Engineering

by Adam Lilien

Recessed emergency lighting gives hoteliers new choices and better protection

Another great article from The Rooms Chronicle, the #1 journal for hotel rooms management! ***Important notice: This article may not be reproduced without permission of the publisher or the author.*** College of Hospitality and Tourism Management, Niagara University, P.O. Box 2036, Niagara University, NY 14109-2036. Phone: 866-Read TRC. E-mail: editor@roomschronicle.com

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Yes, there are federal codes regulating many building systems to ensure that consideration is made for the safety and welfare of the people who use those buildings. Fire marshals, architects and manufacturers watch those regulations closely to ensure that products meet the minimum requirements and installation meets code. But what if your customers started to take notice? What if their decision to book a room was impacted by the safety features that were installed?

Building safety... It's not just code anymore

Tragic events in the past several years where large numbers of individuals have been trapped due to fire have caused many to consider their surroundings with more scrutiny. Not only have watershed events such as the tragedy of 9/11 and The Station nightclub fire spurred governmental agencies to call for a review of federal egress codes in commercial buildings, but people have become more cognizant of safety features in these buildings:

- What floor am I on?
- Where are the exit stairways?
- Are the fire extinguishers and emergency lights working?

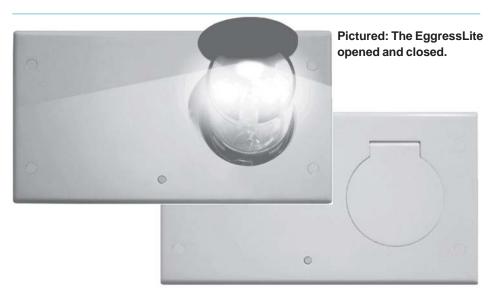
Realizing the current wave of public concern, some hotel companies are considering extended protections for their guests. While current emergency lighting code requires egress lighting only in the common hallways and stairways, some hotel companies are considering inroom emergency lighting to enable customers to feel comfortable during a power failure. This article examines one critical feature of building safety — emergency lighting.

Emergency lighting code

National codes require public buildings to provide emergency lighting for 90 minutes in case of a power failure. Hotels and motels are no exception, but how management and

> engineering staff deal with the requirements and the actual selection of lighting units could have bottom line impact ranging from guest satisfaction issues to increased maintenance costs and even potential lawsuits if there are code violations.

Code requires emergency lighting to be available for a minimum of 90 minutes, and to provide an average 1.0 foot-candle of light along the path of egress. There



The Rooms Chronicle

are basically two types of emergency lighting systems: whole-building systems and local installation of emergency lighting units.

Whole-building systems rely on emergency back-up generators as their power source and are typically specified during the planning phase of the facility by architects or building engineers. Obviously, the higher cost of including whole-building emergency lighting systems in a new construction or renovation project is a critical factor in determining feasibility.

Local installations

Local installations place individual emergency lights in the lobby, hallways and stairwells. These units rely on batteries that are kept charged by AC power. When the power fails, the battery unit takes over and the lights come on.

Among the individual units, there are many manufacturers, and literally dozens of models to choose from. Typically, the one generalization that characterizes emergency lighting is the round protruding lamps, or "bug-eyes", sitting atop the square battery box. Some units hide the battery box by placing the batteries in a utility closet and deploying remote heads in the public spaces. Typically located near the ceiling, these style units are somewhat out of sight and less prone to vandalism. Still, these units can be seen as lacking in aesthetic and are subject to potential vandalism, requiring maintenance to replace damaged units.

Functionally, there can be a safety concern for placing the units high on the wall, as this is the first place rising smoke accumulates during a fire. Though these traditional local installations have directional lights aimed at paths of egress, many firefighters can attest that the light beams of high-placed emergency lighting units have very limited penetrating power through smoke columns; perhaps one to two feet at best. As a result of many recent fire and egress-related tragedies, federal and local code requirements for egress markings and emergency lighting have come under new scrutiny. Exit sign placement is already being lowered to within a few feet off the ground in some municipalities and solutions for lowering emergency lighting below the smoke column are being sought.

New innovation on an existing product

Recently demonstrated at the 2006 International Hotel/Motel & Restaurant Show in New York City was an emergency light that was developed to solve the problems of aesthetics and, at the same time, enable lower placement of emergency lighting near the floor where it can be more effective during a fire.

The design of the EgressLiteTM is innovative; as it is highly functional, aesthetically non-obtrusive, and most importantly, cost effective. Designed to look like a light switch plate, without the switches, the unit sits flush to the wall.

Able to be painted or wallpapered to match the wall coloring, the emergency lighting system is virtually invisible until it's needed. When a power failure occurs, the integrated components switch to battery power and a screw drive is engaged, delivering a lens housing out through a hinged door and two Xenon lamps come on. When the AC power comes back on, the lens housing returns and the batteries begin to recharge.

Because the lights are designed to look like light switch plates, the units can be installed at 42" from the floor, the same height as a light switch, and below the smoke column that forms during a fire. The coverplate and lens are made of Polycarbonate, the same plastic used in bulletproof sporting glasses. Placement of EgressLite emergency lights can be determined by space and exit considerations and not by the need to move unattractive units out of sight and away from vandalism. The recessed nature of the lights make it essentially a vandal-proof fixture.

Simple and affordable

The simplicity of the design is an innovative solution to bulky appearances. The battery and circuitry is recessed into the wall, out of sight, and the incandescent bulbs typical in the "bug-eye" systems are replaced with high-intensity Xenon gas-filled lamps. EgressLite tested these 10,000-hour Xenon lamps in fires and determined that they do a better job of cutting through the smoke. Coupled with the recessed design, highly effective egress lighting is now offered in emergencies because the systems can be placed on walls at lower levels where exterior mounted traditional emergency lamps would be unsightly and in the way.

The inventor and President of EgressLite, Brian Corbett, is also the Deputy Chief of the Cecil County Volunteer Fire Department in Maryland. When asked about his motivation for taking five years to develop this concept, Corbett stated, "Having to make life-and-death decisions to send my team into a burning building when we believe there is a life to be saved is a profound experience. Firefighters talk about the job that emergency lighting has to perform before we even show up to the fire. If emergency lighting can work harder to help people get out of harm's way, more lives would be saved."

Fast and easy to install, EgressLite is compact as there is no bulky back box to contend with. The "uni-box" construction, with its removable flange option allows for one unit to satisfy both pre/post drywall installations. The unit can also be surface mounted, perfect for brick and concrete applications. Fixtures are available in both self-contained battery units or as single remote fixtures powered by a central battery unit. A combination test switch/AC-on LED ensures proper charging. The remote fixtures are available in a variety of lamp wattages and input voltages based on an individual hotel's needs.

The EgressLite has been approved by Underwriters Laboratory (UL924 rating), which makes the units in compliance with federal and local codes throughout the US. The design is also American with Disabilities Act compliant as the lens housing stays within the four feet allowed by code. Pricing on the units is \$149 MSRP and industry price breaks are available directly from EgressLite. \diamond

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