

BIDS AND AWARDS COMMITTEE

BID BULLETIN NO. 1

This Bid Bulletin is issued to amend/clarify items in the Bidding Documents for the **SUPPLY, DELIVERY, INSTALLATION, CONFIGURATION, COMMISSIONING AND TESTING OF DATA CENTER FACILITY FOR THE SECURITIES AND EXCHANGE COMMISSION**, under **Public Bidding No. 2023-035**.

QUESTIONS	ANSWERS
1. When may suppliers be allowed to conduct site-survey? <i>(Multi-Fold Links, Inc.)</i>	Suppliers may conduct site visit at any time before the deadline on the submission of bids.
2. Is a Certificate of Inspection required for bid submission? <i>(Multi-Fold Links, Inc.)</i>	No, Certificate of Inspection is not a mandatory requirement for bid submission.
3. Would the SEC reconsider the sizing of the UPS to 20KVA as the 200KVA UPS may require upsizing of the main circuit breaker, cables and transformer for the data center UPS. <i>(SMS Global Technologies Inc.)</i>	No, UPS at 200 KVA includes redundancy. UPS specification remains the same.
4. May we request the possibility to relax the certifications needed on each of the manpower requirement line items? <i>(SMS Global Technologies Inc.)</i>	No, manpower requirement specifications remain the same.
5. May we request the possibility to relax the STE requirement on Manpower? <i>(SMS Global Technologies Inc.)</i>	No, manpower requirement specifications remain the same.
6. May we request to relax the PCAB requirement to have one specialty classification and not all the items on the list? <i>(SMS Global Technologies Inc.)</i>	No, bidder's qualifications remain the same.
7. May we request the possibility to have Bidder's Qualification Item Nos. 1 and 6.3 relaxed as we have current NDAs with our enterprise clients? <i>(SMS Global Technologies Inc.)</i>	No, bidder's qualifications remain the same.

REFERENCE	AMENDMENT
Section VII, Technical Specifications <i>Item No. 3, Page 34</i>	Section VII, Technical Specifications <i>Item No. 3, Page 34</i>

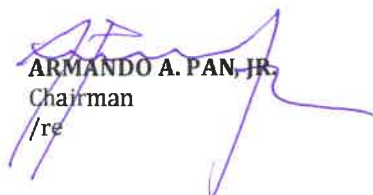
<p>FIBER OPTIC BACKBONE [Ground to 19th Floor] 2. Network Equipment: 2.1. Thirty-eight (38) units 10G Transceiver 2.2. Supply, delivery, installation, and configuration of one (1) unit 24-port core switch. 2.3. Shall provide two (2) modules to the existing core switch of SEC</p>	<p>FIBER OPTIC BACKBONE [Ground to 19th Floor] 2. Network Equipment: 2.1. Thirty-eight (38) units 10G Transceiver 2.2. Supply, delivery, installation, and configuration of one (1) unit 24-port core switch. <u>2.3. Shall provide two (2) modules with nineteen transceivers to the existing core switch of SEC</u></p>
<p>Section VII, Technical Specifications <i>Item No. 8, Manpower Requirement, Page 56</i> <u>Certified Data Center Specialist (CDCP)</u> One (1) Data Center Professional with the following qualifications: <ul style="list-style-type: none"> • Must be a Certified Data Center Professional for at least 3 years. • Regular employee for at least 5 years • Certified in Network, Security and Recovery Management • Trained in major Data center components such as UPS, PACU, CCTV, Fire suppression and Structured Cabling. • Must be a Certified Information Security Manager (CISM) </p>	<p>Section VII, Technical Specifications <i>Item No. 8, Manpower Requirement, Page 56</i> <u>Certified Data Center Specialist (CDCS)</u> One (1) Data Center Specialist with the following qualifications: <ul style="list-style-type: none"> • <u>Must have been a Certified Data Center Specialist for at least 3 years.</u> • Regular employee for at least 5 years • Certified in Network, Security and Recovery Management • Trained in major Data center components such as UPS, PACU, CCTV, Fire suppression and Structured Cabling. • Must be a Certified Information Security Manager (CISM) </p>
<p>Section VII, Technical Specifications <i>Item No. 10.3, Bidder's Qualifications, Page 58</i> The EDGE expert shall submit official contract of engagement or purchase order (PO) on EDGE/LEED project for the past 10 years.</p>	<p>Section VII, Technical Specifications <i>Item No. 10.3, Bidder's Qualifications, Page 58</i> The EDGE expert shall submit official contract of engagement or purchase order (PO) on EDGE/LEED project for the past 10 years <u>reckoned from the deadline of submission.</u></p>
<p><u>Additional Requirement</u> Warranty:</p>	<p><u>1-year warranty on Equipment and 25 years warranty on Fiber Optic Cable.</u></p>

Please see Annex "A" for the revised Technical Specifications. Provisions in the bidding documents that are in conflict with this Bulletin are deemed revised/amended.

For guidance and information of all concerned.

27 October 2023

For the Bids and Awards Committee:


ARMANDO A. PAN, JR.
Chairman
/re

Section VII. Technical Specifications

Notes for Preparing the Technical Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words “*or at least equivalent.*” References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

In case of Renewal of Regular and Recurring Services, the Procuring Entity must indicate here the technical requirements for the service provider, which must include the set criteria in the conduct of its performance evaluation.

Technical Specifications

Item	Specification	Statement of Compliance ²
1	<p>PRELIMINARIES</p> <ol style="list-style-type: none"> 1. Mobilization / Demobilization 2. Occupational Safety & Health Program 3. Building Permit 4. Insurance (Third Party for Manpower and property) 5. Temporary Facilities 6. Temporary Electrical Connection 7. Temporary Water consumptions/connections 	
2	<p>TEMPORARY DATA CENTER</p> <p>2.1 Construct a temporary data center as provided in the plans and located at a site designated by the SEC authorized representative.</p> <p style="padding-left: 40px;">2.1.1. DATA CENTER CIVIL AND ARCHITECTURAL WORKS</p> <p style="padding-left: 80px;">2.1.1.1. Dismantling Works</p> <p style="padding-left: 120px;">2.1.1.1.1. Dismantling of existing ceiling</p> <p style="padding-left: 120px;">2.1.1.1.2. Rental of scaffolding</p> <p style="padding-left: 120px;">2.1.1.1.3. Debris hauling and disposal</p> <p style="padding-left: 80px;">2.1.1.2. Ceiling Works</p> <p style="padding-left: 120px;">2.1.1.2.1. Ceiling preparations including scrapping of existing paint and cleaning of ceiling slab approximately 23.54 sq.m.</p> <p style="padding-left: 120px;">2.1.1.2.2. Painting of ceiling (slab soffit) approximately 23.54 sq.m.</p> <p style="padding-left: 120px;">2.1.1.2.3. Supply, and installation of PVC laminated acoustic ceiling on aluminum t-runner grid ceiling system approximately 23.54 sq.m.</p> <p style="padding-left: 80px;">2.1.1.3. Wall Works</p> <p style="padding-left: 120px;">2.1.1.3.1. Glass wall partition</p>	

² Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder’s statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution.

	<p>2.1.1.3.1.1. <i>Supply, delivery, and installation of 10mm thk tempered glass wall for approximately 5.48 sq.m.</i></p> <p>2.1.1.3.2. <i>Wall partition</i></p> <p>2.1.1.3.2.1. <i>Supply, deliver, and installation of drywall partitions for approximately 13.09 sq. m. left side and 7.8 sq. m. back</i></p> <p>2.1.1.3.2.2. <i>CHB zocalo shall be constructed as the base of the 10mm thk tempered glass partitions for the Data Center.</i></p> <p>2.1.1.3.2.3. <i>While a 300mm high CHB zocalo shall be constructed as the base of the other 10mm thk tempered glass partitions.</i></p> <p>2.1.1.3.2.4. <i>Drywall header for the overhead support of tempered glass partition for approximately 1.28 sq.m.</i></p> <p>2.1.1.3.2.5. <i>Painting of wall partition approximately 47.05 sq.m.</i></p> <p>2.1.1.4. <i>Floor Works</i></p> <p>2.1.1.4.1. <i>Supply, delivery, and installation of 600mm x 600mm raised floor system for approximately 23.54 sq.m.</i></p> <p>2.1.1.4.2. <i>Supply, delivery, and installation of polyolefin insulation for approximately 23.54 sq.m.</i></p> <p>2.1.1.4.3. <i>Application of epoxy primer for approximately 23.54sq.m.</i></p> <p>2.1.1.4.4. <i>Supply, delivery, and installation of an anti-skid rubber floor for the ramp and landing of approximately 2.72 sq.m.</i></p> <p>2.1.1.5. <i>Door Works</i></p> <p>2.1.1.5.1. <i>Supply, delivery, and installation of one (1) unit 10mmT x 2100mmH x 1000mmW tempered glass door.</i></p> <p>2.1.1.5.2. <i>Supply, delivery, and installation of one (1) unit door access control</i></p>	
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	<p>system with management software.</p> <p>2.1.1.6. Restoration Works</p> <p>2.1.1.6.1. Minor restoration works</p> <p>2.1.1.7. Electrical works</p> <p>2.1.1.7.1. Facilitate the installation of temporary lighting and power</p> <p>2.1.1.7.2. Provide at least one (1) unit 20 KVA Uninterruptible Power Supply</p> <p>2.1.1.8. Air Conditioning Unit</p> <p>2.1.1.8.1. Provide at least two (2) units of 3TR ceiling suspended Air-conditioning units.</p> <p>2.1.1.8.2. The winning bidder shall provide all necessary components such as but not limited to the following:</p> <p>2.1.1.8.3. Controller</p> <p>2.1.1.8.4. Safety devices</p> <p>2.1.1.8.5. Shall provide all the necessary mechanical components such as but not limited to the following:</p> <p>2.1.1.8.6. Mechanical Pipes & Roughing ins</p> <p>2.1.1.8.7. Mounting Pedestals, brackets & supports</p> <p>2.1.1.8.8. Pipe Insulation</p> <p>2.1.1.8.9. Shall provide all the necessary electrical components such as but not limited to the following:</p> <p>2.1.1.8.10. Electrical pipes / conduits</p> <p>2.1.1.8.11. Electrical supply wires</p> <p>2.1.1.8.12. Communication / signaling cables.</p> <p>2.1.1.8.13. Hangers, pedestals & supports.</p> <p>2.1.1.8.14. Consumables (terminal lugs, etc.)</p>	
3	<p>FIBER OPTIC BACKBONE [Ground to 19th Floor]</p> <p>1. Installation of Fiber Optic Cable, multimode OM3, indoor fiber optic cable connection including fiber patch panels, pigtails, termination kit and related components.</p>	

	<ol style="list-style-type: none"> 1.1. 48-core OM3 armored fiber optic cable from ground floor to 19th floor 1.2. 8-core OM3 armored fiber optic cable 1.3. 48-port optical distribution frame loaded with 48 multimode SC port. 1.4. 8-port optical distribution frame loaded with 8 multimode SC port. <p>2. Network Equipment:</p> <ol style="list-style-type: none"> 2.1. Thirty-eight (38) units 10G Transceiver 2.2. Supply, delivery, installation, and configuration of one (1) unit 24-port core switch. 2.3. <u>Shall provide two (2) modules with nineteen transceivers to the existing core switch of SEC</u> <ol style="list-style-type: none"> 3. Shall include cable manager/organizer. 4. Shall include appropriate installation and termination. 5. Shall include harnessing and appropriate tagging. 6. Restoration work on affected areas. 7. End to End testing and documentation 	
4	<p>PERMANENT DATA CENTER</p> <p>4.1 CIVIL AND ARCHITECTURAL WORKS</p> <p>4.1.1 DEMOLITION WORKS / DISMANTLING WORKS</p> <ol style="list-style-type: none"> 4.1.1.1 Dismantling of approx. 74.27 sq.m. existing ceiling. 4.1.1.2 Demolition of approx. 37.04 sq.m. existing CHB wall. 4.1.1.3 Dismantling of glass door and glass wall 4.1.1.4 Dismantling of doors and jambs 4.1.1.5 Dismantling of existing modular partition 4.1.1.6 Hauling and disposal of debris <p>4.1.2 CEILING WORKS</p>	

	<p>4.1.2.1 Ceiling preparations including scrapping of existing paint and cleaning on approx. 74.27 sq.m. of true ceiling (slab soffit).</p> <p>4.1.2.2 One (1) coat application of elastomeric paint on approx. 74.27 sq.m. of true ceiling (Slab Soffit).</p> <p>4.1.2.3 Supply and installation of approximately 74.27 sq.m. of PVC laminated acoustic ceiling on aluminum t-runner grid ceiling system.</p> <p>4.1.3 WALL WORKS</p> <p>4.1.3.1 Glass Wall Partition</p> <p>4.1.3.1.1 Supply, delivery and installation of approx. 27.62 sq.m. 10mm thk Tempered glass wall for Aux Room and ITE Room front wall.</p> <p>4.1.3.1.2 Supply, delivery and installation of approx.11.86 sq.m. 10mm thk Tempered glass wall partition between Aux room and ITE room.</p> <p>4.1.3.2 CHB Zocalo</p> <p>4.1.3.2.1 Construction of approx. 8.46 sq.m. CHB zocalo as the base of the 10mm thk tempered glass partitions of the ITE Room.</p> <p>4.1.3.3 Drywall Header</p> <p>4.1.3.3.1 Supply, delivery, and installation of approx. 11.84 sq.m. drywall header for the overhead support of tempered glass partition.</p> <p>4.1.3.4 Aluminum Composite Panel (ACP) Cladding System</p> <p>4.1.3.4.1 Application of elastomeric paint on approx. 227.71 sq.m. concrete walls on the Aux Room and ITE Room prior the installation of the Aluminum Composite Panel Cladding System.</p> <p>4.1.3.4.2 Supply, delivery, and installation of 4mm thick Aluminum Composite Panels (ACP) on aluminum tubular frame cladding system on approx. 130.12 sq.m. total surface area of</p>	
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	<p><i>the drywall headers, concrete walls and zocalo.</i></p> <p>4.1.4 FLOOR WORKS</p> <p>4.1.4.1 <i>Supply, delivery and installation of approx. 74.27 sq.m. raised floor system with the following specifications:</i></p> <p>4.1.4.1.1 <i>Shall be elevated/raised at an appropriate height with a range from 300mm to 500mm from the finished floor line.</i></p> <p>4.1.4.1.2 <i>Raised floor panel size must be 600 x 600mm or 610 x 610 mm.</i></p> <p>4.1.4.1.3 <i>Shall be vinyl finish on steel panel with cementitious in-fill fully welded structural assembly.</i></p> <p>4.1.4.1.4 <i>Fourteen (14) units of perforated panels shall be provided with the following distribution:</i></p> <p>4.1.4.1.4.1 <i>Ten (10) units on cold aisle containment</i></p> <p>4.1.4.1.4.2 <i>Four (4) units on Auxiliary room</i></p> <p>4.1.4.2 <i>Supply, delivery and installation of approx. 74.27 sq.m. 12 mm thk. Polyolefin insulation under raised floor system.</i></p> <p>4.1.4.3 <i>Application of epoxy primer paint on approx. 74.27 sq.m. floor prior the installation of the polyolefin insulation.</i></p> <p>4.1.4.4 <i>Installation of approx. 3.34 sq.m. 500 x 500 x 3mm thk anti-skid rubber floor tile on ITE Room and Auxiliary Room landing.</i></p> <p>4.1.5 DOOR WORKS</p> <p>4.1.5.1 <i>Supply, delivery and installation of one (1) unit 2.1mH x1.2mW x 10mm thk Automatic Sliding Frameless Tempered Glass Door for ITE Room.</i></p> <p>4.1.5.2 <i>Supply, delivery and installation of one (1) unit 2.1mH x1.2mW x 10mm thk Automatic Sliding Frameless Tempered Glass Door for Aux Room.</i></p> <p>4.1.6 ELECTRICAL WORKS</p>	
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	<p>4.1.6.1 ELECTRICAL PANELS</p> <p>4.1.6.1.1 <i>Supply, delivery, installation, testing and commissioning of the electrical panels with the following specifications:</i></p> <p>4.1.6.1.1.1 <i>Nema1 Enclosure, gasketed, surface mounted</i></p> <p>4.1.6.1.1.2 <i>Complete with terminal lugs, ground & neutral (as applicable) bus bar</i></p> <p>4.1.6.1.1.3 <i>Panel breakdown:</i></p> <p>4.1.6.1.1.3.1 <i>One (1) unit Data Center Distribution Panel (DPDC)</i></p> <p>4.1.6.1.1.3.2 <i>One (1) unit PACU & ACU Distribution Panel (PPACU)</i></p> <p>4.1.6.1.1.3.3 <i>One (1) unit Panel for 200kVA AVR (PAVR)</i></p> <p>4.1.6.1.1.3.4 <i>One (1) unit UPS Power Panel (PPUPS)</i></p> <p>4.1.6.1.1.3.5 <i>One (1) unit UPS Distribution Panel (DPUPS)</i></p> <p>4.1.6.1.1.3.6 <i>One (1) unit Lighting Panel for Data Center (LPDC)</i></p> <p>4.1.6.1.1.3.7 <i>Two (2) units ECB for two (2) units 75 kVA AVR</i></p> <p>4.1.6.1.2 <i>Supply, delivery, installation, testing & commissioning of all necessary electrical wires & cables for the Data Center electrical power supply:</i></p> <p>4.1.6.1.2.1 <i>DPDC to tapping point (max 50 meters)</i></p> <p>4.1.6.1.2.2 <i>PPACU to DPDC</i></p> <p>4.1.6.1.2.3 <i>PAVR to DPDC</i></p> <p>4.1.6.1.2.4 <i>PAVR to DPDC</i></p> <p>4.1.6.1.2.5 <i>PPUPS to 200kVA AVR</i></p> <p>4.1.6.1.2.6 <i>DPUPS to UPS</i></p> <p>4.1.6.1.2.7 <i>LPDC to DPUPS</i></p> <p>4.1.6.1.3 <i>Supply, delivery and installation of all necessary roughing-ins for the Data Center electrical power supply such as but not limited to the following:</i></p> <p>4.1.6.1.3.1 <i>rigid/flexible PVC or EMT conduit pipes & accessories / fittings.</i></p> <p>4.1.6.1.3.2 <i>cable trays & ladders</i></p> <p>4.1.6.1.3.3 <i>hangers, supports & anchors</i></p>	
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	<p>4.1.6.2 LIGHTING FIXTURES</p> <p>4.1.6.2.1 <i>Supply, delivery, installation, testing and commissioning of the following lighting fixtures</i></p> <p>4.1.6.2.1.1 <i>Twelve (12) units 600 x 600mm LED Lighting Panels</i></p> <p>4.1.6.2.1.2 <i>Eight (8) units Recessed Blue LED Pin light</i></p> <p>4.1.6.2.1.3 <i>Twelve (12) units T5 Led lamp for Cold Aisle Containment Area</i></p> <p>4.1.6.2.1.4 <i>Lighting Switches</i></p> <p>4.1.6.2.2 <i>Supply, delivery, installation, testing & commissioning of all necessary electrical wires & cables for the Data Center electrical power supply.</i></p> <p>4.1.6.2.3 <i>Supply, delivery and installation of all necessary roughing-ins for the Data Center lighting supply such as but not limited to the following:</i></p> <p>4.1.6.2.3.1 <i>rigid/flexible PVC or EMT conduit pipes & accessories / fittings.</i></p> <p>4.1.6.2.3.2 <i>cable trays & ladders</i></p> <p>4.1.6.2.3.3 <i>hangers, supports & anchors</i></p> <p>4.1.6.3 AUTOMATIC VOLTAGE REGULATOR (AVR)</p> <p>4.1.6.3.1 <i>Supply, delivery, installation, testing and commissioning of Automatic Voltage Regulator with the following specifications:</i></p> <p>4.1.6.3.1.1 <i>Servo Type</i></p> <p>4.1.6.3.1.2 <i>With surge protection device (TVSS)</i></p> <p>4.1.6.3.1.3 <i>380 VAC, 3 Ph, 60 Hz</i></p> <p>4.1.6.3.2 <i>Quantity Distribution</i></p> <p>4.1.6.3.2.1 <i>One (1) unit 200 kVA AVR for the Uninterruptible Power Supply.</i></p> <p>4.1.6.3.2.2 <i>Two (2) units 75 kVA AVR for the two (2) units Precision Air-Conditioning Units (PACU)</i></p> <p>4.1.6.3.3 <i>Supply, delivery, installation, testing & commissioning of all necessary electrical wires & cables for the AVR electrical power supply.</i></p> <p>4.1.6.3.4 <i>Supply, delivery and installation of all necessary roughing-ins for the AVR power supply such as but not limited to the following:</i></p>	
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	<p>4.1.6.3.4.1 rigid/flexible PVC or EMT conduit pipes & accessories / fittings.</p> <p>4.1.6.3.4.2 cable trays & ladders</p> <p>4.1.6.3.4.3 hangers, supports & anchors</p> <p>4.1.6.3.5 Supply, delivery and installation of all necessary accessories & consumables for the UPS power supply such as but not limited to the following:</p> <p>4.1.6.3.5.1 terminal lugs & connectors</p> <p>4.1.6.3.5.2 pedestals / supports and anchors</p> <p>4.1.6.3.5.3 connection boxes</p> <p>4.1.6.3.6 Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</p> <p>4.1.6.4 DRY TYPE TRANSFORMER</p> <p>4.1.6.4.1 Supply, delivery, installation, testing and commissioning of one (1) unit Dry Type Transformer with the following Specifications:</p> <p>4.1.6.4.1.1 250 kVA Dry Type Transformer;</p> <p>4.1.6.4.1.2 Three (3) Phase;</p> <p>4.1.6.4.1.3 Primary Voltage: 480V Delta Connection</p> <p>4.1.6.4.1.4 Secondary Voltage: 380V/400V/440V Wye Connection, Class H</p> <p>4.1.6.4.1.5 Insulation floor mounted Indoor type with high grade silicon core at 150°C temp. rise</p> <p>4.1.6.4.1.6 NEMA 1 enclosure which conforms with ANSI / NEMA std. mfd.</p> <p>4.1.6.4.1.7 60Hz. Frequency</p> <p>4.1.6.4.1.8 Copper Winding</p> <p>4.1.6.4.1.9 K13 Rating</p> <p>4.1.6.4.2 Supply, delivery, installation, testing & commissioning of all necessary electrical wires & cables for the dry type transformer electrical power supply.</p> <p>4.1.6.4.3 Supply, delivery and installation of all necessary roughing-ins for the dry type transformer power supply such as but not limited to the following:</p>	
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	<p>4.1.6.4.3.1 rigid/flexible PVC or EMT conduit pipes & accessories / fittings.</p> <p>4.1.6.4.3.2 cable trays & ladders</p> <p>4.1.6.4.3.3 hangers, supports & anchors</p> <p>4.1.6.4.4 Supply, delivery and installation of all necessary accessories & consumables for the dry type transformer power supply such as but not limited to the following:</p> <p>4.1.6.4.4.1 terminal lugs & connectors</p> <p>4.1.6.4.4.2 pedestals / supports and anchors</p> <p>4.1.6.4.4.3 connection boxes</p> <p>4.1.6.4.5 Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</p> <p>4.1.7 UNINTERRUPTIBLE POWER SUPPLY (UPS)</p> <p>4.1.7.1 Supply, delivery, installation, testing and commissioning of one (1) unit Uninterruptible Power Supply with the following Specifications:</p> <p>4.1.7.1.1 Modular type, 200 kW Frame to contain maximum eight (8) x 25 kW power modules</p> <p>4.1.7.1.2 200 kVA Capacity</p> <p>4.1.7.1.3 400VAC, 3 Phase + N + G, 60 Hz</p> <p>4.1.7.1.4 With Industrial Gateway Card</p> <p>4.1.7.1.5 Must have an external batteries and battery cabinet to provide 15 mins back-up time at 50 kVA Load (1 PF)</p> <p>4.1.7.1.6 Able to increase the capacity up to 200 kVA</p> <p>4.1.7.2 Supply, delivery, installation, testing & commissioning of all necessary electrical wires & cables for the UPS electrical power supply.</p> <p>4.1.7.3 Supply, delivery and installation of all necessary roughing-ins for the UPS power supply such as but not limited to the following:</p> <p>4.1.7.3.1 rigid/flexible PVC or EMT conduit pipes & accessories / fittings.</p> <p>4.1.7.3.2 cable trays & ladders</p> <p>4.1.7.3.3 hangers, supports & anchors</p>	
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	<p>4.1.7.4 <i>Supply, delivery and installation of all necessary accessories & consumables for the UPS power supply such as but not limited to the following:</i></p> <p>4.1.7.4.1 <i>terminal lugs & connectors</i></p> <p>4.1.7.4.2 <i>pedestals / supports and anchors</i></p> <p>4.1.7.4.3 <i>connection boxes</i></p> <p>4.1.7.5 <i>Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</i></p> <p>4.1.8 MECHANICAL WORKS</p> <p>4.1.8.1 FIRE SUPPRESSION SYSTEM</p> <p>4.1.8.1.1 <i>Supply, delivery, installation, testing and commissioning of FM-200 Fire Suppression System for the ITE Room and Auxiliary Room with the following specifications:</i></p> <p>4.1.8.1.1.1 <i>HFC-227ea agent</i></p> <p>4.1.8.1.1.2 <i>Must conform NFPA 2001 Standard for Clean Agent Fire Extinguishing Systems.</i></p> <p>4.1.8.1.1.3 <i>All distribution piping shall be in accordance with the latest requirements listed in NFPA Standard 2001.</i></p> <p>4.1.8.1.1.4 <i>The detectors shall be spaced, located, etc., in accordance with the manufacturer's specifications and within the guidelines of NFPA standard 72E.</i></p> <p>4.1.8.1.2 <i>Supply, delivery, installation, testing and commissioning of necessary FM-200 Fire Suppression System relative components for the ITE Room and Auxiliary Room such as but not limited to the following:</i></p> <p>4.1.8.1.2.1 <i>Cylinder Tank</i></p> <p>4.1.8.1.2.2 <i>Control Panel</i></p> <p>4.1.8.1.2.3 <i>Photoelectric Smoke Detectors</i></p> <p>4.1.8.1.2.4 <i>Manual Release Station</i></p> <p>4.1.8.1.2.5 <i>Abort Toggle Switch Station</i></p> <p>4.1.8.1.2.6 <i>Fire Alarm Bell</i></p> <p>4.1.8.1.2.7 <i>Horn & Strobe</i></p> <p>4.1.8.1.2.8 <i>Back-up Battery</i></p> <p>4.1.8.1.2.9 <i>Discharge Nozzle</i></p>	
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	<p>4.1.8.1.3 <i>Supply, delivery, installation, testing and commissioning of necessary electrical and mechanical components such as but not limited the following:</i></p> <p>4.1.8.1.3.1 <i>mechanical pipes & fittings,</i></p> <p>4.1.8.1.3.2 <i>electrical rough-ins,</i></p> <p>4.1.8.1.3.3 <i>electrical and communications / signaling wires,</i></p> <p>4.1.8.1.3.4 <i>mounting brackets and pedestals, etc.</i></p> <p>4.1.8.1.4 <i>Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</i></p> <p>4.1.8.2 COOLING SYSTEM</p> <p>4.1.8.2.1 PRECISION AIR-CONDITIONING UNITS</p> <p>4.1.8.2.1.1 <i>Supply, delivery, installation, testing and commissioning of Precision Air-Conditioning units with the following specifications:</i></p> <p>4.1.8.2.1.1.1 <i>Two (2) units PACU</i></p> <p>4.1.8.2.1.1.2 <i>120,000 BTU/hour</i></p> <p>4.1.8.2.1.1.3 <i>480V, 3 Phase + N, 60 Hz</i></p> <p>4.1.8.2.1.1.4 <i>Air cooled, down flow type</i></p> <p>4.1.8.2.1.1.5 <i>Equipped with electronic controlled inverter plug-fans</i></p> <p>4.1.8.2.1.1.6 <i>Standard R410a refrigerant</i></p> <p>4.1.8.2.1.1.7 <i>Equipped with scroll compressors.</i></p> <p>4.1.8.2.1.1.8 <i>With Standard display showing temperature and relative humidity set points and time, date and operating status.</i></p> <p>4.1.8.2.1.2 <i>Supply, delivery, installation, testing and commissioning of all necessary components such as but not limited to the following:</i></p> <p>4.1.8.2.1.2.1 <i>Controller</i></p> <p>4.1.8.2.1.2.2 <i>Filter Dryers</i></p> <p>4.1.8.2.1.2.3 <i>Safety devices</i></p> <p>4.1.8.2.1.3 <i>Supply, delivery, installation, testing and commissioning of all necessary mechanical components such as but not limited to the following:</i></p>	
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	<p>4.1.8.2.1.3.1 <i>Mechanical Pipes & Roughing ins</i></p> <p>4.1.8.2.1.3.2 <i>Mounting Pedestals, brackets & supports</i></p> <p>4.1.8.2.1.3.3 <i>Pipe Insulation</i></p> <p>4.1.8.2.1.3.4 <i>Mechanical ducts (Air dam)</i></p> <p>4.1.8.2.1.4 <i>Supply, delivery, installation, testing and commissioning of all necessary electrical components such as but not limited to the following:</i></p> <p>4.1.8.2.1.4.1 <i>Electrical pipes / conduits</i></p> <p>4.1.8.2.1.4.2 <i>Electrical supply wires</i></p> <p>4.1.8.2.1.4.3 <i>Communication / signaling cables</i></p> <p>4.1.8.2.1.4.4 <i>Hangers, pedestals & supports</i></p> <p>4.1.8.2.1.4.5 <i>Consumables (terminal lugs, etc.)</i></p> <p>4.1.8.2.1.5 <i>Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</i></p> <p>4.1.8.3 <i>BACK - UP ACU (COMFORT COOLING ACU)</i></p> <p>4.1.8.3.1 <i>Supply, delivery, installation, testing and commissioning of back-up Comfort cooling ACU with the following specifications:</i></p> <p>4.1.8.3.1.1 <i>1 unit of 5TR Floor Standing ACU</i></p> <p>4.1.8.3.1.2 <i>230V, 3 Phase, 60Hz</i></p> <p>4.1.8.3.2 <i>Supply, delivery, installation, testing and commissioning of all necessary components such as but not limited to the following:</i></p> <p>4.1.8.3.2.1 <i>Controller</i></p> <p>4.1.8.3.2.2 <i>Safety devices</i></p> <p>4.1.8.3.3 <i>Supply, delivery, installation, testing and commissioning of all necessary mechanical components such as but not limited to the following:</i></p> <p>4.1.8.3.3.1 <i>Mechanical Pipes & Roughing ins</i></p> <p>4.1.8.3.3.2 <i>Mounting Pedestals, brackets & supports</i></p> <p>4.1.8.3.3.3 <i>Pipe Insulation</i></p>	
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	<p>4.1.8.3.4 <i>Supply, delivery, installation, testing and commissioning of all necessary electrical components such as but not limited to the following:</i></p> <p>4.1.8.3.4.1 <i>Electrical pipes / conduits</i></p> <p>4.1.8.3.4.2 <i>Electrical supply wires</i></p> <p>4.1.8.3.4.3 <i>Communication / signaling cables</i></p> <p>4.1.8.3.4.4 <i>Hangers, pedestals & supports</i></p> <p>4.1.8.3.4.5 <i>Consumables (terminal lugs, etc.)</i></p> <p>4.1.8.3.5 <i>Provision necessary of labor and manpower for the delivery, hauling, rigging & positioning</i></p> <p>4.1.9 AUXILIARY WORKS</p> <p>4.1.9.1 ELECTRONIC LOW VOLTAGE</p> <p>4.1.9.1.1 DATA CABINETS</p> <p>4.1.9.1.1.1 <i>Supply, delivery and installation of ten (10) units 42RU Data Racks in the ITE ROOM with the following specifications</i></p> <p>4.1.9.1.1.1.1 <i>600mmW x 1200D x 42 RU</i></p> <p>4.1.9.1.1.1.2 <i>Data rack openings must be 19" standard opening system</i></p> <p>4.1.9.1.1.1.3 <i>With single front door and dual rear door; side panel.</i></p> <p>4.1.9.1.1.1.4 <i>Must be detachable for easy access; bolted type</i></p> <p>4.1.9.1.1.1.5 <i>With ring type cable manager at the back; with caster wheel and leveling feet;</i></p> <p>4.1.9.1.1.1.6 <i>with minimum of 2 pcs monitor tray</i></p> <p>4.1.9.1.1.1.7 <i>Data racks must have dual PDU</i></p> <p>4.1.9.1.1.1.7.1.1 <i>(9 units C19 & 3 units C13 CO each PDU), complete with male twist-lock plug and female twist-lock outlet</i></p> <p>4.1.9.1.2 <i>Supply, delivery and installation of Cold Aisle Containment</i></p> <p>4.1.9.1.2.1 <i>Cold aisle containment system must be made of minimum 10mm thk tempered glass on steel or aluminum frames, complete with hangers and supports.</i></p>	
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	<p>4.1.9.1.2.2 Access doors must be 10mm thk tempered glass on aluminum frames, complete rollers, guides, door handles and locks.</p> <p>4.1.9.1.2.3 T5 led lighting fixtures must be installed as primary working light for the cold aisle containment</p> <p>4.1.9.1.2.4 Air Dams / air dampers from the PACU to the cold aisle containment must be installed under the raised floor system.</p> <p>4.1.9.1.3 DATA CENTER INTER-RACK CONNECTIVITY</p> <p>4.1.9.1.3.1 Supply, delivery & Installation of the following network connection components for the inter-rack connectivity of the ITE Room Data cabinets:</p> <p>4.1.9.1.3.2 Cat6 UTP cable</p> <p>4.1.9.1.3.3 24 Ports Patch Panel (unloaded)</p> <p>4.1.9.1.3.4 Cat 6 I/O</p> <p>4.1.9.1.3.5 Overhead Cable tray (200 x 200mm)</p> <p>4.1.9.1.3.6 FO Connection</p> <p>4.1.9.1.4 TRANSFER / RELOCATION OF EXISTING NETWORK EQUIPMENT</p> <p>4.1.9.1.4.1 Transfer & relocation of existing network equipment to new ITE Room.</p> <p>4.1.9.2 ACCESS CONTROL SYSTEM</p> <p>4.1.9.2.1 Supply delivery, installation, testing and commissioning of (1) unit facial recognition access control system for the ITE Room & (1) unit facial recognition access control system for Auxiliary Room including all necessary components such as but not limited to the following:</p> <p>4.1.9.2.1.1 Power supply 3A/12VDC with battery charger</p> <p>4.1.9.2.1.2 No touch / Push to exit</p> <p>4.1.9.2.1.3 Emergency break glass</p> <p>4.1.9.2.1.4 Photo Sensor</p> <p>4.1.9.2.1.5 All necessary roughing - ins</p>	
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	<p>4.1.9.2.1.6 <i>All necessary electrical wires and communication/signaling wires</i></p> <p>4.1.9.2.1.7 <i>Brackets, hangers, supports and anchors.</i></p> <p>4.1.9.3 SURVEILLANCE SYSTEM</p> <p>4.1.9.3.1 <i>Supply, delivery, installation, testing and commissioning of CCTV Surveillance system with the following specifications:</i></p> <p>4.1.9.3.1.1 <i>Five (5) units 5MP PoE Dome type IP-CCTV cameras in the ITE Room</i></p> <p>4.1.9.3.1.2 <i>Four (4) units 5MP PoE Dome type IP-CCTV cameras in the Auxiliary Room.</i></p> <p>4.1.9.3.1.3 <i>One (1) unit of 4 channel network video recorder</i></p> <p>4.1.9.3.1.4 <i>One (1) unit of 8 Ports PoE network switch</i></p> <p>4.1.9.3.1.5 <i>One (1) unit of 4TB hard disk drive</i></p> <p>4.1.9.3.1.6 <i>One (1) unit CCTV Monitor (17")</i></p> <p>4.1.9.4 ENVIRONMENTAL MONITORING SYSTEM</p> <p>4.1.9.4.1 TEMPERATURE & HUMIDITY</p> <p>4.1.9.4.1.1 <i>Supply, delivery, installation, testing and commissioning including configuration of Internet of things (IoT) technology temperature and humidity sensors with the following components:</i></p> <p>4.1.9.4.1.1.1 <i>Eight (8) units of temperature and humidity sensors</i></p> <p>4.1.9.4.1.1.2 <i>Four (4) units base unit: sensor gateway for up to 2 external probes</i></p> <p>4.1.9.4.2 <i>Supply, delivery, installation, testing and commissioning of all components such as but not limited to the following:</i></p> <p>4.1.9.4.2.1 <i>Necessary roughing-ins</i></p> <p>4.1.9.4.2.2 <i>Communications cables</i></p> <p>4.1.9.4.2.3 <i>Hangers & supports</i></p>	
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	<p>4.1.9.5 WATER LEAK DETECTION SYSTEM</p> <p>4.1.9.5.1 Supply, delivery, installation, testing and commissioning including configuration of Internet of things (IoT) water leak detection system with the following components:</p> <p>4.1.9.5.1.1 Forty (40) meters water leak sensing cable</p> <p>4.1.9.5.1.2 One (1) unit base unit: sensor gateway for up to 2 external probes</p> <p>4.1.9.5.2 Supply, delivery, installation, testing and commissioning of all components such as but not limited to the following:</p> <p>4.1.9.5.2.1 Necessary roughing-in ins</p> <p>4.1.9.5.2.2 Communications cables</p> <p>4.1.9.5.2.3 Hangers & supports</p> <p>4.1.9.5.2.4 Mounting clips</p> <p>4.1.9.6 IOT COMPONENTS</p> <p>4.1.9.6.1 Supply, delivery, installation, testing and commissioning including configuration of the following components:</p> <p>4.1.9.6.1.1 One (1) unit Sensor hub</p> <p>4.1.9.6.1.2 One (1) unit Monitoring Appliance</p> <p>4.1.9.6.1.3 One (1) unit 8-port POE switch</p> <p>4.1.9.7 AIR QUALITY MONITORING SYSTEM</p> <p>4.1.9.7.1 Supply, delivery, installation, testing and commissioning including configuration of One (1) set Air quality monitoring system, complete with accessories for the ITE Room and Auxiliary Room.</p>	
5	<p>COMMAND CENTER (NETWORK OPERATION CENTER)</p> <p>1.1. ARCHITECTURAL FINISHES</p> <p>1.1.1. CEILING</p> <p>1.1.1.1. Elastomeric paint shall be applied on true ceiling (slab soffit) prior the installation of acoustic ceiling.</p>	

<p>1.1.1.2. <i>Perforated aluminum ceiling panel on aluminum T-runner ceiling framing system.</i></p> <p>1.1.2. FLOOR</p> <p>1.1.2.1. <i>Multi-level platform with carpet finish.</i></p> <p>1.1.3. WALL</p> <p>1.1.3.1. <i>Glass Wall Partition</i></p> <p>1.1.3.1.1. <i>10mm thick Tempered glass wall partition</i></p> <p>1.1.3.1.2. <i>Drywall header for the overhead support of tempered glass</i></p> <p>1.1.3.1.3. <i>CHB zocalo as the base of the 10mm thick tempered glass partition</i></p> <p>1.1.3.2. <i>Aluminum Composite Panel (ACP) Cladding System</i></p> <p>1.1.3.3. <i>Application of elastomeric paint on concrete walls prior the installation of ACP cladding.</i></p> <p>1.1.4. DOOR</p> <p>1.1.4.1. <i>10mm thk Frameless Tempered Glass single slide Door</i></p> <p>1.2. Office Furniture</p> <p>1.2.1. <i>Five (5) units office table and chairs</i></p> <p>1.2.2. <i>Four (4) units 70" Smart TV</i></p> <p>1.2.3. <i>Matrix switcher for TV monitor</i></p> <p>1.3. Air Conditioning Unit</p> <p>1.3.1. <i>Transfer & relocation of the two (2) unit 3Tr ceiling suspended ACU from temporary data center to NOC</i></p> <p>1.3.2. <i>Transfer & relocation of the one (1) unit 20 KVA Uninterruptible Power Supply</i></p> <p>1.3.2.1. <i>Installation of lighting and power outlet requirements.</i></p> <p>1.4. DATA CENTER INFRASTRUCTURE MANAGEMENT SOFTWARE</p> <p>1.4.1. <i>Supply and installation of 100 Core licenses Data Center Infrastructure Management (DCIM) software with service agreement for one 1 years with the following features and specifications:</i></p> <p>1.4.1.1. <i>Data Center Infrastructure Management</i></p> <p>1.4.1.1.1. <i>Must be able to manage data center racks, front and back.</i></p> <p>1.4.1.1.2. <i>Must be able to visualize patch panel connections.</i></p> <p>1.4.1.1.3. <i>Must be able to manage structured cabling with data entry via UI or APIs and update</i></p>	
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	<p><i>back connectivity using bulk operations.</i></p> <p><i>1.4.1.1.4. Must be Full CMDB for servers and other assets</i></p> <p><i>1.4.1.1.5. Must be able to document physical, virtual, blade, clustered, and more device types.</i></p> <p><i>1.4.1.1.6. Must be agentless</i></p> <p><i>1.4.1.1.7. Must be able to manage hardware inventory.</i></p> <p><i>1.4.1.1.8. Must be able to track spares use or spares for deployment.</i></p> <p><i>1.4.1.2.IT Asset Management</i></p> <p><i>1.4.1.2.1. Must be able to discover and configure automatically asset types.</i></p> <p><i>1.4.1.2.2. Must be able to print customized QR codes and customized asset numbers.</i></p> <p><i>1.4.1.2.3. Must be able to track your devices and non-IP based assets from their purchase.</i></p> <p><i>1.4.1.2.4. Must be able to manage all non-IP based assets.</i></p> <p><i>1.4.1.2.5. Must be able to manage all contract information for devices, hardware, and software assets.</i></p> <p><i>1.4.1.2.6. IP Address Management (IPAM) Software</i></p> <p><i>1.4.1.2.7. Must able to manage IPv4 and IPv6 addresses.</i></p> <p><i>1.4.1.2.8. Must be able to overlap IP Ranges and nested Subnets</i></p> <p><i>1.4.1.2.9. Must be able to assign automatically available IPs to devices.</i></p> <p><i>1.4.1.2.10. Must able to build graphic network visualizations of switch port to switch port connections.</i></p> <p><i>1.4.1.2.11. Must able to transfer zones and zone records automatically from DNS servers.</i></p> <p><i>1.4.1.2.12. Must be able to provide API calls to find next or assign a new IP using scripting language.</i></p> <p><i>1.4.1.3.Device Discovery</i></p> <p><i>1.4.1.3.1. Must be capable to enable SNMP discovery</i></p> <p><i>1.4.1.3.2. Must be capable to connect VMware v Center Server/ESX/ESXi/Citrix Xen servers and have hosts and VMs details.</i></p> <p><i>1.4.1.3.3. Must be capable to connect with Cisco UCS</i></p> <p><i>1.4.1.3.4. Must be capable to write APIs</i></p> <p><i>1.4.1.4.Role Based Access</i></p> <p><i>1.4.1.4.1. Must be capable to provide detailed role-based access per category, for users</i></p>	
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	<p><i>and groups</i></p> <p>1.4.1.4.2. <i>Must be capable to use Active Directory (AD)</i></p> <p>1.4.1.4.3. <i>Must be capable to tracks network changes, additions, or deletions.</i></p> <p>1.4.1.4.4. <i>Must be capable to search and filtering history records. Can view audit trails per object from a centralized history page.</i></p> <p>1.4.1.5. <i>Enterprise Password Management Software</i></p> <p>1.4.1.5.1. <i>Must be able to manage shared password controls who can view and change.</i></p> <p>1.4.1.5.2. <i>Must be able to create strong, and unique passwords</i></p> <p>1.4.1.5.3. <i>Must be able to ensure that every password change is recorded and tracked ensuring full visibility and fail-safe password tracking.</i></p> <p>1.4.1.5.4. <i>Must be able to create and schedule custom reports showing what passwords have been changed, and what passwords have not been changed.</i></p> <p>1.4.1.5.5. <i>Must have AES 256-bit encryption</i></p> <p>1.4.1.5.6. <i>Must be able to control permission of passwords</i></p> <p>1.4.1.6. <i>Impact Physical Dependency Mapping</i></p> <p>1.4.1.6.1. <i>Plan for data center changes</i></p> <p>1.4.1.6.2. <i>Create strategies for strategic data center initiatives</i></p> <p>1.4.1.6.3. <i>Resolve unplanned device outages more effectively and efficiently</i></p> <p>1.4.1.7. <i>Application dependency mapping</i></p> <p>1.4.1.7.1. <i>Auto-discover application dependencies and service dependencies on a deeper level across your entire network.</i></p> <p>1.4.1.7.2. <i>Will identify groups of services that contribute to a known application.</i></p> <p>1.4.1.7.3. <i>Agentless services and application discovery using native protocols with optional agents are available.</i></p> <p>1.4.1.7.4. <i>Application dependency diagrams visualize application to device relationships. Map applications to servers, servers to switch ports, and users to devices and applications.</i></p> <p>1.4.1.7.5. <i>Use Application Impact Lists to reduce risk and potential downtime</i></p>	
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	<p>during cutovers, upgrades, and migrations by understanding application interdependencies and connections.</p> <p>.4.1.7.6. Automatically discover application components for applications such as Oracle, Postgres, MySQL, MongoDB, IIS etc. including their respective software version information, processes, and executables.</p> <p>.4.1.7.7. Offers detailed configuration discovery. View discovered configuration details for major applications like Oracle, Microsoft SQL, MongoDB, PostgreSQL, MySQL, ColdFusion, IIS, Apache, and more.</p> <p>1.4.1.8.Servers</p> <p>1.4.1.8.1. Supply, delivery, and installation of at least 32 Core Processors, 128 GB Memory, 2TB rack mount servers and accessories.</p>	
6	<p>SYSTEM DOCUMENTATION</p> <p>TESTING AND COMMISSIONING</p> <p>6.1. Perform testing and commissioning of the following components:</p> <p>6.1.1. Data Center Electrical System</p> <p>6.1.2. Automatic Voltage Regulator</p> <p>6.1.3. Uninterruptible Power Supply</p> <p>6.1.4. FM200 Fire Suppression System</p> <p>6.1.5. Precision Air- Conditioning System</p> <p>6.1.6. Access Control System</p> <p>6.1.7. Surveillance System</p> <p>6.1.8. Environmental Monitoring System</p> <p>OPERATIONS TRAINING & KNOWLEDGE TRANSFER</p> <p>6.2. Conduct (scheduled) operations training & knowledge transfer of the following components:</p> <p>6.2.1. Data Center Electrical System</p>	

	<p>6.2.2. Automatic Voltage Regulator 6.2.3. Uninterruptible Power Supply 6.2.4. FM200 Fire Suppression System 6.2.5. Precision Air- Conditioning System 6.2.6. Access Control System 6.2.7. Surveillance System 6.2.8. Environmental Monitoring System</p> <p><i>AS-BUILT PLANS & DOCUMENTATION</i></p> <p>6.3. Submittal of the following documents: 6.3.1. Signed and Sealed Architectural & Engineering Plans (in standard A1 Paper size) 6.3.2. Equipment & components operations manual, technical data sheet (as applicable).</p>	
7	<p>TERMS OF PAYMENT</p> <p>15% down payment upon receipt of NTP Mobilization Cost, subject to conditions under existing rules.</p> <p>30% first progress billing</p> <p>1. Temporary data center Approximately 23.54 sq.m</p> <ul style="list-style-type: none"> -CIVIL AND ARCHITECTURAL WORKS - DISMANTLING WORKS - CEILING WORKS - RAISED FLOOR WORKS (RE-USE FOR PHASE 2) - WALL WORKS - DOOR WORKS - ELECTRICAL WORKS -EE PANELS -LIGHTING -1 X UPS 20KVA (RE-USE FOR PHASE 3) -MECHANICAL WORKS -2 X 3TR ACCU (RE-USE FOR PHASE 3) <p>3. FIBER OPTIC BACKBONE [Ground to 19th Floor]</p> <ul style="list-style-type: none"> -NETWORK EQUIPMENT -FIBER OPTIC INSTALLATION -TESTING 	

	<p><i>-DOCUMENTATION</i></p> <p>40% second progress billing</p> <p><i>1. CIVIL AND ARCHITECTURAL WORKS FOR PERMANENT SERVER ROOM</i></p> <p><i>-CEILING WORKS</i></p> <p><i>-RAISED FLOOR WORKS</i></p> <p><i>-WALL WORKS</i></p> <p><i>-DOOR WORKS</i></p> <p><i>-ELECTRICAL WORKS</i></p> <p><i>EE PANELS</i></p> <p><i>LIGHTING</i></p> <p><i>1 X UPS 200KVA (Delivery and Installation)</i></p> <p><i>AVR</i></p> <p><i>TRANSFORMER</i></p> <p><i>-MECHANICAL WORKS</i></p> <p><i>FIRE SUPPRESSION SYSTEM</i></p> <p><i>PRECISION AIR CONDITIONING SYSTEM (PACU)</i></p> <p><i>BACK-UP FLOOR MOUNTED ACU</i></p> <p><i>-AUXILIARY WORKS</i></p> <p><i>DATA RACKS 10 UNITS</i></p> <p><i>ACCESS CONTROL</i></p> <p><i>CCTV</i></p> <p><i>ENVIRONMENTAL MONITORING</i></p> <p>10% third progress billing</p> <p><i>NETWORK OPERATION CENTER</i></p> <p><i>SOFTWARE</i></p> <p><i>DATA CENTER INFRASTRUCTURE</i></p> <p><i>MANAGEMENT</i></p> <p><i>SOFTWARE (100 licenses)</i></p> <p><i>NETWORK OPERATION CENTER</i></p> <p><i>Civil Works</i></p> <p><i>Furnitures</i></p> <p><i>4 units monitor 70"</i></p> <p><i>Transfer of 2 units 3tr ACCU to NOC</i></p> <p><i>Transfer of 1 unit 20kva UPS to NOC</i></p> <p><i>SYSTEM DOCUMENTATION AND TRAINING</i></p> <p>5% final billing upon 100% completion and acceptance</p>	
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	<i>Submission of Testing and System Documents and Issuance of Completion and acceptance Certificate</i>	
8	<p>MANPOWER REQUIREMENT</p> <p>One (1) Project Manager or equivalent</p> <p><i>Must be a regular employee with at least five (5) years of relevant experience, Certified in Network, Security and Recovery Management and trained in Construction project management; Project management, design and implementation; Premises Cabling Design and Installation; Troubleshooting and certification in Premises cabling; Trained in Precision Air-conditioning System; Fire Systems Design, Configurations and Installation; Uninterruptible Power Supply ;Trained in Generator Set and Trained in Data Center Infrastructure Management (DCIM)</i></p> <p>One (1) Project Engineer</p> <p><i>Must be a licensed Civil Engineer registered with PCAB as Sustaining Technical Employee (STE) of the contractor with at least 5 years of relevant experience and with the following expertise and experience:</i></p> <ul style="list-style-type: none"> • <i>Trained in Precision Air-conditioning System</i> • <i>Trained in Fire Systems Design, Configurations and Installation</i> • <i>Trained in Uninterruptible Power Supply</i> • <i>Trained in Generator set</i> <p>One (1) Safety Officer/Engineer</p> <p><i>Must be a licensed Engineer and a regular employee of the bidder for at least three (3) years. Must have trained and completed the Construction Occupational Safety and Health course for safety officer as prescribed by DOLE.</i></p>	

	<p>One (1) Precision Air Conditioning Unit Installer</p> <p><i>A regular employee with at five (5) years' experience in the installation or configuration of precision air conditioning unit. With Training certificate in Precision Air - conditioning system issued by the Manufacturer or Distributor or any similar training institution.</i></p> <p>One (1) Uninterruptible Power Supply Installer</p> <p><i>A regular employee with at least five (5) years' experience in the installation or configuration of Uninterruptible Power Supply. With Training certificate in Uninterruptible Power Supply issued by the Manufacturer or Distributor or any similar training institution.</i></p> <p>One (1) Fire Suppression System Installer</p> <p><i>A regular employee with at least five (5) years experience in the installation or configuration of Fire Suppression System. With Training certificate in Fire Suppression System issued by the Manufacturer or Distributor or any similar training institution.</i></p> <p>One (1) Electrical Engineer</p> <ul style="list-style-type: none"> • <i>Must be registered with PCAB as Sustaining Technical Employee (STE) of the contractor.</i> • <i>Should be a Professional Electrical Engineer with at least five (5) years' experience in electrical system design, installation and implementation,</i> • <i>Trained in Generator Set;</i> • <i>Must be trained in testing, commissioning, and maintenance of transformers;</i> • <i>Must be trained in grounding system calculation and application;</i> • <i>Must be trained in Electrical Equipment Design – switchgears and transformers;</i> • <i>Must be trained in Circuit & Breaker tripping units restricted earth fault</i> 	
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	<p><i>protection and maintenance of low voltage switch gears;</i></p> <ul style="list-style-type: none"> • <i>Must be trained in Electrical load and voltage drop calculation and application;</i> • <i>Must be trained in Protection and Insulation;</i> • <i>Must be trained in Short Circuit calculation and application; and</i> • <i>Must have a training/Seminar on Project Design Management;</i> <p>One (1) Professional Mechanical Engineer</p> <p><i>must be registered with PCAB as Sustaining technical Employee (STE) of the contractor, with at least five (5) years' experience in mechanical works, installation, and implementation; trained in Generator Set and Fire Suppression System.</i></p> <p>One (1) Electronics Engineer</p> <p><i>Must be registered with PCAB as Sustaining technical Employee (STE) of the contractor Certified Copper and Fiber Designer/Installer, with at least five (5) years' experience in Auxiliary works and trained in IP Surveillance and Structured Cabling System</i></p> <p>Certified Data Center Specialist (CDCS)</p> <p><i>One (1) Data Center Specialist with the following qualifications:</i></p> <ul style="list-style-type: none"> • <i>Must be a Certified Data Center Specialist for at least 3 years.</i> • <i>Regular employee for at least 5 years</i> • <i>Certified in Network, Security and Recovery Management</i> • <i>Trained in major Data center components such as UPS, PACU, CCTV, Fire suppression and Structured Cabling.</i> • <i>Must be a Certified Information Security Manager (CISM)</i> <p>One (1) Technical Engineer</p>	
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	<p><i>Must be a regular employee with at least five (5) years' experience and trained in the following:</i></p> <ul style="list-style-type: none"> • <i>Network and User Management System</i> • <i>Data Center Infrastructure Management</i> • <i>Cyber security administrator Training</i> 	
9	<p>DOCUMENTARY REQUIREMENT TO BE ATTACHED IN THE TECHNICAL SPECIFICATIONS</p> <p>1. <i>Copy of at least three (3) contracts for the specific experience on the data center equipment and utilities:</i></p> <p>1.1 <i>Uninterruptible Power Supply (UPS)</i></p> <p>1.2 <i>Precision Air conditioning Unit (PACU)</i></p> <p>1.3 <i>Fire Suppression System</i></p> <p>1.4 <i>Electrical System</i></p> <p>1.5 <i>Temperature and Humidity Sensor</i></p> <p>1.6 <i>Water leak Detection System</i></p> <p>2. <i>Authorized partner/reseller/distributor certification for the following major components:</i></p> <p>2.1 <i>Precision Air Conditioning Units (PACU)</i></p> <p>2.2 <i>Uninterruptible Power Supply</i></p> <p>2.3 <i>Fire Suppression</i></p>	
10	<p>BIDDERS QUALIFICATIONS</p> <p>1. <i>Must be in the business of build and maintenance of data center; renovation or build of local or wide area wired or wireless data, voice, and video network communication and system integration.</i></p> <p>2. <i>The bidder must have an EDGE Expert partner/consultant with at least ten (10) years of relevant experience in green building design and documentation; EDGE expert</i></p>	

partner/consultant, should also have at least 3 of the following credentials:

- Project Management Professional (PMP)
- Accredited Professional- LEED AP, WELL AP, GREEN AP, CBP and GREEN AP
- Licensed EDGE Expert, Certificate of Training in EDGE (Excellence in Design for Greater Efficiencies).

3. The EDGE expert partner/consultant shall submit official contract of engagement or purchase order (PO) on EDGE/LEED project for the past 10 years **reckoned from the deadline of submission.**

4. Must be an ICT company with valid contractor's license issued by Philippine Contractors Accreditation Board (PCAB) with the following acceptable category and classifications:

2.1. PRINCIPAL CLASSIFICATION: General Building

2.2. SPECIALTY CLASSIFICATION:

- Communications Facilities
- Electrical Works
- Mechanical Works
- Air Conditioning and Refrigeration Works
- Fire protection works
- Waterproofing works
- Painting works

5. Must be an ISO 9001:2015 certified for the provision of providing IT related products and services for:

3.1. Renovation or build and maintenance of data center.

3.2. Build/renovation of data, voice, and video communications

3.3. System Integration

6. Must be an ISO 27001:2013 certified (Information Security Management Systems) providing Integration, Maintenance and Support of Business Solutions Services in Information Technology (Submit valid Certification or Attestation letter issued from the certifying body)

	<p>7. <i>Must have a PCAB Category at-least Medium A, Category B.</i></p> <p>6. <i>Documentary requirement to be attached in the technical specifications:</i></p> <p>6.1. <i>Authorized partner/reseller/distributor certification for the following major components:</i></p> <p>6.1.1. <i>Precision Air Conditioning Units (PACU)</i></p> <p>6.1.2. <i>Uninterruptible Power Supply</i></p> <p>6.1.3. <i>Fire Suppression</i></p> <p>6.1.4. <i>Generator Set</i></p> <p>6.2. <i>Certification issued by the Original Software Manufacturer (OSM) that bidder is an authorized Reseller/supplier in the Philippines of Data Center Infrastructure Management Systems.</i></p> <p>6.3. <i>Submit two (2) completed projects involving proposed Data Center Infrastructure Management Software.</i></p>	
11	<p>Warranty:</p> <p>1-year warranty on Equipment and 25 years warranty on Fiber Optic Cable.</p>	

I hereby certify that the statement of compliance to the foregoing technical specifications are true and correct, otherwise, if found to be false either during bid evaluation or post-qualifications, the same shall give rise to automatic disqualification of our bid.

AUTHORIZED REPRESENTATIVE

Signature : _____
Company Name : _____
Printed Name : _____
Position : _____
Date : _____



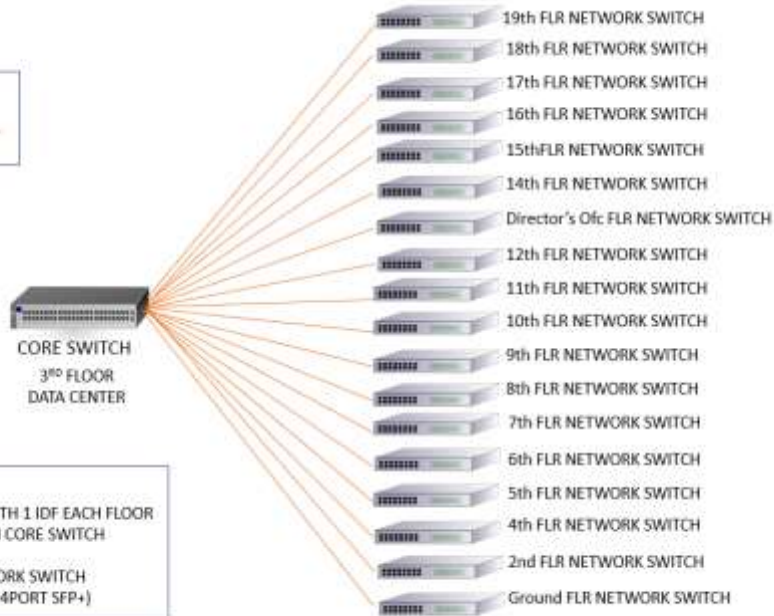
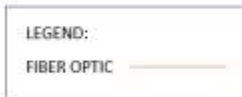
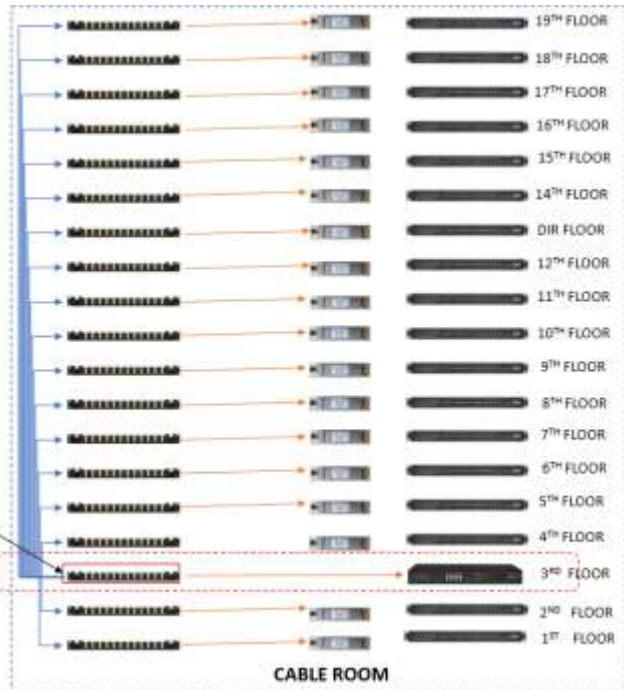
LEGEND



TEMPORARY DATA CENTER 3RD FLOOR



FIBER OPTIC BACKBONE DIAGRAM



- Notes:
- 1) TOTAL OF 19 FLOORS WITH 1 IDF EACH FLOOR
 - 2) DC LOCATED AT 3F WITH CORE SWITCH (48PORTS SFP+)
 - 3) USE OF EXISTING NETWORK SWITCH 10/100/1000(24PORT + 4PORT SFP+)

