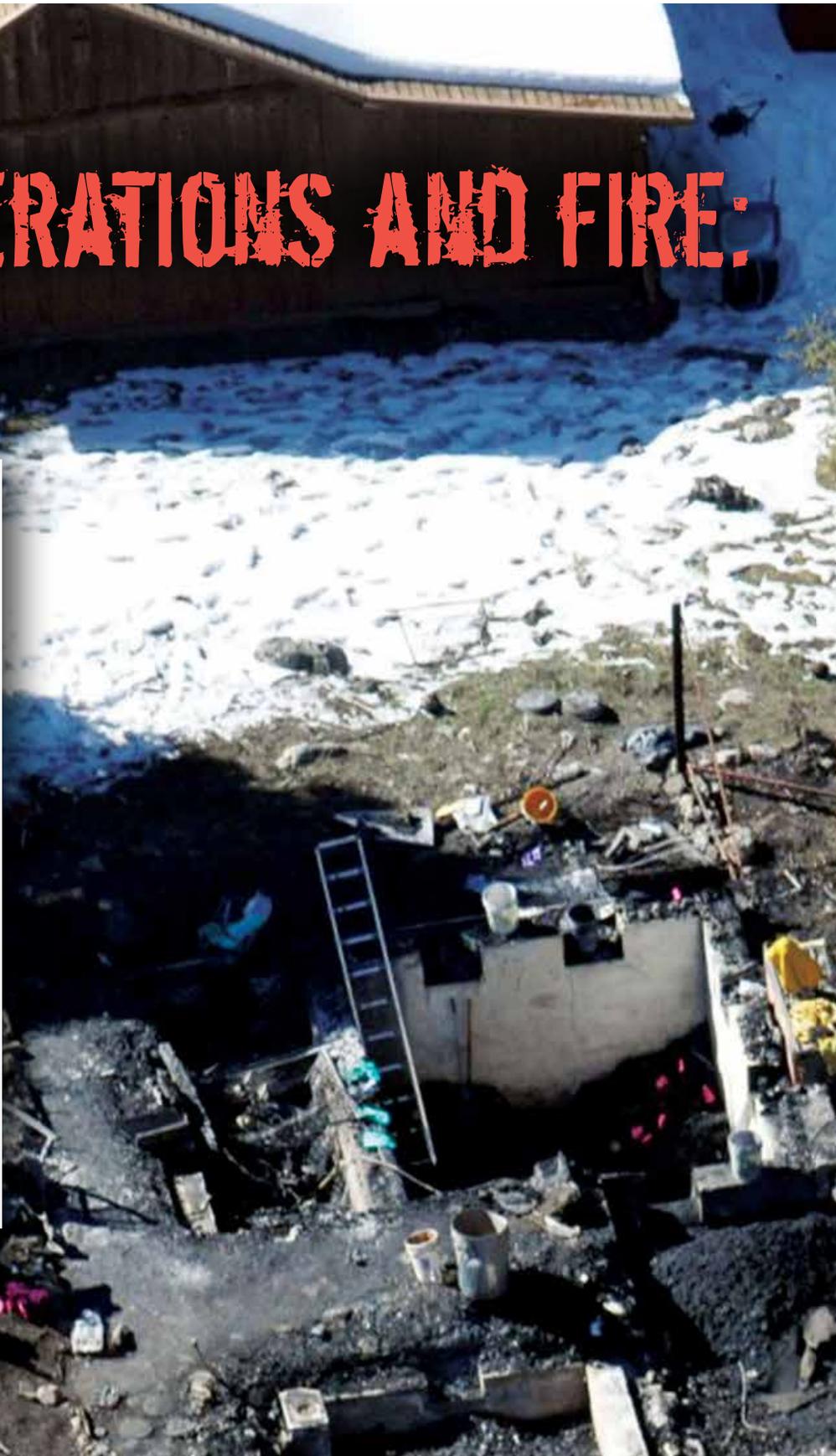


SWAT OPERATIONS AND FIRE:

By Ed Nordskog

In recent years, there has been a noticeable increase in police tactical operations across the nation involving fires. These fires have started before, during and at the conclusion of a traumatic event that eventually involved some form of SWAT or tactical team. The fires have been caused both by the suspect and by the tactical team, not always intentionally, and have occurred at the federal, state and local levels.



WHAT REALLY HAPPENED?

THE HISTORY

Aug. 31, 2001: Los Angeles Sheriff's Department Deputy Jake Kuredjian was murdered by a suspect (an ex-police officer) during a shootout with ATF agents and LASD deputies in the suburb of Stevenson Ranch, Calif. The suspect possessed multiple assault weapons and thousands of rounds of ammunition at the time of the event. The LASD Special Enforcement Bureau (SEB) responded and found the federal agents pinned down by heavy gunfire in front of the suspect's residence.

During this active shootout and dynamic rescue of the federal team, SEB deployed hot gas into the upper floor of the home where the suspect was barricaded. While the suspect remained engaged in his gun battle, a bed caught fire and eventually the large, two-story home burned almost to the ground. The suspect, who was wearing a gas mask when found in the rubble, had died of an apparent self-inflicted wound.

Aug. 2, 2003: LASD Deputy Stephen Sorenson was murdered by a burglar/drug addict armed with an assault rifle in the desert east of Lancaster, Calif. The suspect then tied the deputy's body to a vehicle and dragged it through the desert.

After a week-long manhunt, the suspect was cornered in a house in the desert. LASD SEB members contacted the suspect via cell phone, and he admitted to murdering the deputy. He then engaged the tactical team in a gunfight as they used an armored vehicle and tear gas to dislodge him. The structure caught

fire during the operation and the burned body of the suspect was located the next day.

Feb. 7, 2008: In the Los Angeles suburb of Winnetka, veteran LAPD SWAT Officer Randal Simmons was shot and killed by a mentally ill suspect. The suspect had called LAPD and announced that he had murdered three members of his family.

The LAPD SWAT team responded to the call. Simmons was killed and another officer wounded in an exchange of gunfire as the tactical team conducted an emergency entry into the home to rescue a survivor. Several hours after the two officers had been shot, the SWAT team deployed gas into the home and re-entered, whereupon they located the deceased suspect.

A total of five people died during the incident. During the second SWAT entry, a fire occurred in the single-family home.

Feb. 3-12, 2013: Chris Dorner, a former Naval Reserve officer and fired LAPD officer, conducted a one-man war against Southern California law enforcement. Dorner gunned down seven people, all of whom were police officers or related to a police officer. Four people died and three were severely wounded.

Dorner's reign of terror ended during an intense gunfight with police as he was barricaded in a mountain cabin. During the gunfight, San Bernardino Sheriff's tactical officers deployed pyrotechnic tear gas into the cabin.

A fire broke out and the heavily burned body of Dorner (with a self-inflicted gunshot wound) was

found after the fire self-extinguished the next day. The media has insinuated that the officers used fire as a weapon to burn Dorner to death.

June 7, 2013: A gunman murdered two relatives, set the family home on fire and then carjacked a vehicle and drove to a nearby college, where he shot dozens of rounds with an assault weapon in Santa Monica, Calif. He died in an intense shootout with responding Santa Monica police officers. A total of six people died in this rampage.

These are not isolated events or new trends. Similar occurrences go back to the very first days of police tactical units. FBI tactical agents raided the Waco, Texas, compound of the Branch Davidian cult on April 19, 1995, using armored vehicles and various forms of tear gas. Six hours into the assault, multiple fires were seen breaking out in various portions of the large compound, eventually causing a massive fire and killing 76 members of the cult.

On May 13, 1985, Philadelphia police surrounded an apartment building controlled by the militant group known as MOVE. The event morphed into a barricaded standoff. As part of an operation to assault a fortified bunker on the roof of the building, police dropped two pounds of a high explosive from a helicopter. The explosion caused the ignition of the building and a large fire soon engulfed the entire block. Eleven people, including five children, died in the fire, which eventually consumed 65 residences.

Another dramatic shootout and fire occurred on May 17, 1974, in Los Angeles, when the FBI and LASD and LAPD officers engaged the militant group Symbionese Liberation Army in an hours-long gun battle. The militants were heavily armed with automatic weapons and thousands of rounds of ammunition. Two hours after the initial tear gas was introduced, the home where the militants were barricaded caught fire and began burning fiercely. Six militants died in the fire and more than 9,000 rounds of ammunition were fired during this battle.

THE INVESTIGATION AND RISK FACTORS

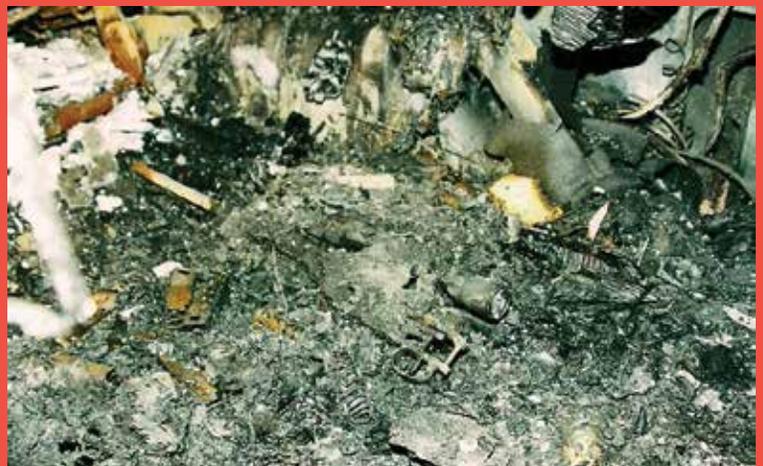
After each one of these high-profile events, a unique hybrid murder/arson/officer-involved shooting investigation occurred. The results of



.12-gauge shotgun shell from weapon used by a suspect to shoot at firefighters and then commit suicide. Found under body after a major fire.



Barrel of AR15 rifle found after SWAT team standoff with murder suspect.



Burned remains of scoped rifle found after SWAT standoff/fire. Pistol magazine springs in same area.

these investigations depended heavily on the agencies involved, the attitudes and decisions made by command staff and risk managers and the skill level of the on-scene investigators. The quality of these investigations ranges from excellent to appallingly poor.

Advancements in law enforcement have made the necessary tools and techniques to correctly process these scenes readily accessible to all agencies, so anything less than an excellent investigation is completely unacceptable. Performed properly, the investigation will answer every possible question about the event. If it is performed improperly, the investigation will leave many unanswered questions and can be easily exploited by the many experts who abound in the civil world. A poorly conducted investigation will prove to be an expensive civil litigation nightmare for the involved agencies.

Most police agencies are fairly adept at investigating officer-involved shootings and the aftermath of dynamic SWAT operations, and at dealing with all of the risk management and civil issues that arise from these events. However, when fire is involved, there is a tendency to conduct these investigations in a less cohesive manner. The inclusion of an arson investigator (and his supervisors), who may be from another agency, adds to the confusion and possible mismanagement of this type of event.

Confusion about roles, duties and responsibilities at a fire death scene is already commonplace in the arson business, and the added stress of an officer-involved shooting only exacerbates the chaos. Many mistakes and omissions can occur in a disjointed, haphazard, multi-agency investigation. By not fully processing these scenes and proving beyond a doubt the sequence of events, agencies leave open the door for wild media speculation, outrageous conspiracy theories and a fleet of civil attorneys and their hired fire experts to come in and exploit the event for millions of dollars.

THE INVESTIGATORS

Typically, an officer-involved shooting scene is handled by a team of homicide investigators and internal affairs/tactics investigators from a police agency or local prosecutor's office. An arson scene is typically handled by an arson investigator who



Investigators sifting debris for shell casings.



Cans of explosive powder used by murder suspect to start a fire. Can on left exploded during fire, can on right was thrown clear of fire.

may be from either a law enforcement or fire suppression agency. These are two distinctly different investigations which seldom intertwine.

Each type of investigation has a crime scene, which is processed by various CSI experts and technicians, including photographers, sketch artists and evidence technicians skilled in physical/trace, serology, firearms/ballistics and identification. All of these experts are typically managed by the lead homicide investigator, who has overall responsibility for the event.

A coroner's investigator usually is in attendance to handle all issues concerning the deceased. This includes the removal and identification of the body or bodies along with establishing the manner and cause of death. In most jurisdictions, the coroner investigator confers and works hand-in-hand with the homicide investigator and the evidence technicians.

In the above-described events, the arson/fire investigator should be an inclusive member of the investigative team, conferring with the homicide and coroner investigators in planning and processing the scene and the body. Historically, the arson investigation has erroneously been considered a separate event and was conducted independently of the shooting/homicide investigation. This is where confusion, omissions and mismanagement occur. In truth, the arson investigation is a vital, intertwined part of the entire event and should be included in the overall process from the very start.

The arson investigator interprets and processes the fire scene patterns and evidence, locates the origin of the fire and determines its exact cause. This entails finding the ignition source and the first fuel or item that was ignited. This is called determining the "ignition scenario."

The arson investigator offers unique expertise about fire dynamics, fire behavior and the effects fire has on objects and the human body. This type of expertise can explain anomalies at the death scene and can assist the other investigators in interpreting and processing their evidence. In addition, the arson investigator oversees the collection and processing of any fire-related evidence such as flammable liquids and ignition sources.

At the conclusion of his investigation, the arson investigator submits a detailed report to the homicide investigator on all of the above that is in accordance with the scientific standards of the fire investigation field.

There is an adage in fire investigations: The evidence is there, it just doesn't look like it used to.

THE EVIDENCE

There is an adage in fire investigations: The evidence is there, it just doesn't look like it used to. Even after the most intense of fires, there is a significant amount of physical evidence that survives; it's just extremely difficult to locate and identify.

In the Chris Dorner case, the public began developing the usual conspiracy theories after his badly burned body was removed from a completely burned structure. When authorities reported that his wallet and identification were found within the scene, there was much speculation that they were planted by

Any fire scene investigator will tell you that many things survive even the most devastating fires if they are in some sort of protected area.

scene investigators since this seemed impossible given the extreme damage. Any fire scene investigator will tell you that many things survive even the most devastating fires if they are in some sort of protected area. Items that are underneath even heavily burned bodies often survive the fire, as the body itself provides a measure of protection from the flames.

Firearms and ammunition are extremely critical pieces of evidence to locate, identify and examine after an officer-involved shooting. While many plastic and wooden pieces of firearms will burn away in the fire, the metal pieces routinely survive and may tell the story of what happened. In the Jake Kuredjian murder described earlier, the firearm used by the suspect to shoot the deputy baked under the ruins of a burned, two-story home for 30 hours before the team recovered it, along with several other weapons and hundreds of rounds of ammunition. Only a skilled fire investigator would have recognized it as a weapon at all.

Ammunition that is not in the chamber of a gun during fires tends to "cook off," or explode. Despite popular belief, the bullet seldom travels far from the metal casing, but can melt away if it is of a soft metal like lead or copper. The casing is usually an alloy of metals and will seldom melt in the fire. A cook-off



Firearms and ammunition are extremely critical pieces of evidence to locate, identify and examine after an officer-involved shooting.



round is easily recognizable to a fire investigator, as the explosive powder propellant in the casing detonates and ruptures the metal into a flowered effect. This flowering looks distinctly different from a spent shell casing that was fired from a gun before the fire affected it.

Another artifact of the fire is that the primer of the live shell casing is often expelled away from the casing and can be found nearby. Rifle and pistol magazines also expand and come apart during a fire and expel their ammunition nearby.

A detailed fire investigation of a structure fire entails gridding the scene and using a forensic laser measuring device, hundreds of detailed photographs, metal detectors, accelerant K9s and sifters to recover small evidence. This intense investigation will locate critical objects such as burned cell phones, small items of identification, fired or exploded shell casings, heavily burned firearms, gasoline or accelerants that the suspect may have used to start the fire or a tactical device used by a SWAT team that may have started the fire.

A proper fire scene investigation will show which rounds entered the home and which rounds were fired from the home. At the end of this, the investigators should be able to prove how many rounds the suspect fired, how many cooked off, who or what started the fire and the exact details of how it was ignited and spread through the structure.

The investigation will prove whether the suspect was killed by the SWAT team or took his own life. This special investigation should be done only by experienced fire scene investigators and technicians as it is typically beyond the skill level of basic firefighters and police officers.



Exploded or "flowered" AK47 round after exposure to fire.



Primer expelled from live AK47 shell after exposure to fire (several thousand found in a single scene).

Fire evidence is difficult to present in court. The detailed diagrams made by investigators will show the exact location of every shell casing, firearm, ignition source and more. Every burned piece of evidence should be photographed in detail and when presented to a review panel or in court, should be laid alongside an unburned, identical item. An excellent example of this is when my team found a heavily burned AR15 rifle after a SWAT standoff. The few remaining metal pieces and barrel were photographed alongside a disassembled AR15 and an assembled AR15. This, along with a statement from a forensic weapons expert, proved to even the most skeptical person that the burned, twisted metal pieces were in fact the remnants of an assault rifle.

SWAT TOOLS AND FIRE

In recent months I've been involved in testing some tactical devices that were suspected of starting fires within

The NTOA Less-Lethal Section recommends using commercially made tri-chamber grenades when pyrotechnic chemical agents are necessary. Due to their unique design, the tri-chamber munitions are intended to be used indoors and have a reduced potential for unintentional fires.

structures during SWAT operations. There are numerous devices on the market used by tactical teams that have the capability to accidentally start a fire during deployment. Some agencies have designed or purchased items to prevent the direct contact of hot gas to combustible materials, in an attempt to eliminate accidental fires. These devices have been called burn safes. Obviously, the SWAT community recognizes that some of their tactics and devices can and have started inadvertent fires in the past. Proper design, testing, maintenance, storage and implementation of these devices will go a long way to preventing future unintentional fires during tactical operations.

SWAT teams have learned that "tear gas" is actually a solid substance that burns when ignited and emits an irritant via dust particles in the air. Dust particles in extremely heavy concentrations can cause explosions in rare instances. Employing an excessive amount of gas into a very small compartment may actually create the perfect air mixture for a dust explosion or fire if an ignition source such as an FSDD or similar device is introduced (see sidebar).

THE PROBLEM

I have seen or read about several cases in which, shortly following a major tactical operation involving a shooting/murder/fire, the local fire chief ordered the scene bulldozed after just a token investigation. This was all done under the guise of scene safety or when it was learned that a potential suspect had died during the event.

In truth, a proper investigation will take at least a few days for a single-family home, and will involve numerous arson and crime scene specialists. It's a very labor-intensive investigation with only a limited

number of people qualified to conduct it properly. Larger events (such as the Waco assault) may take weeks and dozens of experts to completely process.

Sometimes, fire agencies that are not involved in the actual shooting or tactical operation are less inclined to devote a large amount of resources, personnel and money to an investigation involving a different agency. It is at this time the fire marshal or chief makes the unfortunate decision to demolish the scene.

RECOMMENDATIONS

The purpose of this article is to alert SWAT and police commanders and their internal affairs and risk management staffs to an apparent inconsistency in the investigation of tactical events when a fire occurs. To prevent civil problems, agencies need to formulate a plan or policy for dealing with the aftermath of one of these traumatic events.

- **Slow down and do things right the first time.** Saving a few thousand dollars of overtime pay in an investigation may cost the agency millions in the long run if the scene is processed improperly. Scene preservation (along with safety) is paramount. You can never go back once you have left or demolished the scene. If you have an ongoing investigation, scene security needs to be in place.

- **Select the right personnel.** Bring the most qualified people to your scene, not the most people. The majority of line firefighters and police officers just do not have the right training needed to process such an event. Bring experienced homicide and arson investigators to the scene and supply them with all the technicians and equipment needed to fully process it. For massive events, the ATF has a unit called the National Response Team, which is a group of unique specialists that will respond to any major fire or explosion event if requested. Agency egos need to be put

aside at times, as outside assistance from a larger or more qualified unit or agency may be required.

- **Pre-plan the investigation.** Before entering the scene, the homicide investigator, arson investigator and coroner investigator need to meet and plan out the event. This includes evidence collection plans, report requirements and chain of command issues. Important among this is the need for information security and determining who will be the media point of contact.

- **Process the scene as if you were preparing for a major trial.** Because the potential suspect may have died during the event, do not assume he acted alone or the case is over. This appears to have been a major problem with administrators in some past high-profile cases. *Assume that there is another suspect or co-conspirator.* This mindset will answer all questions for the event, prevent media second-guessing and will eliminate conspiracy theories. This will also prepare your agency to defend itself in the inevitable civil action that will follow.

- **Debrief the tactical teams.** Inquire as to what devices and methods they used to enter the structure, where they threw, launched or placed those devices, and which areas they walked through during the operation. Attempt to corroborate the tactical teams' statements with the physical evidence found at the scene. Account for every piece of tactical equipment (diversionary devices, gas canisters, explosive breaches) and document it with photos and diagrams.

- **Show transparency.** Once the investigation is complete and has been reviewed, release all of the facts to the appropriate courts or review panels. If the fire was determined to have been set by the suspect, show in detail how that determination was made. If a SWAT device or tactic was determined

to be the cause of the fire, explain in detail how that occurred and make corrective actions if deemed necessary.

The truth is within the ashes. If your agency does not find it, you can bet a civil attorney and his hired expert will. //

ABOUT THE AUTHOR

Ed Nordskog is an arson-bomb investigator with the Los Angeles Sheriff's Department. He has been a detective since 1990 and an arson-bomb expert since 1997. He has conducted more than 1,700 arson investigations and more than 50 fire fatality investigations. He is a certified fire and explosion investigator and has arrested more than 300 persons for arson or fraud related to arson. He has testified as an expert in this field on more than 70 occasions.

Det. Nordskog has a master's degree in Emergency Services Management from Cal State Long Beach and has received more than 85 awards, medals and commendations for various investigations. In 2004 he was named Investigator of the Year by the International Association of Arson Investigators and Law Enforcement Officer of the Year by the International Association of Special Investigators.

Det. Nordskog has written two books and several articles on arson investigation. He regularly lectures and teaches for the state of California on arson-explosives, serial arson, complex arson investigations and arson murders-fire death.

The author may be contacted at ednordskog@gmail.com.

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