



REQUEST FOR PROPOSAL

Maintenance and Repairs of Air Conditioning and Ventilating Systems at the Bank of Mauritius

29 July 2021

1. The Bank of Mauritius (Bank) invites sealed bids from eligible and qualified Bidders for the Maintenance and Repairs of Air Conditioning and Ventilating Systems at its premises situate at Sir William Newton Street, Port Louis, as more fully described in the bid document.
2. A complete set of the bidding documents can be downloaded from the Bank's website at <https://www.bom.mu/procurement/notice-of-tender>.
3. A pre-bid meeting will be held at the Bank on **4 August 2021 at 11h00**. It is mandatory for Prospective Bidders to attend the site visit in order to take cognizance of the scope of Work and the systems in the Building.
4. Prospective Bidders are requested to confirm their attendance by calling the Bank on **202 3992** or by emailing procurement@bom.mu not later than **14h00 on 3 August 2021**.
5. Bids should be in accordance with the requirements mentioned in the document and should conform to the following:
 - (i) Bids not conforming to the specifications and failing to provide the required details will be rejected.
 - (ii) Late submission of bids will not be accepted.
 - (iii) Electronic submission of bids will be rejected.
 - (iv) Bids should be valid for a period of 150 days from the closing date.
6. Bids, in sealed envelopes, clearly marked "**RFP- Maintenance & Repairs of Air Conditioning and Ventilating Systems**" on the left hand corner and addressed to:

The Chairperson, Tender Committee
Bank of Mauritius
Sir William Newton Street
Port Louis

should be deposited in **Tender Box B** of the Bank, located in the Banking Hall on Level 3, **on or before 12 August 2021 by 15h00** (local time).
7. The Bank reserves the right to accept or reject any bid or to annul the bidding exercise and reject all bids at any time prior to the award of the Contract without thereby incurring any liability to any bidder or any obligation to inform bidders of the grounds of its action.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

MAINTENANCE AND REPAIRS OF AIR CONDITIONING AND VENTILATING SYSTEMS

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SECTION A – INFORMATION FOR BIDDERS/CONDITIONS FOR BIDDERS

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SECTION A – INFORMATION FOR BIDDERS/CONDITIONS FOR BIDDERS

PLEASE READ ALL BID DOCUMENTS AND ENSURE THAT YOUR COMPANY CURRENTLY HAS, OR IS ABLE TO OBTAIN THE REQUIRED INSURANCE AND LICENSES PRIOR TO SUBMITTING A BID

A.1 SCOPE OF BID

- (a) The Bank of Mauritius (herein after referred to as “the Bank”) invites bids for the maintenance and repairs of Air Conditioning and Ventilating Systems at the Bank of Mauritius – Old Building situate at Sir William Newton Street, Port-Louis.
- (b) The General Character and Scope of Work is illustrated and defined fully in Section D of this document under “Description / Specifications / Work Statement”.

A.2 DOCUMENTS COMPRISING THE BID

- (a) The Works and services required, procedure, methodology, Contract terms, bid prices are prescribed in the following documents:
 - (1) Invitation to bid (Cover Page)
 - (2) Information for Bidders / Conditions for Bidders (Section A)
 - (3) Contract bid sheet and forms (Section B)
 - (4) Description / Definitions / Administrative items (Section C)
 - (5) Description / Specifications / Work Statement (Section D)
 - (6) List of Air Conditioning and Ventilating Systems (Attachment A)
 - (7) List of records and reports (Attachment B)
 - (8) Invoicing procedures (Attachment C)
 - (9) Preventive maintenance requirements (Attachment D)
 - (10) Required forms (Attachment E)
- (b) Bidding documents supplied should be completed and returned with the bid.



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A.3 BID PRICES

- (a) The Bidder shall fill in the rates/prices for the "Firm-Fixed Price" items and "Indefinite Quantity Work" as described in the Bid Sheet at Section B.
- (b) All duties, taxes and other levies, transportation etc. which would be payable under the Contract or for any other cause shall be included in the rates/prices submitted by the Bidder.
- (c) Subject to paragraphs A.14 and A.21, the rates/prices quoted by the Bidder shall be fixed for the whole duration of the service Contract and shall not be subject to adjustment on any account.

A.4 BID VALIDITY

- (a) The bid shall remain valid for a period of not less than one hundred and fifty (150) days after the deadline for bid submission. In the event of a force majeure such as war, strike, riot, crime, epidemic or an act of God, the validity period shall be automatically extended by the corresponding period of the force majeure;
- (b) A bid submitted for a shorter period shall be rejected by the Bank as non responsive.

A.5 SUBMISSION OF BIDS

- (a) Bids shall be submitted in a sealed envelope and marked "**TENDER FOR MAINTENANCE OF AIR CONDITIONING AND VENTILATING SYSTEMS**" and addressed to:

**The Chairperson, Tender Committee
Bank of Mauritius
Sir William Newton Street
Port-Louis**

- (b) Bids should be deposited in **Tender Box B** of the Bank located in the Banking Hall, Level 3 by 3pm (local time) on **12 August 2021** at latest.
- (c) Bids received after the closing date and time will not be considered.

A.6 LICENSES

The Successful Bidder will be required to obtain all necessary licenses from the Government and Municipal Council prior to beginning the Work.

A.7 INSURANCE

- (a) The Successful Bidder shall not commence the Work under this Contract until he has obtained all the insurance required under this paragraph duly approved by the Bank. The Successful Bidder shall obtain and keep in force during the term of the Contract the coverage described below. Such insurance shall be carried with companies which are satisfactory to the Bank. The certificates must show the Contract Number and give a brief description of the Works to be performed. These certificates shall contain a provision that coverage shall not be cancelled or permitted to lapse unless at least thirty (30) days prior written notice has been given to the Bank. The Successful Bidder's insurance shall name the Bank and its employees as being among those insured.



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(b) The minimum insurance coverage which the Contractor shall obtain and keep in force is as follows:

(1) Worker's Compensation and Employer's Liability Insurance as required under laws applicable to the Works which shall cover all Contractor's employees engaged in the Works.

(2) Commercial General Liability Limits:

Coverage is to be written on an occurrence basis and shall include at a minimum:

- Loss of or damage to the Works, plants and equipment and materials
- Loss of or damage of property (except the Works, Plants & Equipment and materials) in connection with the Contract
- Independent Contractors
- Contractual Liability
- Personal Injury or death (including employees as insured)

A.8 ABILITY AND EXPERIENCE OF BIDDER

The Bidder shall furnish satisfactory evidence that he has the experience of successfully performing services of this type and magnitude, and that he has sufficient capital, equipment, and personnel to enable him to furnish services successfully, or who has previously failed to satisfactorily perform on any current or previous Contracts.

The Bidder shall complete the "Statement of Bidder's Qualifications" form in Section B of this document authorizing the Bank to make such investigation as it may deem necessary to determine the ability of the Successful Bidder to perform the services, and the Bidder shall furnish to the Bank, under oath if so required, all such information and data for this purpose as the Bank may request.

A.9 WITHDRAWAL OF BIDS

Any Bidder may withdraw his bid, either personally or by written request at any time prior to the scheduled time for opening of the bids.

A.10 IRREGULAR BIDS

A Bid shall be considered as irregular and may be rejected for amongst others, any of the following reasons:

- (a) If there are unauthorized additions, conditional or alternate proposals, or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning.
- (b) If the Bidder adds any provision reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award.
- (c) If there is reason to believe that any Bidder is interested in more than one Bid on the same project, or that there has been collusion among the Bidders.



A.11 DISQUALIFICATION OF BIDDERS

More than one Bid from an individual, a firm or partnership, a corporation or any association, under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested as a principal in more than one Bid for services contemplated will cause the rejection of all Bids in which such Bidder is believed to be interested. A Contract will be awarded only to the responsible, responsive Bidder capable of providing the class of services contemplated, and having sufficient resources and finances to carry out the Work properly.

A.12 REJECTION OF BIDS

The Bank reserves the right to reject any and all bids any time prior to the award of the Contract without incurring any liability whatsoever to any Bidder or inform the Bidder of the grounds thereof.

A. 13 HOLD HARMLESS

The Successful Bidder shall agree to protect, defend, indemnify, and hold the Bank and its employees free and harmless from and against any and all losses, penalties, settlements, costs, charges for professional fees or other expenses or liabilities of every kind and character resulting from errors, omissions or negligent acts of the Successful Bidder, its agents, employees or representatives, in the performance of the Contractor's duties under any agreement resulting from award of this Bid. The Successful Bidder shall further agree to investigate, handle, respond to, provide defenses for and defend any such claims etc., even if such claim is groundless, false or fraudulent.

A.14 CONTRACT CHANGES

Either party may request changes in the scope of services and standards to be performed. Changes which are mutually agreed upon by the parties shall be incorporated by written amendment to the Contract.

A.15 TERMINATION OF CONTRACT

(a) Termination for Cause

Where the Successful Bidder fails to perform the Work or any separable part thereof in a timely or Workmanlike manner in accordance with the Contract Documents, or otherwise fails, in the sole opinion of the Bank, to comply with any of the terms and conditions of the Contract Documents, then the Contract may be cancelled and terminated by the Bank at any time within the Contract period on giving thirty days (30) advance written notice to the Successful Bidder, who shall be liable to the Bank for any excess cost that may be incurred by the Bank. Default or breach of any clause of this Contract shall constitute "cause" for termination.

Further, any act of omission by the Successful Bidder which is contrary to law or public policy shall be considered "cause" allowing termination as provided herein. The Bank shall not be liable for any termination costs where termination is for cause. Whether or not the Successful Bidder's right to proceed with the Work is terminated, it and its sureties shall be liable for any damage to the Bank resulting from the Successful Bidder's default/breach.



(b) Termination for Convenience

The Bank shall have the right to terminate this Contract for convenience upon giving ten (10) days advance written notice. In the event that this Contract is terminated or cancelled upon the request and for the convenience of the Bank, then the Bank shall pay the Successful Bidder for all materials purchased to date on the Bank's behalf and for the value of services rendered to date. The Bank shall not otherwise pay for costs of termination, opportunity costs, or any costs or amounts of other description.

(c) Excusable delays

The right of the Successful Bidder to proceed shall not be terminated for any delays in the completion of the Work due:

- (1) To any acts of the Government, including controls or restrictions on requisitioning of materials, equipment, tools, or labour by reason of war or any other National Emergency;
- (2) To any acts of the Bank;
- (3) To causes not reasonably foreseeable by the parties to this Contract and which are beyond the control and without the fault of negligence of the Successful Bidder, including, but not restricted to, acts of God or of the public enemy, acts of another Successful Bidder in the performance of some other Contract with the Bank, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as cyclones, and other extreme weather conditions;
- (4) To any delay of any subcontractor occasioned by any of the causes specified in subparagraphs (1), (2) and (3) of this paragraph. Provided, however, the Successful Bidder promptly notifies the Bank within ten (10) consecutive calendar days in writing of the cause of the delay. Upon receipt of such notification the Bank shall ascertain the facts and the cause and extent of delay. If upon the basis of the facts and the terms of this Contract, the delay is properly excusable, the Bank shall extend the time for completing the Work for a period of time commensurate with the period of excusable delay.

A.16 SUBCONTRACTORS

Any Bidder in response to this bid shall not subcontract any part or section of the Work to be performed to any person or subcontractor without the consent of the Bank.

A.17 NOTIFICATION OF CONTRACT AWARD AND SIGNING OF AGREEMENT

- (a) It is anticipated that a Contract will be awarded to the most suitable Bidder based on the Total Firm-Fixed Price for providing the required services. Indefinite Quantity Work Items will not be a consideration in the award. The initial Contract shall be for a **period of three (3) years**. Upon completion of the initial term of the Contract at a cost that is acceptable to the Bank and the Successful Bidder, the Agreement shall be automatically renewed for additional one-year periods unless either party give written notice to the other, at least thirty (30) consecutive calendar days prior to the expiration of the initial term or any renewal thereof, that the Agreement shall not be so extended.



- (b) The Bidder whose bid has been accepted will be notified of the award by the Bank by registered letter. This letter (hereinafter referred to as "Notice of Award") will state the sum (hereinafter referred to as the "Firm-Fixed Price") that the Bank will pay the Successful Bidder in consideration of providing and completion of the Work by the Successful Bidder as prescribed by the Contract.
- (c) Within ten (10) consecutive calendar days from the date of the Notice of Award, the Successful Bidder shall execute the Contract and furnish the required certificates of insurance.
- (d) After the Contract award and prior to commencing any Work, the Successful Bidder will be required to attend a meeting at the Bank to coordinate transfer of responsibility.
- (e) The Bank reserves the right to use or not use the Indefinite Quantity Work items during the life of the Contract or any Contract extensions. The Bank also reserves the right to have Indefinite Quantity Work Items performed by another Successful Bidder or otherwise.

A.18 PAYMENTS TO THE SUCCESSFUL BIDDER

Payments to the Successful Bidder shall be made through Firm-fixed Price invoices in equal fixed installments, which shall become due at the end of every month. Payments are to be effected within thirty days (30) from the date of receipt of Successful Bidder's Invoices. Additional Work or services, normally identified as Indefinite Quantity Work will be invoiced separately.

Invoices for each incident of Indefinite Quantity Work completed during the month may be submitted concurrently with the monthly Firm-Fixed Price invoice. Indefinite Quantity Work invoices will always be accompanied by invoices for materials and supplies for that Work.

Although not a continuing requirement, the Bank may also request invoices for materials for some or all of the Work accomplished under the Firm-Fixed Price portion of the Contract.

A.19 RETENTION

The Bank shall retain a percentage from each payment due to the Successful Bidder until Completion of the whole of the Works.

Retention Money shall be deducted at 5% from monthly bills subject to a maximum of 5% of the Contract Price. Retention money shall be refunded after the issue of **No of Defects Certificate/No Dues**, as the case may be at the end of the Contractual period. The validity of the instrument shall be for a period of ninety (90) days beyond the date of completion of Works.

A.20 LIQUIDATED DAMAGES / PENALTY

If the Successful Bidder fails to provide the services in time, the Bank shall get the same done from the open market and the extra cost incurred on this shall be recoverable from the Successful Bidder in addition to suitable penalty.

A penalty of 0.1% of the Contract Price shall be applicable for delayed Works for each day of delay.



A.21 EXTENDING THE SCOPE OF WORK

In the event that the Bank wishes to install additional equipment to existing systems, plants and equipment, the Bank reserves the right to incorporate into the maintenance responsibility of the Successful Bidder the maintenance of this additional plant. The cost of this Contract shall be adjusted to incorporate this Work.

The cost of the additional Work shall be comparative to that already quoted and an addendum to the Contract duly agreed by both parties be entered into.



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SECTION B: CONTRACT BID SHEETS AND FORMS

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BID SHEET

FIRM-FIXED PRICE ITEMS

Item 1 FIRM-FIXED PRICE WORK (See Clause C.3 (e))

Price **FOR YEAR ONE ONLY** (Date) for all Works specified in the Contract, except for Work specifically identified as being included in the Indefinite Quantity portion of the Contract.

Total for Item 1 Rs _____

Item 2 FIRM-FIXED PRICE WORK (See Clause C.3 (e))

Price **FOR YEAR TWO ONLY** (Date) for all Works specified in the Contract, except for Work specifically identified as being included in the Indefinite Quantity portion of the Contract.

Total for Item 2 Rs _____

Item 2 FIRM-FIXED PRICE WORK (See Clause C.3 (e))

Price **FOR YEAR THREE ONLY** (Date) for all Works specified in the Contract, except for Work specifically identified as being included in the Indefinite Quantity portion of the Contract.

Total for Item 3 Rs _____

**Grand Total for Firm Fixed Price Items
(Item 1 + Item 2 + Item 3)**

Rs _____

The prices shall be inclusive of all taxes, duties, transportation etc.

INDEFINITE QUANTITY WORK ITEMS

Indefinite Quantity Work Items will not be a consideration in the award of the Contract. However, it is necessary that a determination of potential Indefinite Quantity costs be provided in the event that Work is required. It is possible that no Indefinite Quantity Work will be ordered; however, if it is, the charges will be based on the **Labour Hour Unit Price** and **Fixed Burden Rate (FBR)** information provided.

The following short definitions are offered to assist in developing the Indefinite Quantity costs portion of the Bid Sheet. See the referred clauses for a more detailed description.



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Labour Hour Unit Price

A labour hour unit price is the unit price bid by the Bidder to provide one performance standard hour of Work-in-place. The unit price includes all direct and indirect costs, including pre-expended material and equipment to perform maintenance and Work requirements, associated with performing a standard hour of Work irrespective of the number of technicians in the team, except the Fixed Burden Rate. This price is used for all Work not included in the Firm-Fixed Price portion of the Contract. See **Clause C.4 (f)** for additional information.

Fixed Burden Rate (FBR)

The FBR shall apply to all materials used to accomplish Indefinite Quantity Work. See **Clause C.4 (c)** for detailed information concerning the FBR.

YEAR ONE ONLY (Date)

UNIT PRICED LABOUR for one Work hour
irrespective of the number of technicians in the team

Rs _____

FBR expressed as a percentage markup _____ %

YEAR TWO ONLY (Date)

UNIT PRICED LABOUR for one Work hour
irrespective of the number of technicians in the team

Rs _____

FBR expressed as a percentage markup _____ %

YEAR THREE ONLY (Date)

UNIT PRICED LABOUR for one Work hour
irrespective of the number of technicians in the team

Rs _____

FBR expressed as a percentage markup _____ %



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STATEMENT OF BIDDER'S QUALIFICATIONS

If necessary, questions may be answered on separate sheets. The Bidder may submit any additional information he/she desires.

1. Name of Bidder _____
2. Status of Firm: Corporation/Partnership or Trust. (Enclose certificate of registration/incorporation) _____
3. Permanent main office address _____
4. Name of Shareholders _____
5. Name of Directors _____
6. Name of Beneficial Owners _____
7. How many years have you been engaged in the Contracting business under your present firm or trade name? _____
8. List any current maintenance Contracts with others on separate sheet and attach to bid. Include name of company/individual, address, contact name and phone number.
9. General character of Work performed by your company. _____
10. Have you ever failed to complete any Work awarded to you? _____
11. Have you ever defaulted on a Contract? _____
12. List your major equipment available for this Contract.
13. Give Bank reference _____
14. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Bank?
15. Certify to the Bank by way of a written undertaking that none of your shareholder(s)/ director(s) / beneficial owner(s) have been invoiced or alleged to have been involved in any case of bribery, corrupt or fraudulent practices, money laundering and/or otherwise debarred from participating in any public procurement.
16. Provide the Bank with the written consent of the bidder, shareholder(s) / director(s) / beneficial owner(s) allowing the Bank to request for their respective MCIB Reports, to be used solely for the purpose of this exercise.



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17. Whether the directors, shareholders or beneficial owners have ever made any arrangements or composition with creditors, filed for bankruptcy or adjudged bankrupt or been convicted with a criminal offence and if so, the nature thereof.

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Bank in verification of the recitals comprising this Statement of Bidders Qualifications.

Dated this _____ day of _____ 20__

By : _____

Title : _____



Maintenance and Repairs of Air Conditioning and Ventilating Systems

NOTICE OF AWARD

To:

(Name & address of Successful Bidder)

Dear Sir,

Maintenance and Repair of Air Conditioning and Ventilating Systems at the Bank of Mauritius Old Building

The Bank has considered the bid submitted by you for the above described Work in response to its Letter, and Information for Bidders / Conditions for Bidders.

You are hereby notified that your bid has been accepted in the amounts as follows:

Rs _____ for the period

Rs _____ for the period

Rs _____ for the period

You are required by the Information for Bidders / Conditions for Bidders to execute the Agreement and furnish the required certificates of insurance within ten (10) consecutive calendar days from the date of this Notice to you.

If you fail to execute the said Agreement and to furnish the said certificates of insurance within ten (10) consecutive calendar days from the date of this Notice, the Bank will be entitled to consider all your rights arising out of the Bank's acceptance of your Bid as abandoned. The Bank will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the Bank.

Date

H S Sewraj-Gopal (Mrs)
Second Deputy Governor
Bank of Mauritius

Receipt of the above NOTICE OF AWARD is hereby acknowledged

By : _____

Title : _____

Company Seal :

Date : _____



AGREEMENT

This Agreement made on _____ (date) between the Bank of Mauritius, situate at Sir William Newton Street, Port Louis acting herein through its Second Deputy Governor (hereinafter called "BANK") of the one part and the _____ (name and address of the Successful Bidder) (hereinafter called "Contractor") of the other part.

WITNESSED: That for and in consideration of the payments and Agreements hereinafter mentioned:

1. The term of this Agreement shall commence on, and shall continue in effect until, unless terminated. Upon completion of the initial term of the Agreement at a cost that is acceptable to the Bank and the Contractor, the Agreement shall be automatically renewed for additional one-year periods unless either party shall give written notice to the other, at least thirty (30) days prior to the expiration of the initial term or any renewal thereof, that the Agreement shall not be so extended. The Contractor shall submit his revised cost, if any, at least ninety (90) days prior to the expiration of the initial term or any renewal thereof.

2. The Contractor hereby agrees with the Bank to provide "Maintenance and Repairs of the Air Conditioning and Ventilating Systems" at the Bank's premises at and for the amounts submitted in response to the Invitation-to-Bid. The Contractor shall also comply with all requirements for obtaining and maintaining in effect, all required insurance and licenses during the duration of the Agreement.

The Contractor agrees and acknowledges that the term "Contract Documents" means and includes the following:

- a. Invitation to Bid
- b. Bid Documents
- c. Bid Response
- d. Insurance Certificates



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The Contractor agrees to return all copies of the Contract Documents to the Bank for further handling. A copy of the Agreement will be returned to the Contractor after all signatures are complete.

This AGREEMENT shall be binding on all parties hereto and their respective heirs, executors, administrators, successors and assigns.

In witness whereof, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in the year and day first above written.

On behalf of the Bank

On behalf of the Contractor

Second Deputy Governor

Bank of Mauritius

(Title)

In presence of

In presence of

(1) _____
(Witness)

(1) _____
(Witness)

(2) _____
(Witness)

(2) _____
(Witness)



SECTION C: DESCRIPTION/ DEFINITIONS/ ADMINISTRATIVE ITEMS

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SECTION C: DESCRIPTION/ DEFINITIONS/ ADMINISTRATIVE ITEMS

C.1 GENERAL INTENTION

The intention of this solicitation is to obtain maintenance, repair and inspection services for air conditioning and ventilating systems at the Bank of Mauritius – Old Building situate at Sir William Newton Street, Port-Louis by means of a firm fixed-price.

C.2 GENERAL REQUIREMENTS

Work Requirements

The Contractor shall furnish all labour, supervision, tools, materials, equipment, incidental engineering, transportation, and management necessary for the maintenance and repair services for air conditioning and ventilating systems as per the requirements specified in this Contract. **Attachment A** describes the Scope of Works and Systems to be maintained in this Contract. The Works includes the performance of recurring Work (preventive maintenance), service calls and indefinite quantity Work items of maintenance and repair.

Work Excluded

The requirements of this Contract refer to the Bank's facility at Port-Louis. Other Bank facilities having similar air conditioning and ventilating systems are not included in this Contract. Although special circumstances may dictate that the Contractor be called upon to provide intermittent maintenance and repair services to those facilities and systems, it is not the intent of this Contract to consider those facilities and systems as a basis for this Contract. Major repairs due to severe flooding, fire, and similar incidents are not included since the frequency and scope of such repairs is impossible to predict.

C.3. DEFINITIONS – ADMINISTRATIVE

As used throughout this Contract, the following terms shall have the meaning set forth below.

- (a) **Bank's Technical Staff** is authorized to communicate directly with the Contractor concerning this Contract; and, who, especially during other than regular Working hours, is empowered to order Indefinite Quantity Work.
- (b) **Chief – Facilities Management Division (FM)** A Staff Member, who shall be designated by the Bank to oversee this Contract, ensuring services are provided in accordance with the specifications. The Chief – FM will oversee ordering of indefinite quantity Work and responsible for reviewing invoices and recommending approval for payment.
- (c) **Contractor** The term Contractor as used herein refers to the Successful Bidder for providing services within the scope of this Contract.
- (d) **Contractor Representative** A foreman or superintendent assigned by the Contractor and authorized by the Contractor to respond to the requirements of this Contract.



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- (e) **Fixed-Price Requirements** Fixed-price Contract line items are bid and payment is made for the total performance of a given Contract requirement over a given period of time. These Contract requirements are fixed in scope (time, location, frequency, quantity, etc. are known or can be accurately estimated) or adequate historical data is used to allow reasonable estimates to be made. Because the Scope of Work is known, the Contractor agrees to perform a given requirement for a total price, and in essence there is one Work order. The Contractor performs the Works as scheduled and invoices are submitted for the services provided.
- (f) **Indefinite Quantity Work Requirements** All items not included in the firm fixed price portion of the Contract are considered **indefinite quantity Work** items. That is, the Contractor agrees to perform this Work on an "as ordered" basis at a fixed unit (hourly) price to perform one occurrence or a given quantity of each type of Work bid. Indefinite quantity Work is based on unit priced labour and materials with a Contractor fixed burden rate. The labour hour unit prices bid includes all costs to perform the Work required, except for material costs.

Prices charged by the Contractor under the Labour Hour Unit Price for Works / services executed under the Contract shall not vary from the prices quoted by the Contractor in its sealed bid.

The Contractor is reimbursed for the direct cost of materials plus a mark-up (fixed burden rate) to allow for material management costs. Procedures for establishing the estimated number of labour hours and material costs required for any particular job are described in the "MINOR WORK" clause of Section D. Prior to commencing the indefinite quantity Work the Contractor and Bank shall determine, and mutually agree on a cost for labour and material.

C.4. DEFINITIONS – TECHNICAL

As used throughout this Contract, the following terms shall have the meaning set forth below.

- (a) **Additional Material Handling** Time expended for loading materials from storage to truck, unloading materials to the work area, moving materials to work area, moving materials from storage to job site, removing debris, and handling of materials during the job is included in the Contractor's fixed burden rate.
- (b) **Direct Material Costs** The actual vendor invoice charges for materials used for performance of Works under this Contract. Direct material costs shall include transportation charges when such charges are included on the invoice by the vendor. When questions arise concerning the cost of materials, material costs will be based on the lowest of quotes provided by the Contractor from at least three (3) different commercial vendors for the direct material cost. The Bank retains the right to obtain additional quotes in questionable situations. The lowest price will be used.
- (c) **Fixed Burden Rate (FBR)** The additional costs (expressed in percent of direct material cost) for ordering, shipping, handling, and stockpiling materials and the profit markup for those materials, for Works included in the Indefinite Quantity, Unit Priced Labour portion of the Contract.



(d) **Frequency of Service**

- (1) **Semi-annual** - Preventive Maintenance services performed a minimum of twice during each 12 month period of the Contract.
- (2) **Monthly and Quarterly** Services performed at structured intervals during the year. These services mirror semi-annual services but are not as detailed or in depth as semi-annual services.

(e) **Job Preparation** All Work and costs associated with receiving and considering a job assignment and instructions; planning equipment and material requirements; obtaining proper tools; laying out tools, material, and equipment; setting up ready to begin Work; cleaning and storing tools and equipment; and cleanup of job site.

(f) **Labour Hour Unit Price** A labour hour unit price is the unit price bid by the Contractor to provide one performance standard hour of Work-in-place. The unit price includes all direct and indirect costs associated with performing a standard hour of Work, except the Fixed Burden Rate addressed in **paragraph C.4 (c)**, above. The unit price would typically include the Contractor's hourly wage and all costs for travel, pre-expended bin materials and supplies, profit (except that profit associated with materials included in the Indefinite Quantity, Unit Priced Labour portion of the Contract), tools, equipment, field and home office overhead, clerical support, supervision, planning and estimating, job preparation, overtime (when appropriate), inspection, fees, taxes, licenses, permits, insurance, etc. In short, all costs associated with providing a specific standard hour of effort.

(g) **Latent Defects** Latent defects are defects that are present in a hidden or undeveloped state and are not visible or apparent at the time of inspection, but which become obvious or come into being at some future time.

(h) **Maintenance** - The recurring day-to-day, periodic, or scheduled Work required to preserve or restore a system to such a condition that it may be effectively utilized for its designated purpose. The term includes Works undertaken to prevent damage to a system that otherwise would be more costly to restore.

(i) **Pre-expended bin materials and supplies** - The minor materials and supplies that are incidental to a job, and for which the total direct cost of materials is Rs 200 + VAT or less. Examples of pre-expended bin materials and supplies include, but are not limited to, solder, lead, flux, electrical connectors, electrical tape, fuses, screws, bolts, nuts, washers, spacers, masking tape, sand paper, solvent, cleaners, lubricants, grease, oil, rags, mops, glue, epoxy, refrigeration fittings, plumbers tape and compound, clips, welding rods, heat sinks, touch up paint, plumbing fittings. Pre-expended bin materials and supplies are included in the **Contractor's Labour Hour Unit price**.

(j) **Direct materials and supplies** - Maintenance and repair parts that are generally unique to a certain piece of equipment, system or manufacturer. Examples of direct materials include, but are not limited to, compressors, fan motors, capacitors, expansion valves, thermostats, and so forth.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

- (k) **Repair** is the restoration of a piece of equipment or system, to such condition that it may be effectively utilized for its designated purposes. Repair may be overhaul, reprocessing, or replacement of constituent parts or materials that have deteriorated by action of the elements or usage and have not been corrected through maintenance, or replacement of the entire unit or system if beyond economical repair.
- (l) **Response time** is defined as the time allowed to the Contractor after initial notification of a Work requirement to be physically on the premises at the Work site with appropriate tools, equipment, and materials, ready to perform the Work required. Response times are designated in the appropriate technical clauses in **Section D**.

C.5 BANK FURNISHED FACILITIES

- (a) **Facilities** - Electricity and water will be provided by the Bank.
- (b) **Equipment** - The Bank will not provide tools or equipment to the Contractor. The Contractor shall furnish all tools and equipment required for the performance of this Contract.
- (c) **Material** - The Bank will not provide any materials to the Contractor.
- (d) **Access to Equipment** - The Bank will give the Contractor full access to all equipment that is either covered or associated with it when the Contractor requests such access. All Access Request will be subject to Bank's Security Policy.

C.6 CONTRACTOR FURNISHED ITEMS

The Contractor shall provide all facilities, equipment, materials, management and services to perform the requirements of this Contract.

- (a) The Contractor shall provide new parts and components when providing maintenance and repair services as described herein. All replacement units, parts, components and materials to be used in the maintenance and repair equipment shall be compatible with that existing equipment on which it is to be used; shall be of equal or better quality than original equipment specifications; shall comply with Government, commercial, or industrial standards and so forth; and used in accordance with original design and manufacturer intent. If the original manufacturer has updated the quality of parts for current production, parts supplied under this Contract shall equal or exceed the updated quality. The Contractor shall return the replaced parts to the Bank. When disputes arise concerning material, equipment, and components selected for Work items already accomplished, the Contractor shall, at no cost to the Bank, remove, replace, and/or rework material, equipment, and components so that compliance with the Bank's requirements are satisfied.
- (b) The Contractor shall submit certificates of compliance and manufacturer's descriptive data as necessary for major component's replacement. Such submittals shall be made to the Bank for approval within ten (10) calendar days after issuance of a delivery order for the Work. Manufacturer's descriptive data shall include the name of the manufacturer, model number or other identifying information, catalog cut, and other identifying data and information describing the performance, capacity, rating, and application/installation instructions which clearly illustrate that the proposed item meets the applicable standards for the component being replaced.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

- (c) All new parts, components and materials used as replacement or addition, shall be guaranteed for a period of twelve (12) months. Should the problem, which gives rise to the repair, recur within the twelve-month period, the Contractor at no cost to the Bank shall rectify or replace it immediately. The twelve-month guarantee period will then recommence.
- (d) The Bank continually strives to eliminate asbestos and lead-based coatings from all structures. Consequently, all new construction, improvements and repair Works shall be accomplished using materials that do not contain those substances.
- (e) All hazardous wastes shall be removed from Bank property and be disposed of by, and at the expense of the Contractor. This includes, but is not limited to, used oil, contaminated or uncontaminated refrigerant and Printed Circuit Boards.
- (f) The Contractor shall maintain current Material Safety Data Sheets (MSDS) for all materials used in the performance of his Work. A copy of all current MSDS shall be provided to the Bank when requested.

C.7 MANAGEMENT

The Contractor shall manage the total Work effort associated with the maintenance and repair services required herein to assure fully adequate and timely completion of these services. Included in this function are a full range of management duties including, but not limited to, planning, scheduling, cost accounting, report preparation, establishing and maintaining records, and quality control. The Contractor shall provide an adequate staff of personnel with the necessary management expertise to assure the performance of the Work in accordance with sound and efficient management practices.

- (a) **Work Control** - The Contractor shall implement all necessary Work control procedures to ensure timely accomplishment of Work requirements, as well as to permit tracking of Work in progress. The Contractor shall plan and schedule Work to assure material, labour, and equipment are available to complete Work requirements within the specified time limits and in conformance with the quality standards established herein. Verbal scheduling and status reports for service Work or minor Work shall be provided when requested by Bank. The status of any item of Work must be provided within **FOUR (4)** hours of the inquiry.
- (b) **Work Schedule** - The Contractor shall schedule and arrange Work so as to cause the least interference with the normal occurrence of Bank's business and mission. In those cases where some interference may be essentially unavoidable, the Contractor shall make every effort to minimize the impact of the interference, inconvenience, equipment downtime, interrupted service, customer discomfort, etc.
- (c) **Records and Reports** - The Contractor shall maintain management, system information and maintenance records and prepare management, repair, and maintenance reports as set forth in Attachment B, "LIST OF RECORDS AND REPORTS". All records and copies of reports shall be turned over to the Bank within five (5) calendar days after Contract completion.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

A completed Work file for each system shall be maintained by the Contractor for each system listed in Attachment A. Each file shall contain a listing of Ventilation and Air Conditioning equipment in the facility by nomenclature and manufacturer's model number and other necessary information outlined on the System Information Sheet, a copy of all completed Service Work Authorization forms, Minor Work Orders, and Preventive Maintenance Inspection Records; and other information pertaining to the installed equipment and systems.

All documents required to be submitted during the course of the Contract shall be filed within two (2) calendar days of the completed transaction. The Contractor's entire file shall be turned over to the Bank upon completion of the Contract.

- (d) **Facility Access** - The Contractor shall notify the Bank of any scheduled work to be performed in a facility that would tend to disrupt the conduct of normal Bank's business. The Contractor shall notify the Bank at least two (2) working days in advance of such Work. Notification shall include the type of work to be done and the estimated completion date. The Contractor shall reschedule any work that the Bank deems necessary to avoid unacceptable disruptions in its business.
- (e) **Staffing** - The Contractor shall continuously maintain an adequate staff with suitable management expertise to assure work is scheduled and completed in accordance with these specifications. The Contractor shall maintain an adequate craft Work force to complete Work in accordance with the time and quality standards specified.

The Contractor has to provide a distinct uniform to its Workman different from the employees of Bank. The uniform shall be kept in neat, tidy and wearable condition. The name plate will be the integral part of uniform.

C.8 GENERAL REQUIREMENTS AND PROCEDURES

- (a) **Standards** - All Works shall be accomplished in conformance with approved and accepted standards of the industry; equipment manufacturers; all applicable state, and municipal standards; and all applicable building and safety codes.
 - (1) When the Contractor completes Work on a system, that system shall be free of missing components or defects which would prevent it from functioning as originally intended and/or designed. Corrective or repair/replacement Work shall be carried to completion including operational checks and cleanup of the job site. Except where otherwise noted, replacements shall match existing in dimensions, finish, color, and design.
 - (2) During and at completion of Work, debris shall not be allowed to spread unnecessarily into adjacent areas nor accumulate in the Work area itself. All such debris, excess material, and parts shall be cleaned up and removed at the completion of the job and/or at the end of each day work is in progress. Special attention shall be given to the handling and disposal of hazardous wastes. The Contractor shall adhere to all current codes and prevailing laws in that regard.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

- (b) **Service Work** is defined as any individual unit or incident of repair or replacement that shall be accomplished by the Contractor and claimed on the Labour Hour Unit Price basis. The Service Work may require pre-extended bin materials and supplies. If the cost of materials shall exceed Rs200 + VAT, the Bank shall reimburse the Contractor the excess amount spent on materials based on the FBR.
- (c) **Minor Work** is defined as any individual unit or incident of repair or replacement that exceeds the labour and material ceilings of Service Work. This Work may or may not be accomplished under this Contract at the discretion of the Bank.
- (d) **Major Repair** is not included within the scope of this Contract. Major repair is defined as any individual unit or incident of repair or replacement with a total estimated cost (labour and direct material) exceeding Rs25,000 + VAT. Major repair will normally be accomplished by a separate contract.
- (e) The exclusion for major repair does not infer that the Contractor shall not be responsible for any repairs required by the negligence of or damage to the systems by the Contractor. This type of repair will be the responsibility of the Contractor, regardless of the cost.
- (f) **Replacement, Modernization, Renovation** - During the term of the Contract, the Bank may replace, renovate, or improve equipment, systems or components at the Bank's expense and by means not associated with this Contract. All replaced, improved, updated, modernized, or renovated systems or equipment shall be maintained, operated, and/or repaired by the Contractor at no additional cost to the Bank unless such changes result in an increase or decrease in Contract requirements. Changes, replacements, or deletions which result in an increase or decrease in Contract requirements will result in adjustments to the Contract Price.
- (g) **Equipment under Manufacturer's or Installer's Warranty** - Equipment, components, and parts, other than that installed under this Contract, shall not be removed or replaced or deficiencies corrected while still under warranty of the manufacturer or the installer without prior approval of the Bank. All defects in material or Workmanship, defective parts, or improper installation and adjustments found by the Contractor shall be reported to the Bank so that necessary action may be taken. The Contractor shall be knowledgeable of the equipment, parts, and components that are covered by warranty and the duration of such warranties. Available warranty information will be furnished to the Contractor by the Bank.
- (h) **Interface with Other Contractors and Bank Forces** - Attention is invited to the fact that other Contractors and/or Bank's forces are engaged in similar and supporting Work, requiring close cooperation. The Contractor for this Contract shall cooperate with all other Contractors and avoid conflicts with other Contractor's performance and Work schedules. In the event of conflicts with other Contractors that cannot be satisfactorily resolved, the matter shall be referred to the Bank for decision. Such decisions shall be final.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

C.9 WORK OUTSIDE REGULAR WORKING HOURS

Except as may otherwise be specified, all Works shall be performed during the Bank's regular Working hours. If the Contractor desires to carry out Work on Saturday, Sunday, holidays, or outside regular Working hours, he/she must submit an application to the Bank for approval.

C.10 CONTINUITY OF SERVICES

To insure continuity of essential services, the Contractor shall be prepared to fully commence Work on the start date of this Contract, and should not assume that Bank will be available to guide, direct, or specifically orient each Contractor employee.



SECTION D: DESCRIPTION/ SPECIFICATIONS/ WORK STATEMENT

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SECTION D: DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

D.1 GENERAL REQUIREMENTS AND PROCEDURES FOR RECURRING WORK (PREVENTIVE MAINTENANCE)

Recurring maintenance and repair Work shall be performed by the Contractor in accordance with the provisions of this clause. Recurring Work includes all Work requirements for which the Contractor is required to submit schedules for the Bank's approval.

All recurring Work is included in the firm fixed-price portion of the Contract. The Contractor shall provide and store the parts and materials necessary for the continued performance of all recurring Work as specified herein. Lack of availability of materials and parts shall not relieve the Contractor from the requirement to complete the Work within the time requirements and quality standards specified. Recurring Work in this Contract includes preventive maintenance of Ventilating and Air Conditioning systems and equipment.

(a) Preventive Maintenance

- (1) The Contractor shall perform Preventive Maintenance (PM) inspections on the equipment and systems listed in Attachment A in accordance with the procedures specified in this clause and Attachment D. PM consists primarily of inspection, cleaning, lubrication, adjustment, calibration, and minor part and component replacement (e.g. filters, belts, hoses, fluids, oil and grease and refrigerant) as required to minimize malfunction, breakdown, and deterioration of equipment; and the identification of and/or performance of any repairs required to bring the equipment up to the manufacturer's operating standards. PM shall be performed as specified in this clause and shall include all of the applicable check points and services indicated in Attachment D. The Contractor shall complete all repair requirements identified during the performance of a PM inspection as part of the PM.
- (2) The number and size of repair jobs, and the cost of material, are directly proportionate to the quality and timeliness of PM, and the timeliness of identifying repairs required. The Contractor should recognize that untimely response to repair requirements and lower levels of PM will result in increased repair frequencies and additional material costs and could be cause for termination. The Contractor may, at his option and at no additional cost to the Bank, increase the level and/or frequency of preventive maintenance in an effort to minimize repair requirements.
- (3) The Contractor shall submit a detailed PM schedule to the Bank for approval at least ten (10) calendar days prior to the start date of each Contract year. The schedule shall cover the entire term of the Contract year and shall include each specific piece of equipment and PM inspection listed in Attachment A; Work to be performed (e.g., semi-annual or quarterly or monthly PM); and the week of the month that those PMs will be performed.



Maintenance and Repairs of Air Conditioning and Ventilating Systems

- (a) Semi-annual PM inspections for Air Conditioning and Ventilating Systems shall be scheduled to coincide with the periods immediately prior to the summer and winter seasons and quarterly PM inspections between those periods. Summer season PMs shall be scheduled for performance during the period October through January. Winter season PMs shall be scheduled for performance during the period June through September.
 - (b) Once the Contractor's PM schedule is approved by the Bank, PM inspections shall be performed by the Contractor without further authorization by the Bank. The Contractor shall strictly adhere to the scheduled PM dates to facilitate Bank's verification of Work. No scheduled PM dates shall be changed without the prior approval of the Bank.
- (4) The Contractor shall submit a copy of the previous week's portion of the PM schedule to the Bank by the end of regular Working hours on the first Working day of the week during the PM period indicating the scheduled PM inspections completed during the previous week, and those scheduled inspections not completed. It is anticipated that through normal, daily communications with the Contractor, Minor Work generated during PM inspections will already have been addressed through issuance of a Work order. Therefore, the Bank's review of the submitted inspection reports will serve to ensure that no required Work fails to be scheduled.
- (5) To facilitate Bank inspection of PMs, the Contractor shall install on each equipment and system a self-adhesive sticker with the Contractor's Company name, Name of PM Technician and the date the PM was completed. The sticker will be filled out in permanent ink.

D.2 GENERAL REQUIREMENTS AND PROCEDURES FOR SERVICE CALL WORK

Service calls are defined as maintenance or repair or other miscellaneous Work requirements which are processed by the Bank's technical staff; are brief in scope but may require pre-extended bin materials and supplies and do not reasonably require detailed job planning. Multiple maintenance and repair requirements received for the same system will be combined into one service call. All service calls shall be claimed on the Labour Hour Unit Price basis.

(a) Service Call Reception

- (1) During Regular Working Hours A description of the problem or requested Work, date and time received, location, and other appropriate information will be placed on a Service Work Authorization Form and electronically mailed or faxed to the Contractor's Work reception center. The Bank shall also contact the Contractor by telephone to relay the problem and service authorization telephonically. If the call is classified as emergency or urgent, the Bank's designated Staff will notify the Contractor by phone that a call has been received and that a Work authorization form is in process.
- (2) After Regular Working Hours The Contractor shall normally receive all service call requests directly from the Chief FM or other designated Staff member after regular Working hours, on weekends, and holidays. Calls shall be classified by the caller as Emergency or Urgent, in accordance with the definitions provided in the "Service Work Classification" paragraph of this



Maintenance and Repairs of Air Conditioning and Ventilating Systems

clause, and responded to accordingly. A Service Work Authorization Form will be processed by Staff to the Contractor at the next start of regular Working hours. In general, routine calls will not be processed during non-regular Working hours.

(b) **Service Work Classification**

Emergency Calls Service Work will be classified as emergency at the discretion of the Bank. Generally, emergency calls will consist of correcting failures which constitute an immediate danger to personnel, threaten to damage property, or threaten to disrupt operations.

Urgent Calls Service Work will be classified as urgent at the discretion of the Bank. Generally, urgent calls will consist of providing services or correcting failures which do not immediately threaten personnel, property, or operations; but which would soon cause inconvenience and/or affect the health or well being of personnel, lead to property damage, or lead to disruptions in operations.

Routine Calls Service calls will be classified as routine when the Work does not qualify as an emergency or urgent call. Examples of routine calls include reduced system capability, areas that are served by more than one system and similar occurrences.

(c) **Response to Service Calls**

NOTE: The following time frames and requirements pertain to "normal" and "regular" Service Work. It must be understood that equipment failure and lack of unique parts; as well as situations that develop into major repairs outside the scope of this Contract may make it impossible for the Contractor to meet all milestones consistently. Proper execution of this Contract will require normal daily communications and cooperation between the Bank's designated Staff and Contractor. When the above circumstances exist it is anticipated that those situations will be resolved through those normal daily communications, generally, without penalty to the Contractor.

The Contractor shall have adequate procedures for receiving electronically mailed, faxed service call Work authorizations and telephone messages; and for receiving and responding to service calls 24 hours per day, seven (7) days a week, including weekends and holidays. Systems requiring service throughout the 24-hour daily period are listed in Attachment A.

Two (2) landline or two (2) mobile telephone numbers shall be provided by the Contractor for receipt of all service calls. All telephone calls or answering service/machine received calls shall be responded to as quickly as possible or within **FOUR (4) HOURS**, by an individual fully familiar with the Contractor's Work control procedures and the terms and conditions of this Contract. Emergency and urgent calls shall be considered received by the Contractor at the time and date the telephone call is placed by the authorized Bank's designated Staff Member. Routine calls shall be considered as received by the Contractor at the time and date of the telephone call or receipt of the electronically mailed or faxed Service Work Authorization.



(1) Response by Classification

Emergency Calls - The Contractor shall respond immediately and must be on the job site and Working within TWO (2) HOURS after receipt of an emergency service call. With consideration for unique parts requirements understood, the Contractor shall Work continuously without interruption and shall arrest the emergency condition before departing the job site. If further labour and material (follow up Work) are required to complete the repair, the call will be reclassified as urgent or routine, as appropriate, and the corresponding completion time shall then apply. Such follow up Work shall be considered part of the original service call. If the follow up Work is beyond the scope of a service call the procedures in paragraphs concerning Minor Work below shall apply.

Urgent and Routine Calls The Contractor shall be on the job site and Working within TWO (2) HOURS after receipt of an urgent service call received during regular Working hours, and within FOUR (4) HOURS for urgent calls received after regular Working hours, on weekends, or holidays. Once begun, the Work shall be prosecuted so as to be completed as rapidly as possible, with consideration given to completion during regular Working hours, except in appropriate situations.

(2) Beyond the Scope of a Service Call

If the Contractor responds to an urgent service call and believes that the Work required is beyond the scope of a service call as defined above, the Chief FM or Bank's designated staff must be contacted within **two (2) hours** of that determination. The Contractor shall provide a summary of the Work needed and a verbal estimate outlining labour hour and material requirements so a determination to continue or change the Work action to minor Work can be made. If the scope of Work is changed to minor Work, the service Work order will be closed out and, if determined by the Bank for further prosecution by the Contractor, a minor Work order will be issued.

(d) **Completed Calls**

Although Service Calls are a portion of the Firm-Fixed Price portion of the Contract, it is still necessary to track hours expended and material costs for historical purposes. Therefore, within five (5) working days after completion of each service call the Contractor shall complete administrative and cost information on the authorization form and return it to the Bank.

(e) **Materials and Equipment**

The Contractor shall maintain sufficient off-the-shelf materials and equipment on hand to support service call Work requirements. Lack of availability of materials or equipment shall not relieve the Contractor from the requirement to complete service call Work within the time limits specified above.



D.3. GENERAL REQUIREMENTS AND PROCEDURES FOR MINOR WORK

Minor Work is defined as maintenance and repair Work requirements which are beyond the scope of service Work (as defined in clause D.2). All minor Work is included in the indefinite quantity portion of the Contract. The Contractor will be paid a negotiated price for each delivery order for minor Work as specified in the following procedures.

General Procedures

The Bank and Contractor will mutually develop a scope of Work and negotiate a price for each proposed delivery order for minor Work. The delivery order will be prepared by the Bank and forwarded to the Contractor by fax or electronic mail. A sample Minor Work Delivery Order Form is at **Attachment E**.

Labour Requirements - Work requirements will be determined based on previous Repair & Cost Data and other industry standard estimating information. Labour hour unit prices provided in this Contract will be used as they already include all overhead, supervision, and so forth.

Material prices will include the fixed burden rates. Pre-expended materials cost will not be included in the costs.

D.4 WORK STATEMENT FOR MAINTENANCE AND REPAIRS OF AIR CONDITIONING AND VENTILATING SYSTEMS

- (a) The Contractor shall provide maintenance, repair and inspection services for a variety of Air Conditioning and Ventilating Systems at the Bank of Mauritius by deputing trained technicians in accordance with procedures specified in Attachment D.

This Work includes the maintenance, repair, installation and inspection of all components, devices, equipment comprising the Air Conditioning and Ventilating Systems including but not limited to compressors, blowers, motors, drive assemblies, fans, service valves, dampers, condensers, cooling coils, piping, pumps, purge units, control systems and wiring, duct Work, thermostats and temperature controls, registers, condensate and drip pans and drains, grills, evaporators, air filters, and all other items of equipment essential to the proper operation of the Air Conditioning and Ventilating Systems in accordance with the manufacturer's maintenance guidelines.

- (b) The Air Conditioning and Ventilating Systems consist of the following 2 sets of systems as listed in Attachment A.

- High side - Chilled Water Air Conditioning System and Chilled Water Circulating Pumps.
- Low side – Air Handling Units, Ventilation and Exhaust Systems and Fan Coil Units.



ATTACHMENT A

LIST OF AIR CONDITIONING AND VENTILATING SYSTEMS

High Side - Chilled Water Air Conditioning System

- (a) 2 x 260 kW capacity Air Cooled Screw Carrier Chillers
- (b) 3 x Chilled water circulating secondary pumps
- (c) All pipelines of chilled water & condenser water, check-valves, butterfly valves, pressure and thermometers gauges, strainers and its insulation, general insulations, insulated expansion tanks inside and outside the building.

Low Side – Air Handling Units, Ventilation and Exhaust Systems and Fan Coil Units

- (a) 7 Air Handling units (AHU) consisting of chilled water coil, air filters, motor, 3-way motorized valves, electrical starter and control panels, variable speed drives (VSD), power cables, air ducts, pressure and temperature gauges, filters, indicators etc.
- (b) 71 Fan coil units (FCU) consisting of fan motors, blowers, filters the entire control package unit consisting of 3-way motorized valves, thermostats, fan controller, pressure and temperature gauges, condensate pumps etc.
- (c) 10 Exhaust system consisting of propeller fans, motors complete with electrical control panel, starter and power cable, air ducts etc.
- (d) All pipelines of chilled water system, air ducts, air diffusers, valves, air filters, thermostat, automatic and manually adjustable air dampers, strainers etc inside and outside the building.

END OF ATTACHMENT A



ATTACHMENT B

LIST OF RECORDS AND REPORTS

RECORD NAME	REF PARAGRAPH
Completed Work File	C.7 (c)
System Information Sheet	C.7 (c)
Completed Service Work Authorization Forms	C.7 (c)
Completed Minor Work Forms	C.7 (c)
Completed Preventive Maintenance Record Forms	C.7 (c)

REPORTS

REPORT NAME	REF PARAGRAPH
Preventive Maintenance Schedule	D.1 (a)(3)
Incremental Completed Preventive Maintenance Schedule w/completed PM Form	D.1 (a)(4)

END OF ATTACHMENT B



ATTACHMENT C

INVOICING PROCEDURES

1. General

Invoicing will be accomplished in two (2) primary phases namely the Firm Fixed-Price portion of the Contract and Indefinite Quantity Work - Unit Priced Labour (and Materials).

2. Firm Fixed-Price Invoicing

The firm fixed-price portion of the Contract is divided into equal monthly installments. The Contractor shall invoice for each installment of the operational period of the Contract after completion of that period. Payment is based on a combination of the anticipated amount of fixed-price Work accomplished for a given period of time.

3. Indefinite Quantity Invoicing

Invoicing for this phase of the Contract will be accomplished by submitting completed copies of Minor Work Orders for Work that is finished and accepted. The Contract requires submission of completed Minor Work Orders within two (2) days of completion. Regular and timely submission of completed Minor Work Orders is considered vital for the proper management of this Contract.

END OF ATTACHMENT C



ATTACHMENT D

PREVENTIVE MAINTENANCE REQUIREMENTS

1. General

This listing of preventive maintenance requirements is not intended to be all inclusive. The various systems encountered will each have their own unique requirements. Therefore, the Contractor shall use this list as a general guide only. The manufacturer's maintenance guidelines shall be adhered to when accomplishing Preventive Maintenance Works. This requirements list will be used as a basis for the Bank's inspection of Work to evaluate its quality. The Bank may also supplement the list with the manufacturer's maintenance.

2. Requirements (High Side - Chilled Water Air Conditioning System)

(a) Chilled Water System (Operating)

Description of Work	Frequency
Record in a log sheet all alarms read from the history log of the systems and take necessary corrective actions.	Monthly
Record all readings of the systems in a log sheet. Inform the Bank of any abnormalities.	Monthly
Check control center gauges and lights, excess purge light, and remote start operations.	Monthly
Record the bearing oil pressure and check oil level in the oil sump. Drain or add oil as required.	Monthly
Check the inlet and outlet water pressures and temperatures for variations with normal values.	Monthly
Record liquid refrigerant temperature leaving the condenser.	Monthly
Record the compressor discharge temperature.	Monthly
Check for signs of dirty or fouled condenser tubing.	Monthly
Record the compressor motor voltage and amperage at the starter.	Monthly



(b) Chilled Water System (Off-Line)

Description of Work	Frequency
Clean and wipe down the condenser, compressor, motor control panel, and associated pumps and piping. Inspect the unit and motor base. Tighten all loose bolts, fasteners, and anchors.	Monthly
Check for oil, refrigerant, and/or water leaks. Verify proper water treatment.	Monthly
Check the refrigerant charge.	Monthly
Check the drive coupling on the motor/compressor unit. Realign as required.	Monthly
Inspect the electrical wiring, connections, control switches, switch contacts, starter contacts, and fuses. Repair or replace as required.	Monthly
Change the purge filter drive.	3-monthly
Inspect and clean the purge foul gas strainer and check valve.	3-monthly
Perform chemical analysis of the oil. Record results.	3-monthly
Change compressor oil filter element.	3-monthly
Change oil system return filter.	3-monthly
Inspect the nozzle and the oil return eductor for foreign particles.	3-monthly
Check controls for safety cutouts. Confirm the integrity of the high- and low pressure bellows of the oil pressure cutout system.	6-monthly
Drain and replace oil in the compressor sump.	Annually
Inspect and clean cooler, condenser, strainers, tubes, and end sheets.	Annually
Inspect and clean purge unit valves and orifices in the liquid feed line to the cooling coil and in the line connecting the purge exhaust line to the pressure switch. Drain and flush purge shell.	Annually
Perform chemical analysis of the entire system.	Annually
Megger compressor motor windings.	Annually



(c) Chilled Water System Pumps (Off-Line)

Description of Work	Frequency
Clean and wipe down pump unit.	Monthly
Lubricate all operating equipment fitted with grease fittings.	Monthly
Inspect pump and seals for leaks. If leaking, repack (replace seals if mechanical type).	Monthly
Inspect valves and piping for leaks and corrosion. Repair leaks. Corroded surfaces shall be cleaned and repainted.	Monthly
Adjust valve stem packing where leaking occurs. Replace packing as required.	Monthly
Inspect electrical wiring, connections, switches, and switch contacts. Repair or replace defective items as required. Tighten all connections. Check pump (motor) rotation.	Monthly
Inspect and repair damaged pipe insulation adjacent to pump installation.	Monthly
Tighten or replace loose, missing, or damaged nuts, bolts, or screws.	Monthly

(d) Chilled Water System Pumps (Operating)

Description of Work	Frequency
Upon energizing pump unit, observe and record suction and discharge pressures.	Monthly
Verify proper pump rotation and record data.	Monthly
Observe pump and motor operation. Note and record any undue vibration and noises that could indicate prospective malfunctions.	Monthly
Observe and record electrical load data on motor when under full load.	Monthly
Inspect shaft alignment and clearances of impeller and shaft. Readjust as required.	3-monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Inspect drive couplings for wear and alignment.	3-monthly
Ensure that couplings are tight on shafts and are in alignment. Ensure coupling and shaft guards are in place.	As and when needed
Replace mechanical pump seal.	Annually

(e) Chilled Water System (Piping)

Description of Work	Frequency
General	
Drain collecting tees and strainers.	Monthly
Check piping connections for leaks. Repair if needed.	Monthly
Check piping and equipment for rust spots. Determine cause of rust and repair as required. Clean and paint as required.	Monthly
Check for missing identification tags on equipment and piping.	Monthly
Check insulation to make sure it is not torn, missing, or degraded, and that it is still fastened to piping.	Annually
Check pipe supports, hangers, and straps to make sure the piping is properly supported.	Annually
Valves	
Check water valves for leaks. Correct defective conditions. Lubricate and tighten packing as necessary.	Monthly
Exercise all valves and grease stems.	Monthly
<p>CAUTION! BEFORE OPENING OR CLOSING ANY VALVE FOR MAINTENANCE, CONTACT THE BOM'S CHIEF – FM. BE SURE THAT THE VALVE CAN BE EXERCISED WITHOUT CAUSING ANY DAMAGE TO IT OR OTHER COMPONENTS.</p>	



Description of Work	Frequency
<u>Control Valves</u>	
Check for correct positioning and operation.	Monthly
Wipe valve operator rods clean and apply a thin coat of light oil.	Monthly
Adjust operator linkages and limit switches.	Monthly
Check electrical connections for loose, cracked, or frayed wires where applicable. Repair as required.	Annually
<u>Expansion Tanks</u>	
Check tank for correct water level and air pressure charge. Check all fittings for leaks.	Monthly
<u>Indicators</u>	
Inspect all temperature and pressure indicators for cracked or broken covers, insecure mounting, and defective operation.	Monthly
Remove all indicators and test the accuracy.	Annually
<u>Strainers</u>	
Check strainer for clogging. Clean if necessary.	Monthly
Inspect strainer internals for wear. Replace if necessary.	Annually



(f) Chilled Water System Instrumentation & Electrical

Description of Work	Frequency
<u>Pneumatic Control Systems</u>	
Check for air leaks in joints of piping and at control devices using soapy water, with control air compressor operating. Repair or replace parts as required.	3-monthly
Check the contact surfaces and condition of all transmitters, sensing elements, temperature indicators, and pressure gauges.	3-monthly
Check the operation of all control devices.	Annually
Calibrate all controllers as recommended by the manufacturer of the control. Set the control point(s), sensitivity, range, proportional band, etc., to the correct values.	Annually
Check the calibration of all transmitters, sensing elements, switches (temperature, pressure, flow, etc.), time delay relays, temperature and pressure indicators, and recorders. Clean, repair, or replace parts as needed. Calibrate the devices as necessary according to the manufacturer's instructions. Set the cut-in and cut-out points of all switches and time delay relays to the right value.	Annually
<u>Electronic and Electric Control Systems</u>	
Check the main electronic and electrical control panels for broken or frayed wires or loose connections.	3-monthly
Inspect for loose wiring and components in electronic and electrical control panels.	3-monthly
Inspect electrical connections for degradation. Repair as required.	3-monthly
Check the contact surfaces and condition of all transmitters, sensing elements, temperature indicators, and pressure indicators.	3-monthly
Check the contact and switch points in motor starters, relays, and switches to be sure that they are clean and meet properly. Clean or replace contacts and switches as needed.	6-monthly
Check the operation of all control devices.	Annually
Calibrate all controllers as recommended by the manufacturer of the control. Set the control point(s), sensitivity, range, etc., to the correct setting.	Annually



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Check the calibration of all transmitters, sensing elements, switches (temperature, pressure, flow, etc.), time delay relays, temperature and pressure indicators, and recorders. Clean, repair, or replace parts as needed. Calibrate the devices as necessary according to the manufacturer's instructions. Set the cut-in and cut-out points of all switches and time delay relays to the right value.	Annually
<u>Motors</u>	
Check and clean cooling airflow passages on electric motors as necessary so that nothing obstructs airflow.	6-monthly
<u>All Electrical Devices</u>	
Inspect indicating lights for correct illumination on control panels.	Monthly
Check, clean, and tighten terminals at motors, starters, disconnect switches, etc.	6-monthly
Inspect equipment grounding components such as conductors and connections. Repair as required.	Annually
<u>Wiring</u>	
Check insulation on conductors in starters, switches, and junction boxes at motors for cracks, cuts, or abrasions. Replace wiring as required and correct cause of damage.	6-monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

3. Requirements (Low Side – Air Handling Units, Ventilation & Exhaust Systems and Fan Coil Units)

(a) Air Handling Units

Description of Work	Frequency
<u>Enclosure and Access Doors</u>	
Inspect the enclosing cabinet, isolators, and supporting structures. Tighten loose bolts and fasteners. Ensure that access door gaskets are effective; if not, replace.	Monthly
<u>Filters</u>	
Check filters. Replace as required.	Monthly
<u>Coils</u>	
Inspect for leads and corrosion. Repair or replace as required. Check for dirty coils. Clean as required; wash or blow clean with inert gas or compressed air.	Monthly
<u>Drain Pan</u>	
Clean condensate drain pan, drain connection, and piping. Brush or blow drain lines clean.	Monthly
<u>Fans</u>	
Check for hot bearings.	Monthly
Check for unusual noise or vibration.	Monthly
Check tightness of fasteners (nuts, machine screws, set screws, shaft collars, etc.) and tighten as required.	Monthly
Visually inspect drive alignment.	Monthly
Lubricate bearings: Sleeve bearings / Ball bearings / Roller bearings.	Monthly
For units with belt drives inspect belts and pulleys.	Monthly
Check belt tension and alignment; adjust as required.	Monthly
Inspect fan blades (or fan wheel) for buildup of dirt or scale, use soft brush or clean rags to loosen or remove dirt, and flush surfaces with clean water.	Monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

CAUTION! SOME FANS MAY HAVE INTERNAL COMPONENTS PROTECTED WITH CORROSIONRESISTANT COATINGS WHICH CAN BE EASILY DAMAGED. DO NOT USE CLEANING TOOLS OR MATERIALS THAT WILL DAMAGE COATINGS.	
Inspect components and repair or replace as required. This includes repairing defects in protective coatings. If Work performed on fan wheel, check balance and rebalance as required.	Annually
<u>Dampers</u>	
Inspect damper assemblies, and report all discrepancies. Inspection shall include:	
<ul style="list-style-type: none"> Verify damper position relative to facility mode of operation. Adjust position indication switches as required. 	Monthly
<ul style="list-style-type: none"> Exercise dampers to verify free operation; repair or adjust as required. 	Monthly
<ul style="list-style-type: none"> Inspect seals and seal contacting surfaces for full contact; adjust seals and/or repair seals and seal contacting surfaces as required. 	Monthly
<ul style="list-style-type: none"> Wipe clean damper operator and connecting linkages; apply a light coat of oil. 	Monthly
<ul style="list-style-type: none"> Clean and inspect bearings; lubricate and adjust bearings as required. 	Monthly
<u>Operated Valves</u>	
Verify valve position relative to facility mode of operation. Adjust position indication switches as required.	Monthly
Clean rods on valve operator and apply a light coat of protective oil.	Monthly
Inspect seals.	Monthly
Inspect and tighten packing as required.	Monthly
<u>All Valves</u>	
Exercise all valves and perform routine maintenance, and report all discrepancies.	Monthly
Grease stems	Monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Inspect packing gland and tighten as necessary.	Monthly
Verify correct position and operation.	Monthly
Check for leaking seals.	Monthly



(b) Air Handling System Instrumentation & Electrical

Description of Work	Frequency
<u>Transmitters and Controllers</u>	
Calibrate and adjust in accordance with the manufacturer's recommendations.	Monthly
<u>Thermometers</u>	
Check for accuracy. Remove thermometers from their wells and check against calibrated thermometer in controlled temperature bath.	Annually
<u>Pressure Gauges</u>	
Isolate pressure gauge by closing the proper valves. Remove and check in a fixture against a calibrated gauge. Adjust as required following equipment manufacturer's instructions.	Annually
<u>Motors</u>	
Check and clean cooling airflow passages on electric motors as necessary so that nothing obstructs airflow.	6-monthly
<u>All Electrical Devices</u>	
Inspect indicating lights for correct illumination on control panels.	Monthly
Check, clean, and tighten terminals at motors, starters, disconnect switches, etc.	6-monthly
Inspect for loose wiring and components in electrical control panels.	6-monthly
Inspect electrical connections for degradation. Repair as required.	6-monthly
Inspect equipment grounding components such as conductors and connections. Repair as required.	Annually
<u>Wiring</u>	
Check insulation on conductors in starters, switches, and junction boxes at motors for cracks, cuts, or abrasions. Replace wiring as required and correct cause of damage.	6-monthly



(c) Intake Air Fans / Exhaust Fans

Description of Work	Frequency
<u>General</u>	
Inspect fan and report all discrepancies. Inspection shall include:	
<ul style="list-style-type: none">• Check for unusual vibration or noise.	Monthly
<ul style="list-style-type: none">• Verify drive guards are in place.	Monthly
<ul style="list-style-type: none">• Visually check drive alignment (and, if belt drive, check for damaged belts).	Monthly
Service fan and fan components. Service shall include:	
<ul style="list-style-type: none">• Lubricate bearings.	3-monthly
<ul style="list-style-type: none">• Wipe motor clean, clear motor ventilation passages, and lubricate motor as required.	3-monthly
<ul style="list-style-type: none">• Check drive alignment; adjust as required and tighten any loose bolts.	3-monthly
<ul style="list-style-type: none">• If belt drive, inspect pulleys and belts; repair or replace as required; adjust belt tension.	3-monthly
<ul style="list-style-type: none">• If direct-connected or connected through a gear box, inspect shaft couplings, tighten loose bolts, and repair or replace as required. Check lube oil in gearbox; add oil as required.	3-monthly
<ul style="list-style-type: none">• Open fan housing inspection cover, remove accumulations of dirt, and inspect internal components for wear; report all discrepancies.	3-monthly
<u>Motors</u>	
Check and clean cooling airflow passages on electric motors as necessary so that nothing obstructs airflow.	6-monthly
<u>All electrical devices</u>	



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Inspect indicating lights for correct illumination.	Monthly
Check, clean, and tighten terminals at motors, starters, disconnect switches, etc.	6-monthly
Inspect for loose wiring and components in electrical control panels.	6-monthly
Inspect electrical connections for degradation. Repair as required.	6-monthly
Inspect equipment grounding components such as conductors and connections. Repair as required.	Annually
<u>Wiring</u>	
Check insulation on conductors in starters, switches, and junction boxes at motors for cracks, cuts, or abrasions. Replace wiring as required and correct cause of damage.	6-monthly

(d) Fan Coil Units

Description of Work	Frequency
<u>General</u>	
Clean filters on a regularly basis.	Monthly
Check piping connections for leaks. Repair if needed.	Monthly
Check piping and equipment for rust spots. Determine cause of rust and repair as required. Clean and paint as required.	Monthly
Check insulation to make sure it is not torn, missing, or degraded, and is still fastened to piping.	Monthly
Check pipe supports, hangers, and straps to make sure the piping is properly supported.	Monthly
Ensure all air vents and flexible ducts are in place	Monthly
<u>Valves & 3 Way Control Valves</u>	
Check water valves for leaks. Correct defective conditions.	Monthly
Check for correct positioning and operation.	Monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Check electrical connections for loose, cracked, or frayed wires where applicable. Repair as required.	Monthly
<u>Fan Motors</u>	
Inspect fan and report all discrepancies. Inspection shall include: Check for unusual vibration or noise.	6-monthly
Lubricate bearings.	6-monthly
Wipe motor clean, clear motor ventilation passages, and lubricate motor as required.	6-monthly
Open fan housing inspection cover, remove accumulations of dirt, and inspect internal components for wear; report all discrepancies.	6-monthly
<u>All Electrical Devices</u>	
Inspect indicating lights for correct illumination.	Monthly
Check, clean, and tighten terminals at motors, starters, disconnect switches, etc.	6-monthly
Inspect for loose wiring and components in electrical control panels.	6-monthly
Inspect electrical connections for degradation. Repair as required.	6-monthly
Inspect equipment grounding components such as conductors and connections. Repair as required.	Annually
<u>Wiring</u>	
Check insulation on conductors in starters, switches, and junction boxes at motors for cracks, cuts, or abrasions. Replace wiring as required and correct cause of damage.	6-monthly
<u>Coils</u>	
Inspect for leads and corrosion. Repair or replace as required. Check for dirty coils. Clean as required; wash or blow clean with inert gas or compressed air.	monthly
<u>Drain Pan</u>	
Clean condensate drain pan, drain connection, and piping. Brush or blow drain lines clean.	monthly
<u>Air Vents</u>	
Clean all air vents	6-monthly



Maintenance and Repairs of Air Conditioning and Ventilating Systems

Indicators	
Inspect all temperature and pressure indicators for cracked or broken covers, insecure mounting, and defective operation.	Annually

(e) Duct Works and Dampers

Inspect and repair if necessary the acoustic lining of ducts and thermal insulation ducts of air conditioning and ventilating systems at the Bank's premises complete with dampers.

(f) Building Management System (BMS)

Assist the BMS's Engineers or the Bank's designated staff as and when required for checking the operation of field controllers and variable control dampers (VCDs) and carrying out any repairs Work or adjustments as required.

END OF ATTACHMENT D



ATTACHMENT E

REQUIRED FORMS

1. General

The following is samples of forms that are used for management and Work control for this Contract. They are as follows:

- System Information Sheet
- Preventive Maintenance Inspection Report
- Service Work Authorization
- Minor Work Order

Other forms may be used subject to the approval of the Bank.

END OF ATTACHMENT E