8.5.3 Planning sequence

Given that the risk assessment reveals a need for emergency lighting, it is then necessary to identify the lighting requirements that have to be met, the type of system to be used and its mode of operation. Once these decisions have been made, the next step is to adapt the generic design to the specific location. Advice on how to do this can be found in SLL Lighting Guide 12: *Emergency lighting design guide.*

8.6 Installation, testing and maintenance

The success of an emergency lighting system depends not only on the design, planning and selection of the right equipment but also on the satisfactory installation and maintenance of the equipment throughout its service life.

8.6.1 Installation

The emergency lighting system should be installed as instructed by the designer of the scheme and in accordance with the equipment manufacturer's instructions. The designer usually provides a schedule of installation, including scheme plans and wiring/piping drawings in which the location of equipment, placing of protection devices and the choice and routing of wiring/piping are set out. The schedule or drawings may also give the sequence of fixing and connections, particularly of complex systems. All such schedules and drawings should be added to the logbook on completion of the installation. These should be updated with information of all scheme modifications made during the life of the installation.

8.6.2 Maintenance and inspection

Maintenance and inspection of the installation should be done regularly. The designer should provide a maintenance schedule that should list and give details of replacement components such as lamp type, battery, fuses, cleaning and topping-up fluids.

Caution should be exercised while carrying out maintenance as un-energised circuits may suddenly become energised automatically. Prime movers and generators will almost always be started without warning in an emergency or automatic test since a sensor remote from the plant enclosure initiates the sequence of operations.

Batteries should be maintained in accordance with the manufacturer's recommendations. Sealed batteries used in self contained luminaires require no maintenance. Self-contained nickel–cadmium (Ni–Cd) batteries have an operational life of four years. After this period the batteries must be replaced with a type specified by the manufacturer. Sealed batteries, used in central systems, will not require maintenance but it is advisable to check, clean and grease the terminals at regular intervals.

Luminaires and safety signs should be cleaned at regular intervals that may coincide with the time of inspection. Any defects noted should be recorded in a logbook and rectified as soon as possible. The cleaning interval is dependent on the environment around the installation. Serviceable components should be replaced at the end of the recommended component service life by an approved part.

Inspection and testing of various aspects of emergency lighting should be carried out daily, monthly and yearly.

The charging supply to central battery systems should be checked daily as should progress on rectifying any faults entered in the logbook.