

Addendum to “RFP to engage a Contractor for PMRC Office Renovation at 4th Floor FTC Office”

SUBJECT: ICT Infrastructure and its correlated work

This document is design to support the ICT standard requirements as per TIA industry standards for ICT passive infrastructure of the new office and its Data Center.

Design and Documentation

Prepare and present final formal design documentation, including drawings, plans, spreadsheets, specifications, technical specifications for Physical Network connectivity that address the current needs and support the objectives. Provide draft copies for review and comment.

PMRC Office Space Network Cabling requirements:

Estimated total network points around 158 which including Head’s Desk, Workstations, cubicles, conference rooms (4), board room (6), door access attendance machine (6), CCTV cameras (15), WAP (10), Photostat Copier (2)

1. ICT PASSIVE INFRASTRUCTURE REQUIREMENTS

- a. The cable use for horizontal cabling must not be less than **CAT6 UTP Low Smoke Zero Halogen 23 AWG solid copper** cable. The origin/manufacturing of the cable should of either US or EU. No Chinese origin cables will be acceptable.
- b. The I/O, face plate and other component should also be of US or EU origin only.
- c. All cable use for vertical cabling must be **Single Mode OS2 Fiber Outdoor indoor cable** laid in proper conduit or cable trays.
- d. All CAT6 cables must be laid in either proper conduits or cable trays. No exposed cable will be acceptable.
- e. All I/O faceplates must be properly tagged from end to end with tie tag

2. DATA CENTER SYSTEM REQUIREMENTS

- a. There are two two-post racks installed which can be used if they meet the standards along with an overhead cable runway to the ceiling ingress/egress in the server room.
- b. **Data center flooring**
 - Data center flooring must be antistatic raised floor of HPL Type Steel cassette tiles filled with concrete for higher fire rating and load barring. No wooden laminated tiles will be accepted.
- c. **Data center ceiling**

- There will be no fall ceiling inside data center to avoid extra zones. The ceiling and all services running on ceiling must be painted in black color including 18-inch collar on all four walls from the ceiling.

d. Data Center civil work

- All ceiling inside data center must be removed dismantle and removed from site.
- All current wiring, wiring blocks, power DBs, conduits and trays will be removed and will be reinstall as per new data center layouts.
- All the opening inside data center will be sealed with proper material as per site condition to make the data center airtight by all means.
- The glass partition of the main entrance of the data center will be replaced with either **fire rated Aluminum frame (glass) door or fire rated metal door and fire rated wall.**
- The paint of all the walls inside data center must be ash white with coating of **fire-retardant paint.**

e. Data Center Electrical work

- The lighting inside data center must be 500 lux uniform at 2 feet from floor level (color daylight)
- All electrical wiring inside data center must be terminated in a data center dedicated DB including lighting, sockets, access control, firefighting system and UPS etc. However, the wiring for cooling system should be terminated in the main DB of the office with tagging.
- The DB must have provision for separate section for UPS power and RAW Power.
- The DB must have provision for automatic power cutoff in case of emergency.
- The DB must have provision for three phase with proper phase selector in case of emergency
- All electrical wiring must be in proper conduits or cable trays.
- All electrical wiring originating from ICT racks inside data center will run under the raised floor in proper cable trays.
- All electrical power cabling for ICT racks **must be redundant end to end.**
- All ICT cabling including copper and fiber originating from ICT racks inside data center will run overhead ICT racks in proper cable trays.

f. Precision cooling system

- The cooling system must be a dedicated DX type precision cooling system for data centers with built in humidifier / de humidifier controlled by centralized microprocessor and sensors with monitoring LED panel at front and with provision of remote monitoring through RS232 port.
- The precision cooling units must be fully redundant and will be parallel connected to automatically run periodically one at a time for 12 hours and if in case of emergency, the standby unit will take control automatically.
- The capacity of each **precision cooling unit must be at least 7 KW (2 ton)**
- The cooling system must be installed in such a way that it maintains the cold and the hot aisle of the data center properly.

g. Fire suppression and detection system

- Cabling for fire detection and suppression system of the data center.

h. Grounding and bonding of data center.

- The data center must be grounded and bonded as per TIA data center grounding bonding standards to avoid warranty voids.
- there should be at least 2 dedicated earthing pits for data center one for power and one for grounding of all other ICT equipment like raised flooring, IT Racks, Cable trays, metal conduits, all active equipment inside racks and fire panel.

i. RFID door access controller

- Cabling of standalone TCP/IP RFID access controller connected to the door lock

j. Cable tray and Fiber Runners

- All ICT cables inside data center above IT Racks will be laid in proper fire rated Fiber Runners yellow in colour as per standards.
- All Electrical cables running under the raised floor will be laid in proper metal cable trays with black or grey in color as per standards.

3. Deliverables

Drawing - Proposed Physical Network Topology including recommendations

Drawing - Proposed Power distribution including recommendations

Electronic Vendor Datasheet for each piece of equipment proposed

Outline specifications covering products and installation

Final Testing and readiness of physical network is required on completion of work which can further be tested if required by third party vendor.

Annexure

ICT = Information Communication Technology

TIA = Telecommunications Industry Association