APPENDIX 3.2.A - continued

1. **By direct comparison with a similar installation.**
   In this instance the planner/designer should first of all attempt to determine the VA/m² of a similar installation by measuring, or obtaining, the maximum demand indicator (MDI) readings from the existing transformer(s) and dividing this value by the installations' "gross floor area". It should be noted that in performing this calculation the percentage of the building occupied at the time of measurement should be taken into account otherwise the estimate could be in error resulting in incorrect sizing of the transformer(s). Typical values for large installations normally fall within the range 80 to 150 VA/m². The estimate of maximum demand for the installation being planned/designed is then obtained very simply by multiplying the estimated VA/m² by its "gross floor area".

2. **From detailed information concerning load groups within the installation and the areas occupied by these respective groups.**

   The following figures, which relate to gross internal areas of the relevant spaces unless specified otherwise, may be used as a guide.

   **Lighting:**
   - Office spaces: 20 - 25 VA/m²
   - Amenities, Plant Rooms, Car Parks: 4 - 7 VA/m²

   **Air Conditioning** - Refrigerated cooling plant (based on air conditioning area):
   - Simple Package Plant - small installation: 100 - 150 VA/m²
   - Simple Package Plant - large installation: 80 - 120 VA/m²
   - Central Plant: 50 - 80 VA/m²

   **Note:** For energy efficient buildings select lower end of range.

   **Lifts:**
   - Low Rise: 5 VA/m² (gross building area)
   - High Rise: 10 - 15 VA/m² (gross building area)

   **General Purpose Power Outlets:**
   - Office Spaces: 10 - 25 VA/m² (Up to 40VA/m² for growth)
   - Other installations: As per SAA.

   **Miscellaneous Power:**
   - Sump Pumps, Hot Water Systems - Calculate loads on known details, ie SAA, generally will be less than 5% of total load.

   Amenities on office floors, eg urns, drinking fountains, hand driers etc., 1 - 3 VA/Floor
   - Computer Equipment: - 75% of Manufacturers stated load
     - Adjust air conditioning value upwards depending on extent of VDU's