REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF BUDGET AND MANAGEMENT
GENERAL SOLANO STREET, SAN MIGUEL, MANILA

SUPPLEMENTAL/BID BULLETIN (SBB) NO. 1

This SBB No. 1 dated November 26, 2019 for the Project, "DBM Data Center Refresh and Support Services," is issued to clarify, modify or amend items in the Bidding Documents. Accordingly, this shall form an integral part of said Documents.

PARTICULARS	CLARIFICATION/AMENDMENTS
Section VII. Technical Specification xxxx	**Section VII. Technical Specification** xxxx

Specifications	Bidder's Statement of Compliance
I. Objective *(see attached Annex A, item II)*	
II. Delivery Period *(see attached Annex A, item III)*	
III. Specifications *(see attached Annex A, item IV)*	
IV. Scope of Work (*see attached Annex A, item V)*	
V. Service Level Agreement (*see attached Annex A, item VI)*	
VI. Warranties of the Contractor (*see attached Annex A, item VII)*	
VII. Confidentiality of Data (*see attached Annex A, item VIII)*	
VIII. Terms of Payment (*see attached Annex A, item IX)*	
IX. Pre-Termination of Contract (*see attached Annex A, item X)*	

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Specifications	Bidder's Statement of Compliance
I. Objective *(see attached **Revised** Annex A, item II)*	
II. Delivery Period *(see attached **Revised** Annex A, item III)*	
III. Specifications *(see attached **Revised** Annex A, item IV)*	
IV. Scope of Work (*see attached **Revised** Annex A, item V)*	
V. Service Level Agreement (*see attached **Revised** Annex A, item VI)*	
VI. Warranties of the Contractor (*see attached **Revised** Annex A, item VII)*	
VII. Confidentiality of Data (*see attached **Revised** Annex A, item VIII)*	
VIII. Terms of Payment (*see attached **Revised** Annex A, item IX)*	
IX. Pre-Termination of Contract (*see **Revised** attached Annex A, item X)*	

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	Attached are the Revised Section VII. Technical Specifications, Revised Annex "A" and Lay-out Plan for the Generator Set

Other matters:

- The "No Contact Rule" shall be strictly observed. Bidders are not allowed to call or talk to any member of the Bids and Awards Committee, Technical Working Group or Secretariat effective December 3, 2019 right after the opening of bids.

- For guidance and information of all concerned.

ACHILLES GERARD C. BRAVO
Assistant Secretary
Chairperson, DBM-BAC

Section VI. Schedule of Requirements

(Revised)

Bidders must state here either "Comply" or any equivalent term in the column "Bidder's Statement of Compliance" against each of the individual parameters of each "Specification."

	Specifications	Bidder's Statement of Compliance
I.	**Objective** ***(see attached Revised Annex A, item II)***	
II.	**Delivery Period** ***(see attached Revised Annex A, item III)***	
III.	**Specifications** ***(see attached Revised Annex A, item IV)***	
IV.	**Scope of Work** (***see attached Revised Annex A, item V)***	
V.	**Service Level Agreement** (***see attached Revised Annex A, item VI)***	
VI.	**Warranties of the Contractor** (***see attached Revised Annex A, item VII)***	
VII.	**Confidentiality of Data** (***see attached Revised Annex A, item VIII)***	
VIII.	**Terms of Payment** (***see attached Revised Annex A, item IX)***	
IX.	**Pre-Termination of Contract** (***see attached Revised Annex A, item X)***	

I hereby certify to comply with all the above Technical Specifications.

Name of Company/Bidder	Signature Over Printed Name of Representative	Date

TECHNICAL SPECIFICATION
(Revised)

I. PROJECT TITLE

DBM Data Center Refresh and Support Services

II. OBJECTIVE

2.1 Equipment refresh for the following:
- 2.1.1 One (1) unit of 500 kVA Diesel Generator Set
- 2.1.2 Six (6) units of In Row Cooling System
- 2.1.3 One (1) set of NOVEC fire suppression system.
- 2.1.4 One (1) lot of Integrated Data Center Monitoring System
- 2.1.5 One (1) unit of Network Attached Storage

2.2 To provide regular preventive maintenance services to the various Data Center (DC) components:
- 2.2.1 Data Center Power Components
- 2.2.2 Surveillance System
- 2.2.3 Biometric Access Control System
- 2.2.4 Racks, Patch Panels and Cablings
- 2.2.5 Eaton Uninterrupted Power Supply (UPS)

III. DELIVERY PERIOD

3.1 The delivery, installation, testing and commissioning of Diesel Generator Set, In Row Cooling System, NOVEC Fire Suppression System, Integrated Data Center Monitoring System and Network Attached Storage shall be within five (5) months from receipt of the Notice to Proceed (NTP).

3.2 The comprehensive preventive maintenance services to the various Data Center (DC) components shall be within 12 months from final acceptance of DBM-ICTSS.

IV. SPECIFICATIONS

4.1 One (1) unit of 500 kVA Standby Diesel Generator Set with the following minimum specifications:

4.1.1 Diesel Engine
- 4.1.1.1 No: of Cylinders : 6 cylinders, 4 cycle, in-line
- 4.1.1.2 Displacement: 19.0 L
- 4.1.1.3 Cooling : water cooled and turbo charged after-cooled, Diesel Engine
- 4.1.1.4 Capacity : Minimum 600 BHP @ 1800 RPM under NTP conditions
- 4.1.1.5 Engine designed to run continuously, confirming to BS: 5514/ DIN-6271/IS 10002/ ISO – 3046-1, ISO 8528-1. With an overload capacity of 10% for one hour in any 12 hours continuous operation at Prime Rating.

4.1.2 The engine shall be complete with the following accessories:
- 4.1.2.1 Heat Exchanger
- 4.1.2.2 Corrosion inhibitor coolant
- 4.1.2.3 Paper element filters for fuel, lube oil and by-pass
- 4.1.2.4 Flywheel to single bearing alternator with housing.
- 4.1.2.5 Dry type air cleaners and vacuum indicators
- 4.1.2.6 PT Self Adjusting direct fuel injection system

4.1.2.7 Silencer
4.1.2.8 Stainless steel exhaust flexible bellows
4.1.2.9 Electronic Control panel with digital governor suitable for synchronization.
4.1.2.10 Electric Starter
4.1.2.11 Battery charging alternator
4.1.2.12 Electronic Instrument panel (Displaying the following):
- Battery Voltage
- Coolant Water Temperature
- Lubricating Oil Pressure
- Engine Speed
- Engine Hours

4.1.2.13 Safety control, trip and indicator for:
- High water temperature (HWT)
- Low lube oil pressure (LLOP)
- Over speed stop

4.1.2.14 Air inlet system, Charging system, Control system, Exhaust system.

4.1.3 Efficiency: 90% or higher Performance Guarantee Certificate (Specifically indicated from Authorized agency for Certification) to be provided by the supplier for Type approval and conformity of production testing of Diesel Generator set.

4.1.4 Alternator confirming to BS:5000/ IS:4722 with standard design with IP 23 Protection, suitably rated at 400KW / 500KVA at 0.8pf, 133/230, 3 phase, 4 Wires, 60 Hz., 1800 RPM, self excited (brushless excitation) and self regulated, Band of Voltage Regulation +/-1.5% of rated voltage (from no load to full load) and Class "H" insulation. Alternator should be mounted on a common single base frame and coupled directly to the engine.

4.1.5 Base Frame: Sturdy, fabricated / welded construction, made out of high quality Steel section suitable for mounting the engine and alternator. The base frame shall be suitably designed to simplify transportation, handling and slinging. Shall have provision for levelling adjustments, as required during installation. An 8 hour belly fuel tank should also be provided within base frame.

4.1.6 Weather proof GenSet Enclosure with the following minimum specifications:
4.1.6.1 Weather Proof style enclosure.
4.1.6.2 Reduces noise radiated from installed equipment.
4.1.6.3 Rated to a wind load of 120mph.
4.1.6.4 Roof load equal to 40 lbs/ft2
4.1.6.5 Distributed floor load to 200 lbs/ft2
4.1.6.6 Basic structure meets all seismic requirements.

4.1.7 Cubicle type, floor mounting Control Panel, with dust and vermin proof for accommodating the following:
4.1.7.1 Suitable Molded Case Circuit Breaker, Ammeter with Selector switch
4.1.7.2 Voltmeter with Selector Switch, 500 Volts
4.1.7.3 Frequency Meter
4.1.7.4 KWH Meter
4.1.7.5 KW Meter
4.1.7.6 Current Transformers
4.1.7.7 Indicating Lamps for Supply "ON" & Load "ON"
4.1.7.8 Instrument fuses

4.1.8 A 24 Hour capacity Fuel Tank should be located nearest to the DG set enclosure to ensure free flow of Diesel. Transferring of diesel fuel from Storage Tank to the Belly Tank should be fully automated.

4.1.9 Suitable Dry type Batteries of Standard Make with leads and Terminals shall be part of the equipment. The pack shall be suitably positioned and modular withdraw able to ease of servicing. The Battery pack shall be minimum 100 AH, Lower capacity battery pack.

4.1.10 Noise level of 65 dbA at a distance of 3 meter under free field condition and adhere to the guidelines of DENR (Department of Environment and Natural Resources) Operating Capacity of Air Pollution Source Equipment (APSE).

4.1.11 Provision to log essential parameters at 1 minute interval shall be provided along with Optional Data logger.

4.1.12 Desirable maximum ambient temperature without derating: Base level 48°C but not less than 45°C, considering peak summer temperature.

4.1.13 Lube oil System: Complete with cooling system, oil temperature monitor, filtration system up to 20 microns, level indicator and fume disposal system to be provided. Fuel system with primary and secondary fuel filter, fuel pump.

4.1.14 Automatic and Manual Changeover (Transfer) Switches - ATS / MTS with the following features:

4.1.14.1 The products conform to IEC60947-6-1, IEC60947-1, IEC60947-3, GB/T14048.1-2008, GB/T14048, High-Rise Buildings Fire Norms, Architectural Design Fire Norms, Emergency Lighting Design Guide and Civil Electrical Design Specifications.

4.1.14.2 Small in size for easy installation.

4.1.14.3 Self-input and self-restoring /self-input without self-restoring/ automatic or manual.

4.1.14.4 Choice of 3 Pole and 4 Pole units.

4.1.14.5 Running parameters can be adjusted.

4.1.14.6 Rated voltage is 230-240 V.

4.1.14.7 Rated current is from 10A to 3200A

4.1.15 All materials, fittings, pipes, conduits, electrical wires, feeder lines, appliances, used in electrical installations, shall conform to the Philippine Electrical Code and other applicable local codes of the Philippines.

4.2 Six (6) units of branded and brand new (one brand) Air Cooled Flexible In-Row Cooling System up to 40 KW with the following minimum specifications:

4.2.1 CABINET CONSTRUCTION

4.2.1.1 Exterior panels shall be 18 gauge steel with 3.7 lb/ft3 (60 kg/m3) density foam insulation. Insulation complies with UL94. Front and rear exterior panels shall be 18 gauge perforated steel, and equipped with a keyed lock to provide a means of securing access to the internal components of the unit.

4.2.1.2 The frame shall be constructed of 16 gauge formed steel welded for maximum strength. All units shall provide maintenance from the front and rear, allowing units to be placed within a row of racks.

4.2.1.3 All exterior panels and frame shall be powder coated for durability and attractive finish.

4.2.1.4 Units shall include casters and leveling feet to allow ease of installation in the row and provide a means to level the equipment with adjacent IT racks.

4.2.2 Variable speed fan assembly

4.2.2.1 Variable speed fans: The unit is equipped with at least two variable speed, electronically commutated, 400-mm backward incline fans complete with inlet volute.

4.2.2.2 Fan protection: discharge finger guard. Outlet of the fan should include a cage type finger guard.

4.2.3 MICROPROCESSOR CONTROLLER

4.2.3.1 Monitoring and Configuration: The master display shall allow monitoring and configuration of the air conditioning unit through a menu-based control. Functions include status reporting, set-up, and temperature set points. Three LEDs report the operational status of the connected air conditioning unit.

4.2.3.2 Controls: The microprocessor controller shall come equipped with control keys to allow the user to navigate between menus, select items, and input alpha numeric information.

4.2.3.3 Alarms: The microprocessor controller shall activate a visible and audible alarm in the occurrence of the following events:

- Cool Fail
- Air filter clogged
- Return air sensor fault
- Supply air sensor fault
- Rack temperature sensor fault
- High discharge pressure
- Low suction pressure
- Fan fault
- Check condensate management system
- Air filter run hours violation
- Group communication fault
- Supply air high temperature violation
- Return air high temperature violation
- Filter DP sensor failure
- Suction pressure sensor failure
- Discharge pressure sensor failure
- Persistent high discharge pressure fault
- Rack inlet temperature high violation
- Communication fault
- On standby input contact fault
- A-link isolation relay

4.2.3.4 Compressor Monitoring

- Compressor drive communication fault
- Compressor drive warning
- Compressor run hours violation
- Condensate pump run hours violation
- Fan run hours violation
- Overheat
- Compressor drive locked
- High pressure switch active
- Compressor high pressure
- Supply humidity sensor fault
- High suction pressure
- Excessive compressor cycling

4.2.3.5 Humidifier/Dehumidifier Monitoring

- Humidifier water conductivity high violation
- Humidifier fault tolerance exceeded
- Humidifier low water
- Humidifier excessive output reduction
- Humidifier drain fault
- Humidifier cylinder full
- Heater run hours exceeded

- Humidifier communication fault
- Humidifier run hours violation
- Humidity high/low violation
- Return humidity sensor fault
- Heater fault

4.2.4 NETWORK MANAGEMENT CARD

4.2.4.1 Shall include a network management card to provide management through TCP/IP. Management through the network should include the ability to change set points as well as view and clear alarms.

4.2.4.2 Shall support Modbus TCP/IP and RTU

4.2.5 COOLING COIL AND CONDENSATE PAN

4.2.5.1 Cooling coil shall use raised lance type corrugated aluminum fin and 1/2 inch OD (12.7 mm) copper tube coils.

4.2.5.2 Fin shall be a minimum of 0.006 inch thick.

4.2.5.3 Tube wall shall be a minimum of 0.039 inch thick wall.

4.2.5.4 Coil end supports shall be a minimum 17 gauge G90 galvanized steel.

4.2.5.5 Coil shall be rated for a maximum pressure of 600 psig (4200 kPa), and the coils are certified in accordance with UL207.

4.2.5.6 Coil header is equipped with a drip plate in the bottom to capture and direct the condensation accumulating on the suction header tube to the drain pan.

4.2.5.7 Coil has 6 circuits complete with brass distributor and copper distribution tubes.

4.2.6 COMPRESSORS

4.2.6.1 VFD / Digital Compressor

4.2.6.1.1 The unit shall be configured with a variable speed scroll compressor or digital scroll compressor.

4.2.6.1.2 Compressor is electrically protected.

4.2.6.1.3 Compressor utilizes a noise cap for noise reduction.

4.2.6.1.4 Compressor shall soft start to minimize in-rush current.

4.2.7 Each pump shall have a condensate reservoir made of polymeric materials to prevent corrosion.

4.2.8 FILTERS

4.2.8.1 The standard filters shall be 30% efficient per ASHRAE Standard 52.1, UL Class 2 (MERV 8 per ASHRAE 52.2).

4.2.8.2 Filters shall be EN779 G4 efficient. The 3.75 in. (96 mm) deep, pleated filters shall be replaceable from the rear of the unit.

4.2.8.3 The optional filter shall be 85% efficient per ASHRAE Standard 52.1 (MERV 13 per ASHRAE 52.2, EN779 F7).

4.2.9 HUMIDIFIER

4.2.9.1 Humidifier shall be able to modulate capacity.

4.2.9.2 The humidifier shall be self-contained, steam-generating type, factory piped and wired, with disposable cylinder and automatic solid-state control circuit.

4.2.9.3 Humidifier canisters shall be replaceable.

4.2.9.4 The humidifier controller shall communicate directly to the microprocessor controller and provide complete status and control at the operator interface.

4.2.9.5 Humidifier shall control flush cycling and conductivity via automated controls.

4.2.10 ELECTRIC REHEAT

4.2.10.1 Reheat elements shall be low watt density, wired for three-phase, loaded equally on all three phases and shall be electrically and thermally protected by both automatic and manual reset cutouts. Reheat capacity shall be 6 kW.

4.2.10.2 Reheat coils shall be stainless steel, fin tubular construction. Heater casing shall be 20 gauge G90 galvanized steel.

4.2.10.3 Heater shall be provided with self-engaging electrical connectors upon installation.

4.2.10.4 Heater with manually connected conductors is not acceptable.

4.2.11 TEMPERATURE AND HUMIDITY SENSORS

4.2.11.1 Internal Temperature Sensors shall be mounted behind the front and rear doors to provide control inputs based on supply and return air temperature. Sensor accuracy shall be within +/– 1 degree F accuracy.

4.2.11.2 All racks must have remote temperature sensors to provide control input based on rack inlet temperature.

4.2.11.3 Internal Humidity Sensors

4.2.11.4 Humidity sensors shall be mounted behind the front door and shall provide control input based on humidity in supply air. Humidifier sensor shall be +/– 3% RH accuracy full scale

4.2.11.5 Humidity sensors shall be mounted behind both the front and rear doors and shall provide control input based on humidity in supply air. Humidifier sensor shall be +/– 3% RH accuracy full scale.

4.2.12 ACCESSORIES

4.2.12.1 Wires and cables, terminal lugs electrical panel and breakers

4.2.12.2 Roughing in materials such as cable trays, EMT pipes, connectors, junction boxes, hangers and support

4.2.12.3 Pedestal

4.2.12.4 Mechanical pipes

4.2.12.5 Insulation for Refrigerant Piping.

4.2.12.6 Under deck Insulation

4.2.12.7 Foundation bolts, Grouting, vibration isolators, Base Frames etc. for mounting the outdoor condensing unit, indoor Cooling Unit and other equipment.

4.3 Branded and Brand New NOVEC Fire Suppression System with the following minimum specifications:

4.3.1 The system utilizes the NOVEC 1230 fire protection fluid – a clear, colorless and low odor clean agent that instantly vaporizes upon discharge, absorbing heat and providing total flooding of protected spaces.

4.3.2 The system is especially suited for suppressing fires in occupied spaces, in areas where an electrically non-conductive medium is required, where electronic systems cannot be shut down in an emergency.

4.3.3 The system hardware shall consist of Novec Agent in Cylinder(s) super-pressurized with Nitrogen to 360 psi at 70F (25 bar at 21C) and discharged into the affected area using discharge nozzle(s) attached to a pipe network. Tanks shall be of high-strength low alloy steel construction and conforming to NFPA 2001.

4.3.4 The Novec agent cylinders shall comply with the following:

4.3.4.1 Cylinders shall be equipped with a permanent integral liquid level indicator (LLI) to enable the representative measure of the weight of agent in each individual cylinder without having to physically move or lift the cylinders. Systems without integral LLIs shall not be considered as equal.

4.3.4.2 The cylinders shall have a pressure gauge to indicate the actual container pressure.

4.3.4.3 The cylinders shall have a low pressure switch to electrically signal a supervisory condition if the cylinder pressure drop below 305 psi.

4.3.5 The Fire Alarm Control Unit/Panel shall consist of a control unit that provides control for all devices that make up the complete system with the following minimum specifications:

4.3.5.1 The FACU/FACP shall consist of a single Printed Circuit Board with the main microprocessor and an integral operator interface Module, a primary Power Supply Unit, a 24 VDC Battery backup complete with Battery Charger, in an 18 gauge painted NEMA 1 steel enclosure with door.

4.3.5.2 A battery cabinet/s shall be available to accommodate a battery capacity of 17 to 68 AH at 24 VDC.

4.3.5.3 The charger assembly shall be capable of charging batteries of capacities up to 68 AH.

4.3.5.4 The FACU/FACP shall supervise and control the overall system operation, including the execution of the site-specific configuration. Its printed circuit board shall contain the hazard-specific input and output circuits.

4.3.5.5 The operator interface shall provide a digital countdown timer to indicate the time remaining prior to an impending suppression system release. Panels that do not display releasing countdown shall not be acceptable.

4.3.5.6 The operator interface module shall provide Light Emitting Diodes (LED) to indicate Power ON, Alarm, Pre-Release, Releasing, Post-Release, Trouble, Supervisory and Signal Silenced.

4.3.5.7 All access to the Menu System shall be password protected.

4.3.5.8 A system buzzer shall annunciate each Alarm, Supervisory, or Trouble event.

4.3.6 The design, equipment, installation, testing, and maintenance of the Fire Suppression System shall be in accordance with the following codes and standards (latest edition):

4.3.6.1 National Fire Protection Association (NFPA) 2001: Standard on Clean Agent Fire Extinguishing Systems

4.3.6.2 NFPA 75: Protection of Electronic Computer/ Data Process Equipment

4.3.6.3 NFPA 72: National Fire Alarm and Signaling Code

4.3.6.4 Underwriters Laboratories, Inc. (UL) Publication 2166: Standard for Clean Agent Extinguishing System Units,

4.3.6.5 UL 268: Smoke Detectors for Fire Alarm Systems

4.3.6.6 UL 521: Standard for Heat Detectors for Fire Protective Signaling Systems

4.3.6.7 UL 864: Standard for Control Units and Accessories for Fire Alarm Systems

4.3.6.8 UL 2166: Halocarbon Clean Agent Extinguishing System Units

4.3.7 All devices, components, and equipment shall be the products of the same manufacturer, or supplied by the same manufacturer.

4.3.8 All devices, components, and equipment shall be new, standard products of the manufacturer's latest design and suitable to perform the functions intended.

4.3.9 All devices and equipment shall be UL listed and/or FM approved.

4.3.10 The system shall be complete in all ways and it shall include the following:

4.3.10.1 Mechanical and electrical installation

4.3.10.2 All detection and control equipment

4.3.10.3 Agent storage containers

4.3.10.4 NOVEC 1230 agent

4.3.10.5 Discharge nozzles, six (6) units for raised-floor and six (6) units for centralized system

4.3.10.6 Pipe and fittings

4.3.10.7 Manual release and abort stations

4.3.10.8 Fire detection and audible/visual alarm devices

4.3.10.9 Auxiliary devices and controls

4.4 Branded and Brand New Integrated Monitoring System and its Components with the following minimum specifications:

4.4.1 Data Center Monitoring Solution:

4.4.1.1 24/7 real-time centralized monitoring of all DC components and shall not be limited to the following: UPS, PDU, Cooling System, GenSet, Fire Suppression System, Water Leak Detection, Temperature and Humidity Sensor.

4.4.1.2 Monitoring Solution shall be delivered as a hardware solution with a complete built-in Web Server and should be able to communicate with all DC components utilizing Modbus 485, Modbus/IP and SNMP protocol on real time data gathering and alarming for critical measuring points.

4.4.1.3 All critical measurements in one system and must be able to compute the PUE (Power Utilization Efficiency) value and display in the main dashboard of the management device.

4.4.1.4 Audit trail to see exactly what happened and when, then be able to aggregate different Alarm logs and consolidate into one report.

4.4.1.5 Automatic real time data collection, alarm management and customized report generation.

4.4.2 **Managed Power Distribution Unit ([PDU):**

4.4.2.1 Forty eight (48) units of 32A 220-240VAC Managed PDU

4.4.2.2 Sixteen (16) outlets IEC 320 C13 and at least three (3) outlets IEC 320 C19 compatible to DBM's appliance/server power plugs

4.4.2.3 Twist lock input connector compatible to DBM's Data Center power outlets.

4.4.2.4 Three hundred (300) units of 1.8m IEC 320 C13 power cords

4.4.2.5 One hundred (100) units of 1.8m IEC 320 C19 power cords

4.4.2.6 Built-in accurate power meter (voltage and current)

4.4.2.7 Built-in web interface for real time monitoring of the power strip current consumption and controlling of each outlet

4.4.2.8 Built-in circuit breaker that will provide power protection (e.g. overload, short circuit and etc.)

4.4.2.9 Provide audible alarm and send notification (SMS/email) when the power consumption exceed the trigger value of warning or overload

4.4.2.10 Support the SNMP and provide Managed Information Base (MIB) for the PDU to be monitored by DBM's network management system

4.4.2.11 LED indicator for status of each outlet

4.4.2.12 Should be compatible to the DBM's Data Center existing racks.

4.4.3 **Water Leak Detection System:**

4.4.3.1 Complete water leak detection system with sensing cable, hold down clips and tag labels.

4.4.3.2 Support Internet of Things (IoT) Technology.

4.4.3.3 One (1) Base Unit: Sensor Gateway for up to two (2) external probes.

4.4.3.4 Triggers an alert when water touches cable.

4.4.3.5 Alerts via SNMP Traps and email.

4.4.4 **Temperature and Humidity Sensor:**

4.4.4.1 One (1) Base unit: Sensor Gateway for up to thirty two (32) external probes.

4.4.4.2 One (1) unit 24 ports PoE Switch compatible with DBM's network solution

4.4.4.3 Twenty nine (29) units of temperature and humidity sensor

4.4.5 **Four (4) units of branded and brand new (one brand) 55 inch Digital Signage Monitor**

4.4.5.1 Ultra HD Resolution (3840x2160)

4.4.5.2 Brightness: 500cd/m2

4.4.5.3 Panel Technology: In-Plane Switching (IPS)

4.4.5.4 Internal Memory: 8GB (System 4GB + Available 4GB)

4.4.5.5 Connectivity Input: HDMI /HDCP2.2, DP /HDCP1.3, RGB/DVI

4.4.5.6 HDTV Formats: 720p, 1080i, 1080p, 2160p

4.4.5.7 Power Supply: 100-240V~, 50/60Hz

4.4.5.8 Quick lock push Video Wall Mounting System

4.4.6 **Two (2) units of branded and brand new Cable LAN Test Equipment of cable continuity, ethernet port test and voice with the following minimum specifications:**

4.4.6.1 Qualifies cabling systems to support 100/1000/10000 Ethernet, voice and VoIP.

4.4.6.2 Tests and troubleshoots all data, and voice wiring.

4.4.6.3 Graphically maps wiring configuration and shows distance to faults with built-in time-domain reflectometer (TDR).

4.4.6.4 Locates and traces cables with tone digital signaling technology.

4.5 One (1) unit of branded and brand new Network Attached Storage (NAS) with the following minimum specifications:

4.5.1 2U rack-mountable
4.5.2 Intel Xeon 6-core 2.2 GHz CPU
4.5.3 128GB DDR4 ECC RDIMM
4.5.4 2 X 10GbE ports and 4x 1GbE ports, supports Link Aggregation
4.5.5 12 x 3.5" drive bays compatible with SAS HDD/ SDD
4.5.6 12 x 16 TB SAS HDD, supports RAID 1,5,6, and 10
4.5.7 Supports pairing with expansion units
4.5.8 Supports Snapshot Replication with customizable backup schedule
4.5.9 Flexible shared folder with user quota system
4.5.10 Supports file or folder level data restoration
4.5.11 Able to auto-detect corrupted files with mirrored metadata
4.5.12 Provides seamless storage solutions for virtualization environment (e.g. VMware, Hyper-V)
4.5.13 Redundant hot-swappable power supply

V. SCOPE OF WORK

5.1 The CONTRACTOR shall conduct pre-implementation meeting with DBM representatives so that all the necessary preparations, ideal set-up, plans and location, and other implementation matters are clearly discussed and finalized.

5.2 The CONTRACTOR shall provide a work-plan of activities for the duration of the project and a Deployment and/or Solution Architecture within a week from the pre-implementation meeting with DBM representatives. Said work-plan shall be validated and subject for approval of designated DBM official.

5.3 The CONTRACTOR shall deliver, install, test and commission the following Data Center Components at DBM including but not limited to the following within five (5) months from the receipt of Notice to Proceed (NTP).

5.3.1 500 kVA Diesel Generator:

5.3.1.1 Construction of concrete housing and concrete mounting pad, the Contractor shall provide a Lay-out for the GenSet Concrete Housing subject for approval of DBM's designated Engineer.
5.3.1.2 Demolition and clearing of GenSet location prior to the construction of the GenSet housing and concrete mounting pad.
5.3.1.3 Supply and installation of concrete cable tray for roughing-ins of the electrical cables from Power House to GenSet and GenSet to IDF Building 2.
5.3.1.4 Supply and installation of all accessories and controls, including control panels, panel box, day tanks, starting device, batteries, protection gear, instruments etc. The scope also covers spares which include filters (oil, water, fuel) belts and lubricants, and operation for initial period.
5.3.1.5 Before Installation, The CONTRACTOR must provide the following:
5.3.1.5.1 Electrical Plan signed by Licensed Electrical Engineer
5.3.1.5.2 Electrical Permit/Clearance from the Office of the City Engineer of Manila
5.3.1.6 Civil Works and Restoration
5.3.1.7 Electrical Panels:
5.3.1.7.1 Before fabrication, drawings of electrical panels should be approved by the DBM's Designated Engineer.

5.3.1.7.2 Panels will be inspected and subject for approval by the DBM's Designated Engineer prior to dispatch.

5.3.1.7.3 Panel Fabricator or the Panel should be ISO certified.

5.3.1.7.4 Panels should be tested for insulation resistance and HV withstand test. Factory test certificates should be provided.

5.3.1.8 The CONTRACTOR shall conduct the following test after the installation, wiring and earthing of Diesel Generator Set.

5.3.1.8.1 Insulation resistance of the generator.

5.3.1.8.2 Speed, no load voltage and full load voltage regulation.

5.3.1.8.3 Frequency at no load, half load and full load.

5.3.1.8.4 Full load test for four (4) hours at rated voltage, speed and frequency including fuel for testing.

5.3.1.8.5 The reading shall be observed with calibrated meters.

5.3.1.8.6 All the safety controls and protective devices of the DG set shall be tested for correct calibration and operation.

5.3.1.8.7 Tests and operations shall be performed in the presence of the authorized representatives of the DBM. The results of the tests shall be tabulated and submitted in triplicate.

5.3.1.9 Any other item not mentioned but required to make the Diesel Generator operational will be in the scope of work of contractor without any additional cost to DBM.

5.3.2 **Six (6) units of In-Row Cooling System**

5.3.2.1 Dismantling and Transfer of the two (2) units 20TR PACU and its components (after the new Cooling System was made operational). The said units should be in good condition upon transfer to the specified location.

5.3.2.2 Delivery, Installation, configuration and commissioning of the six units flexible in-row cooling system at DBM Central Office Data Center.

5.3.2.3 Lifting, positioning and balancing of the entire Cooling System.

5.3.2.4 Installation of related mechanical and electrical components for both indoor and outdoor units to make the Cooling System operational.

5.3.2.5 Installation of electrical panels, breakers, lugs, wires and roughing-in materials for electrical supply tapping from nearest source going to indoor and outdoor unit location. The electrical panels/breakers should be capable to accomodate the power consumption of the new cooling system.

5.3.2.6 All Minor Masonry, Carpentry and Civil Works.

5.3.2.7 Drainage pipe from unit to drain sump.

5.3.2.8 Terminations and cleaning of site.

5.3.2.9 The CONTRACTOR shall arrange for all necessary testing equipment/ instruments. Any defect in testing shall be rectified by the CONTRACTOR entirely at his own cost, to the satisfaction of the DBM. The installation shall be tested and commissioned again after removal of defects. All tests shall be carried out in the presence of the DBM representatives.

5.3.2.10 The CONTRACTOR should ensure that the structural load on the roof deck should not exceed the allowable weight of 150kg per square meter (distributed load only, the concentrated load is not allowed).

5.3.2.11 Any other item not mentioned but required to complete the Cooling System will be in the scope of work of contractor without any additional cost to DBM.

5.3.3 **Fire Suppression System (NOVEC):**

5.3.3.1 Dismantling and Disposal of the existing Fire Suppression System.
5.3.3.2 Design drawings as per National Fire Protection Association (NFPA).
5.3.3.3 Installation of electrical conduits (EMT), boxes, fittings, wires and anchors and other necessary materials.
5.3.3.4 Installation of releasing panel and other field devices.
5.3.3.5 Roughing-ins wiring.
5.3.3.6 Fabrication and installation of NOVEC cylinder rack brackets.
5.3.3.7 Fabrication and installation of NOVEC manifold piping system.
5.3.3.8 Supply and installation of fittings.
5.3.3.9 Supply and installation of BI pipe schedule 40 seamless.
5.3.3.10 Fabrication and installation of pipe brackets and hanger.
5.3.3.11 Painting of pipes, brackets and hangers.
5.3.3.12 Installation of NOVEC cylinder and discharge nozzles.
5.3.3.13 Final testing and commissioning
5.3.3.14 Interfacing of Cooling System to NOVEC panel
5.3.3.15 Wiring from FSCP to Cooling System
5.3.3.16 The contractor shall be responsible for sealing and securing the protected spaces against agent loss and/or leakage.
5.3.3.17 Any other item not mentioned but required to complete the Fire Suppression System will be in the scope of work of contractor without any additional cost to DBM.

5.3.4 **Integrated Data Center Monitoring System:**

5.3.4.1 Installation, configuration, testing and commissioning of Centralized Monitoring System, water leak sensors, temperature and humidity sensors, managed PDUs and video wall mounting system.
5.3.4.2 Installation of brackets/mounting and roughing-ins wiring.
5.3.4.3 Installation of quick lock push video wall mounting system and alignment of the four units 55" digital signage monitor. The monitors should be integrated with the ICTSS monitoring tools (e.g. solarwinds, service desk and application monitoring system). The contractor should also provide two calbes for each monitor (inside the data center and provision in the network area). Power source should be connected to the Data Center UPS.
5.3.4.4 Relocation of the two existing 55" Monitors and replacement of the mounting with quick lock push video wall mounting system. The power source of the said monitors should be connected to Data Center UPS.
5.3.4.5 Any other item not mentioned but required to complete the Integrated Data Center Monitoring System will be in the scope of work of contractor without any additional cost to DBM.

5.3.5 **Network Attached Storage**

5.3.5.1 The contractor should provide railings for the mounting of Network Attached Storage in the cabinet.
5.3.5.2 Installation, configuration and testing of Network Attached Storage ..
5.3.5.3 Integration with Windows Active Directory
5.3.5.4 Integration with Solarwinds for monitoring purposes.

5.4 The CONTRACTOR must have the following Certified Professionals/Engineers for the Diesel Generator Set, In-Row Cooling System, Fire Suppression System, Integrated Data Center Monitoring System and Network Attached Storage installation, configuration, testing and commissioning: (certificates must be submitted in the submission of bid documents and subject for post qualification)

- Certified Competency in Operation and Maintenance of Diesel Generator
- Certified Diesel Generator Set Specialist or its equivalent
- Electrical Engineer
- Mechanical Engineer
- Certified Cooling System Specialist or its equivalent
- Fire Suppression System Engineer or its equivalent
- Certified Data Center Professional or ISO 9001 certified for Data Center Facility

5.5 The CONTRACTOR shall provide/render twenty-four hours a day, seven days a week (24x7) Technical Support services during the warranty/maintenance period of the Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access Control System and Eaton Powerware UPS. Technical support can be delivered in a form of telephone call, electronic mail, and/or on-site support.

The CONTRACTOR shall resolve every problem on all components within six (6) hours after it was reported during the warranty period. It shall refer to a condition wherein the reported problem is resolved by the CONTRACTOR to the satisfaction of the DBM. Problem and resolution shall be logged to DBM Help Desk Facility.

5.6 The CONTRACTOR shall conduct a monthly health check-up and quarterly preventive maintenance to ensure the availability of Diesel Generator Set, Cooling System, Fire Suppression System, Integrated DC Monitoring System and Network Attached Storage. The CONTRACTOR shall submit a Preventive Maintenance Checklist and monthly schedule subject for approval of ICTSS Official.

5.7 The CONTRACTOR shall replace the Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access Control System and Eaton Powerware UPS defective parts/accessories of the same or better brand, model features, quality and functionalities if not repaired within the allowable resolution time of six (6) hours during the warranty/maintenance period at no additional cost to the DBM.

5.8 The CONTRACTOR shall provide service unit of at least the same brand, model, features and functionalities or its equivalent in case of Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access Control System and Eaton Powerware UPS breakdown at no additional cost to the DBM. The service unit shall be made available and operational within six (6) hours from the time the problem has been reported by the DBM for the equipment undergoing repair during the warranty/maintenance period.

However, mandatory replacement of defective unit with a brand new unit of the same or better brand or model shall be made, if not repaired beyond one (1) month from the time the service unit was provided, at no additional cost to the DBM.

5.9 The CONTRACTOR shall resolve all reported issues encountered/unresolved under section 5.5 to 5.8 even the warranty ends.

5.10 The CONTRACTOR shall provide trainings at Authorized Training Center for GENSET, Cooling System, Fire Suppression and Integrated DC Monitoring System and Network Attached Storage based on the following schedule:

Training	Schedule	No. of Participants	Duration
1. Operation and Maintenance of Diesel Generator Set.	• Within three (3) months from the receipt of NTP. • Within four (4) months from the receipt of NTP. • Within five (5) months from the receipt of NTP.	At least five (5) participants per conduct	five(5) days
2. Operation and Maintenance of Cooling System	• Within three (3) months from the receipt of NTP. • Within four (4) months from the receipt of NTP. • Within five (5) months from the receipt of NTP.	At least five (5) participants per conduct	five(5) days
3. Operation and Maintenance of Fire Suppression System.	• Within three (3) months from the receipt of NTP. • Within four (4) months from the receipt of NTP. • Within five (5) months from the receipt of NTP.	At least five (5) participants per conduct	One (1) day
4. Operation and Maintenance of Integrated DC Monitoring System	• Within three (3) months from the receipt of NTP. • Within four (4) months from the receipt of NTP. • Within five (5) months from the receipt of NTP.	At least five (5) participants per conduct	Three (3) days
5. Network Attached Storage Administration Training	• Within three (3) months from the receipt of NTP. • Within four (4) months from the receipt of NTP. • Within five (5) months from the receipt of NTP.	At least five (5) participants per conduct	One (1) day

The CONTRACTOR shall issue individual training certificates and training materials for each of the participants.

5.11 The CONTRACTOR shall provide as-built documentation on each of the following DC components set-up/ diagram in both hard and soft copies including information on the deployment, system resource/overhead requirements of the software/IT equipment employed in the project as well as procedures for installation, configuration, integration, operation and maintenance within five (5) months from the receipt of NTP.

- Diesel Generator Set
- In-row Cooling System
- Fire Suppression System
- Integrated Data Center Monitoring System
- Network Attached Storage (NAS)

5.12 The CONTRACTOR shall provide a monthly service maintenance and quarterly preventive maintenance for the following Data Center components in a mutually agreed schedule:

5.12.1 **Power components:**

5.12.1.1 Testing of circuit breakers and switches

5.12.1.2 Perform load balancing in coordination with DBM authorized technician/engineers to prevent power overload and other power issues

- Study the system load during the actual operation

- Determine the unbalance phase load
- Transfer / reconfigure load to balance the phase load
- Monitor the balanced current load
- Project the additional load per phase
- Re-balance load as the change arise

5.12.1.3 Calibration of protective relays

5.12.1.4 Perform Megger Testing whenever shutdown of electrical equipment and power cabling system will be allowed.

5.12.1.5 Identification of potential electrical problem

5.12.1.6 Survey and identify of high temperature excursions

5.12.1.7 Switchgear cleaning and inspection

5.12.1.8 Cleaning and tightening of all electrical connections and equipment enclosures

5.12.1.9 Replacement of lighting fixture

5.12.1.10 Replacement of defective power outlets and related components

5.12.1.11 All replacement unit and consumables must be provided by the CONTRACTOR.

5.12.1.12 Updating of as-built documentation

5.12.1.13 Checking of electrical connection for all DC components such as Cooling System, UPS, Generator Set, ATS, Fire Suppression System, Security Access, Video Surveillance and Water Leak detector system.

5.12.2 **Surveillance System:**

5.12.2.1 Check cameras in accordance with the specification and any amendment.

5.12.2.2 Check indicator lamps condition.

5.12.2.3 Check all cables and conduit are properly supported, undamaged and showing no signs of wear.

5.12.2.4 Check the picture quality of each camera and correct monitor selection.

5.12.2.5 Clean camera housings and lenses.

5.12.2.6 Check camera functions and movement and fields of view are free from obstruction.

5.12.2.7 Check overall performance of the system.

5.12.2.8 Check camera functions and movement and fields of view are free from obstruction.

5.12.2.9 Check if the NVR are recording properly.

5.12.2.10 Check the status of the storage if it reach the maximum capacity

5.12.2.11 Check communication and recording of all IP cameras with the NVR.

5.12.2.12 Check if all storage devices ate functioning properly.

5.12.2.13 Check all power connections to ensure AC plugs are not loose or cable power frayed.

5.12.2.14 Check all control equipment running condition.

5.12.2.15 Check functionality of the Monitoring Servers, its mouse, keyboard, and related peripherals.

5.12.2.16 Provision of spare IP-based camera units per installed model.

5.12.2.17 Maintenance and updates of video analytics management software.

5.12.3 **Biometrics Access Control System:**

5.12.3.1 Visual inspection of all internal sub-assemblies and major components.

5.12.3.2 Hardware troubleshooting and problem isolation as needed.

5.12.3.3 Replacement of defective parts as needed.

5.12.3.4 Maintenance and version updates of security management software.

5.12.3.5 Checking of primary and backup power supply.

5.12.3.6 Cleaning and maintenance inspection of the access control unit including its peripherals such as the electromagnetic lock mechanism, push-to-exit button, as necessary.

5.12.4 **Raised Floor System:**

5.12.4.1 Réplacement of all perforated panels with solid panels
5.12.4.2 Replacement of damage panels
5.12.4.3 Understructure adjustments
5.12.4.4 Replacement of broken edge trim
5.12.4.5 Replacement of warped/broken panels
5.12.4.6 Refurbish delaminated panels
5.12.4.7 Sub-micron filter vacuuming
5.12.4.8 Sealant applied to sub flooring
5.12.4.9 Spot cleaning to remove stains
5.12.4.10 Surface cleaning
5.12.4.11 Detail cleaning of entry points

5.12.5 **Racks, Patch Panels and Cablings:**

5.12.5.1 The Contractor shall re-organize all the network cablings within the Data Center and provide the following to ensure the orderliness/cleanliness of every racks:

- CAT6 UTP Cables (for re-cabling)
- Ceiling mounted Cable Trays
- Rack mounted Patch Panels (Fiber and CAT6)
- Patch Cords (Fiber and CAT6)
- Cable organizers, hooks, latch straps, cable ties and pull out shelf
- Labeling of cables and numbering of patch panel ports.

5.12.5.2 The Contractor should provide a plan for the arrangement of racks, patch panels and cablings subject for approval of ICTSS Official.
5.12.5.3 The Contractor should ensure that all network cables are above the racks properly arrange/ organize in the cable trays.
5.12.5.4 The Contractor should ensure that only power cables are under the raise flooring and properly arrange/ organize.
5.12.5.5 The Contractor should check for possible defective or worn out accessories of data/network cabinets such as axial fan, door lock, rack mounting rail, rack connector, panels, cable routing panel and cantilever arm. Replace if necessary.
5.12.5.6 The Contractor should ensure the ventilation is sufficient to cope with the heat dissipated by equipment inside the racks.
5.12.5.7 The Contractor should check the data/network cabinet's mounting nuts, adapter, and brackets, adjust if necessary.

5.12.6 **Eaton Powerware Uninterruptible Power Supply (UPS):**

5.12.6.1 All the necessary spare parts or consumable items to maintain the UPS must be allotted from stock inventory.
5.12.6.2 Conduct on-site inspection of the equipment and check the integrity of any electrified hinges or similar power-transfer devices.
5.12.6.3 Replace batteries as necessary and fine-tune each opening.
5.12.6.4 Check current UPS installation condition. Installation should be in accordance with the manufacturer's guideline and wiring regulations.
5.12.6.5 Provide necessary recommendation to expand the life of the equipment.
5.12.6.6 Perform appropriate preventive measures to keep the UPS in good and running condition and ensure that ventilation is capable of maintaining the DC within recommended ambient temperature and humidity.
5.12.6.7 Perform power failure simulation to check charging and discharging capacity of battery.
5.12.6.8 The contractor must submit warranty certificate from manufacturer as proof of enrollment of maintenance (subject for ICTSS validation).

5.13 Data Center Glass Wall, Lighting, Restoration and Other Requirements

5.13.1 Frosting of Data Center Glass Wall, the Contractor must submit a frosting design proposal subject for approval of ICTSS official. The Contractor shall provide and install the approved frosting design in the DBM's Data Center glass wall.

5.13.2 Upgrade of Data Center Lighting, the Contractor shall provide and replace all the existing Data Center Lighting with the new LED technology.

5.13.3 The contractor shall provide, install and configure two (2) units of additional IP Cameras compatible with the existing Data Center Surveillance System.

5.13.4 Restoration of Data Center walls and ceiling, the Contractors should ensure that there are no holes, smudge and uneven paints within the Data Center walls and ceiling.

5.13.5 The Contractor must be an ICT Company with valid Philippine Contractors Accreditation Board (PCAB) license classification in all of the following (must be submitted in the submission of bid documents and subject for post qualification).

5.13.5.1 Fire Protection Works
5.13.5.2 Air-conditioning Works
5.13.5.3 Communication Facilities
5.13.5.4 Electrical Works

5.14 The CONTRACTOR should provide a monthly report (e.g. status report, health check, performance, updates, recommendations and etc.) for the following Data Center Components:

5.14.1 Diesel Generator Set
5.14.2 Cooling System
5.14.3 Fire Suppresion System
5.14.4 Integrated Data Center Monitoring System and its Components
5.14.5 Network Attached Storage
5.14.6 Power Components
5.14.7 Surveillance System
5.14.8 Biometric Access Control System
5.14.9 Uninterruptible Power Supply

A Certificate of Acceptance shall be issued by the Director of Information and Communication Technology Systems Service (ICTSS) after all requirements are fully met by the CONTRACTOR.

VI. SERVICE LEVEL AGREEMENT

6.1 DBM shall maintain a Service Level Agreement (SLA) with the CONTRACTOR, with provisions for liquidated damages for their non-compliance.

Component	Description	Liquidated Damages
6.1.1 Delivery, Installation Testing and Commissioning	The CONTRACTOR shall deliver, install, test and commission the Diesel Generator Set, Cooling System, Fire Suppression System, Integrated DC Monitoring System and its components and Network Attached Storage within five (5) months from the receipt of Notice to Proceed (NTP). (section 5.3)	One percent (1%) of the total contract price shall be imposed per day of delay.
6.1.2 Technical Support	The CONTRACTOR shall provide/render twenty-four hours a day, seven days a week (24x7) Technical Support services	1/10th of 1% of the total contract price shall be imposed for every hour of.

	during the warranty/maintenance period of the Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access and Eaton Powerware UPS. Technical support can be delivered in a form of telephone call, electronic mail, and/or on-site support. The CONTRACTOR shall resolve every problem on all components within six (6) hours after it was reported during the warranty period. It shall refer to a condition wherein the reported problem is resolved by the CONTRACTOR to the satisfaction of the DBM. Problem and resolution shall be logged to DBM Help Desk Facility. (section 5.5)	delay. Said penalty shall be deducted from the special bank guarantee.
6.1.3 Preventive Maintenance	The CONTRACTOR shall conduct a monthly health check-up and quarterly preventive maintenance to ensure the availability of Diesel Generator Set, Cooling System, Fire Suppression System, Integrated DC Monitoring System and Network Attached Storage. The CONTRACTOR shall submit a Preventive Maintenance Checklist and monthly schedule subject for approval of ICTSS Official. (section 5.6)	1/10th of 1% of the total contract price shall be imposed for every day of delay. Said penalty shall be deducted from the special bank guarantee.
6.1.4 Replacement of Parts	The CONTRACTOR shall replace the Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access Control System and Eaton Powerware UPS defective parts/accessories of the same or better brand, model features, quality and functionalities if not repaired within the allowable resolution time of six (6) hours during the warranty/maintenance period at no additional cost to the DBM.. (section 5.7)	1/10th of 1% of the total contract price shall be imposed for every hour of delay. Said penalty shall be deducted from the special bank guaranlee.
6.1.5 Service Unit	The CONTRACTOR shall provide service unit of at least the same brand, model, features and functionalities or its equivalent in case of Diesel Generator, In-Row Cooling System, Fire Suppression System, Integrated DC Monitoring System, Network Attached Storage, Power Components, Surveillance System, Biometric Access Control System and Eaton Powerware	1/10th of 1% of the total contract price shall be imposed for every hour of delay. Said penalty shall be deducted from the special bank guarantee.

	UPS breakdown at no additional cost to the DBM. The service unit shall be made available and operational within six (6) hours from the time the problem has been reported by the DBM for the equipment undergoing repair during the warranty/maintenance period. However, mandatory replacement of defective unit with a brand new unit of the same or better brand or model shall be made, if not repaired beyond one (1) month from the time the service unit was provided, at no additional cost to the DBM. (section 5.8)	
6.1.6 Technology Transfer	The CONTRACTOR shall provide trainings at Authorized Training Center for GENSET, Cooling System, Fire Suppression, Integrated DC Monitoring System and Network Attached Storage as specified in section 5.10	1/10th of 1% of the total contract price shall be imposed for every day of delay. Said penalty shall be deducted from the special bank guarantee.
6.1.7 Documentation	The CONTRACTOR shall provide as-built documentation on each of the following DC components set-up/ diagram in both hard and soft copies including information on the deployment, system resource/overhead requirements of the software/IT equipment employed in the project as well as procedures for installation, configuration, integration, operation and maintenance within five (5) months from the receipt of NTP. (section 5.11)	1/10th of 1% of the total contract price shall be imposed for every day of delay. Said penalty shall be deducted from the special bank guarantee.
6.1.8 Service Maintenance	The CONTRACTOR shall provide a monthly service maintenance and quarterly preventive maintenance for the following Data Center components in a mutually agreed schedule. (section 5.12)	1/10th of 1% of the total contract price shall be imposed for every day of delay. Said penalty shall be deducted from the special bank guarantee.
6.1.9 Monthly Report	The CONTRACTOR should provide a monthly report (e.g. status report, health check, performance, updates, recommendations and etc.) for the following Data Center Components. (section 5.14)	1/10th of 1% of the total contract price shall be imposed for every day of delay. Said penalty shall be deducted from the special bank guarantee.

VII. WARRANTIES OF THE CONTRACTOR

7.1 The CONTRACTOR warrants that it shall conform strictly to the terms and conditions of this TOR.

7.2 The CONTRACTOR warrants, represents and undertakes reliability of the services and that their manpower complements are hardworking, qualified/reliable and dedicated to do the service required to the satisfaction of the DBM. It shall employ well-behaved and honest employees with ID displayed conspicuously while working within the compound. It shall not employ DBM employees to work in any category whatsoever.

7.3 The CONTRACTOR in the performance of its services shall secure, maintain at its own expense all registration, licenses or permits required by National or Local Laws and shall comply with the rules, regulations and directives of Regulatory Authorities and Commissions. The CONTRACTOR undertakes to pay all fees or charges payable to any instrumentality of government or to any other duly constituted authority relating to the use or operation of the installation.

7.4 The CONTRACTOR's personnel shall take all necessary precautions for the safety of all persons and properties at or near their area of work and shall comply with all the standard and established safety regulations, rules and practices.

7.5 The CONTRACTOR shall coordinate with the authorized and/or designated DBM personnel in the performance of their jobs.

7.6 The CONTRACTOR shall be liable for loss, damage or injury due directly or indirectly through the fault or negligence of its personnel. It shall assume full responsibility thereof and the DBM shall be specifically released from any and all liabilities arising therefrom.

7.7 The CONTRACTOR shall neither assign, transfer, pledge, nor sub-contract any part or interest therein.

7.8 The CONTRACTOR shall identify the technical support personnel that will be given authority to access and operate the Diesel Generator Set. DBM shall be informed thru a formal notice on the change or replacement of technical personnel five (5) days prior the actual rendering of technical support services.

7.9 The CONTRACTOR shall provide a one (1) - year comprehensive warranty which shall include support, provision of service unit, parts replacement, technology transfer and maintenance of all Data Center Components which shall be covered by special bank guarantee equivalent to 10% of the total contract price. The said amount shall be released after the lapse of the warranty period. Provided, however that the goods supplied are free from patent and latent defect and all conditions imposed under the contract have been fully met.

The warranty shall commence on the day the DBM issues the Certificate of Acceptance.

VIII. CONFIDENTIALITY OF DATA

8.1 All project personnel of CONTRACTOR shall be required to sign a Non-Disclosure Agreement (NDA).

8.2 The CONTRACTOR agrees to hold the Proprietary Information in strict confidence. The CONTRACTOR furthermore agrees not to reproduce, translate or disclose the Proprietary Information to third parties without prior written approval of the DBM.

IX. TERMS OF PAYMENT

9.1 The CONTRACTOR shall be paid upon completion of delivery, installation, testing and commissioning of all Data Center Components and provision of support services subject to the required Final Withholding VAT (Services) of five percent (5%) and Expanded Withholding Tax of two percent (2%).

9.2 Payment shall be made within a reasonable time from the submission of the documentary requirements such as, but not limited to the following, based on existing accounting and auditing laws, rules and regulations:

9.2.1 Delivery Receipts

9.2.2 Sales Invoice/Billings

9.2.3 Certificate of Acceptance issue by the Director of ICTSS
9.2.4 Manufacturer Warranty Certificates (for the brand new equipment)
9.2.5 Manufacturer Certificate of Maintenance (for UPS)
9.2.6 Non-Disclosure Agreement

9.3 No advance payment shall be made as provided for in Section 88 of PD 1445.

X. *PRE-TERMINATION OF CONTRACT*

10.1 The contract for the DBM Data Center Refresh and Support Services may be pre-terminated by the DBM for any violation of the terms of the contract. In case of pre-termination, the CONTRACTOR shall be informed by the DBM thirty (30) days prior to such pre-termination.

10.2 In case of pre-termination, the CONTRACTOR shall be liable to an additional liquidated damages equivalent to one percent (1%) of the contract price as provided by the Government Accounting Manual (GAM) and forfeiture of the Performance Security.

10.3 The DBM shall have the right to blacklist the CONTRACTOR in case of pre-termination.