



**Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs) at Reserve Bank of India, Jaipur**

Reserve Bank of India, Jaipur invites e-Tender for **Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs) at Bank's Office Building, Reserve Bank of India, Jaipur.** The tendering would be done through the e-Tendering portal of MSTC Ltd (<http://mstcecommerce.com/eprochome/rbi>). All the eligible firms / contractors must register themselves with MSTC Ltd through the above-mentioned website to participate in the tendering process. The Schedule of e-Tender is as follows:

a. e-Tender Name	<b>Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs) at Reserve Bank of India, Jaipur</b>
b. e-Tender no	RBI/Jaipur/Estate/ 122 /20-21/ET/180
c. Mode of Tender	<b>e-Procurement System</b> (Online Part I - Techno-Commercial Bid and Part II - Price Bid through <a href="http://www.mstcecommerce.com/eprochome/rbi">www.mstcecommerce.com/eprochome/rbi</a> )
d. Date of NIT available to parties to download	September 29, 2020, 09:00AM
e. Earnest Money Deposit	<b>Rs 28,000/- (Rs. Twenty-eight Thousand only)</b> <b>through NEFT - details as below along with the Part I / Technical – Commercial Bid.</b> <b>IFSC Code – RBIS0JPPA01</b> <b>A/c number – 8692299</b> <b>MSME firms are exempted for submitting the EMD subject to submission of relevant certificate.</b>
f. Last date of submission of EMD	Till 12:00 noon on <b>20.11.2020</b>
g. Date of Starting of e-Tender for submission of on line Techno-Commercial Bid and price Bid at <a href="http://www.mstcecommerce.com/eprochome/rbi">www.mstcecommerce.com/eprochome/rbi</a>	September 29, 2020, 09:00AM
h. Date of closing of online e-tender for submission of Techno-Commercial Bid & Price Bid	Till 02:00 PM noon on <b>20.11.2020</b>
i. Date & time of opening of Part-I (i.e. Techno-Commercial Bid)	03:00 PM on October 20, 2020.
Date & Time of opening of Part- II (i.e. Price Bid)	Date and time of opening of price bid will be informed separately to all the eligible bidders

	later.
j. Transaction Fee	To be paid through MSTC Payment Gateway/NEFT/RTGS in favour of MSTC Limited or as advised by M/s MSTC Ltd.

**Please note that there is no tender fees to download the tender document from Portal.**

Applicants intending to apply will have to satisfy the Bank by furnishing documentary evidence in support of their possessing required eligibility and in the event of their failure to do so, the Bank reserves the right to reject their candidature.

Any amendments / corrigendum to the tender, if any, issued in future will only be notified on the RBI Website and MSTC Website as given above and will not be published in the newspaper.



Reserve Bank of India  
Estate Department  
Jaipur

**Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs)**

Part I

Techno-Commercial Bid

Name of Bidder:.....

Address:.....

Telephone no:.....

Email Address:.....

Last Date and time of submission of bid/tender: October 20, 2020, 02:00PM

Note: Scanned and Signed copy of Part I need to be upload on MSTC website at relevant tender section. Part II will be directly submitted at MSTC.

<b>Reserve Bank of India (RBI)</b>	
<b>Estate Department</b>	
<b>Jaipur</b>	
<b>E-Tender: Part I / Techno- commercial bid</b>	
<b>Section I : Commercial Conditions</b>	
1.1.1	<b>Name of work:</b> RBI JAIPUR invites tender of “ <b>Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs)</b> ” in two Parts from eligible bidders. It is E-tender and service provider is MSTC. Refer <a href="#">Annexure I</a> before proceeding further.
1.1.2	<b>Estimated cost of work:</b> Rs 14 lakh
1.1.3	<b>Earnest Money Deposit:</b> All Bidder needs to be submitted EMD of Rs.28000/- (refer para 1.4) However, MSME firms are exempted for submission of EMD. Necessary MSME registration certificate is needed to be uploaded along with Part I tender and forward this certificate before submitting the tender to <a href="mailto:estatedeptjaipur@rbi.org.in">estatedeptjaipur@rbi.org.in</a>
1.1.4	<b>Time for completion of work:</b> 1 month from the 14 <sup>th</sup> day of date of issue of work order
1.1.5	<b>Transaction fee of tender will be directly submitted at MSTC website</b>
1.1.6	Date of start of tender: 29.09.2020, 09:00 AM
1.1.7	Last date and time of submission of tender: 20.11.2020, 02:00PM
1.1.8	Date and time of opening of Part I of tender: 20.11.2020, 03:00PM
1.1.9	Date and time of opening of Part II of the tender: Part II will be opened on the date and time which will be communicated to bidders through email later.
1.1.10	<p><b>Eligibility Criteria for vendors/bidders:</b></p> <p>a. Minimum 5 years of experience in the field of undertaking HVAC (Heating, ventilation and air conditioning), precision AC works etc. at large office buildings / commercial Estate / industrial houses/Government organization/PSU's (from the date of issue of e-Tender)</p> <p style="text-align: center;">AND</p> <p>b. Have executed successfully HVAC works from the date of issue of e-Tender individually costing as under: (work order of executed work need to be attached)</p> <p style="padding-left: 40px;">Three works each costing not less than 40 % of the estimated cost OR Two works each costing not less than 50 % of the estimated cost OR One work costing not less than 80 % of the estimated cost</p> <p style="text-align: center;">AND</p> <p>c. Have a minimum yearly turnover of 100 % of the estimated cost during the last 3 years. Bidder should submit a copy of total turnover during last three years i.e.2017-18, 2018-19 and 2019-20.</p> <p style="text-align: center;">AND</p> <p>d. Service setup detail in Jaipur or with in the radius of 250 KM of Jaipur.</p>
1.1	<b>Tendering Process:</b> The tender documents shall be uploaded on MSTC website. All corrigendum, addendum and further communication shall be uploaded on MSTC and RBI website only. The tenders for the above work in two parts i.e. Part I contains technical specifications & terms and conditions. Part II contains only rates of items. Tender shall be submitted on MSTC website (refer <a href="#">Annexure I</a> ). <b>Scan and Signed copy of Part I will be uploaded on MSTC website and rates of Part II will be directly submitted at MSTC website.</b>

1.2	<b>Part II (Financial bid):</b> Part I will be opened the date and time mention above. No deviation will be accepted in Part I of tender. If firm put deviation in the tender. Their tender will be out rightly rejected. Part II of such tender will not be opened. Lowest quoted amount in the Part II will be declared L1 bidder/successful bidder and tender will be awarded to them.
1.3	The rates quoted in Part II of tender shall be firm and shall include charges of GST, levies, consumables, labour, transport, insurance, removing of debris from the site or any work required to complete the work, etc. Bidders are advised to inspect the site before quoting. This is item rate tender and all items are to be executed as directed by Technical officer deputed in the Bank.
1.4	<p><b>All tenderers / bidders are required to submit the EMD (Earnest Money Deposit)</b> as mentioned above in <i>A/c No.8692299, Account name RBI Jaipur , IFSC Code:RBIS0JPPA01 (0=Zero)</i> through NEFT/ Mobile Banking/ RTGS {Intimate/ forward the transaction details to <a href="mailto:estatedeptjaipur@rbi.org.in">estatedeptjaipur@rbi.org.in</a>} If bidder is fails to submit the EMD, tender may cancel. EMD should be interest free and shall be returned to unsuccessful bidders after awarding the work and EMD of L1 bidder/successful bidder will be returned after completion of the work in all respect.</p> <p><b>EMD shall be forfeited if the Bidder:</b></p> <ul style="list-style-type: none"> <li>(i) makes misleading or false representations in the forms, statements and attachments submitted, has suppressed any material information, details of any legal proceedings pending in the court which might otherwise have created any impact on the eligibility criteria; or</li> <li>(ii) withdraws his Bid during the period of Bid validity; or does not sign the contract after award of Contract.</li> <li>(iii) has been blacklisted by any Government agency and the blacklisting is still in force.</li> <li>(iv) If bidder fails to complete the work.</li> </ul>
1.5	<b>Validity of tender:</b> The tenders shall be valid for acceptance by the Bank for a period of 90 days from the date of opening of Part I of tender.
1.6	<p><b>Signing of Contract Agreement</b></p> <p>The successful bidder shall be bound to implement the Contract within 14 days from the date of work order. The cost of necessary stamp paper (Rs 500) for execution of the agreement shall be borne by the Bidder. The format of agreement is attached at <a href="#">annexure-II</a>.</p>
1.7	<b>Time Period:</b> Entire work shall be completed as indicated above, failing which liquidated damages at the rate of 0.25% of the estimated cost per week to a maximum of 10% of the contract value will be recovered for delay beyond the contractual period of completion. The work can be carried out during office hours (9:30 AM to 5:30 PM). The successful bidder is required to make entry passes before start of work for their workers. Special permission is required for working on holidays/late ours apart from regular entry pass.
1.8	<p><b>Extension of time: (before expiry of original date of completion)</b></p> <p>If the L1 bidders desire any extension of time for completion of work on grounds of there having been unavoidable hindrances in execution or any other ground, they shall apply in writing immediately after the occurrence of the hindrance. Such application shall contain complete details of hindrances, which hindered the contractors in the execution of the work and reference to record of entry in the Hindrance Register. The Bank will grant the extension of time, without prejudice to Bank's right to recover liquidated damages or compensation under relevant contract clause. The hindrance due to the Bank will not be the part of calculation of liquidated</p>

	damages.
1.9	<b>Safety and statutory measures:</b> The bidder shall take all safety measure during the execution of the work. The Bank will not accept any liability for any mishap / accident caused while working. The bidder shall indemnify and keep indemnified the Bank against all losses and claims, damages or compensation for breach of any provision of the Payment of Wages Act,1936 Minimum Wages Act 1948, Contract Labour (Regulation and Abolition) Act,1970, Payment of Bonus Act 1965 amended till date or any other labour law/statute in force in this regard.
1.10	<b>Cleanliness:</b> All debris shall be disposed of by the bidder as per the rules and regulation of local authorities concerned beyond the property limits and the site shall be kept free of safety/ fire hazards.
1.11	<b>Security Deposit:</b> Security deposit of 10% of contract amount (including GST, interest free) will be deducted from the bill and same will be returned after completion of <b>two</b> year of defect liability period (DLP). All defect will be rectified free of cost during two year of DLP. All Penalties, if any mentioned in the tender, will be recovered from security deposit account.
1.12	<b>Non-Disclosure clause:</b> The Bidder shall not disclose directly or indirectly any information, materials and details of the Bank's infrastructure/systems/equipment etc., which may come to the possession or knowledge of the Bidder during the course of discharging its contractual obligations in connection with this agreement, to any third party and shall at all times hold the same in strictest confidence. The Bidder shall treat the details of the contract as private and confidential, except to the extent necessary to carry out the obligations under it or to comply with applicable laws. The Bidder shall not publish, permit to be published, or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous written consent of the Employer. The Bidder shall indemnify the Employer for any loss suffered by the Employer as a result of disclosure of any confidential information. Failure to observe the above shall be treated as breach of contract on the part of the Bidder and the Employer shall be entitled to claim damages and pursue legal remedies. The Bidder shall take all appropriate actions with respect to its employees to ensure that the obligations of non-disclosure of confidential information under this agreement are fully satisfied. The Bidder's obligations with respect to non-disclosure and confidentiality will survive the expiry or termination of this agreement for whatever reason.
1.13	The Bidder / Agency shall comply with the provisions of “the Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013”. In case of any complaint of sexual harassment against its employee within the premises of the bank, the complaint will be filed before the Internal Complaints Committee constituted by the Bidder / Agency and the Bidder/Agency shall ensure appropriate action under the said Act in respect to the complaint. The bidder shall be responsible for educating its employees about prevention of sexual Harassment at work place and related issues.  (i)Any complaint of sexual harassment from any aggrieved employee of the bidder against any employee of the Bank shall be taken cognizance of by the Regional Complaints Committee constituted by the Bank.
1.14	<b>Termination for Default:</b> (a) The Bank may without prejudice to any other remedy for breach of Contract, by Seven Days (07) days written notice of default sent to the Bidder and upon the Bidder's failure and neglect to propose and/or execute any corrective action to cure

	<p>the default, terminate this Contract in whole or in part:</p> <p>(i) If the Bidder fails to deliver any or all of the items/works within the time period(s) specified in the Contract; or</p> <p>(ii) If the Bidder fails to perform any other obligation(s) under the Contract.</p> <p>(b) On termination of the Contract for default, the EMD of the Bidder will be forfeited.</p> <p>(c) On termination of the Contract for default, action will be taken to blacklist the Bidder.</p> <p>(d) Bank has right to go in court of law if such case is arrived.</p>
1.15	<p><b>Insurance:</b> The bidder shall obtain and maintain insurance policies in respect of during the execution of the work: :</p> <p>a) work man compensation for working men</p> <p>b) Third party liability (Rs 1 lakh per accident maximum for 3 period)</p> <p>c) Contractor's all risk policies for contract value</p>
1.16	<p><b>Payment Condition:</b></p> <p>(a) 60% of the contract value released after completion and submission of the bill for the value more than 60% of contract value.</p> <p>(b) Rest 40% of the contract value after completion of work.</p> <p>(c) <b>Security deposit</b> of 10% of contract amount (including GST, interest free) will be deducted from the bill (indicated in the b) and same will be returned after completion of <b>Two</b> years of defect liability period (DLP). All defect will be rectified free of cost during Two year of DLP. All Penalties, if any mentioned in the tender, will be recovered from security deposit.</p> <p>(d) All bill is liable to deduct TDS@1% or 2% of contract amount (1% in case of individual firm and 2% for company) and 1% of contract value each of CGST and SGST on TDS.</p> <p>(e) Bill will be paid within 30 days from the date of submission to the Bank.</p>
1.17	Quantity of tender item is indicative which may increase and decrease during execution of the contract in the range of plus minus 25%.
1.18	<b>Extra Item:</b> If the quantity of any of the tender items increases 25% beyond the tender item quantity, such items shall be treated as Extra items and the rates of these shall be prepared on the basis of market rate analysis.
1.19	The Bank reserves the right to reject any or all the tenders before award the contract.
1.20	Special Condition: Being the running office, vendor should ensure minimum disturbance and inconvenience to the office for the entire work in consultation with the Bank's Engineer to avoid any interruption in service during working days. Work may be preferably carried out on Saturday/Sunday. The vendor should also note that any damage done on the walls, doors etc. of the existing AHU room on account of this work needs to be rectified free of cost
Date	Signature of the firm
Place	(By a person holding the Authority/Power of Attorney)

**Section-II**  
**Details of Tenderers**

**A. Particulars of Firm:**

<b>Sr. No.</b>	<b>Particulars</b>	<b>To be filled by Tenderer</b>
1.	Whether Original Equipment Manufacturer	
	Or Authorized Dealer (Please submit the certificate of authority)	Indicate Yes/No for certificate of authority)
2.	Composition of the firm (Whether partnership / proprietorship /Public Ltd.)	
3.	Names of the proprietor/ partners / Directors of the firm	
4.	GST Number	
5.	Address of the Firm	
	Telephone	
	Email	
	Fax	

**B. The details of bankers are as below:**

<b>Sr. No.</b>	<b>Particulars (submit the crossed cancelled cheque)</b>	<b>To be filled by tenderer</b>
1	Name of the Bank	
2	Branch Address	
3	Telephone and fax number	
4	Name of the contact person	
5	Credit facility / overdraft facility enjoyed by firm from the Bank	



6	The period from which the firm has been banking with Bank	.
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**C. Prequalification Criteria :**

Following are our Clients for whom we have executed "eligible" works during last 5 years as per the eligibility criteria (Please submit the documentary evidence in support of)

Sr. No.	Details	Client (1)	Client (2)	Client (3)
1	Name of the Client Organization / Firm:			
	Address :			
	Name of the Contact Person:			
	His/her Mobile No. :			
	His/her Fax No.:			
	His/her Telephone No/s.:			
	His/her e-mail ID:			
2	Name of the "eligible" work with brief particulars			
3	Work order No. and date			
4	Cost of the "eligible" work as per work order / letter of award:			
5	Date of commencement			
6	Stipulated date of completion			
7	Actual date of completion			

Sr. No.	Details	Client (1)	Client (2)	Client (3)
8	Amount of compensation levied by the client for delayed completion, if any:			
9	Gross value of the work completed and paid for :			
10	Whether the tenderer has been engaged by the Client for maintenance under Annual Maintenance Contract (AMC) of the commissioned system (please state Yes or No)			

**D. Please also provide following details with supporting documents as per prequalification criteria:**

1	Work experience in years (please submit old work order of any amount at least 5 years from the date of publish of this tender)	
2	Turnover of the firm for the last 3 years (year wise) and submit the documentary evidence in support of the same duly certified by Chartered Accountant	
	(a) 2019-20	
	(b) 2018-19	
	(c) 2017-18	

**E. Service set up details in Jaipur or NCR region for after sales service:**

**Note : All the details must be filled in the tender documents only no separate annexure will be accepted. Only Submit documents in support of details filled above.**

**Signature of Tenderer with stamp/Date**

### Section-III (Scope of the work)

**Name of work:** Design, Supply, Installation and Commissioning (DSITC) of Ultraviolet germicidal irradiation (UVGI) system for Air Handling Units(AHUs)

**Scope of Work and Technical Specification:**

The Scope of this work comprises the Design, supply, installation, testing and commissioning of UVGI assembly units conforming to these Specifications and in accordance with requirements for the following AHU.

There are total 12 AHUs of approximate capacities and coil dimensions tabulated below

Sr. No	Location	CFM	Coil Dimension (Approx. L x H) in Inches
1	4th floor-AHU12	20000	96" x 62"
2	4th floor -AHU 13	15000	84" x 62"
3	3rd floor-AHU 11	15000	72" x 62"
4	3rd floorAHU 10	20000	96" x 62"
5	2nd Floor-AHU 9	18000	72" x 72"
6	2nd Floor-AHU 8	18000	72" x 72"
7	1st floor-AHU 6	20000	96" x 62"
8	1st floor-AHU 7	15000	72" x 62"
9	1st floor-AHU 5	26563	113" x 81"
10	1st floor-AHU 4	26563	113" x 81"
11	Ground floor-AHU1	23000	82" x 48"
12	Ground floor-AHU2	13500	96" x 74"

The scope of work shall include the following.

- Visiting site to ascertain exact size and details of the required components of AHUs.
- Designing and supplying sufficient power UVGI tubes/lamps of UV-C band for cooling coil and air disinfection with proper mounting stands/assembly for all AHUs. Intensity and dose of the UV arrangement/lamp should be as per the statutory requirement as recommended by ISHRAE or other standard institutes for fulfilling the specified purpose. Details of lamp arrangement in this regard is to be submitted by bidders.
- Transportation, packing, unpacking and installing the materials at site. Removal of garbage and packing material.
- Repair/Replace faulty parts free of cost during the Defect Liability Period (DLP) of period of two years.
- Commissioning, testing and handing over of the entire system to the Bank. Sanitization of the all AHU before commissioning and after completion of the work as per the standard guidelines.
- Wiring/caballing required for the installation of the UVGI lamp with all

necessary hardware, accessories as per the OEM standard. Bank shall provide source of supply near respective AHU. Tapping/ looping from the nearest source provided is included in scope of contractor.

- Control panel required for the operation of the UVGI lamp shall be in scope of contractor.
- The firm shall submit the drawing/specification of UVGI lamp system before installing for approval. The firm must follow the selection/Basic design as mentioned below.
- The tenderer should indicate in his tender the complete description of the working of the system/sub systems and their power requirements with all relevant brochures/literature etc. in addition to those called for in the Technical Specifications.
- Tenderer shall supply all tools, plants, scaffolding, labour and consumables etc. as required for installation, testing and commissioning of the UVGI system in AHU's.

#### **1. Selection Criteria/Basis of Design:**

- The UVGI System shall be designed to cover the entire face area of the cooling coil when installed in the AHU to achieve UVC (254 +/- 1nm wavelength irradiations with Minimum dosage of 4016  $\mu\text{W}/\text{cm}^2/\text{sec}$ .
- The face velocity of dehumidified air over the coil will be 500 FPM or lower. When installed in the duct the face velocity can be higher.
- The UVGI system shall achieve near total elimination of bacteria/biomass on the cooling coil. Subsequently, the UVGI system may be kept in ON position when AHU is switched on and off when AHU off.
- The number of lamps and position inside AHU of UVGI system shall be designed to ensure minimum intensity of 4016  $\mu\text{W}/\text{cm}^2$  per Sec on the AHU cooling coil without affecting normal AHU operation and Air flow.
- An undertaking from Manufacturer regarding rectification / replacement defects UV lamps during the stipulated running life (minimum 9000 hours) shall be provided by successful bidder.
- The UVGI system shall be suitable for installation in an AHU without any hampering to the AHU function.

#### **1.1 GENERAL**

- The UVGI system shall be suitable to operate with 230V  $\pm$  15%, 50Hz single phase AC Supply. The power supply shall be made available near the AHU.
- The UVGI system shall be installed in front of cooling coil and downstream between AHU cooling coil and blower, with lamp facing coil mounted on suitably spaced mounting structures so that the airflow is not hampered

inside the AHU and coil maintenance is not affected.

- The selection and placement of the UVGI system shall ensure full irradiation of the entire face area of the cooling coil.
- The UVGI System shall be free standing and be mounted in such a manner that lamps are in perpendicular position to air flow using Aluminium arrangement to be corrosion free.
- The electronic driver shall be installed in the control panel outside the AHU to avoid any effect on the electronic components due to moisture and to avoid additional heat generated load inside the AHU.
- **Irradiation** : The UVGI system and fixtures are to be installed in sufficient quantity and in such an arrangement to provide an equal distribution of UVC energy on the coil and in the drain pan. To maintain energy efficiency, the UVC energy produced shall be of the lowest possible reflected and shadowed losses.

### **1.2 UV LAMPS:**

The UV lamps shall meet following criteria:

- The lamp shall produce UVC of 254nm +/-1 nm wavelength as required to achieve the required parameters. UV lamps shall comply with ASHRAE standards for UV Lamps and Electronic Components use in system shall be UL Certified.
- Intensity of each UV lamp shall be minimum 800  $\mu\text{W}/\text{cm}^2$  when measured at a horizontal distance of 250mm from the lamp.
- UV lamps shall be fabricated out of special high transmission Quartz glass and shall have high output, hot cathode. They shall produce minimum 95% of their energy at 254 nm. UV lamp shall not produce ozone or other secondary contamination and to substantiate this the lamps shall be factory tested for output performance of 254 nm, performance output at the end of the declared useful life period etc and lamp manufacturer has to submit UV lamp performance certificate for NABL certified lab indicating the rated output.
- The UV lamps should preferably be made in India for ease of spares availability and faster deliveries. The contractor shall specify the make and origin of the UVGI system being offered.
- The effective Life of lamp shall be guaranteed for minimum 9000 hours with full intensity of operation.

**1.3 Assembly Details:**

- Units shall have UV-C germicidal lamp of high output, HVAC-type, factory assembled and tested. Components shall include a housing, high efficiency electronic power source, sockets and lamps, all constructed to withstand HVAC environments.
- Housings shall be made of robust materials, with Units having suitable electrical connectors to simplify wiring.
- Reflectors shall be Aluminium parabolic in shape.
- High efficiency electronic power sources shall be suitable for 230V  $\pm$  15%, 50Hz single phase AC operation with power factor more than 0.9 and THD less than 15%. Installation of ballast and control electronics shall be made outside the AHU, in a separate control panel.
- The UVGI System and fixtures are to be installed as per the design and arrangement so as to provide an equal distribution of UVC energy on the coil and to maintain energy efficient UVC energy with the lowest possible reflected and shadowed losses.

**1.4 Support and Framework-**

- The entire framework and support in contact with the dehumidified air (wetted parts) shall be fabricated out of Aluminum Alloy. All material used shall be UV resistant.
- The framework shall be free standing.
- All parts inside the AHU should be corrosion resistant.
- The reflectors shall be in Aluminium Alloy of high UV reflectivity and parabolic in shape.

**1.5 CONTROL PANEL**

- Electronic ballasts with high power factor of  $> 0.90$ ,  $THD \leq 15\%$ .
- The ballasts shall be constant current output ballast over input voltage range.
- Microprocessor based control panel with LCD / LED Display.
- Individual Lamp run hours for timely and easy replacement.
- Individual lamp On/Off/Error Indicator.
- Ballast Protection Circuit.
- Lamp change reminder on Display.
- Audible buzzer for any safety breach in the system.

- Suitably rated RCBO/MCB for ON/Off of incoming Mains power.
- Control box ON / OFF.
- FRLS cables & wires.
- Set of Indicators:
- Main power ON / OFF
- Individual UV lamp ON / OFF
- UV lamp failure indication
- Control box shall be metal clad enclosed and be fabricated out of high quality CRCA sheet, rigid, floor/wall mounting (as per site constraint), air insulated, Front operated, free standing, IP54 protection class construction.

### **1.6 Earthing**

Minimum 14 SWG GI wire shall be employed to provide earthing for all electrical installations and shall be connected to existing earthing strip inside AHU room.

### **1.7 SAFETY**

- The operation of the UV lamp shall be interlocked through AHU door panel lock and shall be independent of the AHU operation. The system shall be interlocked with the AHU door panel so that it will be ON ONLY WHEN AHU DOOR IS CLOSED and OFF when AHU DOOR IS OPEN.
- Proper UV caution Safety labels shall be applied to the control panel and on the AHU sides and at different strategic points.
- Fire Retardant Low Smoke (FRLS) PVC sheathed armoured copper cables shall be used for power and control wiring.

### **1.8 Certificates**

The supplier shall provide manufacturer's test certificates for main items like UV lamp, ballast etc. The factory performance test certificate shall include details such as no ozone emission or other secondary contaminations, output performance of 254 nm, performance output at the end of the declared useful life period etc and Lamp manufacturer has to submit the UV lamp performance certificate from NABL certified lab indicating the rated output.

### **1.9 INSTALLATION**

- The UVGI lamps shall be mounted on a self-supporting rigid frame and the flow of air shall be perpendicular to the direction of air flow.
- All safety and certification from UL or any other accredited lab shall be attached with the technical submittal of the lamp.

- Proper and suitable earthing connections to be made for the UVGI system with the existing AHU earthing system.

#### **1.10 TESTING & COMMISSIONING**

- The intensity of the UV Lamps across the coil shall be measured using a NABL calibrated UV light meter at the time of commissioning installation. UV meter will be brought by the vendor.
- The system shall be commissioned by the trained personnel duly authorized by the UV lamp manufacturer.
- Proper safety and operational training shall be imparted to the RBI staff and contract staff which shall be documented.
- One set of Manufacturer catalogues, Test certificates etc and system Operation and Maintenance manuals shall be submitted to the Bank after successful testing and commissioning of the system by the contractor

#### **1.11 Details of the UVGI lamp to be furnished by the tenderer**

<b>Sr.No</b>	<b>Parameter</b>	
1	UV lamp make	
2	Lamp Life (in hours)	
3	UV wavelength	.....nm +/-.....%
4	Intensity	..... $\mu\text{W}/\text{cm}^2$
5	% output at 254 nm	
6	Power Factor & THD of electronic ballast	

Any extra details if tenderer wish to furnish may please be submitted separately. The material use shall be ISI certified or as per the standards as specified by ISHARE.

Date	Signature of the firm
Place	(By a person holding the Authority/Power of Attorney)



**Section-IV (Un-priced financial- bid/ Part-II)**

<b>Sr. No</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	Design, Supply, Installation, Testing and Commissioning of UVGI – C disinfectant system for cooling coil and air disinfection in the AHUs of following capacities including all mounting arrangement within AHU and control gears for UV systems, wiring and as described in the tender part-I and as directed by the Banks engineer.	
A	20000 CFM	3 Nos.
B	15000 CFM	3 Nos.
C	18000 CFM	2 Nos.
D	26563 CFM	2 Nos
E	23000 CFM	1 Nos
F	13500 CFM	1 Nos

**Signature of Tenderer with stamp/Date**

## Annexure I

**Important instructions regarding e-tender**

This is an e-procurement event of Reserve Bank of India, JAIPUR. The e-procurement service provider is MSTC Limited.

You are requested to read and understand the Notice Inviting E-Tender and subsequent Corrigendum, if any, before submitting your online tender. Tenderers who do not comply with the conditions with documentary proof (wherever required) will not qualify in the Tender for opening of price bid.

1.	<p><b>Process of E-tender :</b></p> <p><b>A) Registration:</b> The process involves vendor's registration with MSTC e-procurement portal which is free of cost. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Techno-Commercial Bid as well as Price Bid over the internet will be done. The Vendor should possess Class III signing type digital certificate. Vendors are to make their own arrangement for bidding from a P.C. connected with Internet. MSTC/RBI, JAIPUR is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).</p> <p><b>SPECIAL NOTE: THE PRICE BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE ONLY AT <a href="http://www.mstcecommerce.com/eprochome/rbind">www.mstcecommerce.com/eprochome/rbind</a></b></p> <p>1). Vendors are required to register themselves online with <a href="http://www.mstcecommerce.com">www.mstcecommerce.com</a> → e-Procurement → PSU /govt depts → RBI JAIPUR → Register as Vendor Filling up details and creating own user id and password → Submit.</p> <p>2). Vendors will receive a system generated mail confirming their registration in their email which has been provided while filling the registration form.</p> <p>In case of any clarification, please contact MSTC/RBI, JAIPUR, (before the scheduled time of the e- e-Tender).</p> <p><b>Contact person (MSTC):</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1) Mr Sumit Chakraborty</td> <td style="width: 50%;">2) Shri Vikas Agrawal</td> </tr> <tr> <td>Deputy Manager (NRO)</td> <td>Assistant Manager</td> </tr> <tr> <td>Mobile no: 7043414496</td> <td>Mobile no- 9004311440</td> </tr> <tr> <td></td> <td>Email-<a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a></td> </tr> <tr> <td>Landline-01132068276</td> <td>Email-<a href="mailto:smohanta@mstcindia.co.in">smohanta@mstcindia.co.in</a></td> </tr> </table> <p><b>Contact person (RBI JAIPUR):</b></p>	1) Mr Sumit Chakraborty	2) Shri Vikas Agrawal	Deputy Manager (NRO)	Assistant Manager	Mobile no: 7043414496	Mobile no- 9004311440		Email- <a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a>	Landline-01132068276	Email- <a href="mailto:smohanta@mstcindia.co.in">smohanta@mstcindia.co.in</a>
1) Mr Sumit Chakraborty	2) Shri Vikas Agrawal										
Deputy Manager (NRO)	Assistant Manager										
Mobile no: 7043414496	Mobile no- 9004311440										
	Email- <a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a>										
Landline-01132068276	Email- <a href="mailto:smohanta@mstcindia.co.in">smohanta@mstcindia.co.in</a>										

	<p><b>Shri Harshad Kelkar, Assistant Manager, Estate Department</b></p> <p><b>MOB: 8828202902</b></p> <p><b>B) System Requirement:</b></p> <p>i) Windows XP-SP3 &amp; above/Windows 7 Operating System</p> <p>ii) IE-7 and above Internet browser.</p> <p>iii) Signing type digital signature</p> <p>iv) JRE 7 update 9 and above software to be downloaded and installed in the system.</p> <p>To enable ALL active X controls and disable 'use pop up blocker' under Tools→Internet Options→ custom level</p> <p>For more details, vendor may refer to the <b>Vendor Guide</b> and <b>FAQ</b> available at <a href="http://www.mstcecommerce.com/eprochome">www.mstcecommerce.com/eprochome</a>.</p>
2.	<p>(A) Part I Techno-Commercial bid will be opened electronically on specified date and time as given in the NIT.</p> <p>(B) Part II Price bid will be opened electronically of only those bidder(s) whose Part I Techno-Commercial Bid is found to be Techno-Commercially acceptable by RBI, JAIPUR. Such bidder(s) will be intimated date of opening of Part II Price bid, through valid email confirmed by them.</p> <p><b>Note:</b></p> <p>The tenderers are advised to offer their best possible rates. There would generally be no negotiations hence please submit your most competitive prices while submitting the price bid. However in case the lowest rate appears to be reasonable taking into account the prevailing market conditions, the order may be awarded to the lowest bidder and if the rate is still considered high, action as per prevailing instruction/guideline shall be taken.</p>
3.	<p>All entries in the e-Tender should be entered in online Technical &amp; Commercial Formats without any ambiguity.</p>
4.	<p><b>Special Note towards Transaction fee:</b> PAYMENT OF Transaction fee is online on MSTC site .After making the payment for transaction fee, the vendor should enter the transaction fee details by using the "Transaction Fee entry" Link under "My Menu" in the vendor login. Here the vendor may select the particular e-Tender in which they want to participate by clicking on the tick box at the right and then Clicking on the "Submit" Button at the bottom Of the page. Then the page appears where the vendors are required to fill up the transaction details, namely the UTR No, Date Of Transaction, And the Remitting Bank in the given fields and then clicking on the "Confirm" Button.</p>

	<p><b>NOTE :</b> The bidders should submit the transaction fee well in advance before the last date of submission of e-Tender as they will be activated for bid submission only after receipt of transaction fee by MSTC.</p> <p>Vendors are advised not to deposit cash in bank as it becomes difficult to ascertain the details of the remitter from such cash transactions.</p> <p><b>Contact Details :</b></p> <p>Shri Vikas Agrawal</p> <table data-bbox="293 573 1461 801"> <tr> <td>Deputy Manager (NRO)</td> <td>Assistant Manager</td> </tr> <tr> <td>Mobile no: 09971668889</td> <td>Mobile no- 9004311440</td> </tr> <tr> <td>Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a></td> <td>Email-<a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a></td> </tr> <tr> <td>Landline-01132068276</td> <td>Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a></td> </tr> </table> <p>Bidders may please note that the transaction fee should be deposited by debiting the account of the bidder only; transaction fee deposited from or by debiting any other party's account will not be accepted. <b>Transaction fee is non-refundable.</b></p> <p>In case of failure to make payment towards Transaction fee for any reason, the vendor, in term, will not have the access to online e-tender.</p>	Deputy Manager (NRO)	Assistant Manager	Mobile no: 09971668889	Mobile no- 9004311440	Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a>	Email- <a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a>	Landline-01132068276	Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a>
Deputy Manager (NRO)	Assistant Manager								
Mobile no: 09971668889	Mobile no- 9004311440								
Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a>	Email- <a href="mailto:vagrawal@mstcindia.co.in">vagrawal@mstcindia.co.in</a>								
Landline-01132068276	Email: <a href="mailto:umesh@mstcindia.co.in">umesh@mstcindia.co.in</a>								
5.	<p>Vendors are instructed to use <b>Upload Documents</b> link in My menu to upload documents in document library. Multiple documents can be uploaded. Maximum size of single document for upload is 5 MB.</p> <p>Once documents are uploaded in the library, vendors can attach documents through <b>Attach Document</b> link against the particular e-Tender. Please note that if the documents are not attached to any e-Tender, the same cannot be downloaded by RBI JAIPUR and it will be deemed that the vendor has not submitted the documents. For further assistance please follow instructions of vendor guide.</p>								
6.	<p>All notices and correspondence to the bidder(s) shall be sent by email only during the process till finalization of e-Tender by RBI, JAIPUR as well as by MSTC (e-procurement service provider). Hence the bidders are required to ensure that their email address provided is valid and updated at the stage of registration of vendor with MSTC (i.e. Service Provider). Bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).</p>								

7.	<p>(i) Please note that there is no provision to take out the list of parties downloading the e-Tender document from the web site mentioned in NIT. As such, bidders are requested to see the web site once again before the due date of e-Tender opening to ensure that they have not missed any corrigendum uploaded against the said e-Tender after downloading the e-Tender document. <b>The responsibility of downloading the related corrigenda, if any, will be of the bidders only.</b></p> <p>(ii) No separate intimation in respect of corrigendum to this NIT (if any) will be sent to tenderer (s) who have downloaded the documents from web site. Please see website <a href="http://www.mstcecommerce.com/eprochome/rbind">www.mstcecommerce.com/eprochome/rbind</a> of MSTC Ltd.</p>
8	E-tender cannot be accessed after the due date and time mentioned in NIT.
9.	<p><b><u>Bidding in e-tender</u></b></p> <p>a) Bidder(s) need to submit necessary EMD, E-Tender fees (If ANY) and Transaction separately for the e-tender. Transaction fees if any are non-refundable. No interest will be paid on EMD. EMD of the unsuccessful bidder(s) will be refunded by RBI, JAIPUR.</p> <p>b) The process involves Electronic Bidding for submission of Techno Commercial Bid as well as Price Bid.</p> <p>c) The bidder(s) who have submitted the above fees can only submit their Techno Commercial Bids and Price Bid through internet in MSTC website <a href="http://www.mstcecommerce.com">www.mstcecommerce.com</a> → e-procurement → PSU /Government Departments →RBI JAIPUR Login →My menu→ Auction Floor Manager→ live event →Selection of the live event→ Techno Commercial Bid.</p> <p>d) The bidder should allow to run an application namely en Apple by accepting the risk and clicking on run. This exercise has to be done twice immediately after reaching the bid floor. If this application is not run then the bidder will not be able to save/submit his bid.(for details refer vendor guide &amp; FAQ).</p> <p>e) First the vendor needs to fill up the Commercial specification if any and save it. Then the vendor should fill up the Techno-commercial bid. After filling the Techno-Commercial Bid, bidder should click 'save' for recording their Techno-Commercial bid. Once the same is done, the Price Bid link becomes active and the same has to filled up and then bidder should click on "save" to record their price bid. Then once both the Techno-Commercial bid &amp; price bid has been saved, the bidder can click on the "Final Submission" button to register their bid</p> <p><b>NOTE:</b> - After clicking the final submission two more options will show up, "Withdraw bid" and "Delete bid". If the vendor wants to withdraw its bid permanently then they should click withdraw bid link. He/she will not be able to bid again. If the vendor wants to delete the bid after final submission and re submit the bid then he/she</p>

	<p>should click delete bid and resubmit the same and again click final submission.</p> <p>f) In all cases, bidder should use their own ID and Password along with Digital Signature at the time of submission of their bid.</p> <p>g) During the entire e-tender process, the bidders will remain completely anonymous to one another and also to everybody else.</p> <p>h) The e-tender floor shall remain open from the pre-announced date &amp; time and for as much duration as mentioned above.</p> <p>i) All electronic bids submitted during the e-tender process shall be legally binding on the bidder. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by the Buyer will form a binding contract between Buyer and the Bidder for execution of supply/work. Such successful tenderer shall be called hereafter <b>SUPPLIER/CONTRACTOR</b>.</p> <p>j) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.</p> <p>k) Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.</p> <p>l) No deviation of the terms and conditions of the e-Tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms &amp; conditions for the e-Tender.</p> <p>m) Unit of Measure (UOM) is indicated in the e-tender Floor. Rate to be quoted should be in Indian Rupee as per UOM indicated in the e-tender floor/tender document.</p>
10.	Any order resulting from this open e-tender shall be governed by the terms and conditions mentioned therein.
11.	No deviation to the technical and commercial terms & conditions are allowed.
12.	RBI, JAIPUR has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.
13	The online e-Tender should be submitted strictly as per the terms and conditions and procedures laid down in the website <a href="http://www.mstcecommerce.com/eprchome/rbind">www.mstcecommerce.com/eprchome/rbind</a> of MSTC Ltd.
14.	The bidders must upload all the documents required as per terms of NIT. Any other document uploaded which is not required as per the terms of the NIT shall not be considered.
15	The bid will be evaluated based on the filled-in technical & commercial formats.

- |     |                                                                                                                                                                                                                                                                                                                 |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16. | The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders. |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Annexure II

### FORMAT FOR ARTICLES OF AGREEMENT ( for successful bidder)

(On the Rs.500/- stamp paper)

ARTICLES OF AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ between the Reserve Bank of India, Jaipur (hereafter called "The Bank") of the one part and \_\_\_\_\_ (thereinafter called "the Contractor") of the other part.

WHEREAS The Bank is desirous of (**Name of work**) at \_(location)\_ and has caused specifications describing the works to be done.

AND WHEREAS the said specifications, the Schedule of Quantities and drawings have been signed by or on behalf of the parties hereto.

AND WHEREAS the Contractor has agreed to execute upon the subject to the Conditions set forth herein and to the Conditions set forth in the Special Conditions and in the Schedule of Quantities and Conditions of Contract (all of which are collectively hereinafter referred to as "the said Conditions") the works shown upon the said drawings and/or described in the said specification and included in the Schedule of Quantities at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable thereunder (hereinafter referred to as 'the said Contract Amount')

#### NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of said Contract Amount to be paid at the times and in the manner set forth in the said conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work shown upon the said Drawings and described in the said Drawings and described in the said Specifications and the Schedule of Quantities.
2. The Bank shall pay the Contractor the said Contract Amount, or such other sum as shall become payable, at the times and in the manner specified in the said conditions.
3. The said Conditions and Appendix thereto shall be read and construed as forming part of this agreement and the parties hereto shall respectively abide by, submit themselves to the said Conditions and perform the agreements on their part respectively in the said Conditions contained.
4. The plans, agreement and documents mentioned herein shall form the basis of this Contract.
5. This Contract is neither a fixed/ Lump sum Contract nor a Piece work Contract but is a Contract to carry out the "**Name of work**" to be paid for according to actual measured quantities at the rates contained in the Schedule of Rates and Probable quantities or as provided in the said Conditions.
6. The Contractor shall afford every reasonable facility for the carrying out of all works relating to civil works and other ancillary works in the manner laid down in the said Conditions, and shall make good any damages done to walls, floors etc. after the completion of such works.



- 7. The Bank reserves to itself the right of altering the Drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this contract.
- 8. Firm shall provide two years of defect liability for the installation. During this period any defect found , will be rectify the firm free of cost.
- 9. All payments by The Bank under this Contract will be made only at Jaipur.
- 10. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Jaipur and only Courts in Jaipur shall have jurisdiction to determine the same.
- 11. That the several parts of this Contact have been read by the Contractor and fully understood by the Contractor.

If the contractor is a Partnership or an Individual

IN WITNESS WHEREOF The Bank and the Contractor have set their respective hands to these presents and two duplicate hereof the day and year first hereinabove written.

If the contractor is a Company

IN WITNESS WHEREOF The Bank has set its hand to these presents through its duly authorised official and the Contractor has caused its common seal to be affixed hereunto and the said two duplicate/has caused these presents and the said two duplicates hereof to be executed on its behalf, the day and year first hereinabove written.

Signature Clause

SIGNED AND DELIVERED by the Reserve Bank of India by the hand of Shri ..... (name and designation)

..... in the presence of

(1) Address

(2) Address

.....  
.....  
.....

Witnesses

SIGNED AND DELIVERED BY If the part is a partnership firm or any individual should be signed by all or on behalf of all the partners.

..... 1)..... Address

.....  
.....

.....

2)

.....

..

Address

.....

.....

.....

If the Contractor signs under its common Seal the signature clause should tally with their sealing clause in the Articles of Associations.

Witnesses

THE COMMON SEAL OF

Was hereunto affixed pursuant to the resolutions passed

By its Board of Directors at the meeting held on

.....

.....

.....

.....

In the presence of

The Contractor is signing by the hand of power of attorney whether a company or individual.

The Contractor is signing by the hand of power of attorney whether a company or individual.

( 1 )

.....

( 2 )

.....

Directors who have signed these presents in taken thereof in the presence of

(1) .....

(2) .....

SIGNED AND DELIVERED BY the Contractor by the hand Of Shri

.....

and duly constituted attorney.