

National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad

(ORIGINAL SET) FOR
OPERATION AND MAINTENANCE SERVICES

FOR HVAC PLANT / SYSTEM INSTALLED AT NBP G-5/1 BUILDING ISLAMABAD

"Original set must be submitted with a duplicate copy"

DOWNLOADED BY.

Name of Contractor/ Firm: _____

Mailing Address: _____

Name of Authorized Contact Person:

Permanent Address & Contact Number:

.....

Sole Proprietor / CEO etc. Name:

Contact Number:

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

**OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/1 BUILDING, ISLAMABAD**

TABLE OF CONTENTS

Sr. No.	Description	Page No.
1.	Title Page	01
2.	Table of Contents	02
3.	Invitation for Bid	03
4.	Summary	04
5.	Bid Form	05
6.	Bidding Documents (Instruction to Bidder / Bidding Data / Contract Data).	06
7.	General Terms and Conditions	07-08
8.	Schedule No.1 (Scope of Work) Schedule No.2 (Staff Strength)	09-12
9.	Bill of Quantities	13-14

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

INVITATION FOR BID

**OPERATION AND MAINTENANCE SERVICES FOR HVAC PLANT / SYSTEM
OF DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON
INSTALLED AT NBP, G-5/1 BUILDING, ISLAMABAD.**

National Bank of Pakistan, the leading Commercial Bank of the Country invites sealed bids for the procurements of services from HVAC Operation and maintenance firms / vendors for aforesaid works with an active status on **FBR Active Taxpayer List and Provincial Revenue Board** and have vast experience of Operation & maintenance of HVAC plant/system may download tender documents. The Contract will be initially for One Year, which can be extended further with mutual consent. Eligibility criteria for bidding document consists of the following

1. A bidder should have a valid registration in **Pakistan Engineering Council** in financial category **C-6** or above along with **ME-01** specialties on bidding data.
2. Only firms who have successfully completed at least **03nos.** HVAC operation & maintenance contracts of similar nature of works (at least one year each) during last five years are eligible to bid.
3. An affidavit on e-stamp paper of **Rs.100/-** for undertaking that the firm have never been indulged in any litigation and have never been blacklisted by any department/organization.
4. Past performance of the firms / vendor who have previously worked with NBP shall also be considered while issuing the bidding document.

For Interested bidders: **Single Stage-One Envelope Bidding Documents as per PPRA Rule 36 (a)** containing details of bid, detailed terms and conditions, method of procurement, procedure for submission of bids, bid security, bid validity, opening of bid, evaluation criteria, clarification / rejection of bids, performance guarantee etc., have been made available at NBP web site "<https://www.nbp.com.pk/TENDER>" which can be downloaded by interested contractors/ firms till business hours and within working days up till 26-11-2022.

All the interested bidders, who wish to participate in the bidding, must submit the documentary proof of above-mentioned eligibility criteria in the office "**Engineering Wing (North), National Bank of Pakistan, G-5/1 Building, Islamabad. Ph. +92-51-9203117**" for verification on or before 28/11/2022. In case of non-compliance/ineligibility, the contractor/firm will not be allowed to participate in the bidding process.

The bids, prepared in accordance with the instructions in the Bidding Documents along with RS.45,000/- Bid security in shape of Pay order in the name of "**Wing Head (North), National Bank of Pakistan**" must reach in the office of:

**" Wing Head, Engineering Wing (North), National Bank of Pakistan,
G-5/1 Building, Islamabad. Ph. +92-51-9203117"**

on or before 14:30 Hours on 30-11-2022. Bids will be opened on the same day at 15:00 Hours in the presence of tender opening committee and contractors' who wish to be participated. If office remains closed on bidding date for some reasons, this work will be carried out on the consecutive working day. This advertisement is also available on PPRA website at www.ppra.org.pk as well as on the National Bank of Pakistan website <https://www.nbp.com.pk/TENDER>.

**WING HEAD
ENGINEERING WING (NORTH)
NATIONAL BANK OF PAKISTAN
G-5/1 BUILDING, ISLAMABAD
PH: +92-51-9203117**

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

**OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/I BUILDING, ISLAMABAD**

SUMMARY

1. O & M of above HVAC Plant/System for a Period of One Year.

Total Amount: - Rs.....

(RUPEES
.....)

Note: - All items' rates should be inclusive of all types of taxes (Federal & Provisional Govt), including income tax, PRA and any other applicable taxes.

CDR # Bank Name: Dated.....

Rs.....

CONTRACTOR (STAMP & SIGN)

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

**BID FORM
(OFFER LETTER FROM BIDDER)**

Dated: _____

Procuring Agency: NATIONAL BANK OF PAKISTAN

**Invited By: Wing Head, Engineering Wing (North), National
Bank of Pakistan, G-5/1 Building, Islamabad**

Name of works: **OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM
OF DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON
INSTALLED AT NBP, G-5/1 BUILDING ISLAMABAD**

Name of Bidder (in Block Capitals): _____

Bidder NTN No. _____ Bidder PEC Registration No. _____ / _____

Tel: _____ Mobile Number: _____

Bidder Address: _____

1. As a bidder we undertake to examine and to execute the works (subject to final selection) as contained and specified in conformity / compliance with the (Bidding Documents) Invitation to Bid, Bid Form, Bidding Data, Schedules of prices, Terms and Conditions of Contract and Standard Forms and are meant for in bidding documents as mentioned above.
2. The breakup of our **Bid Price** is given in Schedule of prices (Bill of Quantities) and total Bid Price comprises of Pak Rs. _____ (Pak Rupees _____) in accordance with the said Documents and we understand that all the bidding documents hereto form part of this Bid.
3. As an assurance obligation to this Bid, we have submitted a **Bid Security** (as per PPRA rules 25) amounting to Pak Rs. _____ (Pak Rupees _____) Only) in the form of Pay Order in the name of National Bank of Pakistan along with our Bid.
4. We agree to abide by **Bid Validity Period** (as per PPRA rules 26) as specified in **Bidding Data**. We understand that bid validity period starts from the date fixed for receiving of bids and our bid may be accepted at any time before the expiration of that period.
5. We undertake, if our Bid is accepted to commence the Works, we shall deliver and complete the Works comprised in the schedule within the specified period of time(s) as stated in the Contract Data.
6. Unless and until a **Contract** comes in existence, this Form of Bid along with all Bidding Documents shall constitute a Binding Memorandum between us and the National Bank of Pakistan.
7. We clearly understand that National Bank of Pakistan reserves the rights to reject all bids as per PPRA Rule 33 prior to acceptance thereof. The Bank is not bound to accept the lowest one or any bid which it has received and not responsive to requirements.
8. We do hereby declare that this Bid has been made without any collusion, comparison of figures or arrangement with any other bidder or persons making a bid for this particular works.

Signature _____

Name (In Block Capitals): _____

Designation _____

CNIC _____

Official Stamp / Seal

WITNESS:

Signature _____

Name (In Block Capitals): _____

CNIC _____

Address: _____

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

INSTRUCTIONS TO BIDDERS / BIDDING DATA / CONTRACT DATA

Dated: _____

Procuring Agency: NATIONAL BANK OF PAKISTAN

Invited By: Wing Head, Engineering Wing (North), National Bank of Pakistan, G-5/1 Building, Islamabad

Name of works: **OPERATION AND MAINTENANCE OF HVAC PLANT/SYSTEM OF DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED AT NBP, G-5/1 BUILDING ISLAMABAD**

- Scope & Applicability** : These bidding documents are applicable to the above-mentioned works as a project.
- Scope of Tender Works** : OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM OF DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED AT NBP G-5/1 BUILDING ISLAMABAD.
- Bid Security/Earnest Money** : Payment Order/CDR amounting to 0.045Mn in favor of National Bank of Pakistan enclosed with Sealed Bid. (In case of non- submission, Bid would be readily **rejected** at the time of Bid opening).
- Bid Submission Procedure** : Single Stage – Single envelope procedure as per rule 36 (a) of Public Procurement Rules 2004. The bid shall comprise a single package containing two separate envelopes shall contain separately the financial proposal and the technical proposal duly stamped & signed by authorized person of bidder, related technical details / brochures and earnest money Pay order in Single Sealed Envelope marked as “Original”.
- Bid Submission Date & Time** : 30 November 2022; 14:30 HRS
- Bid Opening Date & Time** : 30 November 2022; 15:00 HRS
- Bids Opening Place** : **Wing Head, Engineering Wing (North), National Bank of Pakistan, G-5/1 Building, Islamabad**
- Bid validity period** : 120 days from the date of Opening of Bid.
- Currency of Payment** : Pak Rupees
- O/M OF HVAC Plant** : This term wherever used in Tender Documents will mean Operation and Maintenance of Heating, Ventilation & Air-Conditioning Plant / System of Direct Fire Absorption Chillers Capacity 800 Ton installed at NBP, G-5/1 Building Islamabad
- Evaluation Criteria** : Lowest Financial Evaluated Bid
- Advance Payment** : Nil

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

**OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/I BUILDING, ISLAMABAD**

GENERAL TERMS AND CONDITIONS

1. The contract shall be awarded for a period of One Year. The Contract will be initially for One Year, which can be extended further with mutual consent. The contract may be terminated by a written notice of the intention not to renew the agreement by either party with one month notice during the agreement period.
2. The employer will facilitate the working of the contractor by providing adequate facility particularly a suitable officer for the contractor's Engineer with a telephone extension from the existing intercom system during working hours for easy communication by the Contractor's Engineer with the concerned officials of National Bank of Pakistan.
3. The Contractor will operate the plant/system providing effective Heating, Ventilation and Air-Conditioning in the building as follows: -
 - a) All working days From 8:00 AM to 6:00 PM
 - b) Temperature to be maintained. Temp Range (74°F /24°C TO 78°F /26°C)
 - c) Extra operation per month As per instruction of the employer
4.
 - a) The contractor will operate the plant/system on year-round basis. The cooling ventilation, heating would depend upon the weather conditions & decision in this regard will be at the direction of the employer.
 - b) Normally the cooling/heating cycle shall not be operated during November & February every year and contractor must complete the work of annual overhauling, maintenance, repair and servicing during this period so that the plant/system is in full working order by December & March.
5.
 - a) The contractor will submit a complete list of materials required for the operation and servicing of the plant/system and for the annual maintenance and overhauling, giving three months' time to the employer for their procurement for local material.
 - b) In case the Employer instructs the contractor to supply such items, the contractor will charge 10% as handling charges plus withholding tax set enforce to cover the procurement expenses. The bill of the contractor will be supported by the cash memos or bills of the suppliers for the purchased items.
6. The contractor will be required to physically check the engineering stores of the employer to determine the availability of imported and indigenous spare parts. If any additional spare parts are required, the contractor will submit a list of the same to the employer giving one year's time for procurement of imported spare parts and four months' time for indigenous spare parts.
7.
 - a) The contractor will engage experienced and qualified staff for the operation servicing and maintenance of the plant/system who will work exclusively in the building and shall not be diverted to the contractor's other installation. The staff must remain at the site of work during the operation & maintenance of HVAC plant/system.
 - b) The contractor shall depute additional staff as required from his central workshop for carrying out the work of servicing and maintenance, particularly annual servicing, maintenance and overhauling without any extra cost.
 - c) The contractor shall arrange periodic site visits of his senior Engineer from his Head office to check operation of the plant/system and servicing, maintenance and overhauling work carried out by his staff. The contractor will submit the inspection report to the employer in first week of every quarter for previous quarter specially pointing out any deficiency/short-comings.
8. The contractor will ensure that the spare parts etc. are replaced only when it is considered essential, maximum care would be exercised for economy and all efforts should be made

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

to repair the old part for its reuse. New part should only be substituted when the old part cannot be satisfactorily repaired.

9. The observations for equipment operation and temperature record for working area of the building shall be noted at regular intervals in approved printed log sheets. One set of log sheets should be submitted to the employer representative the same day.
10. The contractor may carry out the servicing of the HVAC plant/system/system on Sunday. The contractor's supervisor Engineer shall inform the Employer's representative on Friday regarding the servicing work to be carried out on Sunday so that the Employer's representative can arrange necessary security and access for the contractor's staff.
11. The contractor must ensure the proper functioning of the plant/system. In case of unsatisfactory functioning or failure of the plant/system on account of negligence of contractor of which the Employer shall be the sole arbitrator/judge, the Employer shall have the right to terminate the agreement by giving a written notice of one month.
12. In case any equipment or parts of the plant/system are damaged or destroyed as a result of negligence of contractor, his agent or employees, the contractor shall be liable to pay for rectification and making good of all such damages or losses.
13. The employer reserves the right to make deduction for the period of interrupted operation of the plant/system on pro-rata basis where the cause of interruption is attributable to the negligence of the contractor, of which the employer shall be the sole arbitrator /judge.
14. For the execution of this contract, the Employer shall be represented by the Resident Engineer of the Employer (herein nominated by the Employer for this purpose and notified in writing to the Contractor for operation & maintenance of HVAC plant/system.
15. The Contractor must ensure to good behavior by his staff and the Contractor's supervisor Engineer should liaison with and follow the instruction of the Employer's representative, particularly regarding the entry of Contractor's staff to the building occupied areas for operation & maintenance of HVAC plant/system.
16. The Employer representative may instruct the contractor's supervisor Engineer to operate the plant/system (i) beyond normal hour on working day or (ii) on a Sunday or Public Holiday if required by giving notice two day before the Holiday, Contractor supervising Engineer will take certificate in writing from the Employer's representative regarding the date and period of the additional operation.
17. The Contractor should submit his bill to the Employer's representative during 1st week of every month for the work carried out during the preceding month, payment shall normally be made within 21 days of the submission of the bill.

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

**OPERATION AND MAINTENANCE OF HVAC PLANT / SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/I BUILDING, ISLAMABAD**

SCHEDULE NO.1

SCOPE OF WORK

1. The Contractor shall be responsible for the operation of complete heating, ventilation & air-conditioning plant/system, complete servicing and maintenance of all equipment, controls, components and accessories including minor repair, annual overhauling and servicing. Major repairs, when required are not included in the scope of works.
2. The employer shall be responsible for the followings; -
 - a) Electricity and water supply.
 - b) Spares and materials required for operation, maintenance, servicing, minor repairs and overhauling excluding misc. items listed in para 3 c.
 - c) Water treatment chemicals, refrigerants, and any special lubricants or oils.
 - d) Suitable office for contractor's supervisor Engineer within or close to the central plant/system room with telephone extension from the existing Building intercom system for easy communication with the concerned officials of NBP.
3. The Contractor shall be responsible for providing following staff & services.
 - a) Supervisor, Associate Engineer, Mechanic fitter, Electrician/helper tools and instruments required for operation, regular and annual servicing, overhauling, maintenance and minor repairs.
 - b) To keep the plant/system room adjoining passages terrace clean and neat, cleaning to be done every day.
 - c) Supply of Misc. items required for work such as cotton waste, cleaning agents and cloth, chemicals & lubricants, grease and floor polish.
4. The Contractor shall ensure that the Heating, Ventilation & Air-Conditioning Plant/system is operated, maintained and serviced efficiently to avoid breakdown during normal operation. The contractor shall also ensure economical consumption of the material and spare parts supplied by the Employer.
5. The Contractor shall be responsible for;
 - a) The temperature on each floor at different locations shall be recorded at least twice daily.
 - b) The equipment operational observations shall be recorded at suitable intervals.
 - c) All readings shall be recorded in approved printed log sheets prepared in duplicate. One set would be supplied to the Employer's representative every day.
6. The Contractor shall be responsible for;
 - a) The supervisor Engineer of contractor shall regularly submit a monthly report in triplicate to the Employer's representative by 5th day of each month regarding overall performance of the complete plant/system during the preceding month and pinpoint any action to be taken by the Employer.
 - b) The Contractor will carry out general overhauling of Heating, Ventilation & Air-Conditioning plant/system once in the month and as when require for smooth operation of plant/system.
 - c) The contractor shall arrange periodic visit (at least once every quarter) from his Head office to check the operation of the complete HVAC plant/system and servicing, maintenance and overhauling works carried out by the Contractor's staff. The Contractor will submit the inspection report to the employer in the first week of every quarter for the preceding quarter.
7. The contractor shall submit an estimate to the employer for approval before carrying out any major repair which become necessary in due course but not due to any negligence or default of the contractor, his agents of which the employer shall be the sole judge. The estimate shall be submitted expeditiously so as not to disrupt the plant/system operation. The contractor shall undertake the work on approval of estimate by Employer.

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

8. The Contractor shall be responsible for: -
- a. Regular and effective chemical treatment of water for condensing, chilled water system by taking samples and testing and recording the result daily.
 - b. Cleaning, removals and prefixing of all air devices, painting of all devices is excluded which will be considered a major repair work.
 - c. Removal & prefixing of false ceiling tiles as required by the contractor for carrying out his work. The contractor shall be responsible for any damage to false ceiling framing and tiles.
9. The work routine servicing and maintenance as required must be completed by the contractor's staff every day.
10. The O&M work is briefly detailed in para. 11, 12 & 13 for referenced only without any limitation.

11. PLANT/SYSTEM OPERATION.

- a) Checking the working of all electrical and mechanical components of the equipment.
- b) Dosing of chemicals for treatment of condensing and water and testing of water samples.
- c) Maintenance of daily operation log sheets.
- d) Any servicing of running repair required during the operation of the plant/system.

12. Weekly/Biweekly/Monthly servicing, and Maintenance of Plant/system.

- a) Washing and cleaning of Air-filters.
- b) Flushing and cleaning of strainers of water system.
- c) Servicing of automatic and safety control of equipment and Air-Conditioning systems.
- d) Checking of all lubricants levels and cleaning the same when required for all equipment components.
- e) Checking of belt driven equipment and adjustment of belt and alignment.
- f) Checking of water levels and level controls valves.
- g) Change of parts due to normal wear & tear when necessary.
- h) Adjustment and lubrication/ greasing of bearings and other components of equipments.
- i) Checking and adjustment of all pressure and safety devices.

13. Annual Maintenance and overhauling

13.1 The work to be carried out between 1st to 15th of November & 15th to 28th February under the supervision of Sr. Resident Engineer. Parts to be changed where necessary instructions given in the manufacturers manuals to be followed. Record of various checks and test to be maintained for the future reference.

13.2 Automatic and safety controls.

13.3 a) Servicing of all water Pumps.

- b) Adjustment of glands and bearings.

13.4 General Overhauling

- a) Flushing and cleaning of Condenser tubes.
- b) Checking and adjustment of dampers.
- c) Checking and adjustment of all bearing and belts.

13.5 FANS

- a) Cleaning of fans
- b) Checking and adjustment of bearings.

13.6 Air-Filters

Cleaning and repairing of Air-Filters.

13.7 Cooling Towers

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

- a) Servicing, cooling towers motors, overhauling of gears and greasing of bearing.
- b) Cleaning of PVC fill with light chemical by taking it outside the cooling towers.
- c) Repairing of leakage of cooling tower with fiber, cloth, cobalt and chemical etc.
- d) Cleaning of Pipes, Sprinkles head etc.

13.8 Automatic Controls

Checking of calibration of automatic temperature, humidity and level controls.

13.9 Temperature Recording

Checking of calibration of temperature sensing devices.

13.10 Electric Motor and Starters.

- a) Cleaning and checking of all components.
- b) Tightening of wiring connections.
- c) Cleaning and adjustment of connectors.
- d) Checking of earthling.
- e) Checking of motor winding insulation with Megger.

13.11 Electrical Control boards and Electric systems.

- a) Checking and servicing of all MCCBs, disconnected switches fuses, connectors, relays, overload cutouts and safety devices.
- b) Tightening of wiring connections.
- c) Checking of wiring insulation.
- d) Checking of earthling.

13.12 Air-Distributing system

- a) Cleaning of air devices, painting is excluded.
- b) Repair of exposed duct, duct insulation, jacketing and covering.

13.13 Piping System

- a) Cleaning and flushing of all piping system including chemical cleaning when required.
- b) Servicing of all valves, specialties, strainers, seats.
- c) Repair of insulation, and covering of all insulation.

13.14 Painting

- a) Painting of all equipment's, exposed ducting and piping. If the original paint has been scratched or has deteriorated.
- b) Painting of air-devices is excluded.

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

SCHEDULE NO.2

STAFF STRENGTH

- A. ASSOCIATE ENGINEER 01 NO.**
Associate Engineer having three (3) year diploma in HVAC / Mechanical or Air-Conditioning with 05 years relevant HVAC experience in reputed firm.
- B. OPERATOR/MECHANIC. 01 NO.**
Matric, with five (5) years experience of maintenance of electrical panel of HVAC equipment in reputed firm.
- C. ELECTRICIAN. 01 NO.**
Matric with five (5) years experience of maintenance of Electrical panel of HVAC equipment in reputed firm.
- D. PLUMBER/PIPE FITTER 01 NO.**
Having three (3) years experience of HVAC experience.
- E.** An experienced Engineer from firm's H.O shall inspect the plant/system after **every 60-days**. The Engineer shall have sufficient experience in direct fire absorption system. He shall report his findings to the Bank after each visit.
- F.** In case of any major breakdown, the contractor shall depute his **Senior Engineer** from company H.O for rectification purpose.
- G.** No TA/DA shall be paid by the Bank on account of obligations mentioned at E & F above.

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

NATIONAL BANK OF PAKSITAN

BOQ

**OPERATION AND MAINTENANCE OF HVAC PLANT/SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/I BUILDING, ISLAMABAD**

Sr#	Description	Contract duration / Months	Rate In figure P. Month	Rate In word P. Month	Total Amount
01.	<p>Operations and maintenance of HVAC plant/system capacity of 800 tons containing direct fire absorption chillers and on monthly basis containing following equipment's / parts.</p> <ol style="list-style-type: none"> 1. Chillers Capacity nominal 400 ton each 02 Nos. 2. Cooling tower 02 Nos. 3. Electrical panels Lot 4. Chilled water pump 03 Nos 5. Centrifugal pumps 03 Nos 6. Air-handling units 14 Nos. 7. Pneumatic Accessories Lot 8. Electrical controls Lot 9. Thermodynamic controls Lot 10. Piping System Lot <p>The H.V.A.C plant/system comprises two direct fire absorption chillers brand SANYO, air-handling units, control panel, electrical controls & panels, cabling, piping and HVAC ducting network with controls, supply and return air grills & diffusers along with all accessories and components of heating, ventilation and air-conditioning system which require successful, smooth and trouble-free operation for maintaining comfortable inside temperature of the building within range (74°F /24°C - 78°F /26°C). at each block of all floors. The salient features, technical specifications and general terms & conditions for operation of HVAC system are detailed in Annexure A.</p> <p>The rates should include all applicable taxes by the Federal / Provincial Government. (Note: The Contract will be initially for One Year, which can be extended further with mutual consent)</p>	12 Months			
				Total Amount	
Total amount in words: Rupees:					

For Bidder (STAMP & SIGN)

**National Bank of Pakistan
Engineering Wing (North) LCMG
G-5/1 Building, Islamabad**

ANNEXURE – A

**OPERATION AND MAINTENANCE OF HVAC PLANT/SYSTEM OF
DIRECT FIRE ABSORPTION CHILLERS CAPACITY 800 TON INSTALLED
AT NBP, G-5/I BUILDING, ISLAMABAD**

Sr#	Description	QTY
01.	Chillers Capacity nominal 400 ton each SANYO direct fire chillers with fire burner, electrical control, electrical panels, mechanical system, generator, steam lines, chilled and condenser pump lines, steam trap controllers.	02 Nos
02.	Cooling Tower Fans, motors, PVC fills, valves, sump, piping, supports etc.	02 Nos
03.	Electrical panels Breakers, magnetic contactors, overload relays, fuses, electric wiring, cabling network, main breaker indication lights, bus bars etc.	Lot
04.	Components of chilled water pumps, Three phase electric motor, casing, shafts, bearing, seals, impeller, locking, gas kit, coupling, gate globe valves, strainers, check valves, expansion joint, foundation with water pumps along with allied components and accessories.	03 Nos
05.	Centrifugal condenser pump Three phase electric motor, casing, shafts, bearing, seals, impeller, locking, gas kit, coupling, gate globe valves, strainers, check valves, expansion joint, foundation with water pumps along with allied components and accessories.	03 Nos
06.	Air-Handling Units Blower, belt, casing, motor, coil, fins, drains, ducts, liner etc.	14 Nos
07.	Maintenance of electro-mechanical equipment require for smooth and trouble-free operation of A.C System which include piping and G.I piping network, G.I and M.S lines and fitting ducts dampers fire dampers.	Lot
08.	Electrical and thermodynamic auto controls etc.	Lot
09.	Pneumatic system with manual and auto controls etc.	Lot

For Bidder (STAMP & SIGN)