

Item	Specification	Statement of Compliance	Annex
<p><b>Bidders must state “Comply” or “Not Comply” for each specification and provide the corresponding performance parameters for offered equipment.</b> Each response must be supported by a clear documentary support in the bid and properly cross-referenced. Acceptable evidence includes unaltered manufacturer sales brochures, official specification sheets, product samples, independent test results, and similar documents.</p>			
<p>Claims should be backed by documentary support. If the evidence contradicts the claim, the bid may be rejected. Any false statement—whether in the compliance form or supporting documents—found during evaluation, post-qualification, or contract implementation may be considered fraudulent in accordance with ITB Clause 3.1(a)(ii) and without prejudice to the imposition of appropriate administrative, civil, and criminal penalty in accordance with law.</p>			
<p><b>The Bidders must submit brochures/ catalogues/ technical data sheets showing the required specifications stated herein.</b></p>			
<p><b>Note: None submission of such brochures/ catalogues/ technical data sheet shall be ground for disqualification.</b></p>			
<p><b>ITEM 1- REPLACEMENT OF AIR HANDLING UNITS FOR SSS MAIN OFFICE</b></p>			
<p>1.1</p>	<p><b>AIR HANDLING GENERAL SPECIFICATIONS</b></p> <p>Panel Thickness: 50 mm  Insulation Density: Polyurethane 40kg/m<sup>3</sup> (Minimum)  Number of Fans: Two (2) minimum for 25 TR and above  Coil row: 4 (Minimum)  Coil FPI: 10 (Minimum)  Water in Temperature: 6.6-7 °C  Water out Temperature: 12 °C</p> <p>AHU Materials  Body: GI (Galvanized)  Coil: Copper  Fin: Aluminum  Body: GI (Galvanized iron)  Drain Pan Material: Stainless</p> <p>Cooling Capacity (TR):  5, 10, 15, 25, 40, 50, 60</p> <p>Certification:  Cooling Coil AHRI certified  AHU Casing AHRI certified</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
<p>1.2</p>	<p><b>AIR HANDLING UNIT</b></p> <p>Electronically Commutated (EC) centrifugal blower  backward-curved, single-intake  Number of blades for each fan: 5 (minimum)  Nominal voltage range: 380-480VAC, 3PH  Frequency: 60hz</p>		

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	<p>Degree of protection: IP55  Insulation class: "F"  Motor Efficiency: IE5 or Better or exceed IE5 Levels Efficiency  Moisture (F) / Environmental (H) protection class:H1  Impeller material: Sheet aluminum  Electronics housing material: Die-cast aluminum</p> <p>Technical Features  Operation and alarm display with LED  Alarm relay  Integrated PI controller  Motor current limitation  Soft start  Thermal overload protection for electronics/motor  Line undervoltage / phase failure detection  Reverse polarity and locked-rotor protection</p> <p>Certification: AMCA certified</p> <p><i>The Supplier/Contractor shall provide EC fan selection data for the proposed air handling unit (AHU), the selection EC fan model shall have AMCA Certified Ratings seal. Such certification shall be directly verifiable through the official AMCA website (<a href="http://www.amca.org">www.amca.org</a>). Non-verifiable or expired certifications shall not be accepted</i></p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.3	<p><b>AIR HANDLING CONTROLLER</b></p> <p>Display: High Resolution with at least 7" display  Touch Screen  BMS Ready: Modbus RTU/ TCP/ BACnet protocol  Real-time fan speed control &amp; monitor  Power Consumption Display  Built-in power isolator</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.4	<p><b>AIR HANDLING BMS DDC CONTROLLER</b></p> <p>Controller Type: Direct Digital Controller  Input/Output: Maximum 112 physical I/O's  Communication Protocols: BACnet IP, BACnet MSTP, Modbus RTU, Modbus IP, Dali, KNX. (All Built-in)  User Interface: 3Ports Ethernet Port for remote access and monitoring  Programming: Support programming options, Functional blocks or graphical user interface  Environmental conditions: Operating Temperature 0-50 deg C, Humidity 0-90% RH</p>		

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	<p>Certification: BTL (BACnet Testing laboratories)</p> <p>Additional Features: Integration with Energy Management System, Data logging capabilities, alarm and notifications Web Enabled Ports: 2 Ethernet Port, 2 x RS485 Port, 1 x RS232 port.</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.5	<p><b>AHU FILTER SPECIFICATION</b></p> <p>MERV rating: 8 (Washable Panel) Frame Materials: Durable ABS Plastic Filtration Media: Two Layer Synthetic Media Filtration Method: Electrostatic Mechanical Testing Standards Compliance: ASHRAE 52.2, ISO 16890, EN779 Certifications: UL 900 Certified Media</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.6	<p><b>AHU MOTORIZED VALVE</b></p> <p>2-way Motorized Valve Medium: Cold water Application: Water-side control of air handling units in air conditioning systems Operating Pressure: 230 psi (Minimum)</p> <p>Valve Material Body: GG25, Polyester coated Ball: Stainless steel Shaft: Stainless steel</p> <p>Modulating Globe Valve Actuator Nominal voltage AC/DC 24 V Degree of protection IEC/EN: IP54 Degree of protection NEMA/UL: NEMA 2</p> <p>3-way Motorized Valve Medium: Cold water Application: Water-side control of air handling units in air conditioning systems Operating Pressure: 230 psi (Minimum)</p> <p>Valve Material Body: Ductile Iron Valve cone: Stainless steel</p> <p>Modulating Globe Valve Actuator Nominal voltage AC/DC 24 V Degree of protection IEC/EN: IP54 Degree of protection NEMA/UL: NEMA 2</p>		

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1.7	<p><b>AHU CHILLED WATER TEMPERATURE SENSOR</b></p> <p>Temperature sensor  Application: Water  Measured: Temperature  Accuracy: ±0.5% @ 21 measuring range  Measuring Range (s): -50°C to +50°C  Nominal voltage AC/DC 24 V  Degree of protection IEC/EN: IP65  Degree of protection NEMA/UL: NEMA 4X</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.8	<p><b>DUCT SMOKE SENSOR</b></p> <p>Air Velocity Range (linear ft/min): 300 to 4000 ft/min  Sensor Sensitivity Range: 0.2% to 3.7% per foot  UL Listed Temperature Range: 0°C to 38°C</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
1.9	<p><b>VALVE AND ACCESSORIES</b></p> <p>Gate Valve  Body: Ductile iron  Disc: Ductile iron (EPDM/NBR Coated)  Operating Pressure: 230 psi (Minimum)</p> <p>Balancing / Regulating Valve  Body: Ductile iron  Stem: Stainless Steel  High measurement accuracy of +/-5% across all opening settings  Setting can be locked  Operating Pressure: 230 psi (Minimum)</p> <p>Y Strainer Body: Ductile iron  Screen: Stainless Steel 304  O-Ring: EPDM  Drain Plug: Stainless steel  Operating Pressure: 230 psi (Minimum)</p> <p>Flexible Connector  Single bellow  Reinforcing Ring: Carbon Steel  Operating Pressure: 230 psi (Minimum)</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		

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<b>ITEM 2- REPLACEMENT OF FOUR (4) COOLING TOWERS FOR SSS MAIN OFFICE</b>			
2.1	<p><b>COOLING TOWERS</b>  Capacity: 500 TR (minimum) Crossflow type or Counter Flow type  Water in Temperature: 98 °F  Water Out Temperature: 88 °F  Wet Bulb water Temperature (minimum): 80.6 - 81 °F  Fillings: PVC  Casing: FRP</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.2	<p><b>COOLING TOWER EC FAN</b></p> <p>Electronically Commutated (EC) axial fan  Sickle-Shaped Blades Fan housing with guide vanes  Number of Blades for each fan: 5 (minimum)  Nominal Voltage range: 380-480VAC, 3PH  Frequency: 60hz  Degree of Protection: IP55  Insulation Class: "F"  Moisture (F) / Environmental (H) Protection Class: H2+C  Impeller Material: PP plastic  Electronics Housing Material: Die-cast aluminum  Motor Efficiency: IE5</p> <p>Technical Features:  Operation and alarm display with LED  Alarm relay  Integrated PI controller  Motor current limitation  Soft start  Thermal overload protection for electronics/motor  Line undervoltage / phase failure detection</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.3	<p><b>COOLING TOWER CONTROLLER</b></p> <p>Display: High Resolution with at least 7" display  Touch Screen  BMS Ready: Modbus RTU/ TCP/ BACnet protocol  Real-time fan speed control &amp; monitor  Power Consumption Display  Built-in power isolator</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.4	<p><b>COOLING TOWER BMS DDC CONTROLLER</b></p> <p>Controller Type: Direct Digital Controller  Input/Output: Maximum 112 physical I/O's</p>		

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	<p>Communication Protocols: BACnet IP, BACnet MSTP, Modbus RTU, Modbus IP, Dali, KNX. (All Built-in)</p> <p>User Interface: 3Ports Ethernet Port for remote access and monitoring</p> <p>Programming: Support programming options, Functional blocks or graphical user interface</p> <p>Environmental conditions: Operating Temperature 0-50 deg C, Humidity 0-90% RH</p> <p>Certification: BTL (BACnet Testing laboratories)</p> <p>Additional Features: Integration with Energy Management System, Data logging capabilities, alarm and notifications Web Enabled</p> <p>Ports: 2 Ethernet Port, 2 x RS485 Port, 1 x RS232 port.</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.5	<p><b>ULTRASONIC WATER FLOW AND TEMPERATURE METER (CLAMP TYPE)</b></p> <p>Transducer for pipe sizes range: (10 -2000 mm)</p> <p>Transducer for temperature range: -40 °C to 130 °C</p> <p>Volumetric flow rate accuracy/uncertainty: ±1% MV, ±0.02 ft/s</p> <p>Temperature reading accuracy/uncertainty: ±0,2 K (fluid temperature 0 °C to 30 °C)</p> <p>Additional Features: Built in Meter Verification flow measurement and Predictive Maintenance</p> <p>Power supply: 90 to 250VAC</p> <p>Transducer degree of protection: IP67</p> <p>Communication: Modbus RTU/TCP, BACnet MSTP/IP</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.6	<p><b>COOLING TOWER MOTORIZED VALVE</b></p> <p>2-way Motorized Valve</p> <p>Medium: Cold water</p> <p>Application: Water-side control of air handling units in air conditioning systems</p> <p>Rated pressure: 230 psi (minimum)</p> <p>Valve Material</p> <p>Body: GG25, Polyester coated</p> <p>Ball: Stainless steel</p> <p>Shaft: Stainless steel</p> <p>Modulating globe valve actuator</p> <p>Nominal voltage: AC/DC 24 V</p> <p>Degree of protection IEC/EN: IP54</p> <p>Degree of protection NEMA/UL: NEMA 2</p>		

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2.7	<p><b>CONDENSER WATER TEMPERATURE SENSOR</b></p> <p>Temperature sensor  Application: Water  Measured: Temperature  Accuracy: <math>\pm 0.5\%</math> @ 21°C measuring range  Measuring Range (s): -50°C to +50°C  Nominal voltage AC/DC 24 V  Degree of protection IEC/EN: IP65  Degree of protection NEMA/UL: NEMA 4X</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.8	<p><b>OUTDOOR/AMBIENT SENSOR</b></p> <p>Application: Air  Measured values: Temperature, Relative humidity, Absolute humidity, Dew point and Enthalpies  Accuracy Temperature: <math>\pm 0.3^\circ\text{C}</math> at 25°C  Accuracy Humidity: <math>\pm 2\%</math> between 0 to 80% RH @ 25°C  Degree of Protection IEC/EN: IP65  Degree of Protection NEMA/UL NEMA 4X  Nominal Voltage AC/DC 24 V</p> <p><i>Supplier must submit brochures stating the required specifications</i></p>		
2.9	<p><b>AUTOMATIC COOLING TOWER CONDENSER WATER CHEMICAL TREATMENT</b></p> <p>Conductivity Controller  Measure Range: 00~2000<math>\mu\text{S/cm}</math>  Measurement Accuracy:  EC/TDS/Resistivity: <math>\pm 1\%</math>FS  NTC10K: <math>\pm 0.3^\circ\text{C}</math>  PT1000: <math>\pm 0.3^\circ\text{C}</math></p> <p>Features:  Automatic Temperature Compensation  Large LCD display  IP54 Water Resistant and Corrosion Proof Enclosure  RS485 Communication</p> <p>Solenoid Diaphragm Pump (Analog dosing pump)  Flowrate: 0.4LPH (minimum)  Stroke Capacity: 0.06cc/stroke (minimum)  Max. Frequency: 120 stroke/min (minimum)  Pressure: 20 Bar (minimum)</p>		

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2.10	<p><b>VALVE AND ACCESSORIES</b></p> <p>Gate Valve  Body: Ductile iron  Disc: Ductile iron (EPDM/NBR Coated)  Operating Pressure: 230 psi (Minimum)</p> <p>Y Strainer Body: Ductile iron  Screen: Stainless Steel  O-Ring: EPDM  Drain Plug: Stainless steel  Operating Pressure: 230 psi (Minimum)</p> <p>Flexible Connector  Single bellow  Reinforcing Ring: Carbon Steel  Operating Pressure: 230 psi (Minimum)</p>		