



Staybridge Suites Hotel required highly reliable fire detection to safeguard lives of guests and staff

FIRE PROTECTION

Hotel Fire Safety

Not Just Detection – But Complete Protection

Ensuring the safety of guests is naturally a fundamental requirement for all hotel owners, operators and licensees. The possibility of fire in any hotel should always be a concern, particularly given the impact that even the smallest outbreak might have. Apart from the obvious threat to the lives and safety of hotel guests and staff, fire can cause consequential damage that will pose a risk to the longevity and the brand values of the hotel itself. Destruction of the fabric of the building caused by even the smallest fire may well be expensive to rectify, but the harm to the hotel's reputation might be even greater. It will also undoubtedly take much longer to repair.

The installation of an inadequate fire system on the other hand, might well bring with it the unwelcome nuisance of false or 'unwanted' alarms. The disruption caused when alarm bells or sounders ring unnecessarily – or when full-scale evacuations are wrongly undertaken – can also have a lasting and damaging effect on any hotel's business continuity. So, like their guests, hotel operators also need the assurance that the hotel is safe and well protected. This invariably means the implementation of a reliable, integrated fire protection system that offers the earliest and most dependable detection, along with timely evacuation concepts and clearly defined escape routes.

Fire Statistics for Hotels and Motels

Statistics show that perhaps fire safety needs to be given greater priority by some hotel owners and chains. An average of one in every 12 hotels in the US reported a fire every year and an estimated average of 3,700 structure fires in hotels and motels is reported annually, resulting in associated yearly loss of 12 deaths and injury to 143 other people.

12% of fires in hotels and motels are said to have begun within guests' rooms and – of all civilian deaths resulting from fires in hotels and motels – fires starting in guests' rooms have accounted for 72% of the resulting deaths of guests and staff. Smoking materials have been found to be the cause of the initial outbreak of fire in 79% of these civilian deaths. Indeed, the blaze that swept through the Parco dei Principi in Rome in May 2004 that resulted in three people losing their lives, is thought to have been started by a cigarette. In the Grand Park Avenue Hotel in Bangkok in March 2012, two people died in a fire probably caused by an electrical short circuit and one month later in Cornwall, England, the Falmouth Beach Hotel was completely destroyed by fire. More than 100 fire-fighters tackled the blaze at the four-storey, 120-bedroom Best Western property but were unable to prevent the fire spreading throughout the building fanned by gale-force winds and causing the roof to collapse. In the USA alone, the cost of damage to hotel property averages, in simple monetary terms, around 127 million dollars every year.



False alarms can be caused by exhaust emissions

A Safe and Pleasant Stay

Fire prevention in any hotel should at the very least involve ensuring the installation of adequate fire detection systems in guests' rooms, public and 'back-of-house' areas, as well as implementing safe working practices in high-risk areas such as the kitchen. According to statistics, cooking equipment is involved in nearly 45% of all fires.

However, operators and guests alike also need to know that the guests will enjoy their stay. This, of course, includes the guarantee of a good night's sleep on the hotel premises without disturbance – or the rude interruption of a 'false' fire alarm. False alarms are disruptive and irritating, but more importantly, they undermine the credibility of any genuine alarm. Any installed detection system needs to be accurate, reliable and 'intelligent' – that is, capable of detecting the earliest stages of a smoldering fire anywhere

in the hotel to provide assured protection of the lives of guests and staff alike. Yet the same system must also be capable of differentiating steam from smoke and other deceptive phenomena to prevent the triggering of those unwanted alarms. The protection of guests' assets and valuables is important, too. When staying at a hotel, the most valuable asset that guests bring with them is usually their motor vehicle. Therefore, hotel car parks should be adequately covered by any fire protection system, not only to protect the vehicles and assets contained therein, but also to protect the integrity of the building. This is because car park fires are capable of generating temperatures sufficiently intense to cause damage to even reinforced concrete structures. Car parks should also be fitted with systems to detect, alarm and deal effectively with the build-up of carbon monoxide to protect guests from high concentrations of the gas.



Numerous deceptive phenomena like steam, flames and smoke coming from cooking as well as high air movement due to stove hoods or air conditioning are critical aspects in a hotel kitchen

Fire Safety in Corporate Chains

In the constant struggle to attract and retain custom, some operators find themselves faced with a dilemma if they have limited capital to invest. Should they spend more on protecting customers and ensuring their safety regardless of cost – or should they, for instance, make their hotel/s more appealing by investing in more attractions and customers services? Or should they keep expenditure to a minimum in order to sustain their competitiveness and maximize profits? Sometimes the latter approach leads to the investment made in fire safety standards to meet only the basic requirements of the relevant national legislation. Yet others rely heavily on the continued support of their corporate customers whose expectations and demands are very much on the rise. As a result, many travel managers now, as a matter of course, insist on the highest safety standards, with 25% refusing to book rooms with hotels that do not have the highest standards of fire protection for their guests.

Global brands operating across multiple geographical locations face even bigger problems when dealing with fire safety. In different countries throughout the world, the implementation, use and maintenance of fire protection solutions will be stipulated by many different regulatory authorities. Simply keeping abreast of all the legislative advances of the different bodies, along with the constantly changing technologies available, makes simple adherence to the appropriate standards difficult. The first challenge for international operators is to instigate corporate standards which are sufficiently high – regardless of all the different national regulatory differences affecting their hotels. The second and equally challenging problem is to ensure the full implementation of these agreed corporate standards widely and consistently across every hotel within the group.

However, despite the differences in national laws and standards, the majority of global hotel chains has adopted corporate fire safety schemes based on automatic detection and alarm schemes. Although these solutions may be configured differently or contain different component devices, they all offer significant benefits in terms of speed of detection, response and orderly evacuation.

The Human Factor

The legal requirements of different regulatory authorities – along with the procedures put in place by hotels themselves have, until recently, overlooked one factor common to all emergencies that is constant yet still unpredictable. That factor is human behavior. With the sounding of a fire alarm, many people anywhere will react with indifference. The ringing of an alarm bell or the sounding of a warning siren is all too common these days and rarely demands the response of everybody who can hear it. Very often people

will ignore the alert, thinking it a simple test procedure or a mistaken 'false' alarm. Rarely is peoples' first reaction one of clear understanding, calmly followed by a rapid and appropriate response. Too frequently the reaction is one of surprised but ineffectual attention as people look for some kind of clarification or confirmation that the alarm is genuine. Guests in a hotel are usually in unfamiliar surroundings where at best they have only a rudimentary knowledge of the layout or even the location of the nearest emergency exit/s. Few will have acquainted themselves with any procedures, escape routes or assembly points that the hotel will have put in place. Guests will also probably have differing degrees of mobility, sight and hearing abilities. Given the added complication that most alarms in hotels happen in the early hours of the morning – 23% of fires in guests' rooms occur between midnight and 2a.m – whilst people are deep in sleep and initially disorientated when woken abruptly, these factors are part of the challenge that fire safety engineers continually face. The management of any incident within a busy and well-populated hotel is rarely easy and the outbreak of fire is certainly no different.

Learning from Other Industries

Hotels today will generally have organizational measures in place to deal with fire alarms. These will range from the simple nomination of fire officers amongst staff to the most detailed guidelines for any possible evacuation. However, personnel measures alone cannot be relied upon to address all the critical needs for a successful emergency evacuation. The use of technology instead to overcome the 'human factor' in the fire safety challenge, has an increasing role to play. It is an area where the hotel industry as a whole can learn from other industries to ensure efficient incident management. In most airports and on most university campuses, there are invariably large numbers of people – sometimes scattered over large areas and throughout several locations in numerous buildings. However, before extinguishing, fire fighting or other intervention activity can take place it is sometimes necessary to ensure that everybody has been successfully evacuated. The difficulties involved in securing a complete and successful evacuation in any of these situations include the need to ensure that everybody knows exactly what is going on and what to do, whilst receiving all relevant updates pertinent to their individual position, in order to do so.

Move from Simple Fire Detection Technology

One way that these other industries are tackling the issues is by putting in place solutions that enable response processes to be automated. It is becoming increasingly more common for fire detection systems to be integrated, not only with extinguishing systems but also emergency lighting, voice alarm and mass-notification sys-



The installed panels, smoke detectors and heat detectors ensure highest reliability and minimize the risk of false alarms

tems as well as building management systems – to control smoke extraction, fire doors and lifts in the course of any potentially life-threatening event. Such integrated systems will automatically provide clear, step-by-step instructions for what to do, with whom to make contact, where to seek escape and where to assemble. All relevant alarm or lighting systems will be triggered automatically, so that every party involved knows exactly what to do next. These other industries have shown that there is a need to leave the traditional arena of fire safety technology and look towards more integrated systems.

With regard to communicating with participants in an emergency situation, the focus is currently very much on mass-notification. By utilizing the "connected" culture of today's mobile phone, messaging and internet networks, it is possible to put plans in place to direct almost instantaneously as many people as possible to safety in any emergency situation. This means that the consequence of any outbreak of fire or any other incident can be minimized, not only in terms of injury or fatality, but also with regard to commercial disruption, both short and long-term. This means that reputational damage can be minimized too.

Although this level of integration is not usual yet within the hotel and hospitality industry, the technologies in common use could be put to far wider – and more vital – use. The latest flat-screen digital TVs and wireless connectivity now common in many hotels around the world, could provide the facility to implement a more holistic approach to incident response. Both would increase the likelihood of guests and staff receiving relevant information and instructions concerning any fire or incident and would have the financial benefit of utilizing existing equipment without incurring the cost of additional resources. By following the lead provided by others, making smarter investments and making better use of existing technologies, the hotel industry can integrate all its fire, safety and security disciplines to make better provision for its guests' care and comfort.

Intelligent Response for Best Protection

Today's integrated systems or solutions can prove even more invaluable. They are based on a rule-based approach, which determines the outcome based on information received from input devices such as fire detectors, intruder alarms and other systems. By adopting an approach whereby building technologies such as the heating, ventilation and air-conditioning systems (HVAC), along with fire and intrusion detection and video surveillance are integrated on a common platform, different, pre-determined responses will be triggered by different events. They involve a variety of integrated detection and communication technologies that are able to interoperate and work seamlessly together to ensure that guests, regardless of their location can be contacted and guided swiftly and efficiently to a place of safety. They also facilitate the on-site communication of the emergency services to help the fire fighting, rescue and medical teams contain the incident and limit its effects and repercussions.

The solutions provided by today's leading manufacturers offer the hotel industry: early and reliable detection of fire in order to protect lives and limit the damage to properties; flexible and optimal adaptation to any hotel's building structure; tailored solutions for every part of the hotel; fewer false alarms caused by deceptive phenomena such as cigarette smoke, steam, exhaust fumes, kitchen fumes and sparklers; orderly and efficient evacuation if ever necessary; with fast and efficient installation with no interruption of everyday operations.

In short, today's leading solution providers now have even better ways to offer hotels and all their guests, staff and assets, real protection against fire – anywhere in the world.

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