



## Survival on the Fireground - Threat Assessment for the Fire Service

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Conducting an on-scene fire investigation is an inherently dangerous job. There's smoke, fire, blood, poisonous or explosive gases, exploding vehicle restraint systems, chemical run-off, structural collapse. As fire investigators, we become adept at recognizing these rather traditional, yet deadly, hazards.

Unfortunately, those aren't the only dangers we face. Methamphetamine labs, marijuana grow houses, butane-hash oil explosions, fireworks storage fires, illegal chemical sites, and hoarder-fires have become all too commonplace. Any present-day fire investigator has had to develop recognition skills for these hazards as well.

I am an FBI-certified bomb technician and fire investigator in a large metropolitan city. As such, I assess both explosive and arson threats daily. It is my opinion and experience that while considerable time, energy and money has been focused on preparing and equipping our emergency first responders for potential "spectacular" terrorist events, it is the real and existing threats that are largely overlooked. These threats aren't necessarily from organized criminal groups or gangs, not from bikers or Al Qaeda sleeper cells. It's from the whackjob's, the weirdo's and the wannabe's who continue to perpetrate wanton acts of terror against the public and vengeful acts of violence against emergency first responders.

Think about booby-trapped homes and vehicles, chemical suicides, homemade explosives labs, Armageddonist's and doomsdayers preparing themselves and their homes for destruction. Think about those that experiment with long-delay timers and anti-forensics devices and those fanatics who use incendiary devices or fuel-air explosives as a weapon. Sadly, these are not far-fetched events, occurring now with such regularity that it's time for all of us in the emergency service to add these to our already wide-ranging threat assessment capabilities.

Firefighters, fire investigators, EMS and code enforcement personnel have been ambushed, attacked, or come face to face with immediate explosive and/or boobytrap hazards. Consider the well-publicized July 2012 Aurora Colorado event and the preparations undertaken by that suspect to commit not only a mass killing, but his own home for booby-trapped destruction by fire and explosives. Did you know that several much-less publicized, yet similar events, have occurred across North America since, all with an all-too familiar theme; scene staging and preparation with the intention of creating terror or murder? The threat and hazard indicators may not be immediately obvious – but they're there.

Threat assessment skills – the ability to interpret and recognize unique visual cues - are needed to counter these wide ranging threats. It is as vital to fire investigators as it is to bomb technicians. While not my intention to flatter the criminal element, we can better prepare ourselves by analyzing and studying their past behavior and by profiling their events and devices.

Oftentimes, given the complexities of fire suppression; the smoke, fire and darkness that accompanies fire emergencies, some indicators of explosive or boobytrap hazards can be overlooked by first-in firefighters. It therefore falls to the fire investigator, examining the burned remains of a scene, to make these discoveries.

The open nature of this publication precludes me from detailing such an all-inclusive list of threat indicators, however, as those cues are observed, it is essential that you communicate that to others, immediately. While reading the following paragraph, consider that these are just events that have taken place during the past ninety days within my jurisdiction.

The presence of weapons, body armor and helmets placed throughout a residence, are an indicator. Likewise, the presence of multiple suicide victims, the discovery of sabotaged fire suppression systems, elaborate trailers, holes in roofs and walls, combustible materials hidden inside HVAC systems, mechanical action devices. A collection of unlabeled chemical containers isn't always a methamphetamine lab, today it is just as likely to indicate the presence of a homemade explosives laboratory. Any discovery of a device with a timer, regardless of its suspected status, should cause an organized evacuation. When an observation is made of a suspected boobytrap; whether it's as simple as a bear trap beneath a window or a hole in the floor covered by a carpet, a single fishhook dangling inside a closet or a remote-control toy car attached to a propane tank, a dumbbell hanging by wire above a door or the makings of an improvised explosive device, an



## NEW HAMPSHIRE DISTRICT COURT PERMITS HOME THEATRE SYSTEM FIRE CASE TO PROCEED

immediate announcement and acknowledgement should warn everyone of their presence.

It is my recommendation that once a high threat indicator is found, the person responsible for that scene should order a full evacuation and begin a systematic assessment of the entire event, calling upon the expertise of relevant agencies only. Determine the law enforcement call history for the scene. Develop a motive if possible. Interview neighbors and witnesses. Who or what is the target? If a target can't be determined, maybe it's you. Take your time and be organized.

As a fire investigator, Paramedic or Captain of a first-in crew, you may find yourself in such a high-threat environment - one where the presence of booby-traps or deteriorated explosives or sabotaged load-bearing walls or cached incendiary devices are suspected. Have you or your team rehearsed your immediate action drills? Are your communications clearly understood? Is there anything that can be done to make yourself or team safer? Do you know who to summon? The time to train and prepare is now.

The author of this article, Detective Mike Digby, is an FBI-certified bomb technician and arson investigator for the Los Angeles County Sheriff's Department Arson-Explosives Detail with 34 years of service. He conducts a host of explosives-related training courses, including "Survival on the Fireground - Threat Assessment for the Fire Service".

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In *MMG Insurance Co. v. Samsung Electronics, Inc.* (April 16, 2013), action arises out of a house fire that allegedly started in a home theater system manufactured by defendant Samsung Electronics America, Inc., and sold by defendant Best Buy Co., Inc. By way of subrogation, plaintiff MMG Insurance Co., which insured the house and its contents, sought to recover against the defendants for the property damage that its policyholders suffered in the fire, bringing state-law claims of negligence, strict products liability, and breach of warranty. The court had jurisdiction under 28 U.S.C. § 1332(a)(1) (diversity), because MMG is a Maine corporation with its principal place of business there, Best Buy is a Minnesota corporation with its principal place of business there, and Samsung is a New York corporation with its principal place of business in New Jersey.

The defendants have moved for summary judgment. See Fed. R. Civ. P. 56. Like many a defendant in a products liability case, they argue that MMG's designated experts, who plan to testify that the defendants' product caused the fire, are unqualified to give those opinions, which are also not based on reliable principles and methods. See Fed. R. Evid. 702. The defendants point out that, without such testimony, MMG cannot prove any of its claims. As is often the case, however, the objections that the defendants raise to MMG's proffered opinion testimony go to its weight, not its admissibility (at least so far as the court can understand those objections from the materials submitted so far). As explained more fully below, the defendants' motions to exclude certain of MMG's expert witnesses are denied without prejudice to the defendants' ability to renew their objections to testimony by those witnesses at trial. But it follows that the defendants are not entitled to summary judgment due to MMG's lack of expert testimony that the DVD player caused the fire.

On March 9, 2009, in the early afternoon, firefighters from the Manchester Fire Department responded to the report of a fire at a single-family home owned by Mark and Helen Berthiaume. Nobody was home at the time.

After the fire was extinguished, Mitchell Cady, an investigator with the department, examined the scene, taking a number of photographs. Cady concluded that the fire originated in the living room, in the "entertainment center"—a cabinet that contained, among other things, a television, cable box, Wii video game system, and home theater system. While Cady could not determine the "exact" cause of the fire, he concluded that it was not intentionally set, and that "it was most likely caused by an electrical malfunction involving one or more of" these devices. There is no dispute in this case, in fact, that the fire originated in the area of the entertainment center.

Within the entertainment center, the home theater system was positioned atop the cable box, on the left-hand side (facing the cabinet) of a shelf below the television. The Wii was positioned on the right-hand side of that shelf, on the other side of a partition that divided the shelf into its left and right sides. The television was positioned on the shelf above these other components. The home theater system, manufactured by defendant Samsung, consisted of a five-disc player with a power supply, amplifier, and tuner, contained within a metal cabinet. While the top of the home theater cabinet was a solid sheet of steel, vents were placed in the bottom, including underneath the power supply. A cooling fan was mounted in the rear of the unit.

On March 14, 2009, two investigators, Robert Long and Gary Simard, examined the scene on behalf of MMG, the Berthiaumes' property insurer. Long acknowledges that "the scene was unprotected for five days prior to [their] arrival" and that, when they arrived, "there were people in there from the cleaning company and the board-up company." Following "fire patterns" in the structure, Long and Simard focused on the remains of the entertainment center, noting that it, as well as "some of the debris," had been moved away from the wall prior to their arrival. Nevertheless, "a substantial amount of debris remained," which the investigators "systematically cleared . . . via the layering method," i.e., "removing debris from the top down and observing the relative location of artifacts." In this process, they removed "anything that looked electrical, wiring or anything like that," placing it in bags, leaving the rest of the debris, which was "structure-related," in place.

Long and Simard also encased the entertainment center in shrink wrap and moved it from the living room into the garage (an area of the house that had not sustained any damage in the fire). Simard explained that they did this so that the workers on the site could secure the living room ceiling above the entertainment center, which had sustained heavy damage in the fire. Before wrapping and moving the entertainment center, Simard and Long examined and took photographs of it.

Following the investigation, which also included interviewing Mark Berthiaume and reviewing Cady's report, Long prepared a report concluding that "the fire originated within the entertainment center . . . . Further evidence indicates the fire originated in the . . . cable box or the . . . DVD player," i.e., home theater system. Those devices, as just stated, were