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**Dedicated Freight Corridor Corporation of India Ltd  
(A Government of India Enterprise)**

**Tender No. HQ/EL/P-AC/2012**

**Single Packet System Tender**

## **TECHNICAL TENDER DOCUMENT**

### **Name of Work:**

Supply, Installation, Testing and Commissioning of Precision Air Conditioning System with AMC of 05 years in Data Centre at DFCC Corporate Office, Pragati Maidan, New Delhi.

**05<sup>th</sup> November, 2012**

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# **Section 1**

## **Notice Inviting Tender**

## TENDER NOTIFICATION

**Dedicated Freight Corridor Corporation of India Limited**  
**5<sup>th</sup> Floor Pragati Maidan Metro Station Building Complex,**  
**New Delhi 110001**

Dedicated Freight Corridor Corporation of India Ltd (DFCC), a Government of India Enterprise invites Sealed tender under single packet system, on the prescribed form, as given in the tender document for execution of the following work:

**Tender No. HQ/EL/P-AC/2012**

**Dated-06/11/12**

|     |   |   |
|-----|---|---|
| 1.  | Name of Work                            | Supply, Installation, Testing and Commissioning of Precision Air Conditioning System with AMC of 05 years in Data Centre at DFCC Corporate Office, Pragati Maidan, New Delhi. |
| 2.  | Completion Period                       | 90 days from the date of issue of Letter of Acceptance.   |
| 3.  | Earnest Money Deposit                   | Rs.28,200/- (Rupees Twenty Eight Thousand and Two Hundred Oly.)   |
| 4.  | Last date of Receipt of Tender          | 07.12.2012 upto 15:00hrs.   |
| 5.  | Date of Opening of Tender :             | 07.12.2012 at 15:30 hrs.  |
| 6.  | Estimated Cost                          | 14.07 Lakh  |
| 7.  | Place of dropping tenders               | Tender Box placed for the purpose at DFCCIL Corporate office, 5th Floor (meeting Room), Pragati Maidan, New Delhi.  |
| 8.  | Mode of Tendering                       | Limited Tender  |
| 9.  | Type of Tender                          | Single packet tender  |
| 10. | Tender Document                         | Rs. 2,000/- per copy (in person/ downloaded) and Rs. 2,500/- (by post).   |
| 11. | Address for purchase of Tender Document | DFCCIL Corporate Office, Pargati Maidan, Metro Station Building Complex, New Delhi-110001   |
| 12. | Period of Tender Document availability  | <b>During 11:00 hrs. to 17:00 hrs. from 7<sup>th</sup> November 2012 to 7<sup>th</sup> December 2012.</b>   |

The tender document can be obtained from the address given above during the period mentioned above on payment of Tender Document Fee in the form of demand draft/Pay order issued by Nationalized/Scheduled bank only in favor of M/s Dedicated Freight Corridor Corporation of India Ltd. payable at New Delhi. Tender document can also be downloaded from the website [www.dfccil.org](http://www.dfccil.org). In case tender document is downloaded from the website, the tender document fee in the form mentioned above must be submitted along with the offer. The tender offer without fee (in case of the document is downloaded from the website) and without earnest money will be summarily rejected.

## **Section 2**

# **Format for Covering Letter for the Tender document**

## Format for submission of Tender Offer.

(On letter head of firm/company)

To,

General Manager (Electrical)/Power Supply,  
DFCCIL,  
New Delhi.

### Ref: Tender Notice No. HQ/EL/P-AC/2012

1. I/We----- have read the various conditions of tender attached hereto and hereby agree to a Tender document by the said conditions. I also agree to keep this tender open for acceptance for a period of **90 days** from the date fixed for opening the same and if I/We default thereof, I/We will be liable for forfeiture of my/our full "Earnest Money". I/We offer to do the work as set out in the Tender Document. I/We also agree to a Tender document by the General Conditions of the Contract and to carry out the work according to the Special Conditions of contract as laid down by the DFCCIL Administration for the execution of present contract.
2. A sum of **Rs.28,200/- (Twenty Eight Thousand and Two Hundred Only)** is being submitted as Earnest Money in the form of Bank Draft/Demand Draft/Pay Order No..... dated..... issued by..... (Name & Branch of the Bank). The value of the earnest money shall stand forfeited without prejudice to any other rights or remedies if:
  - i) I/We do not execute the contract agreement within 15 (Fifteen) days of the date of issue of Letter of Acceptance or on receipt of notice by the DFCC administration that such documents are ready.
  - ii) I/We do not submit a Performance Security in the form of an irrevocable Bank Guarantee amounting to 5% of the contract value as per the performa prescribed by DFCC, within 14 days of issue of letter of acceptance.
  - iii) I/We do not commence the work within 10 (ten) days after receipt of Letter of Acceptance.
3. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to the modifications, as may be mutually agreed to, between us and indicated in the letter of acceptance or my/our offer for the work.

Signature of Tenderer/Contractor

Contractor's Address

Signature of Witness

Name & Address of Witness

# **Section 3**

## **Instructions to Tenderers**

## Instructions to Tenderers

### 3.1. General

3.1.1 Dedicated Freight Corridor Corporation of India Ltd. (DFCC), a Govt. of India Enterprise, invites Sealed Tenders under single packet system for the execution of work of Supply, Installation, Testing and Commissioning of Precision Air Conditioning System in Data Centre at 4<sup>th</sup> Floor, DFCC Corporate Office, Pragati Maidan, New Delhi and Comprehensive Maintenance for five years, with immediate effect, after expiry of Warrantee/Maintenance period of one year from Indian Companies/Firms experienced in the relevant field of work in the format and as per details given in the Tender document. The work is to be executed with complete quality control as per the Technical Specifications indicated in the Tender document.

3.1.2 The Tender document can be obtained from the following address during the period mentioned above on payment of Tender document fee of Rs.2,000/- in the form of Bank Draft/Demand Draft/Pay Order issued by any Nationalised/Scheduled Bank, drawn in favour of Dedicated Freight Corridor Corporation of India Ltd., payable at New Delhi. The Tender document can also be downloaded from the website [www.dfccil.org](http://www.dfccil.org). In case the Tender document is downloaded from the website, the Tender document fee of Rs. 2,000/-in the form mentioned above must be submitted along with the offer.

Dedicated Freight Corridor Corporation of India Limited  
4<sup>th</sup> floor, Pragati Maidan Metro Station Building Complex,  
Pragati Maidan,  
New Delhi 110 001.  
Tel : 011-23454744

3.1.3 **The tender offer without Tender document fee of Rs. 2,000/-, in case the document is downloaded from the web site and without earnest money as indicated in para 3.10, will be summarily rejected.**

3.1.4 The tenderer must submit a covering letter in the format given in Section 2.

3.1.5 The tenderer must submit original Power of Attorney of authorized signatory signing the Tender document or the Xerox copy of Power of Attorney duly attested by Notary Public. In case, Xerox copy is submitted, original power of attorney shall be presented for scrutiny as and when required by the DFCC.

3.1.6 The work is proposed to be executed under the following relationship.

- |                     |   |
|---------------------|---|
| a) Client/Employer: | DFCC with its address as given in the Notice Inviting Tender.   |
| b) Contractor:      | The successful tenderer to whom the work is awarded shall become the contractor for the execution of this work. |

3.1.7 Throughout these Tender documents, the terms “Tender document and tender” and their derivatives (“Tender”/ “tenderer”), “Tender document/Tender”, “Tender



documents/Tendering”, etc are synonymous. Day means calendar day. Singular also means plural.

3.1.8 **Scope of work:** The scope of work and technical specification has been as indicated in Chapter 7. The Schedule of Rates & Quantities, Schedule ‘A’ & ‘B’ is given in Section Chapter 8. The quantities shown are based on estimate; payment will be made on actual/final measurement on completion of the work as per the accepted rates.

3.1.9 **Estimated cost of work :**

Estimated cost of the complete work is **Rs. 14,07,182/- (Rupees Fourteen Lac Seven Thousand One Hundred and Eighty Two Only )**.

3.1.10 Tenderers may carefully note that they are liable to be disqualified at anytime during tendering process in case any of the information furnished by them is not found to be true. In addition, the Earnest Money Deposit of such tenderer shall be forfeited. The decision of Employer in this respect shall be final and binding.

3.2 **Cost of Tender documenting:**

3.2.1 The Tender shall bear all costs associated with the preparation and submission of the Tender document and the Employer will in no case be responsible or liable for these costs regardless of the outcome of the Tender documenting process.

3.3 **Contents of the Tender document:**

3.3.1 The Tender documenting documents include the following:

- Section 1 : Notice Inviting Tender
- Section 2: Format for submission of Tender Offer
- Section 3 : Instructions to Tenderers
- Section 4 : Special Conditions of Contract
- Section 5 : General Condition of Contract
- Section 6 : Specification for Service Maintenance
- Section 7 : Technical Specifications
- Section 8 : Schedule of Rates & Quantities

3.3.2 The Tender is expected to examine all instructions, terms & conditions, forms, technical specifications and other information in the Tender documents. Failure to furnish all information required by the Tender documents or submission of a Tender document not substantially responsive to the Tender documents in every respect may be rejected.

3.4 **Addendum/Corrigendum to the Tender Document:**

DFCC may issue addendum(s)/Corrigendum(s) to the Tender document. Such addendum (s)/corrigendum(s) (if any) shall also be submitted, duly stamped and signed, along with the submission of the tenders.

### **3.5 Understanding Tenderer's Obligations and Liability:**

- 3.5.1 The Tenderer must obtain for itself on its own responsibility and its own cost all the information including risks, contingencies & other circumstances in execution of the work. It shall also carefully read and understand all its obligations & liabilities given in the Tender document.
- 3.5.2 The Tender is advised to visit and examine the site where the work is to be executed and its surroundings or other areas as deemed fit by the Tenderer and obtain for itself on its own responsibility all information that may be necessary for preparing the Tender document and execution of the contract. The cost of visiting the site and collecting relevant data shall be at the Tender's own expenses. It is a condition of the tender that the tenderer is deemed to have visited the site and satisfied himself with all the conditions prevailing including any difficulties for executing the work.
- 3.5.3 At any time prior to the deadline for submission of tender, Employer may for any reason, whether at its own initiative or in response to any request by any prospective Tender, amend the Tender documents by issuing Corrigendum, which shall be part of the Tender documents. The amendment shall be advised to all the prospective Tender s.

### **3.6 Extension of Deadline for Submission of Tender document:**

Employer may at its discretion extend the deadline for submission of the Tender documents at any time before the time of submission of the Tender documents. Any such change in date of submission shall be notified accordingly.

### **3.7 Preparation of the Tender documents**

#### **3.7.1 Language of Tender:**

The tender prepared by the tenderer and all documents related to the tender shall be written in English.

#### **3.7.2 Signing of All Tender document papers and Completing Schedule of Rate & Quantities:**

- 3.7.2.1 All the pages of the tender documents, drawings and Schedule of Rate & Quantities submitted by tenderer shall be signed and stamped by the tenderer or his representative holding the Power of Attorney (Enclose original/attested notarized copy of the Power of Attorney).
- 3.7.2.2 While filling up the rates in the Schedule of Rate & Quantities, tenderer shall ensure that there is no discrepancy in the rates mentioned in figures and words. In case of any discrepancy, the unit rate mentioned in the words shall be taken as final and binding.
- 3.7.2.3 The tenderer must fill and submit the prices as per instructions given in Schedule of Rate & Quantities. He shall not make any addition or alteration in the tender documents. The requisite details should be filled in by the tenderer wherever required in the documents. Incomplete tender or tender not submitted as per instructions is liable to be rejected. If a tenderer does not quote a price/rate for any BOQ item, his tender shall be summarily rejected.

### **3.8 Deviations**

3.8.1 The offer of the tenderer shall be strictly based on terms and conditions, drawings, technical specifications, description of items in Schedule of Rate & Quantities, completion schedule and payment terms contained in the original tender document and there shall be no deviations. Tenderers are advised not to make any corrections, additions or alterations in the original tender documents. If tenderer makes any correction in his own entries the same shall be initialed and stamped by him. If this condition is not complied with, tender is liable to be rejected.

### **3.9 Transfer of tender documents.**

Transfer of tender document from a tenderer to whom it has been issued by DFCC to another tenderer is not permissible. Tenderer can submit tender only on the tender document issued by DFCC to him or the tender document downloaded from the website.

### **3.10 Earnest Money**

3.10.1 The Tenderer must deposit **Earnest Money of Rs. 28,200/- (Rs. Twenty Eight Thousand and Two Hundred only)** in the form of Bank Draft/Demand Draft/Pay Orders issued by any Nationalized /Scheduled Bank drawn in favour of **“Dedicated Freight Corridor Corporation of India Ltd.”** Payable at **New Delhi** along with the Tender document. A Tender offer unaccompanied with the Earnest Money of prescribed amount and in the prescribed form shall be summarily rejected.

#### **3.10.2 Forfeiture of Earnest Money:**

3.10.2.1 The Earnest Money of the tenderer shall be forfeited if he withdraws his tender during the period of tender validity specified in the notice inviting tender or extended validity period as agreed to in writing by the tenderer.

3.10.2.2 Earnest Money of the tenderer shall be forfeited in case any of the information furnished by the tenderer is not found to be true

3.10.2.3 The Earnest Money of the successful tenderer is liable to be forfeited if he fails to;

i) Sign the Contract Agreement in accordance with the terms of the tender, or

ii) Commence the work within the time period stipulated in the tender.

3.10.2.4 In case of forfeiture of Earnest Money, the tenderer shall be debarred from Tender in case of re-invitation of the tenders.

#### **3.10.3 Return of Earnest Money**

3.10.3.1 The Earnest Money of the unsuccessful tenderer shall be discharged and returned as promptly as possible.

3.10.3.2 The Earnest Money Deposit of the successful tenderer shall be dealt as under:

The Earnest Money shall be retained towards retention money and further deduction of retention money from the bills shall commence after adjusting this Earnest Money amount.

### **3.11 Period of validity of the tender:**

3.11.1 The tender shall remain valid for the period of 60 days after the date of the opening of the tender. If the Tenderer gives validity period less than that fixed/prescribed by Employer, the tender shall be liable to be rejected.

3.11.2 Notwithstanding the above clause, Employer may solicit the tenderer's consent to an extension of the validity period of the tender. The request and the response shall be made in writing.

### **3.12 Sealing and Making of Tender:**

3.12.1 The tender documents shall be submitted in two sealed envelopes.

3.12.2 **Envelope-1**, super scribing "**P-AC System at DFCC Corporate Office – Earnest Money & Tender document Fee**" should contain Bank Draft /Demand Draft / Pay Order for **Earnest Money** as per details given in para 3.10 and Bank Draft/Demand Draft/Pay Order for Rs. 2,000/- as Tender document fee, if document is downloaded from website as mentioned in para 3.1.2.

3.12.3 **Envelope-2**, super scribing Name of Work as "**P-AC system at DFCC Corporate Office**" and should contain complete Tender document with all the documents mentioned in the Instructions to Tenderers.

3.12.4 All the two sealed envelopes viz. Envelope-1 & Envelope-2 shall then be sealed in bigger envelope super scribing following information:

- **Name of Work:** Supply, Installation, Testing and Commissioning of Precision Air Conditioning System with AMC of 05 years in Data Centre at DFCC Corporate Office, Pragati Maidan, New Delhi.
- **Last Date of Submission:** (Last Date of Submission to be mentioned)
- **Submitted to:**  
GM / Electrical/PS, DFCCIL,  
4<sup>th</sup> Floor, Pragati Maidan Metro Station Building Complex,  
Pragati Maidan, New Delhi - 110 001.
- **Submitted by:** (Tenderer's Name, Address/Telephone No. & Email Address to be given)

### **3.13 Address for the Submission of Tender Document:**

The completed Tender document in the prescribed form must be delivered to the address given below either by hand or by registered post/courier before the date and time mentioned in para 3.14.1.

**General Manager (Electrical)/Power Supply  
Dedicated Freight Corridor Corporation of India Ltd.  
5th Floor, Meeting Room,  
Pragati Maidan Metro Station Building Complex,  
Pragati Maidan, New Delhi – 110 001.**

### **3.14 Submission of tender:**

Submission of a tender by a tenderer implies that he had read all the tender documents including amendments if any, visited the site and has made himself aware of the scope and specifications of the work to be done, local conditions and other factors having any bearing on the execution of the work.

#### **3.14.1 Last Date of Submission of Tender Offer/Opening of Tender Offers:**

The completed Tender document must be dropped in the tender Box kept for the purpose at the address mentioned in para 3.13 not later than 15.00 hrs of 7<sup>th</sup> December 2012. Any delay in the submission of Tender document due to postal delay or any other reason will be the responsibility of the tenderer.

The Tender documents will be opened at 15.30 hrs on same day i.e. 7<sup>th</sup> December 2012 in the presence of representatives of the companies/firms, who choose to be present.

3.14.1.1 DFCC reserves the right to postpone the date of tender submission/opening.

#### **3.14.2 Acceptance/Rejection of Tender:**

3.14.2.1 DFCC reserves the right to accept/reject any or all tenders without assigning any reasons thereof. DFCC's assessment of suitability as per eligibility criteria shall be final and binding.

3.14.2.2 Tenderers may note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. Earnest Money Deposit of such tenderer shall be forfeited. The decision of DFCC in this regard shall be final and binding.

3.14.2.3 The validity of the offer shall be 60 days from the date of opening of the tender.

3.14.2.4 The transfer of tender documents issued to a tenderer to another tenderer is not admissible.

#### **3.14.3 Deadline for submission:**

3.14.3.1 The tender duly filled must be received by Employer at the address specified not later than **15.00 hrs of 7<sup>th</sup> December, 2012.**

3.14.3.2 A tender received later than the deadline prescribed for submission of tender by Employer is liable to be rejected.

3.14.3.3 Tenders brought to the office of Employer later than the deadline prescribed but before the opening time mentioned in the Tender document shall be declared as delayed tenders and may be considered by Employer and decided on its merits. The decision of the Employer shall be final and binding.

3.14.3.4 Any tender received after opening of the tender shall be rejected and returned unopened to the tenderer.

**3.15 Withdrawal of tender:**

No tender can be withdrawn after submission and during tender validity period.

**Tender document Opening and Evaluation**

**3.16 Opening of the tender:**

3.16.1 Tenders will be opened on the date & time, at the address mentioned in “Notice Inviting Tender” in presence of tenderers or authorized representatives of tenderers who wish to attend the opening of tenders. At the time of opening of tender document, both the envelopes will be opened.

3.16.2 Tenderers or their authorized representatives who are present shall sign register in evidence of their attendance.

3.16.3 Tenderer’s name, presence or absence of requisite Earnest Money or any other details as Employer may consider appropriate will be announced and recorded at the time of technical Tender document opening.

3.16.4 The Tender document will be evaluated as per the given eligibility criteria.

**3.17 Clarification of the tenders:**

3.17.1 To assist the examination, evaluation and comparison of the tenders, Employer may at his discretion ask the tenderers for any clarifications as considered essential. All such correspondence shall be in writing and no change in price or substance of the tender shall be sought or permitted. The above clarification for submission of the details shall form part of the tender and shall be binding on tenderer.

**3.18 Preliminary examination of Tender documents.**

3.18.1 The Employer shall examine the Tender documents to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed and whether the Tender documents are generally in order.

3.18.2 Arithmetical errors shall be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the rate in words shall prevail.

3.18.3 Prior to the detailed evaluation, Employer shall determine whether each Tender document is of acceptable quality, is generally complete and is substantially responsive to the Tender documents. For purpose of this determination, a

substantially responsive Tender document is one that conforms to all the terms, conditions and specifications of the Tender documents without material deviations, objections, conditionality or reservation. A material deviation, objection, conditionality or reservation is one:

- i) That affects in any substantial way the scope, quality or performance of the contract.
- ii) That limits in any substantial way, inconsistent with the Tender documents, the Employer's rights or the successful Tender's obligations under the contracts; or
- iii) Whose rectification would unfairly affect the competitive position of other Tender s who are presenting substantially responsive Tender documents.

3.18.4 If a Tender document is not substantially responsive, it shall be rejected by the Employer.

3.18.5 In case of tenders containing any conditions or deviations or reservations about contents of tender document, Employer may ask for withdrawal of such conditions/deviations/reservations. If the tenderer does not withdraw such conditions/deviations/reservations, the tender shall be treated as non responsive. Employer's decision regarding responsiveness or non-responsiveness of a tender shall be final and binding.

### **3.19 Evaluation and comparison of tender**

3.19.1 The Employer/Engineer reserves the right to negotiate the offer submitted by the tenderer to withdraw certain conditions or to bring down the rates to a reasonable level. The tenderer must note that during negotiations of rates of items of BOQ can only be reduced and not increased by the tenderer. In case the tenderer introduces any new condition or increases rates of any item of BOQ, his negotiated offer liable to be rejected and the original offer shall remain valid and binding on him.

### **3.20 Canvassing**

3.20.1 No tenderer is permitted to canvass to Employer on any matter relating to this tender. Any tenderer found doing so may be disqualified and his Tender document may be rejected.

### **3.21 Right to accept/split or reject any or all tenders:**

The complete tender will be dealt in single package, however, Employer/Engineer reserves the right to accept, split, divide, negotiate, cancel or reject any tender or to annul and reject all tenders at any time prior to the award of the contract without incurring any liability to the affected tenderers or any obligation to inform affected tenderer, the grounds of such action.

### 3.22 Award of contract

3.22.1 Employer/Engineer shall notify the successful tenderer in writing through Letter of Acceptance (LOA) by a Registered Letter/Courier/Speed Post or per bearer that his tender has been accepted.

3.22.2 The Contractor shall sign the Office copy of the LOA in token of his acceptance and then it shall constitute a legal and binding contract between Employer/Engineer and the contractor till such time the contract agreement is signed.

3.23.1 **The quoted Air Conditioning System shall work on R407C or R410A refrigerant.**

3.23.3 If the tenderer himself is an equipment manufacturer for Item No. 1 of Air Conditioning Work, (Schedule-A, Schedule of Rates & Quantities), he should submit an undertaking as per Annexure IIIA of section 3.

Alternatively, if the tenderer is not equipment manufacturer for Item No. 1 of Air Conditioning Work, (Schedule-A, Schedule of Rates & Quantities), he should submit a letter from equipment manufacturer as per **Annexure IIIB** of section 3. The letter from manufacturer shall be in original.

### 3.24 LIST OF DOCUMENTS TO BE ATTACHED WITH THE TENDER

1. Earnest Money Deposit of requisite amount in the prescribed form.
2. Tender document Fee of requisite amount in the prescribed form, if Tender document is downloaded from the website.
3. The Covering Letter as per format given in the Section 2.
4. Details of Supply, Installation, Testing and Commissioning of P-AC works completed in last three years giving description of work, organization for which executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work. Date of actual start, actual completion and final value of contract should also be given in the form prescribed in **Annexure-I** of Section 3. The relevant documents and certificates from the client should be enclosed.
5. A statement of contractual payments received during the last three financial years and current financial year (up to date of opening of tender) in the form prescribed in **Annexure-II** of section 3
6. Original Power of Attorney of the person signing the tender documents or photocopy duly attested by Notary Public.
7. Complete Tender documents including Notice Inviting Tender, Instructions to Tenderer, Special Conditions of Contract and General Conditions of Contract, Technical Specifications, Schedule of Rate & Quantities, Drawings etc. duly stamped and signed by the Tender s on each page.
8. Guaranteed technical particulars sheets duly filled in with the offer.
9. The work shall be carried out by the Contractor having valid Electrical Contractor License issued by the State Government for carrying out electrical



installation work, by employing licensed supervisors and skilled workers having valid permits as per the Regulation of Indian Electricity Rules and Local Electrical Inspector's requirements.

10. The successful Bidder shall furnish the copy of the valid & attested Electrical Contractor License including names and particular of the certificate of competency of its supervisor and workmen to be engaged for carrying out the work.
11. Annual Turnover of the company/firm for the last three years with supporting documents.
12. Certified Copy of Registration of Firm/Company, Partnership deed/Memorandum and Articles of Association of the firm.
13. Certified Copy of Sales Tax/Works Contract Tax Registration Certificate (as applicable).
14. ISO 9000 Certificate (if any).
15. Schedule of start and completion of work.
16. Corrigendum(s), if any, duly stamped and signed by the Tender s on each page.
17. Undertaking by tenderer, if the tenderer is manufacturer of Precision Air Conditioning System, as per performa given in **Annexure IIIA** of Section 3.

Or,

Undertaking to be obtained by tenderer from manufacturing company on its letterhead if the tenderer is not the manufacturer of Precision Air Conditioning System and to be submitted alongwith tender document as per format given in **Annexure-IIIB** of Section 3.

**ANNEXURE- I**

**(Section 3)**

**STATEMENT OF WORKS COMPLETED BY THE CONTRACTORS DURING LAST THREE YEARS**

| S. No. | Name and place of work | Authority /agency for which work was carried out | Date of award & agreement No. & Date |
|--------|------------------------|--|--------------------------------------|
|        |                        |  |                                      |
|        |                        |  |                                      |

| Date of completion (original /actual) | Agreement cost /completion cost. | Principal /Technical features of work in brief | S. No. at which relevant certificate /documents are attached. |
|---------------------------------------|----------------------------------|--|---|
|                                       |                                  |  |   |
|                                       |                                  |  |   |

**Note: The relevant documents & certificates from clients must be enclosed.**

**ANNEXURE- II**

**(Section 3)**

**DETAIL OF CONTRACTUAL PAYMENT RECEIVED IN LAST THREE FINANCIAL YEAR  
AND CURRENT FINANCIAL YEAR.**

| S. No. | Name of Work | Name of Employer | Detail of Payment | For the Financial Year | Total Contract Amount received |
|--------|--------------|------------------|-------------------|------------------------|--------------------------------|
|        |              |                  |                   |                        |                                |
|        |              |                  |                   |                        |                                |
|        |              |                  |                   |                        |                                |

**ANNEXURE- IIIA**

**(Section 3)**

***(The Tenderer is required to submit either Annexure VII A or Annexure VII B as Applicable)***

**(To be Submitted by Tenderer on its Letterhead, if the Tenderer is Manufacturer of Precision Air Conditioning System)**

To,

General Manager (Electrical)/Power Supply,  
Dedicated Freight Corridor Corporation  
4<sup>th</sup> Floor, Pragati Maidan Metro Station Building Complex,  
Pragati Maidan, New Delhi-110 001.

It is hereby declared that the firm/company, which is submitting the Tender document against **Tender No. HQ/EL/P-AC/2012** is the manufacturer of Precision Air Conditioning System of make: ....., which is based on ..... (strike out which is not applicable).

(Name, Designation and Address  
of the authorized signatory)

Name of Company:

Tel. No.:

Fax No.:

Email:

**ANNEXURE- IIIB**

**(Section 3)**

**(To be obtained by the Tenderer from the Manufacturing Company of Precision Air Conditioning System of the quoted make on its Letterhead, if the Tenderer is not the Manufacturer of Precision Air Conditioning System and to be submitted alongwith tender documents)**

To,

General Manager (Electrical)/Power Supply,  
Dedicated Freight Corridor Corporation  
4<sup>th</sup> Floor, Pragati Maidan Metro Station Building Complex,  
Pragati Maidan, New Delhi-110 001.

It is declared that M/s ..... (Name of Manufacturing Company) is the manufacturer of Precision Air Conditioning System of make:..... Which is based on ..... (strike out which is not applicable). We undertake to supply this Air Conditioning System to M/s ..... (Name of Tenderer) for the work – Supply, Installation, Testing and Commissioning of Precision Air Conditioning System with AMC of 05 years in Data Centre at DFCC Corporate Office, Pragati Maidan, New Delhi. We also undertake to provide technical support to the tenderer for smooth execution of work and guarantee the performance of the equipment as per specified parameters.

(Name, Designation and Address  
of the authorized signatory of the  
manufacturing company)

Tel. No.:

Fax No.:

Email:

**(This letter is to be submitted in original. In case due to any reason, photocopy is submitted, the original letter is to be submitted within one week of the opening of tender )**

## **Section 4**

# **Special Conditions of Contract**

## **SPECIAL CONDITIONS OF CONTRACT**

### **4.1 ELIGIBILITY CRITERIA**

The Tenderer should have the capability to implement projects/assignments in terms of industry experience, requisite manpower of required qualification and experience, project management skills and quality/level of work. The tenderer should have reasonable long-standing relationship with technology suppliers as well as active and passive component manufacturers, which they are proposing.

Firm/Company/concern who has been banned by the Central Government Department/DGS&D to do business with government departments will not be eligible to participate in the tender.

4.2.1 The Tenderer should be either an Original Equipment Manufacturer (OEM) or should be Authorized Representative having Direct Purchase and Support Agreement with the OEM or its main distributor for Precision Air-Conditioner. Tenderer shall furnish an Authorization letter from the OEM specific to this tender clearly mentioning tender number for which authorization is being provided.

4.2.2 The tenderer/contractor shall submit a statement of contractual payments received during the last three financial years and current financial year (up to date of opening of tender) in the form prescribed in **Annexure-II** of section 3. The details shall be certified by the Chartered Accountant. The Company should also submit the notarized copy of balance sheet of the company for last three years.

4.2.3 Tenderer should furnish a valid ISO 9001:2000 certificate issued to the manufacturing unit of Precision Air Conditioning unit.

### **4.3 Other conditions**

4.3.1 Tenderer, if an authorized representative, should also furnish documentary proof of backend support from OEM of the product offered.

### **4.4 SAFETY & INDUSTRIAL / LABOUR LAWS**

4.4.1. The successful tenderer shall comply with the provision of all laws including Labor laws, rules, regulations and notifications issued there under from time to time. All safety and labor laws enforced by statutory agencies and by DFCCIL shall be applicable in the performance of this Contract and the Contractor by these laws.

4.4.2. The Successful tenderer shall ensure regular and effective supervision / control of the personnel deployed by him and gives suitable direction for undertaking the contractual obligations.

4.4.3. The Successful tenderer shall take all necessary measures to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions.

### **4.5 STANDARD and SPECIFICATIONS**

4.5.1 All equipment and components supplied under the Contract shall have proven reliability and shall be designed, manufactured and installed to meet the specified and / or relevant international or national standards.

4.5.2 Whenever, a reference to any IS or BS specification or any standard or any regulation appears in these Tender Papers, the same shall be taken as a reference to the latest version of the said reference.

4.5.3 In case of any conflict between various specifications or statutory regulations, the most stringent conditions will prevail.

#### **4.6 EVALUTION & ACCEPTANCE OF OFFERS**

Final selection will be made on the basis of lowest cost in the 'Schedule A' & 'Schedule B' from amongst the technically suitable tenders from tenderers meeting the qualifying criteria. For the purpose of relative commercial ranking of offers, all inclusive price for entire scope of the project and offered prices as well as any others costs seen to be arising as a part of offer due to taxes or duties based on the offer.

#### **4.7 SCHEME OF WORK**

4.7.1 Within 5 days of the issue of the letter of acceptance, successful tenderer shall submit a detailed time schedule for carrying out each activity including the submission of design calculations, layout plan various schematic drawings, plan for execution of work, etc. Successful tenderer should also submit the detailed scheme for carrying out the works including installation, commissioning and testing activities without affecting the services run by DFCCIL.

4.7.2 The planning shall be finalised with GM/Elec./PS/DFCCIL and got approved in writing before start of the work. The successful tenderer shall be responsible for the execution of the work in full compliance with approved designs and drawings without any disturbance or interruption to the services run by DFCCIL.

4.7.3 The completion period is binding and essential and consequently, no delay is allowed without the written approval of DFCCIL. Any request concerning delay will be void unless accepted by DFCCIL through a modification to the CONTRACT.

#### **4.8 COMPLETENESS OF WORK**

4.8.1 The tenderer should be a total solution provider and shall cover the total scope of the Contract. The tenderer shall ensure availability of all technical expertise, manpower resources, availability of spare parts, logistics support etc. and all the expenses incurred for the same will be borne by the Tenderer.

4.8.2 Completeness of the EQUIPMENT/SERVICES shall also be the responsibility of the tenderer. Any equipment, fittings and accessories which may not be specifically mentioned in the specifications or drawings, but which are usual or necessary for the satisfactory functioning of the equipment (successful operation and functioning of the EQUIPMENT being tenderer's responsibility) shall be provided by tenderer without any extra cost

4.8.3 Tenderer must identify a senior level Manager for entire project execution, management and regular liaison / discussions with DFCCIL.

#### **4.9 QUALITY OF MATERIALS AND ERECTION**

4.9.1 All materials used in the work shall be of the best quality and of the class most suited for the purpose specified. It is essential that manufacturer(s) from whom supply is arranged should have long experience of such materials. The



requisite facilities for carrying out type tests should be available with the supplier. The supplier shall arrange to carryout material testing at his own cost in a testing laboratory approved by purchaser.

- 4.9.2 All work carried out shall also be of the best quality acceptable to the DFCCIL nominated officer, who shall have the power to reject any material or order for removal of any work done which in his opinion is faulty or insecure and the successful tenderer shall replace the same to the satisfaction of DFCCIL.

#### **4.10 INSPECTION AND FINAL ACCEPTANCE**

- 4.10.1 The successful tenderer will be required to furnish such facilities as will be necessary for inspection of equipments before dispatch at his or his associate works and also for witnessing such tests, as are done at the works, as required by the department. The successful tenderer will give sufficient notice regarding the date proposed for such tests to the inspecting agency.

- 4.10.2 When the successful tenderer completes the work, he should arrange with the DFCCIL for inspection and testing of the material, equipment. Test results shall be recorded and instillation accepted, only after DFCCIL is satisfied about its compliance with the requirements of the technical specifications. The scope of inspection and testing shall include any statutory inspection by the Government Inspector as well as inspection and calibration requirements of license or licensee's engineers.

- 4.10.3 The successful tenderer shall furnish requisite copies in English language of Technical documents, final drawings, preservation instructions, operation and maintenance manuals, test certificates, spare parts catalogues for all equipments to DFCCIL.

#### **4.11 TOOLS AND SPARES**

- 4.11.1 The successful tenderer shall make his own arrangements for necessary tools and equipments not only during the period of commissioning and testing stage but also during transportation & handling of various materials/ equipments covered under this contract.

- 4.11.2 The tenderer shall ensure availability of necessary spares for during the period of Warranty/ Maintenance period as well as during the currency of the AMC.

#### **4.12 PROGRESS REPORT**

The successful tenderer shall furnish, during the first and third week of every calendar month, a progress report showing progress of work including work carried out during the preceding month.

#### **4.13 DEVIATION**

Deviations from any clauses of the tender papers shall be clearly brought out by the tenderer at the time of submission in his tender offer. Clauses not so commented upon shall be deemed to have the acceptance of the tenderer and shall therefore, be binding on him.

#### **4.14 MODIFICATION**

- 4.14.1 The Engineer on behalf of the DFCCIL shall be entitled by order in writing to enlarge or diminish or reduce the work or make any alteration in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of material for the execution thereof or order any additional works to be done or any work not be done and the

successful tenderer will not be entitled to any compensation for any increase /reduction in the quantities of works but will be paid for the actual amount of work done and for approved materials supplied against a specific order.

#### **4.15 EMERGENCY WORKS**

4.15.1 In the event of any accident or failure occurring in or about the work or arising out of or in connection with the construction, completion or maintenance of the work which in the opinion of the Engineer require immediate attention the DFCCIL may be its own workmen or other agency execute or partly execute the necessary work or carryout repairs if the Engineer considers that the successful tenderer is not in a position to do so in time and charge the cost thereof, as to be determined by the DFCCIL, to the successful renderer.

#### **4.16 WATER & ELECTRICITY**

Water & electricity for execution of work shall be supplied free of cost by the DFCC at one point and any further distribution shall be arranged by the CONTRACTOR at own cost.

#### **4.17 NIGHT WORK**

4.17.1 If the Engineer is satisfied that the work is not likely to be completed in time except by resorting to night work, he may order the successful tenderer to carry out the works even at night without conferring any right on the successful tenderer for claiming any extra payment for the same.

4.17.2 No claim for idle labour and or idle machinery etc., on any account will be entertained. Similarly no claim shall be entertained for business or any loss.

4.17.3 Attention is invited to clause 6 of these tender conditions that time is the essence of the contract.

#### **4.18 REPAIRS**

Any damages to walls, doors, equipments, painting or any other items belonging to DFCCIL during handling and installation shall be set right or repaired to the satisfaction of the DFCCIL. All structural frameworks for support of various items of equipment shall be given the final coat of approved make and colour after the work is completed.

#### **4.19 PRICES**

4.19.1 Prices shall be written both in words and figures. In case of any discrepancy the rates in words will prevail. Prices indicated by the tenderer in the tender shall be firm and fixed. No cost escalation will be allowed on any account during the entire period of Contract, i.e. period of execution and commissioning, warranty/maintenance period as well as duration of AMC.

4.19.2 The prices shall include all taxes, duties and levies. However, Taxes and duties applicable on each item should be mentioned separately.

4.19.3 The tenderer shall indicate their rate in the schedule of rates & quantities for cabling work and air-conditioning work in Schedule 'A' & comprehensive on site (with spares) annual maintenance contract for Precision Air-Conditioning units in Schedule 'B, respectively.

#### **4.20 TRAINING**

4.20.1 Successful tenderer shall arrange 1 day training for around 10-15 DFCCIL staff /Officers in 3 batches.

4.20.2 The training will be on-site by a representative of the OEM, which shall take place before the system is operational. Detailed training material shall also be made available to all the trainees and courses shall enable trainees to be capable of all normal system operations within their respective positions.

#### **4.21 PAYMENT TERMS**

4.21.1 No advance payment shall be made. 'On Account' payment may be arranged as under:

- a) 70% of accepted rate of supply of material on acceptance & receipt of material at site.
- b) Balance 20% of rate of supply & 90% of rate of erection after erection of the material at site.
- c) Balance 10% of rate of supply & 10% of rate of erection after commissioning and completion of the entire work as per final measurement and taken over by DFCCIL.

4.21.2 The following documents shall be furnished along with the claim for payment:

- a) Certificate of receipt of equipment/material in good conditions as per the terms & conditions of the contract.
- b) Pre-Inspection certificate by DFCCIL or submission of equipment test report.

4.21.3 Income Tax will be deducted from source as per the provision of I.T. Act 1961 i.e. @ 2% or at the rate applicable from time to time with applicable surcharges.

#### **4.22 PERFORMANCE CUM WARRANTY GUARANTEE BOND**

The successful tenderer shall provide warranty of work and the materials offered for satisfactory performance for a period of 12 months from the date of handing over after successful commissioning & issuance of acceptance against all defects arising out of faulty design, poor workmanship and, or supply of defective or substandard materials. The successful tenderer should make good all defects free of cost during the warranty period and replace in accordance with the maintenance instructions and schedules/repair the defective equipments and parts of such equipment promptly and satisfactorily.

The warranty shall specially cover the following: -

- Quality, strength and performance of the materials and equipment used.
- Safe electrical and mechanical stresses, on all parts of the equipment under all specified conditions of operation.
- Performance figures and other values to be in conformity with the guaranteed technical particulars.
- Prompt service during warranty period for repair and breakdowns.
- Attending to consequential damages to consignment of material supplied and installed due to defective workmanship, material design etc, in any part from manufacturer's work.

During this period the successful tenderer shall keep available with him an experienced engineer and necessary equipment to promptly attend to any defective installations.

The successful tenderer shall furnish a Bank guarantee equal to 10% of cost of the work executed valid for 13 months or 10% S.D. shall be deducted from the

bill for the warranty period after testing, commissioning and handing over all equipments.

In case the work, after completion is handed over to any other organization, the warranty obligation shall automatically be discharged with the successor organization.

#### **4.23 COMPENSATION AGAINST CAPACITY SHORT FALL:**

Performance of the air-conditioning system, provided by the Contractor with respect Schedule of Guarantee performa (SOGP) have to be standardized at the time of final testing and commissioning. The Contractor shall provide all the instruments required to carry out the tests. Testing shall be carried out as per the relevant standards and OEM manual, if any. In the event of test result shown capacity lower than the guaranteed parameters, the Engineer in-charge has full rights to reject the plant or accept with up-gradation and/or with liquidated damages as stipulated.

#### **4.24 SERVICE LEVEL REQUIREMENTS (SLR)**

The DFCCIL remains open and is working on Sundays and Holidays i.e. 24x7 basis.

#### **4.25 RESPONSE TIME**

Response Time is the total time taken by the Successful tenderer between registering the complaint at Help Desk or through telephone / e-mail. Successful tenderer shall be in positioned to reach the site within 2 hours on receipt of the call.

#### **4.26 RESOLUTION TIME**

Resolution Time is the total time taken by the Successful tenderer between registering the complaint at Help Desk or through telephone / e-mail and rectifying the fault. This time includes time taken to reach the site, diagnose, repair / replace the faulty components / module / device etc. The complaint shall be rectify within 6 hours after receipt of call.

#### **4.27 UPTIME**

The entire Precision Air-Conditioning units including standby units will be made available in working condition with an uptime of 99.95%. This calculation has to be made on monthly basis considering 24x7 working.

#### **4.28 PENALTY**

Penalty will be calculated as: -

| Sr. | Description   | Unit      | Rate                         |
|-----|---|-----------|------------------------------|
| a.  | Response time beyond 2 hrs. on receipt of the breakdown call.     | Per Hour  | 0.02% of Total Contract Cost |
| b.  | Rectification time beyond 6 hrs on receipt of the breakdown call. | Per Hour  | 0.05% of Total Contract Cost |
| c.  | Uptime less than of 99.95% on Monthly Basis.                      | Per Month | 1% of Total Contract Cost    |

- The penalty will be imposed subject to a maximum of 10% per year of the total Contract cost for supply & erection of the system. The maximum penalty for maintenance shall be 10% of the maintenance cost.

- The penalty will be imposed on warranty period and post warranty annual maintenance contract. Herein “Total Contract Cost” is cost of work order for warranty period and cost of maintenance contract for post warranty annual maintenance contract.
- In case of major work i.e. replacement of Compressor/ motor/gas charging penalty for rectification shall be levied after 48 hours from receipt of the breakdown call.
- The penalty shall be levied, not by way of penalty but as liquidated damages.
- The tenderer must submit detailed plans to provide on-site warranty and post warranty maintenance service. The list of customer support offices should include full details such as postal address, telephone numbers as well as contact numbers of resident Engineer/representative etc.

This agreement is not transferable and will continue in force for the period specified earlier unless terminated by the customer by giving one month notice in writing.

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# **Section 5**

## **General Conditions of Contract**

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## GENERAL CONDITIONS OF CONTRACT

### 5.1 DEFINITIONS

In the Contract, as herein after defined, the following word expressions shall have the meanings hereby assigned to them, except where the context requires otherwise.

- a) **"Client or Principal Employer or Owner"** means the Department, Organization, individual, firm, company, J.V. or Consortium who awarded the work to Dedicated Freight Corridor Corporation of India Limited for execution of the project of which the works is a part, and shall include its heirs, executors, legal representatives etc.
- b) **"Employer"** means the Dedicated Freight Corridor Corporation of India Limited, A Govt. of India Enterprise (DFCC in abbreviation) acting through its Managing Director or any other authorised officer and shall include their legal successors in title and permitted assignees.
- c) **"Engineer or Engineer in Charge"** means the Project Head of DFCC (Employer) or any other officer authorised by the Employer to act on his behalf and for the purpose of operating the contract.
- d) **"Engineer's Representative"** means any official nominated from time to time by the Engineer to act on his behalf.
- e) **"Contractor"** means the individual, firm, Company, Corporation, Joint Venture, or Consortium whether incorporated or not, who enters into the Contract with the Employer/Engineer, and shall include its heirs, executors, administrators, successors, legal representatives, as the case may be.
- f) **"Contractor's Representative"** shall mean the person responsible for execution of the contract who shall be so declared by the Contractor and who shall be authorised under a duly executed power of attorney to comply the instructions and to use, receive materials issued by the Engineer to the Contractor for works. He shall be capable of taking responsibility for proper execution of works.
- g) **"Sub-Contractor"** means the individual, firm, Company, Corporation, Joint Venture or Consortium, having direct Contract with the Contractor and to whom any part of the work has been sublet by the Contractor and shall include his heirs, his executors, administrators, successors, legal representatives, as the case may be.
- h) **"Other Contractors"** means the individual, firm, Company, Corporation, Joint Venture or Consortium employed by or having a Contract directly or indirectly with the Client/Employer/Engineer other than the Contractor.

- i) **"Tenderer" or "Tender"** means the individual, firm, Company, Corporation, Joint Venture or Consortium submitting a Tender document/tender.
- j) **"Scheduled Bank"** means a bank included in the second schedule to the Reserve Bank of India Act, 1934, or modification thereto.
- k) **"Contract"** shall mean and include the Agreement or Letter of Acceptance, the accepted Schedule of Rate & Quantities and Rates, the General Conditions of Contract, Special Conditions of Contract, Appendix to Tender, Form of Tender document, Instructions to the Tenderers, Drawings, Specifications and other Tender Documents.
- l) **"Tender or Tender document"** means the offer (Technical and/or Financial) made by individual, firm, Company, corporation, Joint Venture or Consortium for the execution of the works.
- m) **"Specifications"** means the specifications referred to in the Contract and any modification thereof or addition thereto, or as may from time to time be furnished or approved in writing by the Engineer.
- n) **"Drawings"** means the Drawings annexed to the Contract or referred in it and shall include any modifications of such Drawings and further Drawings as may be issued or approved by the Engineer.
- o) **"Schedule of Rate & Quantities (BOQ)"** means list of items of work, their quantities and rates.
- p) **"Original Contract Value"** means the sum stated in the letter of Acceptance/Contract Agreement.
- q) **"Contract Value"** means the original contract value subject to the adjustments in accordance with the provisions of the Contract.
- r) **"Temporary Works"** means all enabling works of every kind required for the execution of the works.
- s) **"Permanent Work(s)/ Work(s)"** means the works (other than temporary works) to be executed in accordance with the Contract or part/s thereof as the case may be and shall include extra or additional, altered or substituted items of work as required for performance of the Contract.
- t) **"Construction Plant"** means all machinery, appliances or things of whatsoever nature required for the execution, completion and maintenance of the works, but does not include material or other things intended to form or forming part of the permanent works.
- u) **"Site"** means the land and/or other places on, under, in or through which the works are to be carried out, and any other lands or places provided by the Client/Employer/Engineer for the purpose of the Contract.

- v) **"Material/s"** means all equipment, components, fittings and other materials including raw materials, which form part of the permanent works.
- w) **"Test"** means such tests as prescribed in the Contract or by the Engineer or Engineer's Representatives, whether performed by the Contractor or by the Engineer or his Representative, or any agency approved by the Engineer.
- x) **"Approval or Approved"** means approval in writing including subsequent written confirmation of previous verbal approval.
- y) **"Defect Liability Period"** means the specified period of defects liability from the date of completion of the work as certified by the Engineer.
- z) **"Letter of Acceptance"** means the letter from the Employer or the Engineer to the Contractor, conveying acceptance of the Tender.
- aa) **"Month"** means the Gregorian calendar month.
- bb) **"Day"** means the calendar day.
- cc) **"Time"** expressed by hours of the clock shall be according to the Indian Standard time.
- dd) **"Tender Date"** means closing date fixed for receipt of tenders as per notice inviting tender or extended by subsequent notification.
- ee) **"Rupees"** (or Rs. in abbreviation) shall mean Rupees in Indian currency.

## 5.2 Heading and Marginal Notes

5.2.1 The top heading and marginal notes given in the tender or Contract documents are solely for the purpose of facilitating reference and shall not be deemed to be part thereof and shall not be taken into consideration in the interpretation or consideration thereof.

### 5.2.2 Notices, Consents, Approvals, Certificates and Determination.

Wherever in the Contract provision is made for giving or issue of any notice, consent, approval certificate or determination, it shall be in writing and the words notify, certify or determine shall be construed accordingly.

## 5.3 Singular, Plural and General

Words importing the singular only also include the plural and vice versa where the context requires. Similarly, words importing masculine gender also include the feminine gender.

## **5.4 Communication and Language of Contract**

### **5.4.1 Communication to be in writing**

All notices, communications, references and complaints by either party to the Contract shall be in writing in English or Hindi. Communication from only authorised representative of the Contractor shall be entertained.

### **5.4.2 Language of Contract**

The Contract document shall be drawn up in English.

## **5.5 Laws Governing the Contract**

The Contract shall be governed by the laws in force in India.

## **5.6 Inspection of site and site data:**

5.6.1 The Employer/Engineer shall make available with Tender Documents such data on hydrological and sub-surface conditions, if any, obtained from investigations undertaken relevant to the works. The tender shall be deemed to have been based on such data, if provided, but the Contractor shall be responsible for his own interpretation of all such data.

5.6.2 The Contractor shall be deemed to have inspected and examined the site and information available in connection therewith and to have satisfied himself fully before submitting his Tender document about the sub-surface conditions, the hydrological and climatic conditions, the extent and nature of work and materials necessary for the completion of the works, the means of access to the site and accommodation he may require. He shall also be deemed to have obtained all necessary information regarding risks, contingencies and all other circumstances which may influence or affect the contract.

## **5.7 Contractor's Understanding:**

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 stated in the Schedule of Rate & Quantities, all of which shall except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper execution, completion and maintenance of works.

## **5.8 Performance Security & Retention Money**

### **5.8.1 Performance Security for Contracts valuing upto Rs.1.00 Crore:**

For contracts valuing upto Rs.1.00 Crore, no performance security shall be required to be submitted by the Contractor.

## **5.8.2 Performance Security for Contracts valuing more than Rs.1.00 Crore:**

5.8.2.1 Within 14 days of issue of the Letter of Acceptance from the Employer/Engineer, the successful tenderer shall furnish to Employer/Engineer a Performance Security in the form of bank guarantee on the proforma annexed as annexure-II from any Scheduled Bank for an amount of 5% (Five Percent) of the original Contract value.

Alternatively, the performance security can be furnished by the Contractor in the form of Fixed Deposit Receipt (FDR) from a scheduled bank endorsed in favour of the Employer.

The Bank Guarantee/FDR shall remain valid till the same is approved for discharge by the Employer/Engineer on satisfactory completion of work.

5.8.2.2 No payment under the contract shall be made to the Contractor before receipt of Performance security.

5.8.2.3 Failure of the successful tenderer to furnish the required performance security shall be a ground for the annulment of the award of the Contract and forfeiture of the Earnest Money Deposit.

## **5.8.3 Release of Performance Security:**

The entire Performance Security shall be liable to be forfeited by the Employer/Engineer at the discretion of the Employer/Engineer, in the event of any breach of contract on the part of the Contractor or if the Contractor fails to perform or observe any of the conditions of the contract. On due and faithful completion of the entire work, the Performance Security shall be returned to the Contractor, subject to the issue of Completion Certificate by the Engineer in accordance with clause 5.81 of these conditions. This shall not relieve the Contractor from his obligations and liabilities, to make good any failures, defects, imperfections, shrinkages, or faults that may be detected during the defect liability period specified in the Contract.

## **5.9 INSURANCE**

5.9.1 Depending on the nature of work, Contractor's All Risk (CAR) shall be obtained by Employer/Engineer at his own cost as per the requirement. Employer/Engineer may take necessary add on covers and voluntary excess specified elsewhere in the contract, which shall be binding on the Contractor. At the time of taking policy, possible time over-run, if any, may be taken into account in deciding the period/validity of the policy. The above insurance shall cover the risks normally covered under the CAR policy. Any item not covered under the above policy shall be the responsibility of the Contractor.

5.9.2 Contractor's claims, if any, shall be entertained within the scope of Insurance policy taken by Employer/Engineer. This will be subject to:-

- i) Risk covered and voluntary excess selected by Employer/Engineer.
- ii) Claims on realization shall be passed to the Contractor according to value of the claims accepted by the insurance company for his damaged portion of work after deducting 15% towards services rendered by

Employer/Engineer for processing the claim(s). The amount so disbursed to the Contractor(s) shall be limited to the amount calculated on the basis of his accepted rates in the contract with the Employer/Engineer.

5.9.3 Before commencing of works, it shall be obligatory for the Contractor to obtain, at his own cost, insurance cover in the joint name of the Contractor and Employer from reputed companies under the following requirements:

- a) Liability for death of or injury to any person or loss of or damage to any property (other than the work) arising out the performance of the Contract.
- b) Construction Plant, Machinery and Equipment brought to site by the Contractor.
- c) Any other insurance cover as may be required by the law of the land.
- d) The Contractor shall provide evidence to the Employer/Engineer before start of work at site that the insurances required under the contract have been effected and shall within 60 days of the commencement date, provide the insurance policies to the Employer/Engineer. The Contractor shall, whenever, called upon, produce to the Engineer or his representative the evidence of payment of premiums paid by him to ensure that the policies indeed continue to be in force.
- e) The Contractor shall also obtain any additional insurance cover as per the requirements of the Contract.
- f) The Employer/Engineer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or his sub-contractor or petty contractor. The Contractor shall indemnify and keep indemnified the Employer/Engineer against all such damages and compensation for which the Contractor is liable.
- g) The Policies of the Contractor shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period except for any specific insurance covers necessary for shorter period.
- h) If the Contractor fails to effect or keep in force or provide adequate cover as acceptable to the Engineer in the insurance policies mentioned above, then in such cases, the Engineer may effect and keep in force any such insurance or further insurance on behalf of the Contractor. The recovery shall be made at the rate of 1.5 times the premium/premiums paid by the Engineer in this regard from the payment due to the Contractor or from the Contractor's Performance Security. However, the Contractor shall not be absolved from his responsibility and/or liability in this regard.

## **5.10 COMMUNICATION BETWEEN EMPLOYER/ENGINEER AND CONTRACTOR:**

### **5.10.1 Instructions in writing:**

Instructions given by the Engineer shall be in writing, provided that if for any reason the Engineer considers it necessary to give any instructions orally, the Contractor shall comply with such instructions. Confirmation in writing of such oral instruction given by the Engineer, whether before or after carrying out of the instructions shall be deemed to be instructions within the meaning of this sub-clause.

The Contractor shall also be bound to carry out any instructions issued by Client as confirmed in writing by the Engineer.

5.10.2 All certificates, notices, written orders or letters, to be given by the Employer or the Engineer to the Contractor, shall be deemed to have been served, if the same are delivered to the Contractor or his authorised representative, or delivered or left at or posted to the given address of the Contractor or Contractor's registered office or principal place of business. Such documents shall be deemed to have been received on the day they are left or delivered, or in the case of postal transmission, on the day they would ordinarily have reached but not exceeding 7 days from the date of posting inclusive of day of posting, in any case.

### **5.10.3 Notices to Employer and Engineer:**

All notices to be given to the Employer or to the Engineer, under the terms of the contract, shall be served by sending by Speed/Registered post or by delivering the same, to the respective nominated addresses.

### **5.10.4 Change of Address:**

Either party may change the nominated address by prior written notice to the other party.

### **5.10.5 Change in constitution of Firm:**

In case of any change in the constitution of Contractor's firm, the same shall forthwith be notified by the Contractor to the Employer.

## **5.11 GENERAL OBLIGATIONS OF THE CONTRACTOR**

### **5.11.1 General Responsibility of the Contractor:**

The Contractor shall comply with the provisions of the Contract with due care and diligence design (to the extent provided for in the Contract), execute, complete and maintain the works and remedy the defects in accordance with the provisions of the Contract. The Contractor shall provide all superintendence, labour, materials, plant, & Equipment and all other things, whether of a temporary or permanent nature, required in and for such design, execution, completion and maintenance of works and rectification of any defects, as directed by the Engineer or his Representative.

#### **5.11.2 Site Operations and Methods of Construction:**

The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and method of construction. Provided that the Contractor shall not be responsible for the design and specifications of Permanent works or for the design or specifications of any temporary works provided by the Engineer. Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall be fully responsible for that part of such works, notwithstanding any approval by the Engineer.

#### **5.11.3 Appraisal of Errors/Omissions in the Drawings:**

The Contractor shall promptly inform in writing to the Engineer of any error, omission, fault and other defects, in the design, drawings or specifications for the works which are noticed while reviewing the Contract documents or in the process of execution of the works.

#### **5.11.4 Compliance with Regulations and Bye-laws:**

The Contractor shall comply with the statutory provisions relating to the works, regulations and by-laws of any local authority and undertaking, including those controlling the utilities such as water supply, sewerage, telephones, power supply, etc., in whose jurisdiction the work is to be executed. The Contractor shall be bound to give all notices required by statute, regulations or bye-laws, as aforesaid. It shall be the responsibility of the Contractor to arrange all necessary clearances and approvals from the concerned authorities or undertakings before the work is taken up. However, assistance, if any, may be provided by Employer/Engineer/Client.

#### **5.11.5 Contract Agreement:**

The Contractor shall enter into and execute the Contract agreement in the form of agreement (Annexure-I) within 15 days from the date of issue of Letter of Acceptance. The stamp papers of the requisite value as per the prevailing laws shall be provided by the Contractor at his own cost. Original agreement shall be retained by the Employer/Engineer and a certified copy shall be made available to the Contractor.

#### **5.11.6 Contractor's Representative:**

When the Contractor is not in a position to be present, he shall keep responsible representative at site or work place during all working hours, who shall, on receiving a reasonable notice, present himself to the Engineer, Engineer's Representative or their Assistants. The instructions and orders given to the Contractor's representative shall be deemed to have the same force as if they have been given to the Contractor. The Contractor should furnish the necessary Power of Attorney in favour of his representative for the purpose of this clause. Failure on part of the Contractor to comply with this provision shall constitute a breach of Contract and may lead to action under clause 50.0.

#### **5.12 COMMENCEMENT OF WORK**

The Contractor shall commence the works within the time limit as specified in the Letter of Acceptance.



## **5.13 ACCESS TO SITE OF WORK**

### **5.13.1 Access to Engineer:**

The Engineer or the Engineer's Representative, shall at all times have access to the works and to all workshops and places, where work is being performed and 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.

## **5.14 SETTING OUT**

The Contractor shall be responsible for the true and proper setting out of the works using his own survey instruments, appliances and labour. If at any time during the progress of works, any error appears or arises in any part of the work, the Contractor on being required to do so by the Engineer, shall at once rectify such error, to the satisfaction of the Engineer. The Contractor shall also provide all necessary assistance in the form of labour and materials to Engineer or his representatives for checking the set out with his own instruments. The checking of any setting out, or of any line or level by the Engineer's representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof. The Contractor shall carefully protect and preserve all bench marks, reference pillars, pegs, and other things used in setting out the works.

## **5.15 TEMPORARY WORKS**

- i) All temporary works necessary for the proper execution of the works shall be provided and maintained by the Contractor at his own cost. All detailed working drawings, design, design calculations and fabrication drawings for important temporary works as decided by the Engineer, shall be prepared by the Contractor at his own cost and forwarded to the Engineer at least 30 days in advance of actual constructional requirements for his approval. Such approval shall not, however, relieve the Contractor of any of his responsibility in connection with the temporary works.
- ii) When the temporary works are no longer required, the Contractor shall remove the same at his own cost. In the event of failure on the part of the Contractor to remove the temporary works, the Engineer will cause them to be removed and cost incurred for removal, supervision, and other incidental charges shall be recovered from the Contractor.

## **5.16 SPECIFICATIONS AND DRAWINGS**

5.16.1 The Contractor shall keep at site in good condition one copy of latest approved Specifications and Drawings and also such other Contract documents as may be necessary and make them available to the Client/Employer/Engineer or his Representative at all reasonable times. Any specification & drawing shall not be used on any other work or communicated to a third party by the Contractor.

### **5.16.2 Adherence to Specifications and Drawings:**

The work shall be executed in perfect conformity with the specifications and drawings of the Contract issued to the Contractor by the Engineer from time to time. If the Contractor does any work or part of work in a manner contrary to the specifications or drawings without the approval of the Engineer, he shall bear all the costs arising there from including dismantling and reconstruction

strictly in accordance with the specifications and drawings and shall be responsible for all the losses/delays to the Employer/Engineer. The term drawings in this sub-clause also includes the drawings prepared by the Contractor and approved by the Engineer.

#### **5.16.3 Meaning & Intent of Specifications and Drawings:**

If any ambiguity arises as to the meaning and intent of any portion of the specifications and drawings or as to execution or quality of any work or material or as to the measurement of the works, the decision of the Engineer thereon shall be final and binding.

### **5.17 INDEMNITY BY THE CONTRACTOR**

#### **5.17.1 Indemnity against all actions of Contractor:**

The Contractor shall hold and save harmless and indemnify the Client/Employer/Engineer and their employees, from all actions, suits, proceedings, loss, costs, damages, charges, claims and demands of every nature and description brought against or recovered from the Client/Employer/Engineer and their employees by reason of any act or omission of the Contractor and/or his representative and/or his Employees and/or his sub-contractors in the execution of the works or in the guarding of the same. All the sums payable by Client/Employer/ Engineer by way of compensation under any of these conditions shall be recovered from the dues of the Contractor, without reference to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

#### **5.17.2 Indemnity against all Claims of Patent rights and Royalties:**

The Contractor shall hold and save harmless and indemnify the Client/Employer/Engineer, his officers and Employees from and against all claims and proceedings for or on account of infringement by the Contractor of copyright, any patent rights, design, trademark or name, secret process, patented or un-patented invention, articles or appliances manufactured or used for or in connection with the works and from and against all claims, proceedings, costs, damages, charges, and expenses whatsoever in respect thereof or in relation thereto. The Contractor shall pay all royalties, taxes, rent and other payments or compensation, if any, for getting the materials required for the works and due fulfillment of the contract and indemnify Client/Employer/Engineer against any claims in this regard.

### **5.18 DAMAGE TO LIFE AND PROPERTY:**

The Contractor shall be responsible for all risks to works, nearby existing structures and life of his supervisors and workmen as also those of Employer/Client or any trespassers from whatever cause in connection with the works until these are taken over by Client/Employer/Engineer. The Contractor shall make good at his own expenses all loss or damages to life and property.

### **5.19 SAFETY PROVISIONS**

#### **5.19.1 Safety of Labour and others:**

The Contractor shall, at his own expense, arrange for the safety provisions as required by any law in force, in respect of the labour employed directly or indirectly for performance of the works, and shall provide all facilities in connection therewith.

#### **5.19.2 Safety of works:**

The Contractor shall provide and maintain at his own cost, all lights, guards, signage, signalmen, fencing and watching arrangements when and where necessary, or as required by the Engineer for the protection of the works or for safety and convenience of those employed on works or of the public.

5.19.3 Mere observance of these precautions shall not absolve the Contractor of his liability in case of loss or damage to property, or injury to or death of any employee/labour of Contractor, Client or Employer/Engineer or any member of the public.

#### **5.19.4 Recovery of the cost from the Contractor:**

Should the Contractor fail to implement the provisions as required in the preceding sub-clauses 5.24.1 & 5.24.2, the Engineer may provide necessary arrangements and the cost of the same shall be recovered from the Contractor's payments/dues.

#### **5.20 CARE OF WORKS**

From the start of the work until completion, acceptance and final takeover of the works by the Engineer, the Contractor shall take full responsibility for the care of all works including temporary works. In case any damage, loss or injury happens to the work or to any temporary works from any cause whatsoever, the Contractor shall at his own cost repair and make good the same so that on completion and at the time of final take over, the work shall be in good condition and in conformity in every respect with the requirements of the contract and the Engineer's instructions.

#### **5.21 USE OF EXPLOSIVES**

Explosives shall not be used on the works or site by the Contractor without the written permission of the Engineer and only in the manner and to the extent such permission is given. When explosives are required for works they shall be stored in a special magazine, to be provided by the Contractor at his own cost, in accordance with the provisions of law on Explosives. The Contractor shall take all precautions in using the explosives and prevent damage to nearby properties and utilities. The Contractor shall also obtain necessary license for the storage and the use of explosives from the concerned authorities. All operations in which or for which explosives are used shall be at the risk and responsibility of the Contractor and the Contractor shall indemnify the Client/Employer/ Engineer and their employees in respect thereof.

#### **5.22 EXCAVATED MATERIALS**

The Contractor shall not use, sell or otherwise dispose off, or remove, except for the purpose of this Contract sand, clay, ballast, earth, rock or any other substance or materials, which may be obtained from any excavation made. All such items shall be the property of the Client. The Contractor may be permitted by the Engineer to use the same for the purpose of works on mutually agreed payment terms.

#### **5.23 WORKS DURING NIGHT**

Unless specifically provided elsewhere in the Contract, the Contractor shall not carry out any work between sunset and sunrise without the prior permission of

the Engineer. In case of any grave emergency or in order to avoid risk to property and life or to prevent damage to utilities or to restore them, work may be done at night also without the prior permission of the Engineer, but intimation to this effect should be sent to him immediately. No increase in rates or extra payment shall be admissible for the night work. The Contractor shall make adequate lighting and safety arrangements for night working. He shall also be responsible for any claim on account of any injury to or loss of life, of any one, arising out of inadequate lighting, safety arrangements or due to any other failure of the Contractor.

#### **5.24 TOOLS, PLANT AND EQUIPMENT**

Except for any specific item mentioned in the contract, the Contractor shall have to make his own arrangements, at his own cost, Plant, Machinery and Equipment required for execution and completion of all works to the entire satisfaction of the Engineer. This shall also include all other associated equipment, tools/tackles, spare parts, POL, consumables, stores, manpower as required for the execution of works.

#### **5.25 PLANT AND MATERIALS OF THE CONTRACTOR**

##### **5.25.1 Contractor's plant/materials at site to be exclusive to the work:**

All constructional plant and materials brought on the site by the Contractor be deemed to be exclusively intended for the execution of the work or part of the work and the Contractor shall not remove the same without the permission of the Engineer till completion of work or part of work.

##### **5.25.2 Removal of constructional plant/materials from site:**

Upon completion of the works, the Contractor shall remove from the site all the said constructional plant remaining thereon and unused materials belonging to the Contractor.

##### **5.25.3 Loss or damage to constructional plant/materials:**

The Employer/Engineer shall not at any time be liable for the loss of or damage to any of the said constructional plant, temporary works or materials.

##### **5.25.4 Assistance to Contractor for re-exports of plant:**

In respect of any constructional plant which the Contractor shall have imported for the purposes of the works, the Employer/Engineer may assist the Contractor, where required in procuring any necessary government consent for re-export of such constructional plant by the Contractor after the completion of the works.

##### **5.25.5 Assistance to Contractor for customs clearance:**

The Employer/Engineer may assist the Contractor, where required, in obtaining clearance through the customs of constructional plant, material and other things required for the works. This shall not dilute in any way the Contractors' obligations and responsibilities under the contract.

## **5.26 CONTRACTOR TO KEEP SITE CLEAR**

During the progress of works, the Contractor shall keep the site reasonably clean and free from obstructions and shall store neatly construction plant and materials.

## **5.27 HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS**

### **5.27.1 Provision of Accommodations:**

No quarters shall be provided by the Employer/Engineer for the accommodation of Contractor or any of his staff employed on works.

### **5.27.2 Provision of labour Camp:**

The Contractor, shall, at his own expense, make adequate arrangements for the housing, supply of drinking water, electricity, canteen and provision of latrines and urinals, for his staff and workmen employed on the work, directly or through petty Contractors or sub-Contractors and for temporary crèche (Balmandir) where 50 or more women are employed at a time. All camp sites shall be maintained in clean and good sanitary conditions, by the Contractor, at his own cost.

### **5.27.3 Compliance with Rules for employment of labour:**

The Contractor shall comply with all laws, bye-laws, rules and regulations in force, pertaining to employment of local or imported labour, and shall take all necessary precautions to ensure and preserve the health and safety of all staff/workmen, employed on the works directly or through petty Contractors or sub-Contractors.

## **5.28 ENGAGEMENT OF LABOUR**

The Contractor shall make his own arrangements for the engagement of all labour, except as provided otherwise in the contract.

The Contractor shall not employ any labour below the age prescribed in any labour legislation, directly or through petty Contractors or sub-Contractors, for execution of the work.

## **5.29 WAGES OF LABOUR**

### **5.29.1 Wages under relevant laws:**

In dealing with labour and employees, the Contractor and his subcontractors (including piece rate and petty Contractors) shall comply fully with all laws and statutory regulations such as

- i) Workmen's Compensation Act, 1923
- ii) Payment of Gratuity Act, 1972
- iii) Employees Provident Funds and Miscellaneous Provisions Act, 1952
- iv) Maternity Benefits Act, 1951
- iii) Contract Labour (Regulations and Abolition) Act, 1970
- iv) Minimum Wages Act 1948
- v) Payment of Wages Act 1936
- vi) Equal Remuneration Act 1979
- vii) Payment of Bonus Act 1965
- viii) Industrial Dispute Act 1947
- ix) Industrial Employment (Standing Orders) Act 1946
- x) Trade Union Act 1926

- xi) Child Labour (Prohibition and Regulation) Act 1986
- xiv) Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act 1979
- xv) The Buildings and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and Cess Act of 1996.
- xvi) The Factories Act 1948.

and other laws or Regulations framed by competent legislative authorities from time to time as may be applicable. In accordance with the various Acts and Regulations with all upto date amendments, the Contractor shall ensure that he and his subcontractors (including petty and piece rate Contractors) observe strictly interalia the following:

- a. Wages paid are not less than those prescribed.
- b. Wages and other dues are paid regularly and in time.
- c. Liens/licenses are obtained as required under any of the acts or regulations.
- d. Maintain prescribed records, submit necessary statements to authorities concerned and display required notices.
- e. Take prompt action on any instructions / directions from the authorities under various labour laws.

#### **5.29.2 Claims on account of violation of labour laws:**

If any moneys shall as a result of any instructions, directions or decisions from the authorities or claim or application made under any of the labour laws or regulations be directed to be paid by the Engineer because of any failure of the Contractor, such moneys shall be deemed to be moneys payable to the Engineer by the Contractor and on failure of the Contractor to repay the Engineer any moneys paid or to be paid as aforesaid within seven days after the same shall have been demanded, the Engineer shall be entitled to recover the amount from any moneys due or becoming due to the Contractor under this or any other contract with the Employer. The Engineer shall not be bound to contest any such claim or demand unless the Contractor makes a written request for it, and Contractor's reasons for contesting are considered reasonable by the Engineer and the Contractor deposits the full cost that the Engineer may have to incur in contesting the case.

#### **5.30 REPORTING OF ACCIDENTS INVOLVING LABOUR**

The Contractor shall be responsible for safety of all employees/labour employed by him on works, directly or through petty Contractors or sub-Contractors and shall report accidents, occurring on works to the Engineer or the Engineer's representative, and shall make every arrangement to render all possible assistance and to provide prompt and proper medical attention. In case of fatal accident, it will be Contractor's responsibility to report accident to police keeping the Engineer advised of the same. The compensation for affected workers or their relatives shall be paid by the Contractor in such cases with utmost expedition in accordance with the Workmen's Compensation Act.

#### **5.31 SUPPLY OF WATER AND ELECTRIC POWER**

Power supply required for the work shall be given only at one point. The cost of making necessary arrangements to the Engineer's distribution system, laying of cable & circuit protection, in case of electric power shall be borne by the Contractor, the rates for which shall be determined and notified by the Engineer.

### **5.32 REPAIRS TO DAMAGES**

The Contractor shall be responsible for rebuilding/repairs of any damage by any reasons not attributable to the design defect (where design is supplied by Engineer/Client) during execution of works or Defect Liability Period. In case the Contractor is unable or unwilling to execute such repair works promptly, the Engineer may get the same done by engaging another agency or using labour, materials and resources as may be considered necessary and the cost of such remedial works shall be recovered from the Contractor's dues. The decision of the Engineer regarding reasons of the damage shall be final and binding.

### **5.33 IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEM**

- 5.33.1 The Contractor shall follow and implement Quality Management System as per IS/ISO-9001-2000.
- 5.33.2 The Contractor shall execute the work following the safety policy of DFCC which shall include providing safety equipment, safety shoes and helmets to all workers, erecting of safety barricades and displaying safety posters and instructions about awareness for safety.
- 5.33.3 The Contractor shall arrange timely calibration of all his measuring and testing equipment at his own cost from reputed laboratory and supply of calibration certificates to the Engineer.
- 5.33.4 The Contractor shall ensure maintenance and overhauling of all his plant and machinery to satisfy the requirements of IS/ISO-9001-2000.
- 5.33.5 The Contractor shall arrange to provide test certificates issued by manufacturers for materials supplied by him or arrange to test the materials at his own cost in a reputed laboratory and supply test certificates to the Engineer. The Contractor shall implement full process control by issue of work instructions and check lists and maintaining latest drawings, specifications and codes.

### **5.34 MATERIALS AND WORKMANSHIP**

#### **5.34.1 Material and workmanship as per Specifications:**

- i) All materials and workmanship shall be as per the contract and in accordance with the Engineer's instructions and shall be subjected to such tests as the Engineer may direct. The Contractor shall provide all such assistance, instruments, machines, labour and materials required for examining, measuring and testing any work and materials used. The Contractor shall supply samples of material before incorporating in the works for testing as may be selected and required by the Engineer.
- ii) The sources of materials to be used in the works shall be intimated to the Engineer and are subject to his approval.

#### **5.34.2 Supply of sample:**

All samples shall be supplied by the Contractor at his own cost.

#### **5.34.3 Cost of tests of Materials and Workmanship:**

The cost of carrying out any tests in a reputed laboratory as acceptable to the Engineer shall be borne by the Contractor except for the materials to be supplied by the Engineer.

**5.35 REMOVAL OF IMPROPER MATERIALS AND WORKS**

- i) The Engineer shall have the authority to order in writing from time to time:
  - a. The removal from site within specified time, of any material, which in the opinion of the Engineer, is not in accordance with the Specifications and Conditions of the Contract.
  - b. The substitution of defective material by approved quality material; and
  - c. The removal and proper re-execution, notwithstanding any previous decision or interim payment thereof, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the contract.
- ii) In case of default on the part of the Contractor in carrying out such order, the Engineer shall be entitled to get the same done by engaging another agency or by deploying labour, materials and other resources. All such cost shall be recovered from the Contractor's dues.

**5.36 EXAMINATION OF WORK BEFORE COVERING UP**

No work or part of work shall be covered up or put out of view, without the prior approval of the Engineer or the Engineer's representative. If any work shall be covered up or put beyond the reach of inspection/measurement without the prior approval of the Engineer or Engineer's representative, the same shall be uncovered by the Contractor at his own cost.

**5.37. SUSPENSION OF WORKS ORDERED BY THE ENGINEER**

The Contractor shall, on the order of the Engineer, suspend the works or any part thereof, for such time, and in such manner, as the Engineer may consider necessary, and shall during such suspension, properly protect and secure the works so far as it is necessary in the opinion of the Engineer.

The Contractor shall not be entitled to extra cost, if any, incurred by him during such suspension if such suspension is on account of weather conditions or requirement for execution of works or provided for in the Contract or for less than 30 days at a time for any other reason. The Contractor shall, however, be entitled for extension of time for completion of work as the Engineer may consider proper having regard to the period of suspension. However, if the suspension is ordered by the Engineer due to any default of the Contractor such as defective materials, workmanship etc., the Contractor shall not be entitled to any extension or extra cost incurred.

**5.38. RATES FOR ITEMS OF WORK TO BE ALL INCLUSIVE**

- i. The rates entered in the accepted Schedule of Rate & Quantities of the Contract, shall be all-inclusive and provide for works duly and properly completed in accordance with terms and conditions of the Contract and processes as mentioned in specifications and drawings (including revised drawings), relevant codes whether mentioned or not in the nomenclature of the item in Schedule of Rate & Quantities. All rates quoted in the tender shall also deemed to include except specifically provided otherwise in the Contract:



- All materials, labour, tools and plant, stores, centering, shuttering, etc.
- Construction/Erection, maintenance and removal of all temporary works.
- All watching, lighting, pumping and draining unless otherwise provided for.
- All barriers and arrangements for safety of the property, utilities, public or employees/workers during the execution of works.
- All sanitary and medical arrangements for labour camps.
- The setting out of all works of construction, repair and up-keep of all centre lines, benchmarks, reference pillars etc.
- Site clearance except specifically provided otherwise in the Contract.

ii. Nothing extra shall be payable over the quoted rates, except as specifically provided in the Contract.

iii. All rates quoted in the Schedule of Rate & Quantities shall be deemed to be inclusive of all types of direct and indirect taxes imposed by Central/State Govt. and local bodies such as excise duty, sales tax, value added tax (VAT), Works contract tax, Service tax, royalties, duties, Cess, Octroi and other levies as applicable and also include all import duties. The rates shall also be inclusive of all taxes, duties and other charges imposed outside the country on the production, manufacture, sale and transport of the Contractor's equipment, plant, materials and supplies to be used on or furnished under the contract and on the services performed under the contract. No additional amount shall be paid or claim be entertained on this account by Employer/Engineer. The Contractor shall get registered with the Sales tax Department immediately after award of work and submit a copy of the same to the Employer/Engineer. He shall be responsible for filing sales tax returns and assessments, as necessary as per prevalent Laws, Rules and Regulations and shall also furnish necessary certificates to Employer/Engineer from time to time.

iv. The Contractor shall bear the cost of all royalties, fees and other payments in respect of patents, patents right and license(s) which may be payable to patentee, licensee or other person or corporation and shall obtain all necessary licenses/ permissions. In case of any breach (whether willfully or inadvertently) by the Contractor of this provision, the Contractor shall indemnify Employer, Engineer and their employees against all claims, proceedings, damages, costs, charges, loss and liability which they or any of them may sustain, incur or be put to by reason or in consequence directly or indirectly of such breach and against payment of any royalties, damages or other money which the Employer/Engineer may have to make to any persons or pay in total to the patent rights in respect of the users of any machine, instruments, process, articles matter or thing constructed, manufactured, supplied or delivered by the Contractor under this contract.

**5.39. ACCEPTED RATE APPLICABLE TILL THE COMPLETION OF WORK**

The rates as per the accepted Schedule of Rate & Quantities, shall be firm and hold good till the completion of the works, and no additional claim or amount shall be admissible on account of fluctuations in market rates, increase in taxes, levies, fees royalties etc. unless specifically provided for in the Contract.

#### 5.40. **Quantity VARIATION**

- i) The quantities of items shown in the Schedule of Rates & Quantities, Chapter 7, are approximate, and may vary during the actual execution of the work.
- ii) Such variations in quantities shall be paid for in the manner laid down below:
  - a) Individual items in contracts shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
  - b) Operation of an item by more than 125% of the agreement quantity needs the approval of an officer of the rank not less than S.A. Grade.
  - c) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender.
  - d) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender.
  - e) Variation in quantities of individual items beyond 150% will be prohibited and would be permitted only in exceptional unavoidable circumstances with the concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.
  - f) Execution of quantities beyond 150% of the overall agreemental value should not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor, with prior personal concurrence of FA&CAO / FA&CAO(C) and approval of General Manager.
  - g) The variation in quantities as per the above formula will apply only to the Individual items of the contract and not on the overall contract value.
  - h) For decrease beyond 25% for individual items or 25% of contract agreement value, the approval of an officer not less than rank of S.A. Grade may be taken, after obtaining 'No Claim Certificate' from the contractor and with finance concurrence, giving detailed reasons for each such decrease in the quantities.
  - i) It should be certified that the work proposed to be reduced will not be required in the same work.
  - j) The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.
  - k) The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. In case of vitiation of the tender (both for increase as well as decrease of value of contract agreement), sanction of the competent authority as per single tender should be obtained.

#### **5.41. ITEMS NOT INCLUDED IN THE SCHEDULE OF RATE & QUANTITIES**

5.41.1 If any item of work not provided for in the accepted Schedule of Rate & Quantities and required to be executed for completion of work, the Contractor on receipt of instructions from the Engineer, shall be bound to carry out such items of work at the rates to be decided as per sub-clause 5.59.2 and 5.59.3.

5.41.2 The rate for such extra items shall be derived from rate for similar items available in the accepted Schedule of Rate & Quantities.

5.41.3 In case rates cannot be derived from the accepted Schedule of Rate & Quantities, the rate may be worked out on the following basis:

- a) Cost of materials and consumables at current market rates, as actually utilized in the final finished permanent work, including a reasonable percentage for wastage and cost of loading, unloading and transportation.
- b) Cost of labour required for the work.
- c) Hire charges for plant and machinery, scaffolding, shuttering, forms, etc. required to be used at the site of the work.
- d) An amount of 10% of items (a), (b) and (c) above to allow for Contractor's overheads, profits and other contingencies.

5.41.4 In all cases where extra items of work are involved, for which there are no rates in the accepted Schedule of Rate & Quantities, the Contractor shall give a notice to the Engineer, of at least 7 days before the need for their execution arises.

Such a notice shall not however be necessary if the Engineer has already instructed in writing to take up such an item of work. To decide the rate, the Contractor shall furnish detailed analysis of the rates on the lines mentioned in sub-clause 5.59.2 and 5.59.3 above and attend a meeting with Engineer to settle the rate as and when called for. The Contractor shall be bound to furnish the requisite details and to attend the meeting.

#### **5.41.5 Provisional payment for extra item:**

In case mutually agreeable settlement of rates is not arrived at between the Engineer and the Contractor, the Contractor shall be bound to carry out the works at rates to be decided by the Engineer. In the absence of a finalized rate for a new item, the Engineer shall be entitled to certify payment to the Contractor based on a provisional rate fixed by the Engineer for the work done under the new item. This shall be subject to upward or downward adjustment after the rate is finalized by the Engineer for that item.

5.41.6 The decision of the Engineer under this clause shall be final and binding.

#### **5.42. LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

Any moneys due to the Contractor either alone or jointly with others, including the performance guarantee amount returnable to him may be withheld or retained or encased by exercise of lien by the Client/ Employer/Engineer

against any claim of the Client/ Employer/Engineer or any other branch, office department or subsidiary of the client/ Employer/Engineer in respect of a sum of money arising out of or under any contract other than the present contract made by the Contractor alone or jointly with the client/ Employer/Engineer or any other branch, office, department or subsidiary of the client/ Employer/Engineer. It is agreed term of contract that the sum of money so withheld or retained under this clause by the client/ Employer/Engineer, shall be kept withheld or retained till the claims arising out of or under the contract, are either mutually settled or determined by the Arbitrator, 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 any other account, in respect of any sums of money withheld retained, under this clause and duly notified to the Contractor.

#### **5.43. MEASUREMENTS OF WORK AND PAYMENTS**

##### **5.43.1 Measurements**

The Contractor shall be paid for the works at rates in the accepted Schedule of Rate & Quantities of the contract and extra items of work at rates determined under clause 5.59.0 of these conditions. The measurement shall be taken by the Engineer or his representative in the presence of the Contractor or his authorized representative.

##### **5.43.2 Measurement of work at regular intervals**

The measurements of the work shall be taken in accordance with the contract during progress of work and at such intervals, as in the opinion of the Engineer or Engineer's Representative shall be proper, having regard to the progress of the work. On an agreed date and time, the Engineer or his Representative shall take the on account or final measurements in the presence of the Contractor or his authorized representative. The Engineer or his authorized representative shall sign the measurements, which shall also be signed by the Contractor or his authorized representative as an acceptance of the measurements. If the Contractor or his representative fails to turn-up at the time of taking measurements in spite of notice to do so, the Engineer or his representative shall be entitled to record the measurements ex-parte and these shall be final and binding on the Contractor.

##### **5.43.3 Measurement of works as per records and drawings**

For the purpose of measuring such permanent works, as are to be measured by records and drawings, the Contractor shall prepare records and drawings at regular intervals and submit to the Engineer or Engineer's representative for his scrutiny.

In case, there is a discrepancy in the measurements of work done and the measurements as per drawings, measurements for the minimum of the two shall only be accounted for, provided the executed work is acceptable to the Engineer.

The Engineer or the Engineer's representative shall have the right to rectify any incorrect measurements and delete/correct any measurements if it is found at a later stage that the work is incomplete, defective and/or not conforming to the specifications.

#### **5.44. ON ACCOUNT PAYMENTS**

- 5.44.1 The Contractor shall be entitled to be paid from time to time, by way of “On-account” bills, only for such works, as in the opinion of the Engineer, the Contractor has executed in terms of the contract. Such payments shall be made at intervals to be decided by the Engineer depending upon the progress of work. Payment shall be made only on submission of bills along with measurements and necessary documents by the Contractor for scrutiny of the Engineer. The amount certified shall account for all deductions, including statutory deductions as for sales tax, income tax, etc., recoveries for advances and any amounts due from the Contractor. Such payments made by the Engineer shall not constitute any final acceptance of the measurements. In case of any discrepancy, the Engineer shall have the right to alter, modify, reduce or diminish the quantities or classification entered in the Measurement Books. In such cases, the Engineer shall have the right to recover any amount paid in an earlier bill/bills from any subsequent bill/bills and should the amount to be recovered be more than the amount of the subsequent bills, the Contractor shall on demand from the Engineer immediately refund the amount to the Engineer within 7 days, failing which he shall have to pay interest @1% per month till the said extra amount is paid back by him.
- 5.44.2 No payment under the contract shall be made to the Contractor before receipt of performance security. The Engineer shall also be entitled to withhold payments under the above sub-clauses in case the Contractor fails to get himself registered under sales tax/labour laws or fails to fulfill his obligation under the contract.

#### **5.45. FINAL MEASUREMENTS AND PAYMENTS**

As soon as possible after completion of work, the Contractor shall submit the final bill along with detailed measurements of work done, accountal of the materials, plant and machinery issued by the Engineer and all other statements, supporting documents required for finalisation of the bill. The final bill, measurements and documents submitted by the Contractor shall be scrutinised by the Engineer or his representative and in case the same are found not in order, the Engineer shall direct the Contractor to re-submit the final bill alongwith all details. On receipt of all requisite details and final bill from the Contractor, the Engineer shall have the final measurements taken, recorded and signed jointly. An accountal of any plant, equipment and materials issued by the Engineer to the Contractor, shall also be prepared and signed jointly. Based on the final measurements and materials and plant and equipment accountal statements, the Engineer shall prepare the final bill.

The Contractor shall sign the Engineer’s copy of the Final Bill Account in token of acceptance of the full and final value of the works performed under the contract, and submit a “No Claim Certificate” on the prescribed proforma along with a list of unsettled claims, if any. The Engineer shall then arrange to make payment against the final bill. The Contractor shall not be entitled to make any claim whatsoever against Engineer under or arising out of this contract, nor shall Engineer entertain or consider any such claim, if made by the Contractor after he shall have signed a “No –Claim certificate” in favour of the Engineer. In case, the Contractor submits a list of unsettled claims along with the “No Claim Certificate”, he shall not be entitled to submit any additional claims other than those submitted alongiwth “No Claim Certificate”.

## **5.46. MODE OF PAYMENT AND TAX DEDUCTION AT SOURCE**

### **5.46.1 Mode of payment:**

- i. All payments to the Contractor shall be made through Electronic Clearing System (ECS). The contractor shall furnish his Banker's details in addition to his own bank account details. All amounts payable to the contractor shall be directly credited to his bank account.
- ii. In case, the contractor is having his account with a bank not having Electronic Clearing System (ECS), the contractor may open a bank account with the bank having this facility.
- iii. All payments to the contractor shall be made by above means only unless specifically otherwise agreed by the Engineer in special circumstances for petty payments.

### **5.46.2 Tax deduction at source:**

Income tax and Works tax shall be deducted from the payments credited/released by Employer/Engineer to the Contractor against execution of work as per law of the land. The deductions shall be made as per prescribed rates prevalent from time to time unless a tax exemption certificate is produced by the Contractor. Amount of tax deduction shall be deposited with the concerned authorities and tax deduction certificate shall be issued by Employer/Engineer. The Employer/Engineer shall deduct at source taxes/duties under any other law/statute as may be applicable at the time of making payments. The Contractor shall furnish to the Engineer registration No. under works tax and PAN (for TDS), as applicable.

## **5.47. COMPLETION CERTIFICATE**

5.47.1 As soon as the work is completed, the Contractor shall give notice of such completion, whether of the whole of the works, or of any part of the work, for which a separate date of completion is stipulated in the contract, to the Engineer, and the Engineer, within 30 days of receipt of such notice, shall inspect the work and also arrange for carrying out of such tests as may be prescribed under the contract or ordered by the Engineer. If the Engineer notices any incomplete item of work or any defect, which is to be rectified by the Contractor, or if any part or whole of the work fails to pass the specified tests, the Engineer shall furnish to the Contractor, the list of all such incomplete items of work, deficiencies, defects, failure to pass tests, etc., and may refuse to issue a Certificate of Completion to the Contractor. If in the opinion of the Engineer the work has been satisfactorily completed and has satisfactorily passed final test or tests that may be prescribed, the Engineer shall issue a certificate of completion showing the date of completion in respect of the work. The defect liability period, if any, shall commence from the date of completion indicated in such certificate. Provided that the Engineer may issue such a certificate with respect to any part of the works, before the completion of the whole of the works, which has been so completed and/or used by the Client/Employer/Engineer. When any such certificate is given in respect of a part of the work, such part shall be considered as completed and the defect liability period of such part shall commence from the date of completion indicated in such certificate.

**5.47.2 Completion certificate not to absolve the Contractor from his Responsibilities:**

The Certificate of Completion of Works referred to in sub-clause 5.65.1 shall not absolve the Contractor from his liability to make good defects, imperfections and shrinkages or faults, which may appear during the defect liability period specified in the contract, arising in the opinion of the Engineer from materials or workmanship being not in accordance with the Contract. These shall be rectified and made good by the Contractor at his own cost. In case of the default on the part of the Contractor, to so make good the defects or deficiencies, the Engineer may employ labour, plant and machinery and materials or appoint another agency or Contractor, to make good such defects, imperfections, shrinkages and faults, and all expenses consequent and incidental thereto, shall be recovered from any money due to the Contractor under the contract including the Performance Security amount or from any money payable to the Contractor by the Employer/Engineer, under any other contract.

**5.48. CLEARANCE OF SITE ON COMPLETION**

On completion of works, the Contractor shall clear and remove from site all constructional plant, surplus materials, rubbish and temporary works of every kind, and leave the whole of the site of work clean, tidy and in a workman like condition to the satisfaction of the Engineer. This will be one of the pre-conditions for making the final payment to the Contractor. Such clearance may be made by the Engineer through any other agency at the expense of the Contractor in the event of the Contractor's failure to comply with this provision within 7 (seven) days after receiving notice to that effect from the Engineer.

**5.49. POST PAYMENT AUDIT**

It is an agreed term of the contract that the Employer reserves to himself the right to carry out a post payment audit or technical examination of the works, and the final bill including all supporting vouchers, abstracts, etc. If as a result of such examination, any over payment to the Contractor is discovered to have been made in respect of any work done, the Contractor will be bound to refund the same to the Engineer or may be adjusted against any dues of the Contractor. If any under payment is discovered, the same shall be paid by the Engineer to the Contractor. Such payments or recoveries, however, shall not carry any interest.

**5.50. DEFECT LIABILITY CERTIFICATE**

5.50.1 In the contract, the expression "Defect Liability Period" shall mean the period of defect liability prescribed elsewhere in the contract, commencing from the date of completion of the works, as certified by the Engineer.

The Contractor shall maintain, rectify and make good at his own cost any defects/deficiencies, which may develop in the work or as notified by the Engineer during Defect Liability Period. However, maintenance during Defect Liability Period shall not include day to day upkeep, cleaning, custody and security of the work.

5.50.2 The contract shall not be considered as completed, until a Defect Liability Certificate has been issued by the Engineer stating that the works have been completed and maintained to his satisfaction. Defect Liability certificate shall be issued by the Engineer, upon expiry of Defect Liability period or as soon

thereafter as any works ordered during such period, have been completed to the satisfaction of the Engineer.

5.50.3 No certificate other than "Defect Liability Certificate" shall be deemed to constitute final approval of the work or part of the work for which it is issued.

#### **5.51. UNFULFILLED OBLIGATIONS**

Notwithstanding the issue of Defect Liability Certificate, the Contractor and the Engineer shall remain liable for the fulfillment of any unfulfilled obligations under the provision of the contract, prior to the issue of the Defect Liability Certificate, and for the purpose of determination of the nature and extent of any such obligation, the contract shall be deemed to remain in force between the parties thereto.

#### **5.52. PRODUCTION OF VOUCHERS**

5.52.1 The Contractor, whenever required, shall produce for examination by the Engineer, any quotation, invoice, cost or other account books, vouchers, receipts, letters, memoranda or any copy of or extract from any such documents and also furnish information and returns, as may be required, relating to the execution of this contract. The Engineer's decision on the question of relevancy of any documents, information or returns shall be final and binding on the Contractor.

5.52.2 If any part or item of the work is allowed to be carried out by a sub-Contractor, the Engineer shall have power to secure the books of such sub-Contractor, through the Contractor, and shall have power to examine and inspect the same.

#### **5.53. FORCE MAJEURE**

5.53.1 If, at any time during the currency of the contract, the performance of any obligation (in whole or in part) by the Employer or the Contractor shall be prevented or delayed by reason of any war, hostilities, invasion, acts of public or foreign enemies, rebellion, revolution, insurrection, civil commotion, sabotage, large scale arson, floods, earthquake or any other act of God, large scale epidemics, nuclear accidents, any other catastrophic unforeseeable circumstances, quarantine restrictions, any statutory, rules, regulations, orders or requisitions issued by a Government department or competent authority (hereinafter referred to as "event") then, provided notice of the happening of such an event is given by either party to the other within 21 (twenty one) days of the occurrence thereof.

- a. Neither party by reason of such event be entitled to terminate the contract or have claim for damages against the other in respect of such non-performance or delay in performance.
- b. The obligations under the contract shall be resumed as soon as practicable after the event has come to an end or ceased to exist.
- c. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of the event beyond a period of 180 days, the contract may be fore-closed with mutual consent by giving a notice of 30 days without any repercussions on either side.



- d. In case of doubt or dispute, whether a particular occurrence should be considered an “event” as defined under this clause, the decision of the Engineer shall be final and binding.
- e. Works that have already been measured shall be paid for by the Engineer even if the same is subsequently destroyed or damaged as a result of the event. The cost of rebuilding or replacing any work that has been measured shall be borne by the Employer/Engineer.
- f. If the contract is fore-closed under this clause, the Contractor shall be paid fully for the work done under the contract, but not for any defective work or work done which has been destroyed or damaged before its measurement. The Engineer shall have the option to take over any plant and material lying at site, at rates provided for in the contract, failing that, as per rates which are determined to be fair and reasonable by the Engineer.

5.53.2 If no notice is issued by either party regarding the event within 21 days of occurrence, the said event shall be deemed not to have occurred and the contract will continue to have effect as such.

#### **5.54. SETTLEMENT OF DISPUTES**

All disputes or differences of any kind whatsoever that may arise between the Employer/Engineer and the Contractor in connection with or arising out of the contract or subject matter thereof or the execution of works, whether during the progress of works or after their completion, whether before or after determination of contract shall be settled as under:-

##### **5.54.1 Mutual Settlement:**

All such disputes or differences shall in the first place be referred by the Contractor to the Employer in writing for resolving the same through mutual discussions, negotiations, deliberation etc. associating representatives from both the sides and concerted efforts shall be made for reaching amicable settlement of disputes or differences.

##### **5.54.2 Conciliation/Arbitration:**

5.54.2.1 It is a term of this contract that Conciliation/Arbitration of disputes shall not be commenced unless an attempt has first been made by the parties to settle such disputes through mutual settlement.

5.54.2.2 If the Contractor is not satisfied with the settlement by the Employer on any matter in question, disputes or differences, the Contractor may refer to the Managing Director of the Employer in writing to settle such disputes or differences through Conciliation or Arbitration provided that the demand for Conciliation or Arbitration shall specify the matters, which are in question or subject of the disputes or differences as also the amount of claim, item wise. Only such dispute(s) or difference(s) in respect of which the demand has been made, together with counter claims of the Employer shall be referred to Conciliator or Arbitrator as the case may be and other matters shall not be included in the reference.

5.54.2.3 Managing Director of the Employer may himself act as Sole Conciliator/Sole Arbitrator or may at his option appoint another person as Sole Conciliator or Sole Arbitrator, as the case may be. In case, Managing Director of the Employer decides to appoint a Sole Conciliator/Sole Arbitrator, then a panel of at least three names will be sent to the Contractor. Such persons may be

working/retired employees of the Employer who had not been connected with the work. The Contractor shall suggest minimum two names out of this panel for appointment of Sole Conciliator/ Sole Arbitrator. Managing Director of the Employer will appoint Sole Conciliator/Sole Arbitrator out of the names agreed by the Contractor.

5.54.2.4 In case, the Contractor opts for settlement of disputes through Conciliation at first stage and if the efforts to resolve all or any of the disputes through Conciliation fails, the Contractor may refer to the Managing Director of the Employer for settlement of such disputes or differences through Arbitration. The appointment of Sole Arbitrator shall be done by the Managing Director of the Employer as per the procedure described above. No disputes or differences shall be referred to Arbitration after expiry of 60 days from the date of notification of failure of Conciliation.

5.54.2.5 The Conciliation and/or Arbitration proceedings shall be governed by the provisions of the Indian Arbitration and Conciliation Act 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 conciliation and arbitration proceedings under this clause.

5.54.2.6 The language of proceedings, documents or communications shall be in English and the award shall be made in English in writing.

5.54.2.7 The conciliation/arbitration proceedings shall be held at a place decided by Conciliator/Arbitrator.

5.54.2.8 The fees and other charges of the Conciliator/Arbitrator shall be as per the scales fixed by the Employer from time to time and shall be shared equally between the Employer and the Contractor.

5.54.2.9 The minimum qualification of the Conciliator/Arbitrator shall be graduate in Engineering. He may be working or retired officer with a minimum of 20 years service in Group –A of any Engineering service of Central Govt. or an equivalent service in a Central PSU. He should be clear from the vigilance angle and should be a person with reputation of high technical ability and integrity. Also, he should not have associated with the contract to which the dispute pertains.

**5.54.3 Settlement through Court:**

It is a term of this contract that the Contractor shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through clauses 5.72.1 and 5.72.2.

**5.54.4 No suspension of work:**

The Obligations of the Employer, the Engineer and the Contractor shall not be altered by reasons of conciliation/arbitration being conducted during the progress of works. Neither party shall be entitled to suspend the work on account of conciliation/arbitration and payments to the Contractor shall continue to be made in terms of the contract.

**5.54.5 Award to be binding on all parties:**

The award of the Sole Arbitrator, unless challenged in court of law, shall be binding on all parties.

**5.54.6 Exception:**

For settlement of disputes with central PSUs, the procedure as per existing orders of Permanent Machinery for Arbitration (PMA), Bureau of Public Enterprises, Govt. of India shall be followed.

**5.54.7 JURISDICTION OF COURTS:**

Jurisdiction of courts for dispute resolution shall be New Delhi.

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*FORM OF AGREEMENT*

(To be executed on requisite value of Stamp Papers)

**AGREEMENT**

THIS AGREEMENT made on \_\_\_\_\_ day of \_\_\_\_\_ (month/year) between **DFCCIL, 5<sup>th</sup> Floor Pragati Maidan Metro Station Building Complex, New Delhi-110001**, acting through (Project Head and name/address of the Project)(hereinafter called “the Employer/Engineer”) of the one part and \_\_\_\_\_ (name and address of the Contractor) (hereinafter called “the Contractor”) of the other part.

WHEREAS the Employer is desirous that certain works should be executed by the Contractor viz. **Contract No.** \_\_\_\_\_ (hereinafter called “the Works”, and has accepted a Tender document by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

**NOW THIS AGREEMENT WITNESSETH as follows:**

In this Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as part of this Agreement:

- a) Letter of Acceptance of Tender
- b) Advance Letter of Acceptance of Tender
- c) Notice Inviting Tender
- d) Format for Covering Letter for the Tender document and Check list for documents
- e) Instructions to the Tenderers
- f) Special Conditions of Contract
- g) General Conditions of Contract
- h) Scope of Work
- i) Technical Specifications
- j) Form for Technical Details
- k) Schedule of Rate & Quantities
- l) Relevant Codes and Standards

In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement executed the day and year first before written.

(Name, Designation and address of the authorised signatory)

(Name, Designation and address of the authorised signatory)

Signed for and on behalf of the Contractor in the presence of:

Signed for and on behalf of the Employer in the presence of:

Witness:

Witness:

1.

1.

2.

2.

Name and address of the witnesses to be indicated.

**PERFORMANCE BANK GUARANTEE (UNCONDITIONAL)**

To

Dedicated Freight Corridor Corporation  
Name & Address of Project.

(Acting through \_\_\_\_\_ (Project In-charge & Address of the Project)

WHEREAS \_\_\_\_\_ {name and address of contractor} (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ {name of contract and brief description of works} (hereinafter called "the Contract"):

AND WHEREAS it has been stipulated by you in the said Contract that the contractor shall furnish you with a Bank Guarantee by a scheduled bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of \_\_\_\_\_ {amount of Guarantee}. \_\_\_\_\_ {amount in words}, such sum being payable in the types and proportions of currencies in which the Contract Price is payable and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ {amount of Guarantee} as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting as with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid upto \_\_\_\_\_ (a date 60 days from the date of completion of the work).

**SIGNATURE AND SEAL OF THE GUARANTOR**

Name of Bank \_\_\_\_\_  
Address: \_\_\_\_\_  
Date: \_\_\_\_\_

## **Section 6**

SPECIFICATION FOR COMPREHENSIVE ON-SITE (WITH SPARES) ANNUAL MAINTENANCE CONTRACT

## Section 6

### **SPECIFICATION FOR COMPREHENSIVE ON-SITE (WITH SPARES) ANNUAL MAINTENANCE CONTRACT**

**Annual maintenance contract for Precision Air Conditioning systems in Data Centre at DFCCIL, Corporate Office at Pragati Maidan Metro Station Building Complex New Delhi**

The scope of this “all inclusive maintenance contract” which is generally described in the following paragraphs, concerns:

#### **6.1 SCOPE OF WORK**

The work comprises comprehensive (with spares) onsite, maintenance of Precision Air Conditioning units installed in DFCCIL Corporate office. This includes repair, overhaul, checking, and replacement of defective parts etc. during the contract period.

- Preventive maintenance of the entire equipment once a month and performance monitoring visit of equipment once in a week.
- Breakdown maintenance in the event of malfunction of the equipment, which prevents its operation, whenever it is required (unlimited calls).
- Supply, installation, testing & commissioning of all spare parts required for maintenance.

#### **6.2 MAINTENANCE**

##### **6.2.1 Preventive Maintenance**

Preventive maintenance includes functional checking, necessary adjustments, cleaning etc. It is to be carried out during Sunday and Holiday at times planned in advance. Any maintenance that can be carried out while the power is “ON” and without affecting the operation of equipment can be carried out during normal working hours. The contractor shall maintain a log sheet for periodical monthly maintenance visit Items to be checked/monitored during their visits should be listed out which shall be duly signed by both the tenderer and DFCCIL and one copy, shall be submitted to DFCCIL.

The contractor shall carryout one complete overhauling on mutually acceptable time/period once a year during the contract period normally during office hours. This shall include complete check-up, overhauling, servicing, testing, anti-corrosive treatment/painting and reinstalling at original locations.

Any person visiting the premises for attending any complaint or to carryout certain inspection, must possess proper identification card so as to facilitate for any identification by DFCCIL representative.

##### **6.2.2 Breakdown Maintenance**

This is to be carried out in the event of malfunction, which prevents the operation of the equipment. Breakdown maintenance includes faultfinding, repairs or replacement of defective parts with new or as new parts, functional checking and rectifying the equipment. Such repairs will be attended at the earliest but in any case within 24 hours of its reporting including night hours and holidays.



**6.2.3** AM/Elec. will look after day-to-day operation of the equipment. The tenderer shall contact AM /E for inspection, fault attendance and further directions as the case may be.

**6.3 Spares and Materials**

**6.3.1** Defective parts discovered during maintenance will be replaced by new parts.

**6.3.2** Spares will be supplied free of cost by the tenderer as a part of Service Contract. The tenderer will keep the stock of spares.

**6.3.3 Tools/Instruments**

The tenderer would provide all the required tools and instruments to their service engineer for the purpose of servicing and testing the equipment covered by this Contract.

**6.4 CURRENCY OF THE CONTRACT**

Currency of the contract shall be for a period of five years after the warranty period of one year from the installation, commissioning and handing over of Precision Air Conditioning units. However, it can be extended for a further period on mutually acceptable terms and conditions.

**6.5 PAYMENT**

The payment shall be made quarterly at the end of each quarter on receipt of bill subject to satisfactory service performance for the period.

**6.6 TERMINATION OF MAINTENANCE CONTRACT**

**6.6.1** The tenderer shall perform the services and carry out its obligations under the contract with due diligence and efficiency, in accordance with generally accepted techniques and practices used in the industry and with professional engineering and standard recognized by national /international professional bodies. If the performance the successful tenderer be found unsatisfactory by DFCCIL, contract can be terminated by giving one months notice.

This agreement is not transferable and will continue in force for the period specified earlier unless terminated by the DFCCIL by giving one month notice in writing.

## **Section 7**

### Technical Specifications

## Section 7

### TECHNICAL SPECIFICATIONS

#### Schedule 'A'

#### I. Cabling work:

1. **Item No. 1:** The price shall cover for Supply, Laying, connecting, testing and commissioning of LT armoured PVC insulated Copper conductor for working voltage up to and including 1100 Volts conforming to relevant ISS. It shall also include with a provision of suitable end terminal arrangement including cable lugs, compression glands, etc. at both ends. Cable shall be laid on raised way with clamping/saddling as per site from cubical distribution panel to Precision Air Conditioning system.
2. **Item No. 2:** The price shall cover for supply, erection, testing and commissioning of MCCB, 415 V, AC, 3 pole, 16 kA, 125A on the existing LT panel, conforming to IS: 13947-II with enclosure for input supply of Precision Air-Condition System. The MCB shall be of reputed make
3. **Item No. 3:** The price shall cover for supply, erection, testing and commissioning of brass Glands for installation of 4 core, 35 sq.mm. copper cable, for SN 1, above.
4. **Item No. 4:** The price shall cover for supply, erection, testing and commissioning of Thimble for cable Connection for 4 core, 35 sq.mm. copper cable, for SN 1 above.

#### II. Air Conditioning Work

1. **Item No.1& 2:** The price shall cover for supply, erection, testing and commissioning of Micro processor based air cooled precision air conditioned unit in Data center at DFCCIL Corporate Office.
  - 1.1 The Data Centre shall have Five number of server racks. DFCCIL intend to provide cooling for 24 kW IT load (UPS rating x 0.8), the requirement may go up depending on the heat gain from the exposed wall. Ideally the PAC should be sized close to 30 kW.
    - a) The total area – 18.51 sq. m. (Drg - I)
    - b) Minimum capacity 4 Tr. With 100% redundancy.
    - c) Unit should work 24 hours for 365 days, continuously at 45<sup>0</sup> C atmospheric temperatures without any de-rating.
    - d) Inside Temperature required - 20<sup>0</sup> C +/- 1<sup>0</sup>C. Outside temperature-45<sup>0</sup>C. Relative Humidity - 50+/-5%.
  - 1.2 The equipment shall strictly conform to code of practices, ISS and other relevant standard specifications as applicable (i.e. BEE, etc.). Scope of work includes one year warranty. (Ref. Schedule 'A' of this document). Rates for AMC for the subsequent 5 years should also be quoted as an optional item, (Schedule 'B', Chapter 7).

### **1.3 EQUIPMENT SPECIFICATIONS**

This specification deals with general information and criteria for supply, installation, commissioning & testing of Precision Air Conditioning in of Data Centre, of DFCCIL 4<sup>th</sup> Floor Pragati Maidan Metro Station Building Complex New Delhi 110001.

### **1.4 PRECISION AIR CONDITIONING UNITS**

The room air-conditioning system shall be a floor discharge unit designed specifically for high sensible heat ratio applications such as Server and Computer rooms. Each unit shall be capable of providing sensible cooling capacities at rated ambient temperatures with adequate airflow.

The system shall be complete in all respects including Scroll compressor, Evaporator, Humidifier, Condenser and an Externally Equalized Electronic /Thermostatic expansion valve etc. all of which shall be contained within the cabinet of the unit.

### **1.5 CABINET CONSTRUCTION**

The frame shall be constructed of corrosion resistance steel & shall be double skin type side panels, shall be fitted with 25mm glass fibre insulation, fire rated. The cabinet shall be powder coated and have a textured finish.

### **1.6 FILTRATION**

The filter chamber shall be an integral part of the system and withdrawable from the front of the unit. Filtration shall be 90 % or better down to 5 microns.

### **1.7 FANS**

The fan section shall be designed for an external static pressure of 20 Pa. or better. The centrifugal type fan shall be located downstream of the evaporator coil and be of the backward curved blades with EC motor, double width, double inlet and statically and dynamically balanced. Each fan shall be separately driven by a high efficiency electric motor with an IP 22 enclosure rating. The fan speed must be controlled based on the room return air temperature and also must have automatic speed control without manual intervention.

### **1.8 HUMIDIFIER**

Humidification shall be provided by boiling water in a high temperature steam generator. The steam shall be distributed evenly into the bypass airstreams of the environment control system to ensure full integration of the water vapor into the supply air without condensation. The humidifier shall be fitted with an auto flush cycle activated on demand from the microprocessor control system. The humidifier shall be fully serviceable with replacement electrodes. Wastewater shall be flushed from the humidifier by the initiation of the water supply solenoid water valve overflow system.

### **1.9 ELECTRICAL HEATING**

The heating circuit shall include dual safety protection through loss of air and manual reset high temperature controls.

## **1.10 COMPRESSORISED SYSTEMS**

### Scroll Compressor

The compressor shall be of the high efficiency compliant scroll design with an E.E.R. (energy Efficiency ratio) of not less than 11. The compressor shall be designed for operation on R407C/R410A. Each compressor shall have internal motor protection and be mounted on vibration isolators.

## **1.11 REFRIGERATION CIRCUIT**

The refrigeration system shall be of the direct expansion type and incorporate one or more hermetic scroll compressors, complete with crankcase heaters. The system shall include a manual reset high pressure control; auto reset low temperature switch, externally equalized thermal expansion valve, high sensitivity refrigerant sight glass, large capacity filter drier and charging/access ports in each circuit. Each refrigeration circuit shall include rigidly mounted isolation valves in the discharge and liquid lines to aid servicing and installation (air cooled units only).

## **1.12 EVAPORATOR COIL**

The coil shall be constructed of rifled bore copper tubes and louvered aluminum fins, with the frame and drip tray fabricated from heavy gauge aluminum. All metal parts in contacts with condensate shall be the same material to prevent electrolytic corrosion. The drip trays shall ensure the collection of condensate and be accessible for cleaning.

## **1.13 DEHUMIDIFICATION**

### Single compressor models

A specific dehumidification cycle (split-suction) shall operate by reducing the operating surface temperature in a section of the refrigerator coil by means of a solenoid valve on the suction header. Full airflow of the unit will be maintained at all times to ensure consistent air distribution to the conditioned space.

## **1.14 REMOTE AIR COOLED CONDENSER**

The air-cooled condenser shall be the low profile, weatherproof type incorporating high efficiency, direct drive, external rotor motors. The condenser shall be constructed from heavy-duty aluminums and corrosion resistant components. Heavy duty mounting legs and all assembly hardware shall be included. Condensers shall be suitable for 24-hour operation.

## **1.15 FAN SPEED CONTROL CONDENSER**

The motor shall be equipped with permanently sealed ball bearing and high temperature grease. The motors shall be speed controlled to ensure stable operating conditions from  $-5^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ambient by a factory fitted, direct acting pressure actuated fan speed controller. The control system shall be complete with input isolation switch, transducers and pressure switches.

## **1.16 UNIT CONTROLLER**

The unit controller shall be microprocessor based and include a large LCD backlit graphic display for clear visibility of text and graphics. The display and control buttons shall be accessible from the unit front without removing any external panels. The controller shall feature ISP (In-system-Programming) technology to support program upload via a PC.

There should be sequential controller between standby and working units. Electrical power switch board, multi-rows deep copper cooling coil with aluminium fins, dehumidification cycle, modular panel cabinet construction, cabinet insulation, fan section with a motor and drive, humidifier, high technology scroll compressor, accessible refrigeration controls, and air discharge duct.

Control strategies shall be P-I-D with dew point compensation for accurate temperature and humidity control. A selection of return or supply air control shall be provided to suit the application.

The controller shall have a user-friendly menu driven interface with supporting help screens and shall use multi protocol data communications. Access to the controller settings to prevent against unauthorized access.

In normal operating mode, screen shall display unit number, temperature and relative humidity set points and actual, graphs, time, date and operating status. Dynamic icons identify the system-operating mode. A 48-hour real time log of temperature and humidity data shall be retained by the control system. All parameters and data shall be protected in memory by an onboard battery.

### 1.17 CONTROL

The control system shall allow programming of the following conditions:

- Temperature Set Point.
- Humidity Setpoint.
- High Temperature alarm.
- Low temperature alarm.
- High humidity alarm.
- Low humidity alarm.

**The control system shall include the following settable features:**

|   |   |
|---|---|
| • Unit identification number                            | • Remote shutdown & general Alarm management. |
| • Startup Delay, Cold start Delay and Fan Run on timers | • Return temperature control.                 |
| • Sensor Calibration.                                   | • Choice of Modulating output types.          |

### 1.18 ALARMS

The microprocessor shall activate an audible, visual and general alarm in the event of any of the following conditions:

- High Temperature
- High Pressure
- Low Temperature
- Low Pressure
- High Humidity
- Humidifier Low Water
- Low Humidity
- Water Under Floor
- Loss of Air
- Spare Alarm 2

These alarms shall have selectable control action enabled, disabled or off.

**The microprocessor shall activate a visual alarm only in the event of any of the following conditions:**

- Service Intervals (cool, filter and humidifier)
- Compressor Short Cycle.
- Low Battery
- Loss of Power
- Unit Off

**All alarm occurrences shall be time and date stamped.**

The unit shall also incorporate the following protections:

- Single phasing preventers
- Reverse phasing
- Phase unbalancing
- Phase failure
- Overload tripping (MPCB) of all components.

## **1.19 DATA LOGGING**

The control system shall maintain cumulative operating hours of mode (cool, heat, humidity, dehumidity and fans). The 100 most recent alarms shall be retained in memory.

## **1.20 OPEN COMMS NIC CARD**

The Open Comms NIC (Network Interface card) shall transform the controls into manageable nodes within a Network, NMS and BMS system. This interface card shall be connected to the existing Ethernet LAN and provide browser based access. SNMP alerts should be available for NMS connectivity.

## **1.21 INSTALLATION/PLACEMENT OF PRECISION AC UNITS**

1.21.1 All outdoor units shall be installed in adjoining open space including angel iron stand of 40x40x5 mm size with unit shades of GI curved sheet. The size of angel iron stand and unit shades shall be as per outdoor unit.

1.21.2 Detailed drawing for placement of indoor & outdoor unit shall be submitted along with the tender document.

1.21.3 Typical site plan of Data Centres and sketch of outdoor unit shades is at "Drg-II".

## **1.22 Copper Piping**

1.22.1 Interconnection piping between Indoor and Outdoor unit is shall be as under:

- If length of pipe is upto 13 RMT, then the entire pipe shall have the dimensions of 5/8" and 7/8" pipe.
- If length of pipe is upto 25 RMT, then the entire pipe shall have the dimensions of 5/8" and 1 1/8" pipe.
- If length of pipe is greater than 25 RMT, then the entire pipe shall have the dimensions of 7/8" and 1 1/8" pipe.
- Extended Piping Kit (comprising of U-traps, Solenoid valve, Non-return valves) is used if the length of piping per circuit goes beyond 30 RMT.

1.22.2 Interconnection copper piping between indoor & outdoor units shall be covered in PVC casing & capping

2. **Item No.3:** The price shall cover for Supply, Laying, connecting, testing and commissioning of LT armoured PVC insulated Copper conductor for working voltage upto and including 1100 Volts confirming to relevant ISS. It shall also include with a provision of suitable end terminal arrangement including cable lugs, compression glands, etc. at both ends. Cable shall be laid on raised way with clamping/saddling as per site requirement from cubical distribution panel to LT Data panel in Data Center.



# SCHEDULE OF GUARANTEE PERFORMRA (SOGP)

## BASIS OF DESIGN

The following design parameters have been considered for working out the air-conditioning system.

|                       |   |                            |
|-----------------------|---|----------------------------|
| Outside design DBT    | : | 45 degree C – DBT          |
| Inside conditions DBT | : | 20 degree C +/- 1 degree C |
| Inside conditions RH  | : | 50 +/- 5 % RH              |
| Refrigerant           | : | R 407C, R 410A             |

Based on the above design parameters Technical Details of offered Precision Air-Conditioning unit should be indicated and submitted in the offer.

### Indoor Unit, Model -

| Sr. | Description                       | : |
|-----|-----------------------------------|---|
| 1   | Number of bay                     | : |
| 2   | Number of circuit's               | : |
| 3   | Casing material                   | : |
| 4   | Skin                              | : |
|     | <u>Compressor:</u>                |   |
| 5   | Make                              | : |
| 6   | Type                              | : |
| 7   | Model No.                         | : |
| 8   | No of Compressor / unit           | : |
| 9   | Power supply                      | : |
| 10  | Capacity Control Arrangement      | : |
| 11  | Method of Lubrication             | : |
| 12  | Grade of Lubrication Oil          | : |
| 13  | Starting & unloading arrangement  | : |
| 14  | Motor RPM                         | : |
| 15  | Motor class of insulation         | : |
| 16  | Motor protection                  | : |
|     | <b>EVAPORATOR COIL:</b>           |   |
| 17  | Make                              | : |
| 18  | Type                              | : |
| 19  | No of Coil / unit                 | : |
| 20  | Rows deep                         | : |
| 21  | Face area (m <sup>2</sup> )       | : |
| 22  | Fins per Inch                     | : |
| 23  | Tube Material / Size / Thick (mm) | : |
| 24  | Fin Material / Thick (mm)         | : |
|     | <b>REFRIGERANT CONNECTIONS</b>    |   |
| 25  | Gas Connection (OD)               | : |
| 26  | Liquid Connection (OD)            | : |
|     | <b>EVAPORATOR FAN:</b>            |   |
| 27  | Make                              | : |
| 28  | Type of Fan                       | : |
| 29  | Material Fan / Frame              | : |
| 30  | Type of Drive                     | : |
| 31  | Fan diameter                      | : |

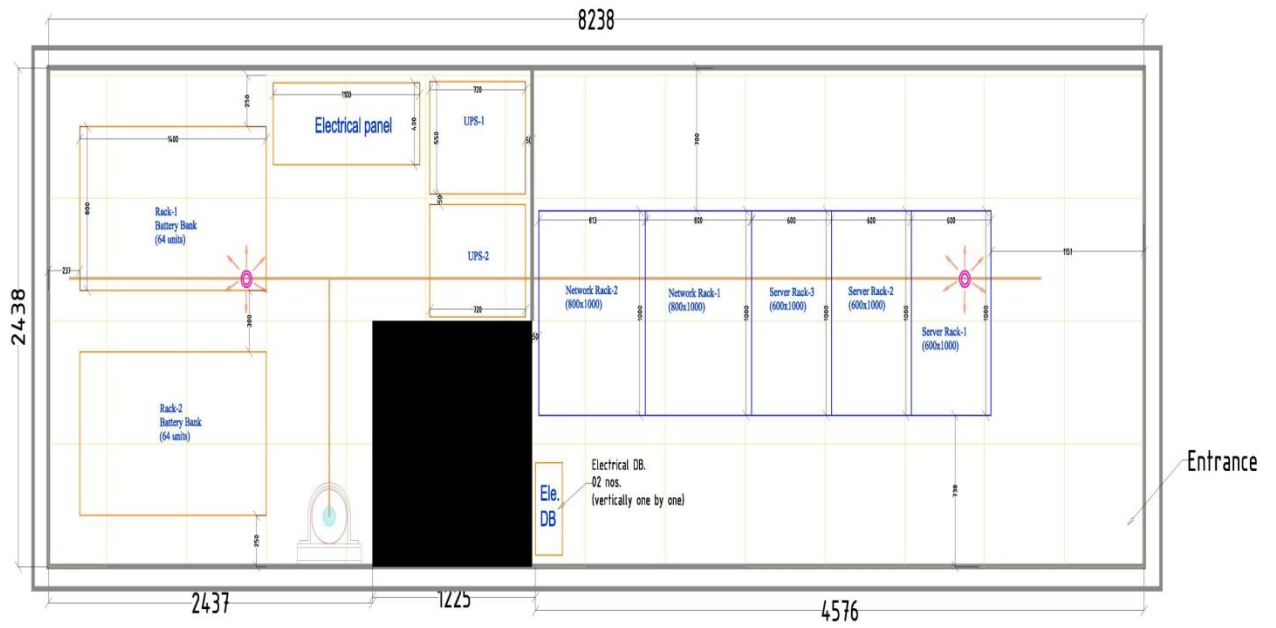
|    |                                 |   |
|----|---------------------------------|---|
| 32 | No of Fan / unit                | : |
| 33 | Power supply                    | : |
| 34 | Motor RPM                       | : |
| 35 | Motor class of insulation       | : |
| 36 | Motor protection                | : |
| 37 | Type of Bearing                 | : |
| 38 | Bearing Lubrication             | : |
|    | <b>EXPANSION VALVE:</b>         |   |
| 39 | Make                            | : |
| 40 | Type                            | : |
|    | <b>FILTERS:</b>                 |   |
| 41 | Make                            | : |
| 42 | Type                            | : |
| 43 | Size (mm)                       | : |
| 44 | Qty.                            | : |
| 45 | Filtration efficiency           | : |
| 46 | Pressure drop (clean condition) | : |
| 47 | Pressure drop (dirty condition) | : |
|    | <b>HUMIDIFIER:</b>              |   |
| 48 | Make                            | : |
| 49 | Type                            | : |
| 50 | Capacity (Kg./Hr.)              | : |
| 51 | Input power (KW)                | : |
| 52 | Setting - Amps                  | : |
| 53 | Power supply                    | : |
|    | <b>ELECTRICAL HEATER:</b>       |   |
| 54 | Make                            | : |
| 55 | Capacity (KW)                   | : |
| 56 | Power supply                    | : |
|    | <b>DIMENSION AND WEIGHT:</b>    |   |
| 57 | Width                           | : |
| 58 | Depth                           | : |
| 59 | Height                          | : |
| 60 | Footprint                       | : |
| 61 | Weight (Air Cooled)             | : |

**Outdoor Unite, Model -**

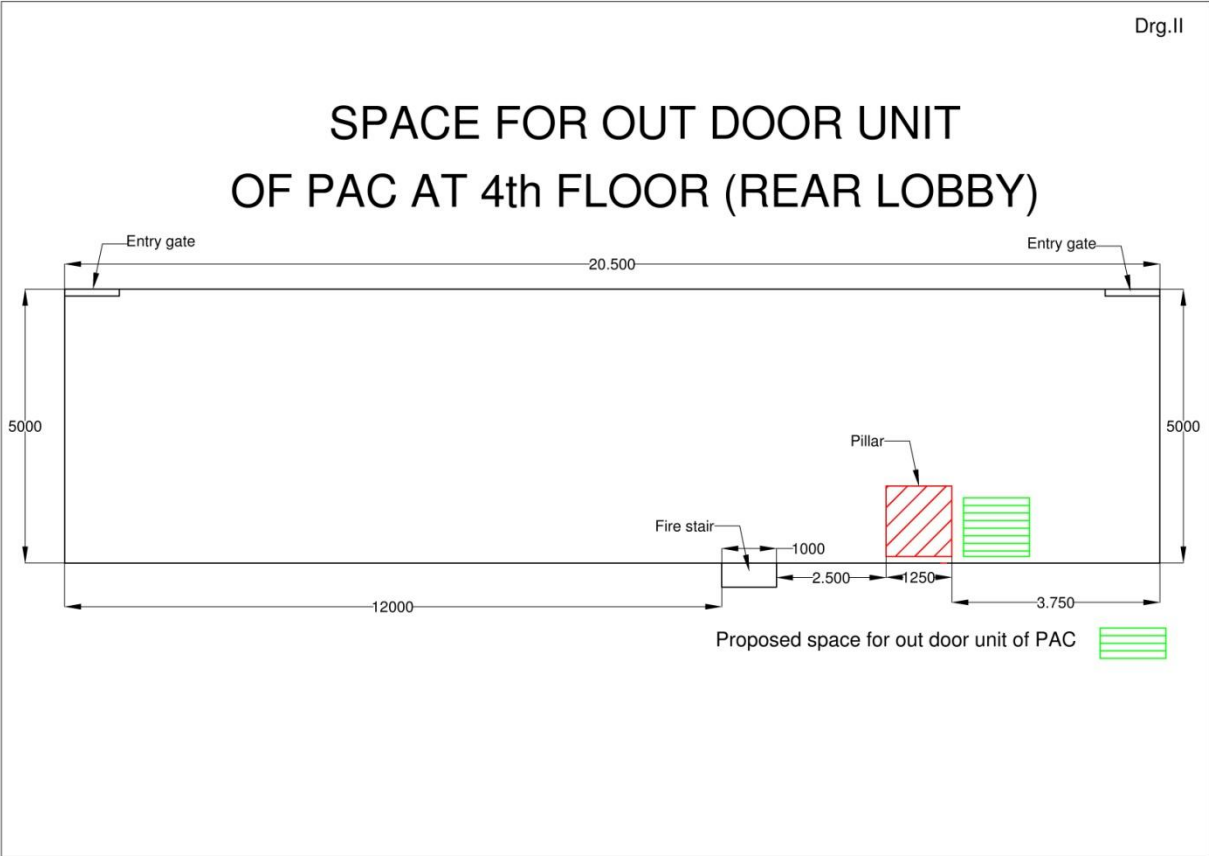
| <b>Sr.</b> | <b>Description</b>               |   |
|------------|----------------------------------|---|
| 1          | Number of circuit's              | : |
|            | <b>CONDENSER COIL:</b>           |   |
| 2          | Make                             | : |
| 3          | Type                             | : |
| 4          | Face area                        | : |
| 5          | Air Volume (M <sup>3</sup> / hr) | : |
| 6          | Rows deep                        | : |
| 7          | Fins per Inch                    | : |
| 8          | Tube Material / Size / Thick     | : |
| 9          | Fin Material / Size / Thick      | : |
|            | <b>CONDENSER FAN:</b>            |   |
| 10         | Make                             | : |

|    |                              |   |
|----|------------------------------|---|
| 11 | Type of Fan                  | : |
| 12 | Fan Material                 | : |
| 13 | Type of Drive                | : |
| 14 | No of Fan / Condenser        | : |
| 15 | Impeller Diameter            | : |
| 16 | Power supply                 | : |
| 17 | Motor Rated KW               | : |
| 18 | Full Load Amps (FLA)         | : |
| 19 | Motor RPM                    | : |
| 20 | Motor class of insulation    | : |
| 21 | Motor protection             | : |
|    | <b>DIMENSION AND WEIGHT:</b> |   |
| 22 | Casing Material              | : |
| 23 | Vertical Discharge           | : |
| 24 | Width                        | : |
| 25 | Depth                        | : |
| 26 | Height                       | : |
|    | <b>Horizontal Discharge</b>  | : |
| 27 | Width                        | : |
| 28 | Depth                        | : |
| 29 | Height                       | : |
| 30 | Weight                       | : |

**Proposed Lay Out/Area of data Center at 4<sup>th</sup> Floor of DFCCIL**



**Typical site plan of Data Centre and Sketch of outdoor unit shades**



## **Section 8**

# **Schedule of Rates & Quantities**

**SCHEDULE OF RATES & QUANTITIES**

**Supply, Installation, Testing & Commissioning of Precision Air conditioning system in Data Centre at DFCCIL Corporate Office, Pragati Maidan.**

**I. Cabling Work:**

| SN                        | Description  | Unit  | Qty | Unit Rate (Rs.) |                       | Amount |                       | Total |
|---------------------------|--|-------|-----|-----------------|-----------------------|--------|-----------------------|-------|
|                           |  |       |     | Supply          | Inst., testing & com. | Supply | Inst., testing & com. |       |
| 1                         | Supply, laying, Testing and Commissioning of LT cable, 1100 Volts, 4 core, 35 sq.mm, copper conductor (Flexible), PVC insulated & PVC sheathed, conforming to IS: 694, latest. | Mtrs. | 200 |                 |                       |        |                       |       |
| 2                         | Providing of MCCB, 415 V, AC, 3 pole, 16 kA, 125A on the existing LT panel, confirming to IS: 13947-II.  | Nos.  | 02  |                 |                       |        |                       |       |
| 3                         | Providing brass Glands for installation of 4 core, 35 sq.mm. copper cable, for SN 1, above.  | Nos.  | 04  |                 |                       |        |                       |       |
| 4                         | Providing of Thimble for cable Connection for 4 core, 35 sq.mm. copper cable, for SN 1 above.  | Nos.  | 20  |                 |                       |        |                       |       |
| <b>Total Cost of Work</b> |  |       |     |                 |                       |        |                       |       |

**Cost of work (Rs. In words): \_\_\_\_\_**

## II. Air Conditioning Work:

| SN                        | Description  | Unit | Qty | Unit Rate (Rs.) |                       | Amount |                       | Total |
|---------------------------|--|------|-----|-----------------|-----------------------|--------|-----------------------|-------|
|                           |  |      |     | Supply          | Inst., testing & com. | Supply | Inst., testing & com. |       |
| 1                         | Supply of Micro processor based air cooled precision air conditioned unit.   | Nos. | 02  |                 |                       |        |                       |       |
| 2                         | Installation, testing & Commissioning complete with all accessories.   | Set  | 02  |                 |                       |        |                       |       |
| 3                         | Supply, laying, Testing and Commissioning of LT cable, 1100 Volts, 4 core, 25 sq.mm, copper conductor (Flexible), PVC insulated & PVC sheathed, conforming to IS: 694, latest. | RMT  | 100 |                 |                       |        |                       |       |
| <b>Total Cost of Work</b> |  |      |     |                 |                       |        |                       |       |

**Cost of work (Rs. In words):** \_\_\_\_\_

**Total cost of Work: I + II =** \_\_\_\_\_

**Total cost of work (Rs. In words):** \_\_\_\_\_

**Note: -**

1. The rates quoted above, for all the items, shall be based on the details mentioned in Chapter 6, Technical specifications, schedule 'A'.
2. The work shall be under warranty for a period of 12 months from the date of actual handing over of the above work.
3. Released material, if any, shall be handed over to DFCCIL.
4. All the material used for the work shall be of reputed make and conforming to relevant Indian Standard Specifications mentioned in the tender documents. Sample of material, wherever practical, shall be got approved from Engineer before start of the work.



**SCHEDULE OF RATES FOR POST WARRANTY MAINTENANCE CONTRACT**

**Comprehensive On-Site (with Spares) Annual Maintenance Contract for Precision Air-Conditioning units in Data Centre at DFCCIL Corporate Office, Pragati Maidan.**

| Sr. | Description  | Rate<br>(Per month) | Annual Amount |              |
|-----|--|---------------------|---------------|--------------|
|     |  |                     | Rs. in Fig.   | Rs. in words |
| 1.  | Comprehensive annual maintenance charges of 2x4 Tr. Actual Capacity Precision Air Conditioning systems for first year after successfully completion of warranty. |                     |               |              |
| 2.  | Comprehensive annual maintenance charges of 2x4 Tr. Capacity Precision Air Conditioning systems for second year after warranty.                                  |                     |               |              |
| 3.  | Comprehensive annual maintenance charges of 2x4 Tr. Capacity Precision Air Conditioning systems for third year after warranty.                                   |                     |               |              |
| 4.  | Comprehensive annual maintenance charges of 2x4 Tr. Capacity Precision Air Conditioning systems for fourth year after warranty.                                  |                     |               |              |
| 5.  | Comprehensive annual maintenance charges of 2x4 Tr. Capacity Precision Air Conditioning systems for fifth year after warranty.                                   |                     |               |              |
| 6.  | Sub-Total  |                     |               |              |
|     | Total for 5 Years [6x5]  |                     |               |              |

**NOTE:**

1. The above AMC prices are exclusive of service tax, which will be as applicable at the rate prevailing at the start of every year.
2. The rate of AMC is inclusive for all units taken together including each & every part of Precision AC system.