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Hotel Fire Property Abandonment

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Hotel Management

Case Synopsis: A fire occurred at a 76-room, independent lodging facility. At the time of the fire, there was no hotel staff on the premises or on duty. Two (2) deaths and several injuries to hotel guests resulted from the fire.

Expert Analysis: Evaluation of the discovery established the following facts: (1) there was no hotel staff person on duty or on the premises of the property at the time of the fire; (2) the numerous guest room smoke detectors were inoperative due to no batteries or due to sloppy owner management practices; (3) some guest rooms had faulty exposed wiring, and (4) some emergency lights and alarms in guest room corridors were inoperative. The hotel had prior notices of carbon monoxide and emergency lighting violations from the

municipal building and safety departments. Had there been properly trained hotel staff on duty, as well as properly operating smoke detectors, then more likely than not the severity of the fire and resulting deaths and injuries would have been less. It is absolutely imperative that lodging facilities be staffed 24/7 by responsible, trained, alert personnel; that all smoke detectors be operational, tested monthly and so recorded; and that all emergency lighting be operational, tested monthly and so recorded. Other life safety issues were also presented in expert analysis regarding fire and fire-related safety procedures for hotel lodging facilities, all of which are customary and usual in the hotel industry.

Result: Matter settled post-deposition.


The Case of the Real-Life "Money Pit"

Justin D. Watts / Certified Home Inspector

Case Synopsis: Real estate buyers purchased a custom-built, 3,000 square foot home, constructed by the sellers, and hired a home inspector to complete their pre-purchase inspection for defects. The buyers were provided a check-list-style inspection report that listed some minor inexpensive defects that needed service, which could be repaired by an unlicensed "handy-man". Before purchasing the property, the buyers also reviewed the sellers disclosure documents, which stated the property was free of any defects and was in outstanding condition. A few months after they moved in, they realized the roof and windows leaked during rain storms, rodent infestation was present, electrical systems were defective, and thousands of dollars in repairs were needed

to abate other substandard conditions.

Expert Analysis: The Home Inspector failed to inspect the home utilizing industry standards of care in order to provide due diligence. The inspection report did not list any serious defects a reasonable home inspector should have detected. The inspection report did not include any photographs, and documentation of components were not accurate. The inspector also did not refer any licensed specialists/contractors regarding further evaluations for repairs that were needed.

Result: The buyers decision to purchase the property was misled by the inspector's and sellers' confirmation that the house was free of serious defects. 

Utilizing Photogrammetry in Collision Reconstruction

Steven M. Schorr, PE
Collision Reconstruction Engineer

Photogrammetry is a scientific method utilized to obtain measurements from photographs. It is often utilized in collision reconstruction when potentially important data, no longer available at the collision scene, is shown in photographs or video. This data includes the points of rest of vehicles, the location of debris, the position and length of tire marks and other “short-lived” collision data. In the subject case, the general position of the point of impact between a pedestrian and a bus was identified by the police utilizing a blood stain on the roadway. Unfortunately, at the time of the investigation, no one measured the location of the blood. The importance of the location of the blood [i.e., the point of impact] was critical to the analysis because its location defined whether the bus could physically reach the point of impact from described positions. That is, the pedestrian testified that the bus was in a certain location prior to the collision. This location was different than the testimony of the bus operator. The turning specifications of the bus defined how the bus would travel from its initial, at-rest position to the point of impact. The general point of impact location, if defined, could be evaluated along with the bus’ turning capabilities to determine which version of the collision was possible.

The collision area was documented utilizing a **high-definition survey [HDS] laser scan**. An accurate, to-scale, three-dimensional environment was created using the laser scan. Several photographs taken by the police at the time of the collision were “camera-matched” and placed within the accurate three-dimensional environment. This was done by matching items in the photographs to items that existed at the time of our field HDS survey. The analysis allowed for an accurate placement of the location of the blood onto the accurate, to-scale, three-dimensional environment. This placement of the blood was confirmed through the use of several photographs from several different views. The photogrammetry analysis provided data that was otherwise unavailable, and ultimately allowed for analysis and opinions that could only have been reached with the incorporation of this additional data.

Shrink Wrapping Machine Guard

Thomas J. Cocchiola, PE, CSP
Safety Mechanical Engineer

Case Synopsis: A worker was injured while operating a machine that wraps consumer products packages in plastic. The machine is equipped with mechanisms that wrap each package in clear plastic material, seal the ends, and then shrink the plastic material so it fits tightly around each package. A conveyor feeds packages into the machine as the wrapping and sealing mechanisms continuously cycle. An operator typically monitors shrink wrap machine operation and responds to jams whenever necessary. In this particular instance, an operator was injured when she reached through a guard opening to remove a jammed package. The heated sealing bar trapped and burned her arm when the machine cycled unexpectedly.

Expert Analysis: The manufacturer equipped the shrink wrapping machine with an interlocked point of operation guard that must be closed during normal operation. The machine will automatically stop whenever the interlocked guard is open. The interlocked guard protects workers from some point of operation hazards but it had an excessive opening in one side that allows workers to reach the heated sealing bar. The shrink wrapping machine was originally designed and built in Europe and then exported to the United States. Accordingly, its

design and manufacture were governed by ANSI safety standards for packaging machinery as well as applicable European machinery safety standards. Both ANSI and European standards required manufacturers to perform a risk assessment as part of the design process, and to eliminate hazards or minimize operators’ exposure to hazards. The required risk assessment was never made available for review.

Result: An engineering analysis demonstrated the manufacturer did not conform to applicable requirements and recommendations, nor assess the risk of injury from guard openings and minimize the size of the guard opening in accordance with fundamental engineering recommendations. The guard opening was excessive based on the proximity of the heated sealing bar. A properly sized guard opening would have prevented the operator from reaching the heated sealing bar, so that she would not have been injured.

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Joy S. Falk, Vice President
Communications and Marketing

Visibility: Utilizing Science to Establish What We See

Marc A. Green, Ph.D.

Human Factors

Case Synopsis: A driver collided with the rear of a stopped tractor-trailer, at night, on a road in an industrial area. The trailer had become detached from the tractor, so there was no power to any rear signal lights. To make matters worse, the retroreflective tape was dirty and worn. However, an overhead street lamp provided some illumination on the trailer's rear. The issue was whether the trailer's rear would have been visible to the oncoming driver. Such visibility issues can be decided by employing accepted scientific principles.

Expert Analysis: An object is visible when its contrast exceeds threshold. Contrast is the difference in light intensity ("luminance") between an object and its background. Threshold is the amount of contrast needed for seeing. The main tasks in scientific visibility assessment are **(1)** light measurement of the object and background to obtain contrast, **(2)** determination of the viewer contrast threshold, and **(3)** comparison of the existing contrast to viewer threshold. If the contrast exceeds threshold, then the object is by definition visible. To measure the luminance of the trailer and the background from the driver eye position requires a specialized instrument, a "spot luminance photometer", which measures the light reaching the viewer's eye from different points in the scene. (Meters that measure illumination in "lux" or "foot-candles" are inadequate for this task.) Since the rear trailer was not uniform in brightness, sampled

light readings were taken in 6 different places and their immediate backgrounds in order to arrive at their contrast levels. Calculations of the viewer threshold were taken, starting with the American National Standard for Roadway Lighting visibility model, which is based on data from laboratory studies. To use

the model, values were entered for various situational factors such as background luminance, object size, viewer age, etc. The model calculated a threshold which served only as a starting point because it does not take all factors into account. Most notably, the model's threshold requires application of a "field factor" multiplier to account for the differences between viewing conditions in the laboratory

and in the real world (uncertainty, expectation, light adaptation, etc.) In this case, a field factor of 10, based on data from several research studies, was applied. To be visible, trailer contrast must be 10 times greater than the model threshold. Finally, the trailer contrast was compared with the calculated model threshold multiplied by 10. The 6 different trailer contrasts were factors of 52, 37, 32, 24, 17, and 8 greater than the contrast threshold from the model. Since most were more than 10 times threshold, the trailer's rear would be visible to an oncoming driver under conditions existing at the time of the collision.

Result: This conclusion was based on well-established scientific methodology.

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College Swimmer Drowns During Swim Team Practice

Tom Griffiths, Ed.D.

Aquatics Consultant

An accomplished, female swim team member was found unconscious at the bottom of the deep end in the University's swimming pool during a voluntary holiday work-out. The swimmer, who told team mates that she was not feeling well, stopped swimming, exited the pool and went to the locker room. A short time later she was found unconscious in the deep end of the pool. No one witnessed the tragic event.

Plaintiff claimed that there was no lifeguard on duty, the head coach was not present on the deck, and the University should have taken more precautions because of the swimmer's medical background. The defense argued that the swimmer had a history of seizures and other possible genetic "drowning"

triggers and should not have been swimming. They further argued that the most vigilant lifeguards and coaches and the best of resuscitative equipment would not have made a difference in this case.

This case settled for an undisclosed amount; however, many lessons were learned. First and foremost, ALL water activities must have a lifeguard on duty, regardless of the ability of the group. Secondly, coaches must be on the pool deck and aware of each and every one of their swimmers. Finally, those with seizure disorders are 20 times more likely to drown than those without seizures. In addition, those possessing genetic "drowning" triggers should be discouraged from swimming and if they do swim, extra precautions should be taken.

“Invited Guest”

John E. Tesoriero, P.E., P.P., RCS / Premise Liability

Case Synopsis: Plaintiff was a social guest at a private residence for a post-wedding celebration. The property owner had rented a fabric tent and provided an “open bar” along with tables, chairs and related equipment for a sit-down dinner after the day’s wedding event for the invited guests. During the evening’s activities, while dancing, the plaintiff stepped upon the edge of the dance floor, twisted her ankle, lost her balance and fell down onto the grass lawn below. The plaintiff had been consuming alcohol from the event’s “open bar” for several hours just prior to the subject accident.

Expert Analysis: Standards of Care: ASTM Designation F1637 – 98 “Standard Practice for Safe Walking Surfaces” 4.2. (walkway changes in level), was the primary nationally recognized standard that was violated in this matter. The standard requires “changes in levels greater than ½ inch shall be transitioned by means of a ramp or stairway that complies with applicable building codes, regulations, standards or ordinances, or all of these.” Also applicable are the requirements of the International Building Code, Section 3103 Temporary Structures and the International Fire Code.

A review of the various deposition testimonies of the involved parties and/or witnesses, the applicable standards, codes and regulations, and the facts as discovered through investigation revealed that the temporary dance floor:

(1) was provided without the perimeter sloping-ramp transition edging which was a violation of standard ASTM Designation F1637 – 98 “Standard Practice for Safe Walking Surfaces” 4.2.; (2) was provided by, and installed by an

equipment rental business having experience and expertise in the provision of such “party” equipment; (3) was defectively installed by the defendant supplier/rental business without the required and normally provided sloping transition edging it knew, or reasonably should have known, was required for a safe installation; (4) created a dangerous condition of the subject property and an unreasonable risk of harm to the plaintiff. Additionally, (a) the use of the temporary dance floor by the plaintiff, while recently consuming alcohol, was reasonably foreseeable by both defendants; (b) the property owner knew, or reasonably should have known that the plaintiff, acting as a social guest, would reasonably have consumed alcohol from the “open bar” and danced upon the subject defective temporary dance floor in a manner for which it was intended; (c) the property owner failed to exercise reasonable care to discover the unreasonable risk of harm to the plaintiff, their social guest; (d) the property owner failed to use reasonable care to protect the plaintiff from the subject danger.

The property owner had an overall duty of reasonable care by providing a reasonably safe property, specifically, the subject defective temporary dance floor, for the plaintiff to utilize in the manner for which it was intended. The subject temporary dance floor was defectively provided by and installed by, the defendant rental company, absent of the transitional edge where the plaintiff’s accident occurred.

Result: The defendant (property owner) and the defendant (temporary dance floor rental company/provider/installer) both settled out of court with the plaintiff.

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Household Drain Opener Chemical Accident

Richard G. Pearson, Ph.D., CPE / Human Factors: Labels and Warnings

Case Synopsis: Plaintiff was a female parent using a household drain opener chemical, 100% sodium hydroxide ("lye", "caustic soda"), in an attempt to unclog her bathroom sink drain. Unexpectedly, the contents of the drain were disgorged upward with force and onto the face and eyes of the user and a young daughter standing nearby. Both sustained tissue damage to the face and eyes from chemical burns, with resulting visual impairment. Counsel for the defendant manufacturer retained an expert in human factors and product safety to review issues of on-product labels, warnings, and instructions addressed to the purchaser, consumer, and user of the product.

Expert Analysis: In a written report, defense expert noted that the plaintiff's "causes of action" cited the product for failure to comply with the Federal Hazardous Substances Act and Poison Prevention Packaging Act (which dates back to the 1970's) without acknowledging that these acts later were subsumed under CFR, Title 16, Commercial Practices, Ch. II, Consumer Product Safety Commission. Defense expert then proceeded to cite specific sections of the current, relevant 16CFR in support of his opinion that the product was in full compliance with recommended safe practices relative to on-product warnings, instructions, and packaging. In his report, plaintiff's expert cited a Material Safety Data Sheet mandating use of "close fitting chemical safety goggles with face shield" without noting that the relevant industry standard (ANSI Z-400.1) is applicable to chemicals used under occupational conditions, (and thus is not applicable to consumer products). The same expert also made numerous references to "proposals" for listing sodium hydroxide as a "banned hazardous substance" -- without noting that, in accordance with special packaging provisions of the federal standard, it is exempted from such classification. Finally, defense expert noted that plaintiff's expert's citation of injury "cases" attributed to drain cleaner use was not valid insofar as the data cited were derived from a sample of hospitals and are merely estimates (National Electronic Injury Surveillance System). Further, the data does not delineate severity of injury and body part involved (such as tissue damage to the face and eyes).

Result: Case settled prior to trial.

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