



Guide to emergency lighting compliance

By Arrow Lighting & Electrical

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If you want to make sure your building's emergency lighting is compliant, it pays to know something about the role the *New Zealand Building Code* (NZBC) documents play in achieving this. This is because emergency lighting installation, its testing, inspection, maintenance and reporting procedures, for Building Warrant of Fitness (BWoF) purposes, fall under the auspices of the government's Building and Housing department. The rules are explained in the NZBC Clause, F6 *Visibility in Escape Routes*. F6 has a straightforward objective: "to help safeguard people from injury in *escape routes* during failure of the main lighting". (You can get these NZBC Clauses documents free from the MBIE Building and Construction website).

Your Building's Original Design

Although usually of little interest to building users and managers, the emergency lighting system has already been designed as an integral safety feature of the building – right from the planning stages. This is because an emergency lighting design has to be approved, as part of the *building consent* process, by the local council, prior to construction – or, when new construction includes a *change of use* to an existing building. The original design is based on lighting the *escape routes* as shown in the building's *fire plan*. The emergency lighting and exit sign layout is drafted by a council-approved lighting designer. He or she issues a *Producer Statement* (PS1) saying their lighting design complies with the NZBC *Acceptable Solution* F6/AS1. To achieve this, the designer uses the joint Australia New Zealand standard, AS/NZS 2293, *Emergency Evacuation Lighting for Buildings*, parts 1, 2 & 3, as modified by F6/AS1 (to suit local requirements). The same approach applies to other *specified systems* within buildings.

Hierarchy of Compliance
New Zealand Government
M. B. I. E.
Building and Housing
The Building Act
The Building Code (NZBC)
NZBC Clause F6: Visibility in Escape Routes
NZBC Acceptable Solution F6/AS1
AS/NZS 2293: emergency lighting standards
AS/NZS 2293: Pt. 1 - Design, Pt. 2 Maintenance

Some other NZBC Specified Systems
SS1 - Automatic fire suppression systems
SS2 - Automatic or manual emergency warning systems
SS6 - Riser mains for use by fire services
SS8 - Lifts, escalators and travelators
SS9 - Mechanical ventilation and Air conditioning

Most emergency lighting systems use 'stand-alone' battery-powered lights and exit signs. These have an integral battery and charger to keep the batteries topped up long enough to run the light for at least one hour and, usually longer.

The installing electrician must commission the emergency lighting installation after

successfully completing tests to confirm the automatic operation of the system upon the tripping of lighting circuit breakers or failure of the power supply to the normal lighting circuits. It must include testing of any phase-failure devices that activate the emergency lighting. Such tests have to be repeated on the completion of any addition to, or alteration of, the system. Now, the emergency lighting system is up, running and ready for use.

Inspection, maintenance and reporting for ongoing BWoF compliance

Once the system is operational, it has to be kept that way. To achieve this the *Acceptable Solution* F6/AS1 nominates part two of the joint evacuation lighting standard for inspection, maintenance and reporting. This, in turn, sets out the procedures necessary to ensure the emergency lighting "will be in a state of readiness for operation at all times". It also instructs that "the inspection and maintenance

procedures shall be carried out only by persons having qualifications and experience suitable for this type of work”. There are two test and inspection visits required each year by the evacuation lighting standard – one is six-monthly and the other annually, the second of which differs slightly.

Six Monthly Tests

The standard requires all emergency luminaires (lights) and exit signs be checked to ensure correct functionality and that any defective lamps are replaced with matching lamp technology and colour. Units that fail the discharge duration test must be either repaired (usually new batteries) and restored to normal condition, or replaced. After tests have been completed the tester must restore the system to normal operation, turn the test-timer back off and check each light shows its battery is recharging.

The twelve monthly tests are much the same but the emergency lights and exits signs have to also be cleaned if required. This annual test has to be done, or be witnessed by, an *Independently Qualified Person* (IQP) for emergency lighting. The IQP can then sign off the installation on a building code *Form 12A*. When this is forwarded to your compliance consultant or building manager they attach other *Form 12As* for the rest of the *specified systems* in the building and then can issue the BWoF.

The Importance of Log Books and Records

Correctly completed compliant emergency lighting inspection log sheets are records that prove you have had your system tested, inspected and maintained properly. Signing a ‘visitors’ book does not.

New emergency lighting installations are required to have an A4-sized operating and maintenance manual detailing the procedures, specified in the standard for the guidance of maintenance personnel, to carry out. “This manual should be kept on the premises, or at such other location as may be approved by the inspecting authority”. The manual should contain as-built plans “showing the location of all self-contained emergency luminaires and exit signs, and their supply circuits. Each emergency luminaire and exit sign shown shall be given a separate number for identification purposes and a legend shall be included to identify the type of luminaire or exit sign. Alternatively, a detailed schedule listing the required information may be supplied in lieu of installation plans”. The standard requires all details to be logged including any corrective action taken and the names of persons responsible for carrying out the maintenance work as well as the date the work was completed. To comply with this, where no records exist, Arrow Lighting & Electrical makes it’s own emergency lighting schedules with all the required information on them and keeps its records at its office which is noted on the *Form 12A* for that particular installation’s emergency lighting. To keep you updated of the system’s compliance, we issue you with a summary report detailing any work that has been undertaken to keep your system up and running.



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Emergency Lighting test log

ABC Logistics
1 Smith Street, Anytown

Date tested.....		Tester.....		Test type..... Six-monthly.....			
Activate emergency lighting test timer on switchboards DB1 and DB2							
#	Area	Location	Luminaire type	Lamp	Status	Comments	Circuit
1	West Warehouse	Loading bay North	Linear fluorescent	T8 58 Watt			DB1 R7
2	Warehouse office	South entry door	Exit sign	LED 2 x 2W		New 12/9/18	DB2 B4
3	Warehouse office	Central ceiling	Recessed disc	Hal 10 Watt			DB2 B4

Log sheets are a compliance record your emergency lighting system has been maintained as required.