	-	UPTWIGA /Owens Coning/KIMMCO
10	Nitrile Rubber Insulation	-	Armaflex/K Flex
11	Grilles/Diffusers	-	Airmaster/ Carryaire/ Cosmic/ Air Flow/Ravistar
12	Pressure gauges	-	Feibig/H-Guru/Jaspin
13	Industrial type thermometers	-	Feibig/H-Guru/Jaspin
14	Fire/Volume Control Dampers	-	Carryaire/ Airmaster/ Air Flow/ Ravistar
15	Exhaust/ Duct Fans	-	System Air/Kruger/Nicotra/ Almonard
16	PVC pipe	-	Any ISI marked
17	Valves	-	Audco, Leader, Kirloskar, Advance,
18	Factory Fabricated Ducts	-	ZECO, Western Air Ducts, Rolstar, Camduct
19	Double Skin Aluminum Panel	-	Lloyd, Rinac



**Summary of BOQ**

<b>SL. NO</b>	<b>ITEM</b>	<b>AMOUNT (Rs.)</b>
<b>1</b>	Supply Installation Testing and Commissioning of Air Conditioning System at OPD at W&C Hospital, Jipmer, Puducherry <i>including all taxes and duties</i> <b>Except service tax</b>	
	<b>GRAND TOTAL</b>	

**The quoted rates shall be inclusive of all taxes and levies (except Service Tax)**

<b>BOQ FOR AIR CONDITIONING WORKS</b>					
<b>_WOMEN AND CHILDREN HOSPITAL AT JIPMER , PUDUCHERRY</b>					
		-	-	-	-
				<b>Rate</b>	<b>Amount</b>
				<b>(Rs.)</b>	<b>(Rs.)</b>
<b>PART A</b>	<b>MACHINERY</b>				
1.00	Supply, installation, testing and commissioning (SITC) of 16.5 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and safety devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Nos	1.00		
2.00	Supply, installation, testing and commissioning of suitable hard drawn copper refrigerant piping for 16.5 TR machine with 13 mm nitrile rubber insulation interconnecting the condensing unit to evaporating unit for packaged units as per site condition	Rmt	9.00		
3.00	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 16.5 TR, 6600 cfm capacity complete with suitable DIDW blower (asper approved make), blower section, with suitable external static pressure, built in pre filter(EU4), fine filter(EU7) ) and controls connected to condensing units, insulated SS drain pan, 6 row cooling coil, electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel , ARI certified, with 0.8mm double skinned 40mm thick PUF panel, belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 16.5 TR capacity ODU and shall conform to specifications.	Nos	1.00		

4.00	Supply, installation, testing and commissioning (SITC) of 11 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and safety devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Nos	6.00		
5.00	Supply, installation, testing and commissioning of suitable hard drawn copper refrigerant piping for 11 TR machine with 13 mm nitrile rubber insulation interconnecting the condensing unit to evaporating unit for packaged units as per site condition	Rmt	47.00		
6.00	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 11 TR, 4400 cfm capacity complete with suitable DIDW blower (asper approved make), blower section, with suitable external static pressure, built in pre filter(EU4), fine filter(EU7) ) and controls connected to condensing units, insulated SS drain pan, 6 row cooling coil, electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel , ARI certified, with 0.8mm double skinned 40mm thick PUF panel, belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 11TR capacity ODU and shall conform to specifications.	Nos	6.00		
7.00	Supply, installation, testing and commissioning (SITC) of 8.5 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and safety devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Nos	1.00		

8.00	Supply, installation, testing and commissioning of suitable hard drawn copper refrigerant piping for 8.5 TR machine with 13 mm nitrile rubber insulation interconnecting the condensing unit to evaporating unit for packaged units as per site condition	Rmt	13.00		
9.00	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 8.5 TR, 3400 cfm capacity complete with suitable DIDW blower (asper approved make), blower section, with suitable external static pressure, built in pre filter(EU4), fine filter(EU7) ) and controls connected to condensing units, insulated SS drain pan, 6 row cooling coil, electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel , ARI certified, with 0.8mm double skinned 40mm thick PUF panel, belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 8.5 TR capacity ODU and shall conform to specifications.	Nos	1.00		
10.00	Supply, installation, testing and commissioning (SITC) of 3 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and safety devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Nos	2.00		
11.00	Supply, installation, testing and commissioning of suitable hard drawn copper refrigerant piping for 3 TR machine with 13 mm nitrile rubber insulation interconnecting the condensing unit to evaporating unit for packaged units as per site condition	Rmt	39.00		

12.00	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 3 TR, 1200 cfm capacity complete with suitable DIDW blower (asper approved make), blower section, with suitable external static pressure, built in pre filter(EU4), fine filter(EU7) ) and controls connected to condensing units, insulated SS drain pan, 6 row cooling coil, electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel , ARI certified, with 0.8mm double skinned 40mm thick PUF panel, belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 3 TR capacity ODU and shall conform to specifications.	Nos	2.00		
13.00	Supply, installation, testing and commissioning of Air Cooled High Wall mounted Split Air Conditioner of following capacity consisting of high wall mounted type room unit (fan coil) with cordless remote control and one number outdoor condensing unit comprising of energy efficient suitable rotary compressor for operation on single phase, 230 V, 50Hz supply, fixing the outdoor unit on a raised platform as per manufacturers recommendation and fixing of room (fan coil) unit on wall, standard 4 m distance refrigerant copper piping with 13mm nitrile rubber insulation, providing and making interconnection between room & condenser as per site conditions, comprising of 1" dia drain PVC pipe with insulation 4m, canvas connections, full electrical cabling from power plug near indoor unit and to outdoor unit, ODU MS stand, first charge refrigerant gas, suitable stabilizer etc complete as required.				
13.01	1 TR 5 star rated as per BEE	Nos	10.00		
14.00	Supply, Laying and Fixing of control cabling of suitable size required from the Indoor to outdoor units for all units as per specification.	Rmt	125.00		
15.00	Supply, installation, testing and commissioning PVC drain pipe ISI marked, connecting the drain lines from the indoor units to floor sump, with 9mm nitrile rubber insulation as per specification				
15.01	32mm dia	Rmt	125.00		

16.00	SITC of Humidity Controller electric strip heaters in supply air plenum complete with fixing arrangements humidistat and safety thermostat including all supports, terminations, power and control wiring	Nos	10.00		
<b>PART B</b>	<b>AIR DISTRIBUTION</b>				
17.00	Supply, installation balancing and commissioning of factory fabricated GSS sheet metal ducts rectangular/round ducting complete with neoprene rubber gaskets,elbows,splitter,dampers,vanes,hangers,supports etc as per approved drawings & specification of following sheet thickness				
17.01	22 G	Sq.mt	275.00		
17.02	24 G	Sq.mt	692.00		
18.00	SITC of External thermal insulation on supply air ducts using min 13mm thick nitrile rubber class "O" closed cell type with antimicrobial protection as per specifications	Sq.mt	884.00		
19.00	Supply, installation, testing and commissioning of Acoustic duct lining using 10mm nitrile rubber insulation open cell type inside the ducts, antimicrobial protection at the outlets of all indoor units upto 4m distance from fan outlet as per spec provided.	Sq.mt	83.00		
20.00	Supply, fabrication, installation, testing of flexible connections made out of fire resistant flexible double canvas sleeve.	Nos	10.00		
21.00	SITC supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti-smudge ring & removable core.	Sq.mt	28.00		
22.00	SITC Return air diffusers of powder coated aluminium without volume control dampers with anti-smudge ring & removable core.	Sq.mt	29.00		

23.00	SITC of multi blade type volume control dampers made of extruded aluminium for ducts/ collars to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distributions system in main ducts, return ducts & other area as per specification.	Sq.mt	9.00		
24.00	SITC of Aluminium Extruded Fresh air louvers with wire mesh and birds screen for IDUs/AHUs as per specifications.	Sq.mt	1.00		
25.00	Supply, installation balancing and commissioning of <b>site fabricated GSS sheet metal ducts</b> rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter, dampers, vanes, hangers, supports etc as per approved drawings & specification of following sheet thickness				
25.01	Thickness 0.63 mm sheet	Sqm	28		
25.02	Thickness 0.80 mm sheet	Sqm	70		
<b>TOTAL</b>					