**P R O F O R M A**

**Request for Market Information (“RFI”) for   
Supply and Installation of UV Sterilizer and Disinfecting Machine**

**for the Chinese Medicine Hospital (“CMH”)**

**(CMHPO Ref. : HHB/H/24/17/3/3/7)**

To : Project Director (CMHPO)

(Attn. Rex MAK)

[by fax: 2127 4795 or email: rhwmak@healthbureau.gov.hk]

Your ref: (1) in L/M to HHB/H/24/17/3/3/7

In response to the RFI of the CMH, my/our company, with contact details provided in Part 1 below, would like to provide the information and relevant supporting documents in Parts 2 to 8 of this Proforma.

**Part 1 – Supplier’s Contact Details**

From:

(Name of the Supplier): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(please fill in)

Name and Post of Contact person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(please fill in)

Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Telephone no.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(please fill in) (please fill in)

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*This document does not constitute any offer or invitation / solicitation of any offer in connection with the exercise described herein. Neither this document nor any activities in connection therewith shall create any legal obligations or liabilities in any way on the part of the Health Bureau (HHB) or the Government of Hong Kong Special Administrative Region. Neither this document nor anything contained herein shall form the basis of any contract or commitment whatsoever. In responding to the RFI, a respondent shall be deemed to have agreed to all the terms of this Request for Market Information.*

**Purpose and Background Information of the RFI**

1. Purpose

Chinese Medicine Hospital Project Office (“**CMHPO**”) of the Health Bureau (“**HHB**”) of the Government intends to invite a tender for the supply and installation of UV sterilizer and disinfecting machine (hereinafter refers as the “**Goods**”) for the Chinese Medicine Hospital (“**opCMH**”) located at Pak Shing Kok in Tseung Kwan O. The CMHPO therefore wishes to collect market information on UV sterilizer and disinfecting machine.

1. Background of the CMH Project

The Chief Executive announced in the 2014 Policy Address that the Government had decided to reserve a site in Tseung Kwan O for setting up a CMH. The 2017 Policy Address stated that the Government decided to finance the construction of the CMH and identify by way of tender a suitable non-profit-making organisation (“NPMO”) to operate the CMH. CMH will be owned by the Government and the selected NPMO will operate the CMH. The CMH would be positioned as a flagship Chinese Medicine (“CM”) institution leading the development of CM services and Chinese medicines in Hong Kong. It will be a change driver, promoting service development, education and training, innovation and research, and facilitating collaboration with both local and international parties.

The CMH with provision of 400 beds will provide a comprehensive range of CM services. Service types include pure CM services, services with CM playing the predominant role in collaboration with Western Medicine (“WM”) and Integrated Chinese-Western Medicine (“ICWM”) services. The scope of service to be provided in the CMH covers inpatient, day-patient, outpatient and community outreach services.

To take forward the planning and development of the project on CMH, a designated office i.e. CMHPO, was established under the Health Bureau (the former Food and Health Bureau) on 2 May 2018. Hong Kong Baptist University (HKBU) was selected as the Contractor for the CMH operation. HKBU, as the Contractor, has incorporated a company limited by guarantee, namely HKBU Chinese Medicine Hospital Company Limited as the Operator to manage, operate and maintain the CMH. The CMH project has proceeded to the commissioning stage in 2021. It is targeted to commence hospital services by phases from 2025.

More information on the services provision and design of the CMH can be found in the following link:

<https://www.healthbureau.gov.hk/en/press_and_publications/otherinfo/200900_cmhp/index.html>.

**Note to Suppliers**

1. If your company have more than one UV sterilizer and disinfecting machine that may meet the requirements of the Goods stated in this Proforma, **please complete and return, together with relevant supporting documents, one set of Proforma for each different UV sterilizer and disinfecting machine**.

**Part 2 – General Information of the item**

|  |  |
| --- | --- |
| **Item 1.1: Escalator Handrail UV Sterilizer** | |
| 1. Place of origin |  |
| 1. Name of manufacturer |  |
| 1. Address of the manufacturer’s factory or plant (“Manufacturing Plant”) |  |
| 1. Product name of the item |  |
| 1. Model number/ name/ version number of the item |  |
| 1. Authorised agent or distributor of the manufacturer in Hong Kong |  |
| 1. Packing (if applicable) |  |
| 1. Delivery method and route (where the place of origin is outside Hong Kong) |  |
| 1. Warranty period of the item   (*Please refer to section F in Part 3 for details of the warranty service requirements*) | \_\_\_\_\_\_\_\_\_\_\_\_ months from Acceptance of the item  (*Should not be less than 12 months*) |
| 1. Expected serviceable life (*Please specify any components of the item that cannot meet the serviceable life*) | The item shall have a serviceable life of \_\_\_\_\_\_\_ years from its date of acceptance except the following components:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (*Please also provide the expected life of these excluded components*) |

|  |  |
| --- | --- |
| **Item 1.2: UV Disinfecting Machine with Luminaire** | |
| 1. Place of origin |  |
| 1. Name of manufacturer |  |
| 1. Address of the manufacturer’s factory or plant (“Manufacturing Plant”) |  |
| 1. Product name of the item |  |
| 1. Model number/ name/ version number of the item |  |
| 1. Authorised agent or distributor of the manufacturer in Hong Kong |  |
| 1. Packing (if applicable) |  |
| 1. Delivery method and route (where the place of origin is outside Hong Kong) |  |
| 1. Warranty period of the item   (*Please refer to section F in Part 3 for details of the warranty service requirements*) | \_\_\_\_\_\_\_\_\_\_\_\_ months from Acceptance of the item  (*Should not be less than 12 months*) |
| 1. Expected serviceable life (*Please specify any components of the item that cannot meet the serviceable life*) | The item shall have a serviceable life of \_\_\_\_\_\_\_ years from its date of acceptance except the following components:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (*Please also provide the expected life of these excluded components*) |

**Part 3 – Indicative Technical Requirements**

*Notes to Suppliers for Completion of Part 3*

1. *Unless specified otherwise, the “****Goods****” in this Part 3* ***refers to section A1.1 below****.*
2. *The indicative technical requirements are for the purpose of collecting market information only. They are subject to changes and do not represent the final technical requirements of the intended tender.*
3. *Please indicate, as a point by point compliance statement, whether your proposed Goods “****Comply****” or “****Not Comply****” with an indicative technical requirement stated in Column II by ticking (🗸) in the appropriate box under* ***Column III*** *and* ***Column IV*** *respectively.*
4. ***Where applicable****, please quote the value of your proposed Goods in either Column III (if “****Comply****”) or Column IV (if “****Not Comply****”) respectively against corresponding indicative technical requirement (use additional sheet(s) if space is insufficient*
5. *Please provide supporting documents (such as catalogues, user manual and/or operation manual, DICOM conformance statement, etc.) to illustrate the features of your proposed UV sterilizer and disinfecting machine against the corresponding indicative technical requirements.*

| **Column**  **I** | **Column**  **II** | **Column**  **III** | **Column**  **IV** |
| --- | --- | --- | --- |
| **Section** | **Technical Specification** | **Tick (🗸) the Appropriate Box**  *(For aspects “Not Comply”, please also provide alternative proposal, if any)* | |
| **Comply** | **Not Comply** |
| **A** | **Technical Requirements** |  |  |
| **1** | **Overall Requirements** |  |  |
| 1.1 | The escalator handrail UV sterilizer shall be capable of disinfecting and sanitizing the handrails of escalator while the UV disinfecting machine with luminaire shall be capable of killing microorganisms using ultraviolet light technology. (collectively, the “Goods”). |  |  |
| 1.2 | The Goods shall have the following items: |  |  |
|  | 1. Seven (7) sets of escalator handrail UV sterilizer as detailed in section 2 below; and |  |  |
|  | 1. Five (5) sets of UV disinfecting machine with luminaire as detailed in section 3 below. |  |  |
| 1.3 | The Contractor shall be responsible for the provision of the implementation services, identified as Item 2 in Part 5, for the System as stipulated in section B below. |  |  |
| 1.4 | The Contractor shall be responsible for the provision of the Training, identified as Item 3 in Part 5, as stipulated in section Cbelow. |  |  |
| 1.5 | The Contractor shall be responsible for the supply of the Documentation for the System, identified as Item 4 in Part 5, as stipulated in section D below. |  |  |
| 1.6 | The Contractor shall be responsible for the performance of acceptance tests as stipulated in section E below. |  |  |
| **2** | **Item 1.1: Escalator Handrail UV Sterilizer** |  |  |
| 2.1 | Technical Requirements of the Escalator Handrail UV Sterilizer |  |  |
| 2.1.1 | Dimensions of the escalator handrail UV sterilizer: |  |  |
|  | 1. Width: < 130mm; |  |  |
|  | 1. Height: < 220mm; |  |  |
|  | 1. Depth: < 260mm. |  |  |
| 2.1.2 | The escalator handrail UV sterilizer shall be capable of disinfecting and sanitizing the handrails of escalator. |  |  |
| 2.1.3 | Each set of the escalator handrail UV sterilizer shall be consisted of two pieces of UV sterilizer for the two handrails of the escalator. |  |  |
| 2.1.4 | The weight of the escalator handrail UV sterilizer shall be not greater than 2kg. |  |  |
| 2.1.5 | The escalator handrail UV sterilizer shall be equipped with UVGI lamp. The wavelength of the UVGI lamp shall be within the range of 230 – 280nm. |  |  |
| 2.1.6 | The escalator handrail UV sterilizer shall be equipped with a generator with DC output 24V + 5% in the range of 40 – 45W. |  |  |
| 2.1.7 | The generator of the escalator handrail UV sterilizer shall be not required to connect to external electricity. The generator of the escalator handrail UV sterilizer shall be able to convert the kinetic energy generated when the handrail moves into electrical energy. |  |  |
| 2.1.8 | The outer cover of the escalator handrail UV sterilizer shall be constructed with ABS flame retarder plastic. Manufacturer’s certificate shall be produced for verification upon request. |  |  |
| 2.2 | Efficacy of the Escalator Handrail UV Sterilizer |  |  |
| 2.2.1 | The escalator handrail UV sterilizer shall be proven by independent laboratory testing for its efficacy in killing bacteria including but not limited to COVID-19, Escherichia Coli, Total Coliform etc. |  |  |
| 2.3 | Standard of the Escalator Handrail UV Sterilizer  The escalator handrail UV sterilizer shall comply with the requirement of CE mark, FCC certification or equivalent international, national and other recognised standards or certifications. |  |  |
| 2.4 | Safety of the Escalator Handrail UV Sterilizer  The escalator handrail UV sterilizer shall comply with the restriction of hazardous substances (RoHS) requirements of IEC 62321-3-1:2013 or equivalent international, national and other recognised standards or certifications. |  |  |
| **3** | **Item 1.2: UV Disinfecting Machine with Luminaire** |  |  |
| 3.1.1 | Each set of the UV disinfecting machine with luminaire shall include: |  |  |
|  | 1. Two (2) sets of UV-C germicidal lamps/bulbs: 2. Each set of UV-C germicidal lamps/bulbs shall consist of at least three UV-C germicidal lamps/bulbs; 3. One (1) set being installed in the UV disinfecting machine with luminaire; 4. One (1) set for back-up use which shall be kept by the supplier that no additional charge to the CMH for storage and delivered to the CMH upon request. |  |  |
|  | 1. At least 10 pieces of UV dosage verification card. |  |  |
| 3.2 | Technical Requirements of the UV Disinfecting Machine with Luminaire |  |  |
| 3.2.1 | The UV disinfecting machine with luminaire shall be designed to deliver UV-C germicidal light in a full circle, in 360 degrees with a programmed dose to disinfect surface contaminated with bacteria, bacterial spores, viruses, mould and other microorganism at hospital areas. |  |  |
| 3.2.2 | The UV disinfecting machine with luminaire shall be of weight not more than 60kg allowing movement around the CMH. |  |  |
| 3.2.3 | The UV disinfecting machine with luminaire shall be designed to operate in a room. |  |  |
| 3.2.4 | The UV disinfecting machine with luminaire shall use 254nm UV-C germicidal lamps/bulbs or equivalent mechanism to destroy the DNA of single cell organisms during operation. |  |  |
| 3.2.5 | The UV disinfecting machine with luminaire shall be installed with at least three connector sites for installation of at least three UV-C germicidal lamps/bulbs. |  |  |
| 3.2.6 | The UV-C germicidal lamps/bulbs shall come into a set of identical UV-C germicidal lamps/bulbs. Each UV-C germicidal lamp/bulb shall have a minimum length of 1200mm. |  |  |
| 3.2.7 | The UV-C germicidal lamps/bulbs shall be completely encapsulated in polymer sleeve or equivalent protective mechanism and shall be able to ensure safety in the event of daily utilization and during transportation. |  |  |
| 3.2.8 | The UV-C germicidal lamps/bulbs shall be tested to ensure proper UV-C intensity in a discrete, germicidal wavelength of 254nm to be emitted from the lamp/bulb while using. |  |  |
| 3.2.9 | The UV-C emitted from the lamps/bulbs shall be unable to penetrate hard surfaces including paper, cloth, plastic, glass, walls and doors. The operator or people outside the room during UV-C germicidal lamps/bulbs operation shall not receive UV-C energy. |  |  |
| 3.2.10 | The UV disinfecting machine with luminaire shall be designed with an upright reflector mast with four sides or more and a circular base or equivalent mechanism to increase germicidal efficiency. The device shall be designed in dimension of total height within the range of 1.8 – 2.0m and circular base width not more than 1m. |  |  |
| 3.2.11 | The surface of upright reflector mast of the UV disinfecting machine with luminaire shall be built with aluminium or equivalent material to maximize the UV-C energy distribution during operating. |  |  |
| 3.2.12 | The circular base shall be installed with at least four wheels for movement around the CMH. At least two wheels, preferably the front wheels, shall be designed in a locking function to allow the UV disinfecting machine with luminaire placed in static position without movement when necessary. |  |  |
| 3.2.13 | The UV disinfecting machine with luminaire shall be installed with handles, for the operator to move or relocate the UV disinfecting machine with luminaire. |  |  |
| 3.2.14 | The UV disinfecting machine with luminaire shall be installed with a “on/off” power button or equivalent device for turning “on” and “off” of the power. |  |  |
| 3.2.15 | The UV disinfecting machine with luminaire shall be designed with a power connector with no less than 4.5m. |  |  |
| 3.2.16 | The UV disinfecting machine with luminaire shall be installed with an antenna to receive the signal from the remote control. The supplier shall specify the wireless connection technology used. |  |  |
| 3.3 | Other Features and Controls of UV Disinfecting Machine with Luminaire |  |  |
| 3.3.1 | The UV disinfecting machine with luminaire shall be integrated with a colour screen not less than 5.5 inches size in the machine with a touch-screen operating system. |  |  |
| 3.3.2 | The operating system shall include major functions including “operate device” or equivalent and “general settings” or equivalent respectively. |  |  |
| 3.3.2.1 | Under the “operate device” or equivalent function, the UV disinfecting machine with luminaire shall be able to perform the following: |  |  |
|  | 1. Before the UV-C cycle: |  |  |
|  | 1. allowing the operator to enter the operator's name, room details, room location information; |  |  |
|  | 1. allowing the operator to enter the required UV-C cycle time in hours and minutes; |  |  |
|  | 1. having a “run cycle” or equivalent button to confirm starting the UV-C cycle; |  |  |
|  | 1. having a built-in timer or remote control to allow adequate time for operator to exit the room; |  |  |
|  | 1. having a "stop" or equivalent button or motion sensor to allow stopping the UV-C cycle at any time. |  |  |
|  | 1. After the UV-C cycle: |  |  |
|  | 1. having a "cycle completion status" or equivalent mechanism to indicate the completion of UV-C cycle and the status of each lamp/bulb which confirms the UV-C germicidal lamps/bulbs are “on” during the cycle and functioned properly; |  |  |
|  | 1. having a “cycle interruption status” or equivalent mechanism to indicate when the UV-C cycle was stopped intentionally, or due to sensor tripping or UV-C germicidal lamps/bulbs malfunction; |  |  |
| 3.3.2.2 | Under the “general settings” or equivalent function, the UV disinfecting machine with luminaire shall be able to perform the following: |  |  |
|  | 1. having a “lamp/bulb data” or equivalent screen to count and indicate the remaining life presenting in terms of percentage for each lamp/bulb; |  |  |
|  | 1. having a “lamp/bulb hours” or equivalent screen to indicate actual lamp/bulb hours being used for each lamp/bulb; |  |  |
|  | 1. having a “lamp/bulb reset” or equivalent screen function to reset the lamp/bulb hour counter to zero after the new UV-C germicidal lamps/bulbs are installed; |  |  |
|  | 1. having a “device usage” or equivalent screen to indicate total hours the UV disinfecting machine with luminaire has been used and number of UV-C cycles have been run; |  |  |
|  | 1. having a “event log” or equivalent screen to display the activity data including date, time and UV-C cycle status (in terms of start, completed or interrupted) in a list; |  |  |
|  | 1. having a “copy data log to USB device” or equivalent screen to allow data stored in the UV disinfecting machine with luminaire to be copied to an external USB or other means; |  |  |
|  | 1. having a “set up tools” or equivalent screen to allow settings on clock, sound, language (English or Chinese), room details (including but not limited to room name, room number and room location), maintenance etc. |  |  |
| 3.3.3 | The touch-screen of the UV disinfecting machine with luminaire shall be protected from UV exposure by a UV resistant film. |  |  |
| 3.3.4 | The UV disinfecting machine with luminaire shall be able to record and indicate the lamp/bulb status in the programme for each individual lamp/bulb upon every UV-C cycle completion. |  |  |
| 3.3.5 | The UV disinfecting machine with luminaire shall be able to record and trace the UV-C cycle record in the programme by entering the room details (such as room number and target location) during device operation. The recorded data shall be able to be download from the UV disinfecting machine with luminaire via the external USB drive or other means. |  |  |
| 3.3.6 | The UV disinfecting machine with luminaire shall be a complete set of equipment with all standard accessories and components essential for its full operation, including but not limited to the following: |  |  |
|  | 1. UV-C germicidal lamps/bulbs; |  |  |
|  | 1. Lamp/bulb protection case with a UV-C warning symbol; |  |  |
|  | 1. Wireless remote control; |  |  |
|  | 1. Data management software; |  |  |
|  | 1. UV dosage verification cards; |  |  |
|  | 1. Bilingual warning signs with safety precautions. |  |  |
| 3.4 | Safety Features of UV Disinfecting Machine with Luminaire |  |  |
| 3.4.1 | The UV disinfecting machine with luminaire shall be integrated with motion sensors to stop the operation of the UV disinfecting machine with luminaire if motion is detected within the room. |  |  |
| 3.4.2 | The UV disinfecting machine with luminaire shall be able to perform warm up and self-check of the safety motion sensors every time when tuning on. If any sensor is malfunctioning, the UV disinfecting machine with luminaire shall not be able to proceed operating further. |  |  |
| 3.4.3 | The UV disinfecting machine with luminaire shall come with a case and shall be served as the UV disinfecting machine with luminaire and lamp/bulb protective case when closed and locked. |  |  |
| 3.4.4 | The UV disinfecting machine with luminaire shall be integrated with a high-speed fan of at least 1500RPM inside the upright reflector mast which automatically operates to maintain the UV-C germicidal lamps/bulbs and temperature are within the safety range of 10 degree Celsius to 40 degree Celsius when the UV disinfecting machine with luminaire is turning “on”. |  |  |
| 3.4.5 | Exhaust outlets shall be built on each side of the upright reflector mast to achieve cooling function of the fan. |  |  |
| 3.4.6 | The UV disinfecting machine with luminaire shall have alarm function or equivalent to signal the operator that UV-C cycle time has been started or completed. |  |  |
| 3.4.7 | After the UV-C cycle, the operator shall be able to enter the room immediately. The UV disinfecting machine with luminaire shall not generate any harmful or toxic by-products, nor leave any residual substances after the UV-C cycle. |  |  |
| 3.4.8 | The UV disinfecting machine with luminaire shall not generate any potential off-gas exceeding the Threshold Limit Value (TLV). The device shall comply with the TO-15 or equivalent testing method on determination of volatile organic compounds (VOCs) in air developed by US EPA or equivalent organisations. The supplier shall be able to provide relevant document as proof of the UV disinfecting machine with luminaire compliance with this standard or equivalent international, national and other recognised standard or certification upon request. |  |  |
| 3.4.9 | The UV disinfecting machine with luminaire shall not generate any potential off-gas (e.g. ozone) exceeding the TLV after the UV-C germicidal lamps/bulbs replacement or maintenance. |  |  |
| 3.5 | Wireless Remote Control for UV Disinfecting Machine with Luminaire |  |  |
| 3.5.1 | The UV disinfecting machine with luminaire shall be integrated with a wireless remote control and able to provide additional functions as follows: |  |  |
|  | 1. The remote control shall be designed in a hand-held device and shall be able to start and stop the UV-C cycle remotely, by pressing the "on" and "off" or equivalent buttons on the remote control respectively; |  |  |
|  | 1. The remote control shall be designed as a safety device to cut the power to the UV disinfecting machine with luminaire or stop the UV-C cycle in case of emergency, by pressing the "cut-off" or equivalent button; |  |  |
|  | 1. The remote control shall be serialized and pair up with one specific UV disinfecting machine with luminaire in order to prevent accidental control of UV disinfecting machine with luminaire and shall be served as a safety feature of the remote control button; |  |  |
|  | 1. The effective range of the remote control shall be not less than 15 meters away from the UV disinfecting machine with luminaire and shall be able to penetrate through walls and doors. |  |  |
| 3.6 | UV Surface Dosage Verification Card |  |  |
| 3.6.1 | The design of the UV surface dosage verification card (DV card) shall incorporate the following features that complement the UV disinfecting machine with luminaire to optimize the application effectiveness: |  |  |
|  | 1. The DV card shall be placed at the room surface environment and shall be used to determine whether the target surfaces have reached sufficient UV-C dose levels emitted from the lamps/bulbs; |  |  |
|  | 1. The DV card shall have a UV-C sensitive region that shall be able to change colour or with equivalent indication when exposed to UV-C energy; |  |  |
|  | 1. The colour or equivalent changes of the DV card shall be calibrated to specific germicidal dose levels; |  |  |
|  | 1. The DV card shall be validated by independent laboratory test that colour or equivalent changes is associated with at least log 2 (99%) reduction of MRSA and Clostridium difficile pathogens; |  |  |
|  | 1. The DV card shall be calibrated and designed for exclusive use only with the UV disinfecting machine with luminaire; |  |  |
|  | 1. The DV card shall be provided space for the operator to record information (including date, time, room number and target location etc.) for quality audits training and record keeping purposes; |  |  |
|  | 1. The DV card shall be individually placed inside an envelope which shall be able to prevent the DV card from getting further change due to the surrounding environments before or after use. |  |  |
| 3.7 | Data Management and Reporting System |  |  |
| 3.7.1 | The UV disinfecting machine with luminaire shall be able to save the data after every cycle performed within the UV disinfecting machine with luminaire internal memory. |  |  |
| 3.7.2 | The data recorded by the UV disinfecting machine with luminaire shall include, but not limited to the following information: |  |  |
|  | 1. serial number of the UV disinfecting machine with luminaire; |  |  |
|  | 1. name of the UV disinfecting machine with luminaire; |  |  |
|  | 1. operator name; |  |  |
|  | 1. date and time; |  |  |
|  | 1. cycle start and stop time; |  |  |
|  | 1. room details; |  |  |
|  | 1. cycle completion status; |  |  |
|  | 1. lamp/bulbs usage hours; |  |  |
|  | 1. safety sensor status. |  |  |
| 3.7.3 | The data retrieved from the UV disinfecting machine with luminaire via external USB drive or other means shall be able to be uploaded to the data management software. |  |  |
| 3.7.4 | The data management software shall be able to provide an analytical and diagnostic tool monitoring how, where and when the UV disinfecting machine with luminaire was working. |  |  |
| 3.7.5 | The data management software shall be able to provide the UV disinfecting machine with luminaire utilization information in form of graphs and reports and could be downloaded to the computer. |  |  |
| 3.7.6 | The data management software shall be able to be installed in the CMH computer with the following minimum requirements: |  |  |
|  | 1. RAM: < 2GB; |  |  |
|  | 1. Storage: < 32 GB; |  |  |
|  | 1. OS: Windows Server 2016, 2019, or 2022 Server with required service packs – standard or higher. |  |  |
| 3.8 | Clinical Efficacy |  |  |
| 3.8.1 | The clinical efficacy of the UV disinfecting machine with luminaire shall be proven by independent laboratory testing that in 6 - 8 feet from the UV disinfecting machine with luminaire shall be able to achieve a log reduction of the following organisms: |  |  |
|  | 1. Bacteria after 5-minute cycle time |  |  |
|  | 1. ≥ 4 log reduction on Methicillin-resistant Staphylococcus aureus (MRSA); |  |  |
|  | 1. ≥ 4 log reduction on Carbapenem-resistant Enterobacteriaceae (CRE); |  |  |
|  | 1. ≥ 4 log reduction on Vancomycin-resistant Enterococci (VRE); |  |  |
|  | 1. ≥ 4 log reduction on Acinetobacter baumannii; |  |  |
|  | 1. ≥ 4 log reduction on Pseudomonas aeruginosa. |  |  |
|  | 1. Virus after 5-minute cycle time |  |  |
|  | 1. ≥ 4 log reduction on Middle East Respiratory Syndrome Coronavirus (MER-CoV) |  |  |
|  | 1. ≥ 4 log reduction on Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) |  |  |
|  | 1. ≥ 4 log reduction on Human Coronavirus (HCoV) |  |  |
|  | 1. ≥ 4 log reduction on Human Influenza Virus A (H1N1) |  |  |
|  | 1. ≥ 4 log reduction on Respiratory Syncytial Virus (RSV) |  |  |
|  | 1. ≥ 4 log reduction on Rhinovirus |  |  |
|  | 1. ≥ 4 log reduction on Rotavirus |  |  |
|  | 1. Bacterial spores after 5-minute cycle |  |  |
|  | 1. ≥ 4 log reduction on Clostridium difficile |  |  |
|  | 1. Fungi |  |  |
|  | 1. ≥ 4 log reduction on Candida albicans after 5-minute cycle time |  |  |
|  | 1. ≥ 3 log reduction on Candida auris after 20-minute cycle time |  |  |
| 3.9 | Standards of UV Disinfecting Machine with Luminaire |  |  |
| 3.9.1 | The UV disinfecting machine with luminaire shall comply with the requirements of CE mark / FDA Clearance or equivalent international, national and other recognised standards or certifications. |  |  |
| 3.9.2 | The manufacturer of the UV disinfecting machine with luminaire shall be registered and shall comply with the requirements of US EPA or equivalent organisations. |  |  |
| 3.9.3 | The manufacturer of the UV disinfecting machine with luminaire shall be accredited to ISO 9001/ISO 13485 (Quality Management) and ISO 14001(Environmental Management) or equivalent international, national and other recognised standards or certifications. |  |  |
| 3.10 | Safety of UV Disinfecting Machine with Luminaire |  |  |
| 3.10.1 | The UV disinfecting machine with luminaire shall comply with the safety requirements of IEC60601-1 / IEC61010-1 or equivalent international, national and other recognised standards or certifications. Variation from the standard shall be stated. |  |  |
| 3.10.2 | The UV disinfecting machine with luminaire shall comply with the electromagnetic compatibility (EMC) requirements of IEC 60601-1-2 / IEC 61326-1 or equivalent international, national and other recognised standards or certifications. |  |  |
| 3.10.3 | The supplier shall submit the type of approval certificate from the Office of Communication Authority (OFCA), Hong Kong for the medical devices with radio frequency transmission not exempted from licensing, and assist the CMH to obtain ISMEM licence before the UV disinfecting machine with luminaire is used. |  |  |
| 3.11 | Utility Connection of UV Disinfecting Machine with Luminaire |  |  |
| 3.11.1 | Electrical requirements: voltage required: 220V +6%, 50Hz +2%, single phase A.C. |  |  |
| **B** | **Implementation Services** |  |  |
| **1** | **Pre-installation requirements** |  |  |
| 1.1 | The Goods shall be installed, tested and become ready for use by the timeline specified in Part 4(k) with all costs included. |  |  |
| 1.2 | The price quoted shall include local delivery, installation, on-site acceptance test and training. |  |  |
| 1.3 | The supplier shall provide the conditions of delivery, including but not limited to packing and necessary environmental requirements for the CMH’s consideration. |  |  |
| 1.4 | The supplier shall arrange insurance coverage they think right and appropriate to cover damages to the equipment during the period of delivery, storage, installation, testing and commissioning. |  |  |
| **2** | **Delivery, Installation, Testing and Commissioning Requirement** |  |  |
| 2.1 | Inclusion of all installation work which shall be carried out by suitably qualified persons including without limitation registered electrical worker(s) with valid registration under relevant legislation. |  |  |
| 2.2 | The equipment and installation shall be in compliance with the relevant requirements of the latest edition of “Electrical Products (Safety) Regulation” under Electricity Ordinance, Chapter 406 and “Code of Practice for the Electricity (Wiring) Regulations” enforced by Electrical and Mechanical Services Department (EMSD). |  |  |
| 2.3 | The equipment shall be fitted with suitable power supply cables in compliance with BS EN 50525‐1:2011 or an equivalent international standard. A suitably fused plugs or terminal connection unit in compliance with the relevant requirements of the latest edition of “Code of Practice for the Electricity (Wiring) Regulations”, enforced by EMSD shall be provided as well. |  |  |
| 2.4 | The equipment shall be effectively bonded to earth unless it is double insulated. |  |  |
| 2.5 | The electrical and electronic equipment shall be designed for operation operating in the following environmental conditions: |  |  |
|  | 1. Temperature: 0 degree Celsius to 40 degree Celsius; |  |  |
|  | 1. Relative humidity 10% to 95%. |  |  |
| 2.6 | The supplier shall be responsible to clear away all packing materials, demolished and unused structural materials to a legal place after delivery and installation of the equipment at his own cost. |  |  |
| **C** | **Training** |  |  |
| 1 | The successful tenderer shall provide on-site free of charge comprehensive equipment operation, maintenance and overhaul training course for the end user and the CMH maintenance staff in the venue provided by the CMH. |  |  |
| 2 | The course of training shall include all materials such as notes, charts for the participants. These materials shall be available in hardcopy at the time of training to each attendee. |  |  |
| 3 | The successful tenderer shall provide soft copies of all training materials and operation manual. The intellectual property rights of the aforementioned materials shall remain vested in the CMH. |  |  |
| 4 | The training shall be conducted by the specialist(s) or qualified person fully conversant with the operation. |  |  |
| 5 | The instructor(s) shall be fully conversant in Cantonese and English. All training and training materials provided shall be in Traditional Chinese or English. |  |  |
| **D** | **Documentation** |  |  |
| 1 | Item 1.1: Escalator Handrail UV Sterilizer |  |  |
| 1.1 | Three sets each of (1 original and 2 copies) English operation manual and service manual with full parts list shall be provided before or in time with the delivery. |  |  |
| 1.2 | The CMH is allowed to make copies of the manuals for training or operational purposes. |  |  |
| 2 | Item 1.2: UV Disinfecting Machine with Luminaire |  |  |
| 2.1 | Three sets each of (1 original and 2 copies) operation manual and maintenance manual in English or Chinese completed with full circuit diagrams shall be provided before or in time with the delivery. |  |  |
| 2.2 | Three sets each of relevant brochures, technical data sheets and supporting documents for all items of the UV disinfecting machine with luminaire shall be provided before or in time with the delivery. |  |  |
| 2.3 | The CMH is allowed to make copies of the manuals for training or operational purposes. |  |  |
| **E** | **Acceptance Tests** |  |  |
| 1 | Once completion of installation of the Goods on site by the successful tenderer, the Goods shall be tested for acceptance at site carried out by the CMH representative(s) and/or by the successful tenderer and witness by a representative from concerned parties. The test shall include checking on materials used, safety device and feature, structure strength, functional test and performance. |  |  |
| 2 | The successful tenderer shall provide all testing instruments and materials to conduct site acceptance tests. All testing instruments to be used for the acceptance test shall be calibrated and copies of calibration certificates or other supporting documents shall be forwarded to the CMH and concerned parties for records within one month after the completion of calibration. |  |  |
| 3 | Full functional tests for demonstration of compliance of the Goods with operational and reliability requirements shall be provided by the successful tenderer to the satisfaction of the CMH representative. In the event that the equipment fails to conform to the requirements specified in section A of Part 3, the successful tenderer is required to carry out appropriate remedial measures and/or any rectification works, including replacement of the entire equipment, where deemed necessary. |  |  |
| **F** | **Indicative Warranty Service** |  |  |
| 1 | The successful tenderer shall provide at least one-year warranty period for the section A of this part mentioned equipment supplied, or any part or portion thereof, starting from the acceptance of the Goods. During warranty period, all services which include replacement of faulty parts, breakdown services by qualified maintenance personnel who received training from manufacturer, shall be provided free of charge to the CMH. The successful tenderer shall provide relevant documents to prove that the maintenance personnel processes adequate skill for repair or replacement. |  |  |
| 2 | The successful tenderer shall replace all faulty parts with no additional costs to the CMH Operator, the replacement unit/component, if acceptable to the CMH Operator, shall be treated as a part of the Goods. |  |  |
| 3 | Any replacement parts provided by the successful tenderer shall become the property of the Government / the CMH Operator. Parts removed shall become the property of the successful tenderer provided always that the Government / the CMH Operator shall be entitled to retain any part which is to be replaced if the successful tenderer is unable to erase all the information stored in any form in such parts of the Goods. The successful tenderer shall, before removal of any such part, certify to the Government / the CMH Operator in writing that all information stored in such part has been completely erased and shall be liable for any loss or damage caused by the possession or use of any information remaining in any part of the faulty part(s) so removed. |  |  |
| 4 | The warranty period shall only commence after satisfactory completion of the acceptance and functional testing. |  |  |
| 5 | Any defects found in the section A of this part mentioned equipment within the warranty period shall be fixed free of charge to the CMH. |  |  |
| 6 | Repairs / replacement shall be provided within 48 hours after notification of fault by telephone or fax upon request. This service shall include all necessary repairs, adjustment and replacement of parts to restore the equipment to its normal operational conditions within 3 working days once the fault is attended. The successful tenderer should provide fault reporting hotline or fax number during the warranty period. |  |  |
| 7 | The supplier shall collect the used UV-C germicidal lamps/bulbs from the CMH for proper disposal. |  |  |
| **G** | **Indicative Maintenance Service** |  |  |
| 1 | All services which include replacement of faulty parts, breakdown services shall be provided by qualified maintenance personnel who received training from the manufacturer. The successful tenderer shall provide relevant documents to prove that the maintenance personnel processes adequate skill for repair or replacement. |  |  |
| 2 | Upon notification of a defect (departure from performance specifications) in the operation of the equipment, or part thereof, the successful tenderer shall attend to the fault within 48 hours. This service shall include all necessary repairs and replacement of parts to restore the equipment to its normal operation conditions within 3 working days once the fault is attended. |  |  |
| 3 | Normal working hours shall be defined as 0900 – 1800 hours Monday to Friday, excluding public holidays. The successful tenderer shall accept this as the criterion for providing maintenance service. |  |  |
| 4 | The following shall be provided free of overtime charges to the CMH by the successful tenderer: |  |  |
|  | 1. All maintenance works carried out during normal working hours as defined as section G3. |  |  |
|  | 1. All repair works carried out even beyond normal working hours as defined as section G3 shall also be free of overtime charges, if the successful tenderer is notified of the equipment fault during the defined period of normal working hours. |  |  |
| 5 | All reports of maintenance service shall be documented and provided to the CMH representative as appropriate and filed with the equipment history file. Service records for services conducted during the period, irrespective the service/part being chargeable or not shall be provided. Photocopies of service reports are acceptable provided that they are legible and contain the following information: |  |  |
|  | 1. Nature of service (Scheduled or Corrective maintenance); |  |  |
|  | 1. Equipment location; |  |  |
|  | 1. Arrival time on site; |  |  |
|  | 1. Fault reported (date & time); |  |  |
|  | 1. Fault corrected (date & time); |  |  |
|  | 1. Response time; |  |  |
|  | 1. Down time; |  |  |
|  | 1. Reinstatement (date & time); |  |  |
|  | 1. Action taken; |  |  |
|  | 1. Spare parts used; |  |  |
|  | 1. Current price of spare parts used; |  |  |
|  | 1. Consumable items used; and |  |  |
|  | 1. Current price of consumable items used. |  |  |

**Part 4 – Implementation Plan**

*(Note to Suppliers: Please provide the estimated time periods required for the completion of the following tasks, counting from the date of issue an order (“Order Date”). Both the start and end date of the Order Date is referenced as* ***Month 0****. The Goods should be* ***Ready for Use in the last month of the Implementation Plan.***

|  |  |  |  |
| --- | --- | --- | --- |
| **Tasks of the Implementation Plan** | | **Estimated Time Period for**  **Performing the Tasks**  (The Order Date is set as Month **0**) | |
| **Start** (Month) | **End** (Month) |
|  | Order Date *(i.e. the date of order placed by the Government, if any)* | **0** | **0** |
|  | Submission of Site Preparation Information (if applicable) |  |  |
|  | Design of the Goods (if applicable) |  |  |
|  | Delivery of the Goods |  |  |
|  | Installation of the Goods |  |  |
|  | Implementation Services (*Please refer to* ***section B in Part 3*** *for details*) |  |  |
|  | Training (*Please refer to* ***section C in Part 3*** *for Details*) |  |  |
|  | Delivery of Documentation (*Please refer to* ***section D in Part 3*** *for details*) |  |  |
|  | Acceptance Tests |  |  |
|  | Any other tasks considered necessary by your company *(Please provide details, use separate sheet if space is insufficient)*: |  |  |
|  | Goods Ready for Use *(i.e. the date when the Goods has passed all acceptance tests and accepted by the Government)* | **0** |  |

**Part 5 – Indicative Price Information**

(*Note* *to Suppliers: The price information provided in this Part 5 is for Government’s consideration only and shall not constitute any commitment on the part of the Government or your company. Nevertheless, please provide the information as accurate as possible.*)

**Indicative Price Information for the Goods**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Description** | **Estimated**  **Quantity** | **One-time Unit Price (HK$)** | **Estimated Goods Price for the Item specified opposite**  **(HK$)** |
|  |  | **(a)** | **(b)** | **(c) = (a) x (b)** |
| 1 | Supply, delivery, installation, testing and commissioning of the Goods, as more particularly specified in **section A1.1 in Part 3**, including the provision of a minimum 12-month warranty period. | Breakdown as Item 1.1-1.2 | Breakdown as Item 1.1-1.2 | Breakdown as Item 1.1-1.2 |
| 1.1 | Escalator Handrail UV Sterilizer | 7 sets |  |  |
| 1.2 | UV Disinfecting Machine with Luminaire | 5 sets |  |  |
| 2 | Provision of implementation services as detailed in **section B in Part 3** | 1 lot |  |  |
| 3 | Provision of training services as detailed in **section C in Part 3** | 2 courses |  |  |
| 4 | Documentation as detailed in **section D in Part 3** | 1 lot |  |  |
| 5 | Other (please specify) | (please specify) |  |  |
| **Total One-time Charge**  (i.e. Sum of Estimated Goods Prices of Item 1- 5) | | | |  |

**Part 6 – Indicative Maintenance Charges and Spare Parts Price**

(Notes to Suppliers for completion of Part 6

1. *Pursant to item 1 of Part 5 above, the proposed Goods shall have a warranty period of not less than 12 months. The indicative warranty service requirements are stipulated in* ***section F in Part 3****, which are subject to changes at the sole discretion of the Government.*
2. *Indicative maintenance service requirements after the free warranty period are stipulated in* ***section G in Part 3****, which are subject to changes at the sole discretion of the Government*
3. *It is expected that the maintenance services shall be comprehensive, all inclusive and shall cover all parts, components, labour and software support services. If your company considers that any components of the Goods may not be covered by the maintenance services (****saving that the labour shall always be covered by the maintenance services****) and may need to be charged separately, please indicate replacement costs of these components and their replacement frequency.*
4. *The annual maintenance charge within the serviceable life of the proposed Goods* ***is adjustable in accordance with the consumer price index (B) upon the expiry of each 12-months period of maintenance service****.*
5. **Indicative Maintenance Prices of the Proposed Goods**

| **Item** | **Description** | **Estimated**  **Quantity** | **Annual Maintenance Charge (for the first 12-month period of the Maintenance Period)** | |
| --- | --- | --- | --- | --- |
| **Unit Charge  (HK$)** | **Total Charge (HK$)** |
|  |  | **(a)** | **(b)** | **(c) = (a) x (b)** |
| 1.1 | Escalator Handrail UV Sterilizer | 7 sets |  |  |
| 1.2 | UV Disinfecting Machine with Luminaire | 5 sets |  |  |

1. **Indicative Replacement Prices of Goods’ Components not covered by the Maintenance Services (if applicable) (***Leave the following table blank if not applicable***)**

(*Note to Suppliers:* ***The labor costs for replacement of these components shall always be covered by the maintenance charges for the provision of the maintenance services*** *regardless whether the prices for the supply of these components are covered by the maintenance services or not.)*

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Name of Items | Indicative  Replacement Price (HK$/no.) | Indicative Replacement Frequency (*e.g. once every 3 years*) |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

1. **Indicative overtime charges for provision of maintenance services after office hours (if applicable)**

(*Note to Suppliers: (1) Office hours mean 0900 to 1800 hours from Monday to Friday excluding public holidays. (2) Minimum service hour(s) per call shall be counted upon arrival of the site.*)

|  |  |  |
| --- | --- | --- |
| (a) | Rates of overtime charges for maintenance service outside the office hours | HK$ per hour |
| (b) | Minimum service hour(s) per call | service hour(s) per call |

1. **Indicative Prices for Replacement of Other Spare Parts (if applicable)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Name of Items | Price (HK$/no.) | Indicative Replacement Frequency (*e.g. once every 3 years*) | Expected time for delivery from date of order  (weeks) |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |

**Part 7 – Supplementary Information**

1. Number of proposed Goods Already Installed (leave blank if information is not available)

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Equippment** | **In Hong Kong** | **Globally**  **(Excluding those installed in Hong Kong)** |
| 1.1 | Escalator Handrail UV Sterilizer | \_\_\_\_\_\_\_\_\_ sets | \_\_\_\_\_\_\_\_\_ sets |
| 1.2 | UV Disinfecting Machine with Luminaire | \_\_\_\_\_\_\_\_\_ sets | \_\_\_\_\_\_\_\_\_ sets |

1. Year of Launch of the Proposed Goods (leave blank if information is not available)

|  |  |  |
| --- | --- | --- |
| **Item** | **Equipment** | **First launched in the market in Year** |
| 1.1 | Escalator Handrail UV Sterilizer |  |
| 1.2 | UV Disinfecting Machine with Luminaire |  |

1. Pre-Installation Requirements of the Proposed Goods (if any)

*(Pre-installation requirements may include any preparation work and provisions that are necessary for the installation of the Goods, such as the requirements of ceiling mount support, power supply requirements, etc.)*

**Part 8 – Questionnaire**

|  |  |
| --- | --- |
| **Information Required** | **To be completed by the supplier** |
| 1. Please state if any equipment does not have local after-sale service, if yes, please state how long would delivery take for replacement parts. |  |

**END**