



**PETROLEUM BULK PROCUREMENT AGENCY**  
**NETWORK DATA AND ELECTRICITY INFRASTRUCTURE – REQUIREMENTS**  
**AND MINIMUM TECHNICAL SPECIFICATIONS**

**1. DATA CABINET**

<i>Table Number 1: Minimum Technical Specifications and Scope for Data Cabinet</i>		
ITEM: DATA CABINET		
Preferable Brand: EVI		
<i>Minimum Technical Specifications for Data Cabinet</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Size	42U 600 * 1000mm (W, D, H)
2.	Front Door	Glass Mesh
3.	Rear Door	Vented Mesh
4.	Side Panels	2 Side Panels
5.	Cooling System	4 Fans
6.	Security	Lock(s) and Key(s)
7.	Power Distribution Units – PDU	Number of Units – 4 PDU 6 UK sockets, UK plug – 2 Units PDU 6 UK sockets, C14 plug for UPS – 2 Units Size – 1 U Rack mountable
8.	Shelve	3 Shelves
9.	Warranty	One (1) Year in terms of the document from the Supplier of Manufacturer
<i>Supplier's Scope for Data Cabinet</i>		
1.	Supply	Supply of Data Cabinet as per specifications provided above
2.	Installation	Installation of Data Cabinet at Floor No. 4, TPA Tower, Dar es Salaam Tanzania as per Design Diagram attached herewith – Appendix 1. <b>Note:</b> Screws and other equipment necessary for Data Cabinet installation shall be under the scope of Supplier.

## 2. NETWORK SWITCH

<i>Table Number 2: Minimum Technical Specifications and Scope for Network Switches</i>		
ITEM: NETWORK SWITCHES		
Preferable Brand: BDCOM		
<i>Minimum Technical Specifications for Network Switches</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Number of Units	4
2.	RJ 45 Ports	48 Gigabit RJ45 Ports – 2 Units 24 Gigabit RJ45 Ports – 2 Units
3.	SFP Ports	
4.	Management	Managed Switch
5.	PoE	48 Gigabit RJ45 PoE Ports – 2 Units 24 Gigabit RJ45 PoE Ports – 2 Units
6.	Installation position	Rack mountable
<i>Supplier's Scope for Network Switches</i>		
1.	Supply	Supply of Network Switches as per specifications provided above
2.	Installation	<ol style="list-style-type: none"> <li>2 units of 48 ports and 1 unit of 24 ports switches to be installed at 4<sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.</li> <li>1 unit of 24 ports switch to be installed at 11<sup>th</sup> Floor, TPA Building, Dar es Salaam, Tanzania.</li> </ol> <p><b>Note:</b> Screws and other equipment necessary for Network Switches installation shall be under the scope of Supplier.</p>
3.	Configuration	2 units of 24 ports located at 4 <sup>th</sup> Floor and 11 <sup>th</sup> Floor in TPA Tower shall extend available Local Area Network from 11 <sup>th</sup> Floor to 4 <sup>th</sup> Floor via two (2) redundant fiber cables connected through SFP ports at each switch.

### 3. NETWORK VIDEO RECORDER

<i>Table Number 3: Minimum Technical Specifications and Scope for Network Video Recorder</i>		
ITEM: NETWORK VIDEO RECORDER (NVR)		
Preferable Brand: HIKVISION		
<i>Minimum Technical Specifications for Network Video Recorder</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Number of Units	1
2.	Camera Capacity	32 Internet Protocol (IP) Camera Channels
3.	Resolution	4 K
4.	SATA Interfaces	4
5.	Hard Disk	Type: SATA Category: Surveillance Brand: Hikvision Size: 4 TB Number of Units: 2
6.	PoE	Support Power of Ethernet for the direct connected IP Cameras.
7.	Installation position	Rack mountable
<i>Supplier's Scope for Video Network Recorder</i>		
1.	Supply	Supply of Network Video Recorder as per specifications provided above.
2.	Installation	Installation of Network Video Recorder (NVR) i.e., rack mount it inside the supplier Data Cabinet located at 4 <sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.  <b>Note:</b> Screws and other equipment necessary for Network Video Recorder installation shall be under the scope of Supplier.
3.	Configuration	Supplier shall configure the NVR to integrate with eight (8) IP Camera and display the footage on the dedicated screen or smart phone provided by Purchaser.  <b>Note:</b> 1. 3 Units of IP Cameras will be supplied under the scope of this tender. 2. 5 Units of IP Cameras are already available at the Purchaser's premises

#### 4. IP CAMERA

<i>Table Number 4: Minimum Technical Specifications and Scope for IP Camera</i>		
ITEM: INTERNET PROTOCOL CAMERA		
Preferable Brand: HIKVISION		
<i>Minimum Technical Specifications for IP Camera</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Number of Units	3
2.	Resolution	6 K
3.	Camera Shape	Dome Shape
4.	Location	Indoor Cameras
5.	Features	ColorVU i.e., Cameras shall be able to provide full-color video surveillance in low-light conditions, making it possible to capture clear, detailed images even in near darkness.
6.	PoE	Cameras shall support Power of Ethernet technology
<i>Supplier's Scope for IP Camera</i>		
1.	Supply	Supply of 3 units of IP Cameras as per specifications provided above.
2.	Installation	<p>Installation of total of 8 IP Cameras i.e., 3 units to be provided by Supplier and 5 units available at purchaser's premises at 4<sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.</p> <p><b>Note:</b> Screws and other equipment necessary for IP Cameras installation shall be under the scope of Supplier.</p>
3.	Configuration	Supplier shall configure total of eight (8) IP Cameras to display the footage on the dedicated screen or smart phone provided by Purchaser.

## 5. ACCESS POINTS - APs

<i>Table Number 5: Minimum Technical Specifications and Scope for Access Points</i>		
ITEM: ACCESS POINTS (APs)		
Preferable Brand: SOPHOS		
<i>Minimum Technical Specifications for Access Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Number of Units	3
2.	Access Point Type	Indoor
3.	Capacity	Enough to make the coverage of the whole office space at 4 <sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.
<i>Supplier's Scope for Access Points</i>		
1.	Supply	Supply of 3 units of Access Points as per specifications provided above.
2.	Installation	<p>Installation of 3 units of Access Points at 4<sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.</p> <p><b>Note:</b> Screws and other equipment necessary for Access Points installation shall be under the scope of Supplier.</p>
3.	Configuration	<p>Supplier shall configure the supplier Access Points to provide the coverage of internet access to the whole office space at 4<sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.</p> <p><b>Note:</b> The Supplied Access Points shall be able to integrate with Sophos Firewall XG Series.</p>

**6. UNINTERRUPTIBLE POWER SUPPLY (UPS)**

<i>Table Number 6: Minimum Technical Specifications and Scope for Uninterruptible Power Supply (UPS)</i>		
ITEM: UNINTERRUPTIBLE POWER SUPPLY (UPS)		
Preferable Brand: EVI		
<i>Minimum Technical Specifications for UPS</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Input Plug	<ul style="list-style-type: none"> <li>• EVI Power UPS with UK input plug with inbuilt 6 Pcs of 9Ah battery.</li> <li>• Online UPS</li> <li>• RS232 &amp; USB port</li> <li>• Smart battery charging design for optimized battery performance</li> <li>• Selectable output voltage: 200, 208, 220, 230, 240 VAC</li> <li>• Low priority load disconnection function</li> </ul>
2.	Battery Capacity	3KVA/2.7KW
3.	Specifications	Specifications: <ul style="list-style-type: none"> <li>• Online double conversion</li> <li>• Wide input voltage range: (110 ~ 300 Vac)</li> <li>• Input power factor: 0.99 (With PFC)</li> <li>• Output power factor: 0.9</li> <li>• Optional charging current: 1A</li> <li>• Frequency converter mode: 50 Hz / 60 Hz</li> <li>• Emergency power off function (EPO)</li> <li>• ECO mode support</li> <li>• Generator compatible</li> <li>• Optional Communication ports: SNMP, USB, RS232</li> </ul>
4.	Recharge time	6 to 8 hours
5.	Run time	10 to 15 mins
6.	Mounting Position	Rack Mountable
7.	Nominal Battery Voltage	12 V
8.	Input voltage	230-240 V
9.	Display	Digital LCD
10.	Warranty	One (1) 1 Year in terms of Document from Supplier or Manufacturer.
<i>Supplier's Scope for Uninterruptible Power Supply (UPS)</i>		
1.	Supply	Supply of two (2) units of UPS as per specifications provided above.
2.	Installation	Installation of two (2) units of UPS in the supplied rack cabinet to be located at 4 <sup>th</sup> Floor, TPA Tower, Dar es Salaam, Tanzania.

## 7. INSTALLATION OF DATA AND VOICE POINTS

<i>Table Number 7: Minimum Technical Specifications and Scope for installation of Data and Voice Points</i>		
SCOPE: INSTALLATION OF DATA AND VOICE POINTS		
Preferable Brand: EVI		
<i>Minimum Technical Specifications for Access Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Network Cable	Specifications: CAT6 UTP 305m - 4P CU 23AWG(0.55mm) Grey Preferable Brand: EVI Number of Units – 10 Rolls Environment – Indoor
2.	Patch Panel	Specifications: 24 Port CAT6 UTP Patch Panel 1U, Black Preferable Brand: EVI Number of Units: 6
3.	Cable Manager	Specifications: 1U Cable Manager, 19" Standard Preferable Brand: EVI Number of Units: 4
4.	Brush Panel	Specifications: 1U brush panel, 19" standard Preferable Brand: EVI Number of Units: 8
5.	Patch Cable	Number of Units: 150 Preferable Brand: EVI  75 Units – 0.5m cable length Specifications: CAT6 0.5m Patch Cord, Grey, CU 4P Grey PVC  75 Units – 1m cable length Specifications: <ul style="list-style-type: none"> <li>- 15 Units of CAT6 1.0m Patch Cord, GREY, CU 4P Grey PVC</li> <li>- 20 Units of CAT6 1.0m Patch Cord, BLUE, CU 4P Blue PVC</li> <li>- 20 Units of CAT6 1.0m Patch Cord, YELLOW, CU 4P Blue PVC</li> <li>- 20 Units of CAT6 1.0m Patch Cord, RED, CU 4P Blue PVC</li> </ul>
6.	Back Boxes and Dual Face Plates	Specifications: Back Box for Faceplate, White and Dual Faceplate, White Number of Units: 65 for Back Box Number of Units: 65 for Dual Face Plates Preferable Brand: EVI
7.	UTP Keystone Jack	Specifications: CAT6 UTP Keystone Jack, white Number of Units – 130 Preferable Brand: EVI

<i>Table Number 7: Minimum Technical Specifications and Scope for installation of Data and Voice Points</i>		
SCOPE: INSTALLATION OF DATA AND VOICE POINTS		
Preferable Brand: EVI		
<i>Minimum Technical Specifications for Access Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
8.	Plugs	Number of Units: 300 Specifications: CAT6 UTP RJ45 Modular Plug Preferable Brand: EVI
9.	Cable Ties	Specifications: 500mm * 9mm, 100pc pack Number of Units: 2
10.	Cable Tray	Specifications: Galvanized 3m Cable Tray Number of Units: 1
11.	Fiber Cable	Type: Multimode Fiber Length: 200m Preferable Brand: EVI
12.	Fiber Distribution Box	Specifications: Multimode (OM3) 4 Core Fiber Optic Distribution Box, LC Duplex Number of Units: 4 Preferable Brand: EVI
13.	Fiber Pigtail	Specifications: Pigtail Multimode (OM3) LC/UPC Number of Units: 8 Preferable Brand: EVI
14.	Splice Protection Sleeve	Number of Units: 8
15.	Fiber Optic Adapter	Specifications: LC to LC UPC Duplex OM3 Multimode Fiber Optic Adapter, OM3 LC Fiber Coupler Number of Unites: 4
16.	Fiber Optic Cleaning Swabs	Specifications: 1.25 mm Number of Units: 100 i.e., 1 Pack
17.	Fiber Patch Cord	Specifications; Multimode (OM3) LC/LC 4M Duplex Patch Cord Number of Units: 4
18.	SFP Module	Specifications: SFP Module, 1000BASE-SX, Multi-Mode, LC Connector, up to 550 m transmission distance Number of Units: 4
19.	Rawls Bolt 12mm	Number of Units: 8
<i>Supplier's Scope for installation of Data and Voice Points</i>		
1.	Supply	Supply of the equipment as per requirements and specifications provided above.



<i>Table Number 7: Minimum Technical Specifications and Scope for installation of Data and Voice Points</i>		
SCOPE: INSTALLATION OF DATA AND VOICE POINTS		
Preferable Brand: EVI		
<i>Minimum Technical Specifications for Access Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
2.	Installation	<p>Installation of the supplied equipment's as per provided specifications and design diagram – Appendix 1.</p> <p><b>Note:</b> Installation accessories (which might not be mentioned in the list of requirements above) like screws and other tools shall be taken cared under Supplier's scope.</p>
3.	Configuration	<p>2 units of 24 ports located at 4<sup>th</sup> Floor and 11<sup>th</sup> Floor in TPA Tower shall be configured in such a way to extend available Local Area Network at 11<sup>th</sup> Floor to 4<sup>th</sup> Floor via two (2) redundant fiber cables connected through SFP ports of each switch in order to enhance network availability.</p>

## 8. INSTALLATION OF ELECTRICITY POINTS

<i>Table Number 8: Minimum Technical Specifications and Scope for installation of Electricity Points at the Workstations and Partitioned Walls.</i>		
SCOPE: INSTALLATION OF ELECTRICITY POINTS		
Preferable Brand: TRONIC		
<i>Minimum Technical Specifications for installation of Electricity Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
1.	Circuit Breaker	Specifications: 100A Phase: 3 Phases
2.	Single Core Cable – Red/Brown	Specifications: 2.5mm <sup>2</sup> – 5 Rolls @ 100m
3.	Single Core Cable – Blue	Specifications: 2.5mm <sup>2</sup> – 5 Rolls @ 100m
4.	Single Core Cable – Green/Yellow	Specifications: 2.5mm <sup>2</sup> – 5 Rolls @ 100m
5.	¾ Conduit pipes	Number of Units: 180
6.	Square Box Double	Number of Units: 150
7.	Switch Socket Double	Number of Units: 150
8.	Cable Tier	Number of Units: 4 Boxes
9.	Conduit Coupling	Number of Units: 200
10.	Compartment Trunking Single Box PVC 100mm*50mm	Number of Units: 43
11.	Compartment Trunking Twin Box PVC 100mm*50mm	Number of Units: 180
12.	Compartment Trunking PVC 170mm*50mm	Number of Units: 20
13.	Compartment Trunking Coupler PVC 170mm*50mm	Number of Units: 10
14.	Compartment Trunking Divider PVC 170mm*50mm	Number of Units: 20
15.	Compartment Trunking External Bend PVC 170mm*50mm	Number of Units: 5
16.	Compartment Trunking Internal Bend PVC 170mm*50mm	Number of Units: 5
17.	Compartment Trunking End Cap PVC 170mm*50mm	Number of Units: 16
18.	Floor Trunking 100mm * 30mm	Number of Units: 30
19.	Screw	Number of Units: 1 Box
<i>Supplier's Scope for installation of electricity points</i>		
1.	Supply	Supply of the equipment as per requirements and specifications provided above.

<i>Table Number 8: Minimum Technical Specifications and Scope for installation of Electricity Points at the Workstations and Partitioned Walls.</i>		
SCOPE: INSTALLATION OF ELECTRICITY POINTS		
Preferable Brand: TRONIC		
<i>Minimum Technical Specifications for installation of Electricity Points</i>		
NO.	ITEM	MINIMUM TECHNICAL SPECIFICATIONS
2.	Installation	<p>Installation of the supplied equipment's as per provided specifications and design diagram – Appendix 1.</p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. 61 Switch Sockets shall be dedicated for Power Backup (To be considered having different color or labeled so), therefore, the same shall be terminated to Power Backup Source</li> <li>2. 89 Switch Sockets shall be dedicated for Utility Power (To be considered having different colored or labeled so), therefore, the same shall be terminated to Utility Power Source.</li> </ol>

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