

SHEDDING SOME LIGHT ON EMERGENCY LIGHTING

By Linda Linton, Dual-Lite CPECN

Today's emergency lighting systems are not what they used to be. When you consider new CSA standards, new building codes, and new government mandates for safer work environments; emergency lighting systems are under the spotlight. We haven't even touched on energy efficiency and design.

WHAT IS EMERGENCY LIGHTING

Emergency Lighting is lighting from an alternate power source to that of the building, to illuminate public areas and corridors. In the event of an emergency or power failure, emergency lighting is used to assure individuals can exit the building safely. When responding to a fire, one of the first things a fire department will do is turn the power off.

When utility power fails or is disconnected, emergency lighting is automatically activated.

The alternate emergency power source required to power emergency lighting is most commonly batteries or a generator. The minimum duration of emergency power required is dependent on the type of occupancy and height of the building. Emergency Lighting prod-

ucts are commonly referred to as "Life Safety" products because they carry an important trust.

When an emergency strikes, every individual's safety rests on the proper operation of emergency lighting and power products to assure orderly egress from a building, yet we don't spend much time thinking about this system in our facility. For this reason, emergency lighting products must conform to the strictest standards for millions of hours of trouble-free operation. The quality, design, testing and service of emergency lighting equipment in Canada is governed by many agencies for compliance and conformance to the applicable codes including:

- CSA (Canadian Standards Association)
- OBC (Ontario Building Code)
- CEC (Canadian Electrical Code)
- NBCC (National Building Code of Canada)
- NFPA (National Fire Protection Association)

CODES AND STANDARDS

Prior to the last decade, Emergency Lighting Egress systems, where they

existed, were generally installed and then forgotten by both the building owner and the local authorities. Sometimes, as the result of a power outage, maintenance was performed on the non-functional equipment. Of late, these systems have been improved by the people who manufacture, specify, install, maintain and enforce the systems for code compliance.

Emergency Lighting Systems are now receiving more attention than ever. An effort is being made to harmonize emergency lighting methodologies at the national, provincial, municipal and industry levels. Applying the appropriate levels of safety for the application and execution of the regulations set out by the governing bodies is the goal of the emergency lighting industry.

Specifying, purchasing and installing Emergency Lighting can seem like an intimidating and daunting task. As a specifier, purchaser or installer, you are required to know the basics of Emergency Lighting Systems for your area.

Foremost, Emergency Lighting Systems should be designed correctly and then inspected correctly for confirmation of regulation compliance. Secondly, as the interior of the building changes over its life, Emergency Lighting Systems should be redesigned and re-inspected to ensure they meet the specific requirements or regulations in force at that time.

Recent changes by CSA, the National Building Code and the Fire Protection Association have prompted manufacturers to meet a new level of performance. As a manufacturer, we work closely with CSA to ensure our products conform to today's strictest standards. The NBC and NFPA will want to work with you as an installer or specifier to ensure your installation meets code. The following information is intended as an outline but you should always consult your local authority before completing an installation.

Continued on Page 32

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Emergency Lighting

Continued from Page 30

When CSA introduced mandatory Implementation of CSA-C860-01 in 2004, it stated the product must be manufactured to the new specifications.

CSA-C860-01 code has four major requirements:

1. Improved Energy Efficiency
2. Legibility of EXIT Stencil/Legend
3. Standardization of EXIT Stencil/Legend
4. Standardization of Arrows/Chevrons

One cost effective solution to meeting the requirements for improved energy efficiency is LED based signs. This change has forced the industry to stop manufacturing and selling incandescent exit signs.

All new exit signs must meet C860 Illumination ratings and Legend Size Requirements (the size of the letters and their spacing on the exit signs)

All new exit signs must also meet C860 maximum wattage ratings of:

- 5 Watts per legend face (e.g. Single face EXIT = 1 legend)
- 10 Watts Double face (2 legends), Single face bilingual
- 20 Watts Double face Bilingual (4 legends)
- Add 5 watts for Self-Powered models

Several trends in the industry have changed what consumers want in an exit sign.

Consumers are now looking for low maintenance, low operating cost, extended life and ease of installation.

A hot topic regarding exit signs today is the change to CSA C860 code



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for the discontinuation of incandescent signs. To meet the new code requirements for energy conservation and illumination, it is now necessary to use the LED (Light-emitting diode) version sign.

The typical (old style) incandescent exit sign would draw up to 30 watts of power with two 15-watt bulbs. These signs would show hot spots around the bulbs and are now considered to be inef-

ficient. Incandescent signs cost around \$32 per year in energy and the bulbs last 2,500 hours or 4 months. The new LED version will draw between 2 and 5 watts per fixture and provide even light distribution throughout the sign making it the new sign of choice. LED signs cost around \$1 per year in energy and will last up to 25 years.

It was recently discovered that many emergency lighting systems were poorly maintained. Consumers today want an easy-to-use system. That's why Hubbell Canada offers consumers the option for self-test diagnostics. Self-test diagnostics allows the maintenance people to look for a visual indication (green or red light) to determine if the sign is still functional. This is a huge time saver for the maintenance crew. Long gone are the days of dragging a ladder through the building to take apart and test each sign on a monthly basis.

As a specifier, adding in self-test features can save your customers liability concerns and costly maintenance time with a minimal upfront charge. Once the installation is complete, it is important to ensure maintenance people understand the products they are using such as optional self-test diagnostics. These maintenance people should also be aware of the monthly and annual testing requirements and records that must be maintained for their facilities. Customers must have the knowledge and capability to test their equipment or the option of a service contract to ensure they are always code compliant.

If unsure, you should consult your local authority before proceeding with any emergency lighting application or installation to find out what requirements are in place for your area.π



The value of emergency lighting is often overlooked until it is needed.