

### INSTRUCTIONS FOR SITE PREPARATION AND DO's and DON'Ts FOR IMPLEMENTATION OF COMPUTERIZATION & NETWORKING OF POPs under DSWAN Project

#### I. Site preparation

Site preparation involves allocation of room for placing computers, providing electrical ports and connection, dust free environment etc. Given below are the broad guidelines for the same.

##### *Room/computer lab:*

- ✓ Computer room must have sufficient space for placing 2 to 3 computers (**including Server**), one printer, UPS, Rack for Switch, Router & Modem. Standard size of Room : **150 Sq. feet** or more.
- ✓ Keep system at least four to six inches away from the wall.
- ✓ The room must be provided with a separate telephone line for dial-up connection to access network. ( In case Leased Line & ISDN are both down).
- \* If Server Room does not exist / yet to be located, the same POP may be utilized for Server Room.

##### *Environment:*

- ✓ Keep the computer room as clean as possible.
- ✓ Proper ventilation and sufficient space is required for trouble free operation.
- ✓ Try to maintain computer room temperature between 22<sup>0</sup>C to 28<sup>0</sup>C. Recommended: **1.5 Tonne AC** of standard company make. For a bigger Room, another AC may be provided as the case may be.
- ✓ Make sure AC outlets (if any) are in good condition and do not spark. They should have good earth connections.
- ✓ Avoid using carpets and curtains in the computer room. These generate very high static electricity. It is better to use blinds.
- ✓ Harmful environmental affects such as vibration; dust and corrosive atmosphere should be avoided.

### ***Furniture:***

- ✓ Keep each computer on separate tables/desks.
- ✓ Use wall mounted racks or tables specially designed for placing computers, so that it will be flat and level position, free from vibration.
- ✓ Ensure that operator should have at least two inches of space between the desktop and his thighs.
- ✓ Always use adjustable chairs.

### ***Communication equipment:***

- ✓ Keep the **Communication Equipment** - Router, Switch, Modems in a RACK mounted on the wall under lock & key. Standard size of RACK for placing all the networking equipment ( L3 Switch, L2 Switch, MLDN Modem, Router, Jack Panel ) is **12U**
  - 1U=1.74 inches.
- ✓ Keep communication equipment dust free.
- ✓ Before transmitting any data, ensure that communication channels like Leased Line, ISDN or dialup lines are working properly.

## **II. Electrical work**

### **a) Power points**

- **Systems**: Three strips having three power points of **5/15 Amps** each to be provided near the computer systems ( for 3 systems including Server ). Two more strips may be provided for redundancy.
- **Printer**: One direct power point of 5/15 amp to be provided for connecting **printer**.
- **Networking Equipment**: Two strips having three power points of **5/15 Amps** each to be provided near the **RACK**.
- **UPS**: Two **5/15 Amp sockets** should be provided for UPS.
- Standard Power Point for **AC**.

## **b) UPS Installation.**

### ***Space requirement for UPS***

Sufficient space is to be provided for keeping UPS systems and Battery Cabinets. Approx. Floor area for 2\*2 KVA UPS : **30 Sq.Feet.**

- (a) Sufficient clear space (approximately 300mm/12") should be kept on the sides and front of UPS system and the battery cabinet for better heat dissipation, ease of operation and maintenance of the systems.
- (b) A minimum of 200 mm/8" clearance must be kept between wall and UPS system.

### ***Input Wiring for UPS***

- (a) One 5/15 Amp socket should be provided at the input for feeding AC input to each of the UPS systems.
- (b) A dedicated earth pit should be provided at the earth pin of the 15-amp socket. A 1- core copper flexible wire of 2.5mm<sup>2</sup> should be used between earth pit and socket.

### ***Output Wiring for UPS***

- (a) Output from 2KVA UPS is through 3nos of 5Amp sockets. Preferably a 3-core 1.5mm<sup>2</sup> copper flexible wire should be used between the UPS and the load. Approximate wiring can also be done as per the load connected.
- (b) In case of any load having 15Amp plug, a 5/15 Amp adapter can be provided. However the current drawn by such load should be less than 5Amp continuously.
- (c) Care should be taken to ensure that the current drawn from each socket should not exceed the rated current.
- (d) In case of multiple loads an extension board should be used.

### ***Earthing requirements***

A dedicated earthing pit comprising of an insulated GI-Strip or Copper Flexible cable is to be connected to the changeover switch for Mains and DG. The earthing resistance should be less than 5 Ohms.

The Earth to Neutral voltage should not exceed 1.0V (0.75V recommended). The Neutral is shorted to this earthing connection in the changeover switch. The Mains earthing is terminated at the Mains DB and need not be connected with the dedicated earth for IT equipment to avoid any circulating currents.

Earthing resistance and the Earth to Neutral voltage should be measured every 3 months to ensure that they are within limits. Necessary action like putting water in earth pit should be ensured from time to time to maintain proper bonding to earth.

### III. DO's and DON'Ts

#### DO's

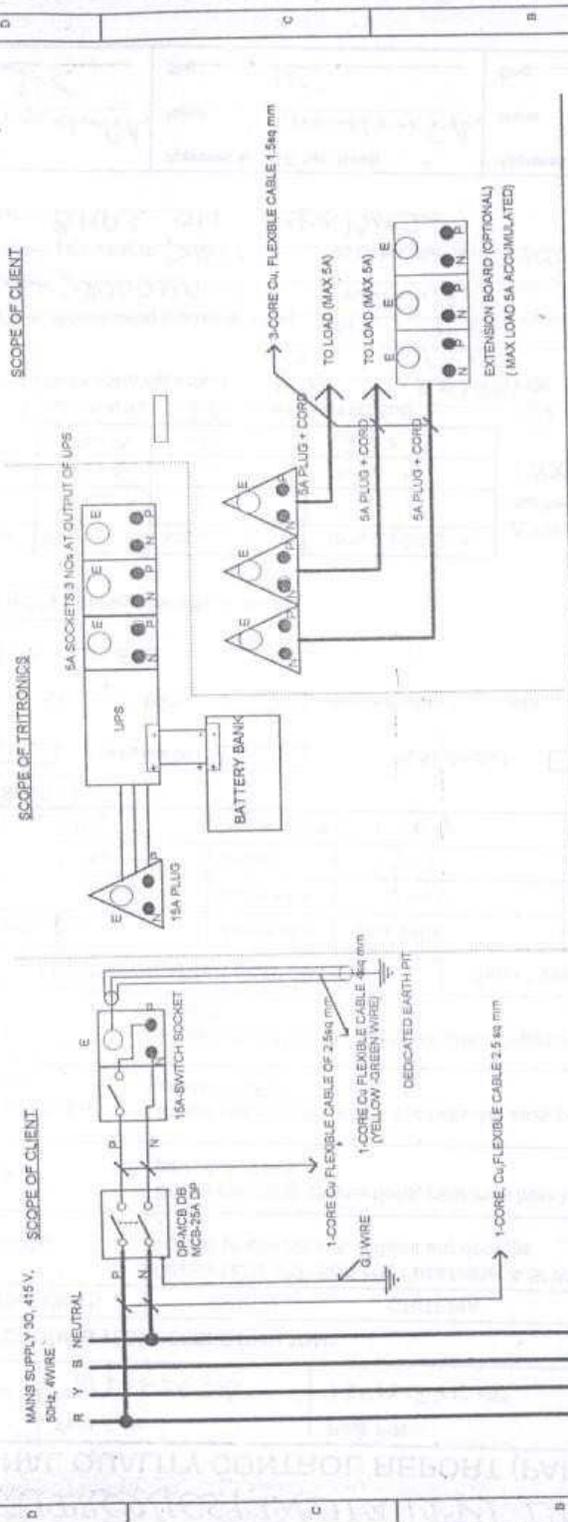
1. Install good antivirus software on your machine and update it regularly.
2. Make regular backups of data.
3. Keep the system locked, either using password or physical lock, when it is not in use.
4. **Switch/Router/Modem/Computers** must be provided power supply **through UPS only**.
5. Printers should be given direct power supply and **not through UPS**.
6. Computer room should always be locked in absence of the concerned staff.

#### DON'Ts

1. Don't allow unauthorized people to use applications or any other facilities.
2. Don't allow unauthorized people to use your computer facilities.
3. Don't put in or pull out any cable when the system is **ON**.
4. UPS should not be kept near to washbasin, kitchen, etc. to safe guard it from water, tea, coffee etc.,
5. Don't use power sockets for Laser Printers getting power supply from **UPS**.



**SCHMATIC FOR INPUT / OUTPUT CABLING OF 2KVA UPS**



**NOTE:**

- The supply to the MCB DB at the input can be from the mains or any other DB provided for the purpose.
- To use only DP-MCB for isolation of both phase & neutral. The MCB DB must be enclosed type.
- Dedicated earth pit
  - Type : Plate earthing ( min size 600 X 600 X 3mm)
  - soil resistivity < 5 ohm
  - Depth min. 25 ft. or where water table is reached.

**FOR BATTERY CABLING**

- The battery bank to UPS cables, batteries interconnectors shall be provided by us.
- Note that the battery bank is placed next to the UPS) in case of extended cabling, the cables have to be provided by the client.

**FOR OUTPUT CABLING**

- Ensure the current drawn from each socket should not exceed the rated current.
- In case of multiple loads an extension board can be used from one of the output sockets as shown above. The extension board to be provided by the client.
- In case of any load having 15 A pluglike laser printer, etc) a 5A/15A adapter may be used. However the current drawn by such load should be less than 5A continuously

DOC. NO. TT/2K00/CAB/001	DOC. DESCRIPTION : SCHEMATIC FOR INPUT/OUTPUT CABLING OF 2KVA UPS
PRODUCT PIN. - 2KVA UPS	
PRODUCT CAT. - TINY TRITON	
REV. NO. 0	ISSUE NO. 1
REV. DATE	ISSUE DATE
	PREPARED BY
	APPROVED BY
	SHEET 1/1