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PHOENIX INVESTIGATIONS, INC.

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October 2001

**YOU'VE HEARD OF 921,
BUT WHAT'S A 1033?**

by Thomas D. McAdam, C.F.E.I.

For most of its existence, NFPA¹ 921, *Guide for Fire and Explosion Investigations*, has been the subject of debate. There are those who take the title in its most literal sense and use it as a guide. On the other side are those who accept it as the final word on how investigations should be conducted, and believe that to deviate from it is heresy. 921, according to its scope statement, "...is designed to assist individuals who are charged with the responsibility of investigating...." The next section says, "The purpose of this document is to establish guidelines and recommendations for the safe and systematic investigation or analysis of fire and explosion incidents." It goes on to say, "This document has been developed as a model for the advancement and practice of fire and explosion investigation...." The use of "should" rather than "shall" tends to support the point of view of the guide camp, but there is a fair amount of acceptance in many places of 921 as a standard.

Another NFPA document that bears on fire and explosion investigations is NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*. This document is a standard, and in section 1-1, *Scope*, says it "... identifies the professional level of performance required for fire investigators. It specifically identifies the job performance requirements necessary to perform as a fire investigator." In section 1-2, *Purpose*, 1033 says, "The purpose of this standard is to specify

the minimum job performance requirements for service as a fire investigator in both the private and public sectors." In contrast to 921, NFPA 1033 is a "shall" document, and anyone familiar with codes will recognize the non-arbitrary language.

So what does all this mean in the great global scheme of things? It means that some attorneys and courts are using 1033 to determine if an investigator is qualified to conduct investigations, and if the investigations are being properly done. Under 1033, thou shalt do certain things, but if you use 921, you should do them, but you don't have to. For instance, 921 section 12.2.7, *Security of Scene*, and 13.3, *Preservation of the Fire Scene and Physical Evidence*, both have statements to the effect the scene should be preserved. Compare that wimpy language with 1033's section 3.2.1, which directs the fire investigator to "Secure the fire ground, given marking devices, sufficient personnel, and special tools and equipment, so that unauthorized persons can recognize the perimeters of the investigative scene and are kept from restricted areas, and all evidence or potential evidence is protected from damage or destruction."

This is not to say the two documents contradict each other. To the contrary, each is a supporting document for the other. Where the conflict comes in is when the investigator is confronted in court with both documents, and asked "Which do you use?" If the investigator picks one over the other, he or she will for sure be challenged because the inquisitor favors the other one.

Bottom line, NFPA 1033 is being "discovered" by those responsible for ensuring that fire investiga-

¹National Fire Protection Association, 1 Battery Park, PO Box 9101, Quincy, MA 02269-9101

tors have done their job properly. NFPA 921 was first published in 1992, while 1033 has been around in one form or another since 1977. Even so, investigators, and those who hire investigators, need to be familiar with 1033. Because it is a standard, it is easier to make a case for its rigid application to an investigation.

LIGHTNING REPORTS

by Kent Grier, C.F.I.

Phoenix Investigations gets many requests from adjusters to obtain a lightning strike report from the internet and Global Atmospheric in Tucson, Arizona.

Phoenix will obtain a lightning strike report for a \$25 fee in addition to the cost of the report from Global Atmospheric. The cost of the report from Global is \$110 or less, depending on how many backup reports you order.

The lightning strike reports, however, are much easier to obtain from the internet than the original Strikefax method.

Additionally, there is more information on the new Strikenet service from Global. The Strikenet includes a 99% confidence circle or ellipse around each strike that is then superimposed on a road map or city map. The map is in color.

Global now offers new 30 day billing. If you want more information contact www.lightningstorm.com. Or to get step-by-step information on how obtain a Strikenet report, contact Kent Grier, 303-762-8487.

TECHNIQUES TO OBSERVE WHEN INTERVIEWING

by R.S. Gertson, C.F.E.I.

How do you determine the difference between a truthful vs. deceptive person in an interview? Few

people have learned ways to get through an interview, but most people give away their physical signs. Some of the signs of a truthful person are: sits in an upright position, interested in topic, will lean forward on occasion, faces the interviewer directly. Signs of deception are: slouching in chair, might reposition chair further away from interviewer, arms and legs might be crossed, subject's upper body turns away from interviewer.

The movement of the eyes have always been a critical behavior to watch. A truthful person usually will maintain direct eye contact when answering a key question while a deceptive person will often avoid direct eye contact. Neurolinguistic evaluation identifies which hemisphere of the brain is being accessed for information. In most of the population, when the eyes turn to the left, the brain is accessing information from memory, and when the eyes turn to the right, the brain is fabricating and editing a thought to be said.

Begin an interview with nonthreatening questions such as employment and biographic information. Upon beginning the interview, the interviewer should always get a consent from the subject prior to asking any questions. Then proceed into investigative questions; what happened the day of the event, what led up to it, etc. Try to develop additional details: who, what, when, where, why, how. A truthful subject will use realistic words and will identify the issue. A deceptive subject will avoid realistic words, will play dumb, or even guard themselves.

When asking a question which deals with suspicion of others, for example: "Jim, who do you think did (issue)?", the truthful subject will offer names and reasons, where the deceptive subject will not give names or reasons. When asking a punishment question, for example: "Jim, what do you think should happen to a person who would do (issue)?", the truthful subject will respond with send them to jail, fire them, etc. A deceptive subject will respond with I don't know, that's not up to me, or it depends on why they did it. When asking a question of the results of the investigation, for example: "Jim, how do you think the results of the investigation will come out on you?", the truthful subject will respond with it will clear me, or it will show I'm telling the truth. A deceptive subject will respond with I hope it clears me, or I'm not sure how it will turn out.

Important behavior questions which will help identify the truthful or deceptive person are:

- We are investigating the (issue). Did you do (issue)?
- Who do you think did (issue)? Now let me say this, if you only have a suspicion, I want you to tell me that, even though you may be wrong. I will keep it confidential and not report it to that person. Who do you think did (issue)?
- Did you ever think about doing (issue) even though you didn't go through with it?
- What do you think should happen to a person who would do (issue)? (Why)?
- How do you think the results of the investigation will come out on you?
- Do you think the person who did this would deserve a second chance under any circumstances? (Why)?
- Is there any reason why... Now I'm not saying that you did this but...

To sum it up, when asking these questions and many others, always be observant to how the subject sits, moves, and voices his/her answers. This will help you, the interviewer, to establish whether the person is being truthful or deceptive.

**BOOK REPORT: California Fire and Life
by Don Winslow**

Publisher—Alfred A. Knopf, Reviewed by Tom McAdam

Jack Wade is a surf bum who happens to be a claims adjuster for California Fire and Life Mutual Insurance Company. When it comes to investigating fires, he's one of the best, but he's haunted by a fire he investigated as a sheriff's deputy that took the life of a night watchman. Left twisting in the wind by his supervisor, he was accused of perjury, witness intimidation, and falsifying evidence, and his career and reputation were trashed. Billy Hayes, California Fire and Life's claims supervisor, figures Jack's investigative talents are too good to waste and rescues him from the bottle he crawled into after his fall from grace. Jack does his job well, and settles into a life of claims and surfing.

Assigned a fire which destroyed a mansion and killed

the insured's wife, it doesn't take Jack long to figure out the sheriff's investigator was too quick to call the fire accidental. Did I mention the sheriff's investigator, whose nickname is "Accidently" Bentley, was the same supervisor who hung Jack out to dry? Throw in the Russian Mafia, Asian gangs, outlaw bikers, KGB, FBI, a bodily injury fraud ring, a crooked doctor, interference from within the company, an ex-girlfriend, and a few other complications, and Jack's investigation gets a little knotty, as does his personal life. But through it all, it's not impossibly farfetched. You're saying, "Yeah, *this could happen.*"

Don Winslow's experience as a private investigator specializing in arson makes the book very readable. His attention to detail in his descriptions of the fire scene and Jack's work are accurate and believable, with a couple of minor exceptions. He builds his story well, adding new players to the mix and keeping the story intricate enough to be interesting, but not so convoluted as to turn the reader off. And wait 'til you find out who the bad guys are.

ENGINEERS AT PHOENIX
by Jeffrey L. Sellon, P.E., C.F.E.I.

Cost Effective: Engineers are not needed on all fires, thus the fire investigators of Phoenix call its engineers only when needed. This staged approach reduces cost.

Since the engineers are in-house, coordinating phone calls and associated paper work for our clients is reduced. In-house communication is more efficient for everybody.

When needed, for example, the engineers at Phoenix help analyze the safety of a structure before a fire investigation, or determine what part of the structure can be saved.

Phoenix uses its fire investigators and its engineers in just the right mix to help reduce the cost of investigations.

More Than Fire Support: The engineers at Phoenix, however, do more than support the fire investigation work.

For example, some of the engineers have successfully completed work on construction defect cases. Such construction knowledge complements the fire investigation work and vice versa. Again, the clients of Phoenix benefit.

Other work includes failures involving vehicles, structures, valves, water heaters, electrocution, shock, and other related incidents.

Engineering Laboratory: Although it is desirable to have an investigator or engineer at the scene, it's not always possible.

When shipping evidence to the Engineering Laboratory at Phoenix, document the chain of evidence and ship via traceable mail.

IF YOU CAN SHIP IT, WE CAN TEST IT

All of the work performed in the Phoenix Engineering Laboratory starts non-destructively. Using these techniques, we are able to determine whether destructive means are necessary and remain in compliance with ASTM E860.

Lightning Damaged Electronic Equipment: Besides determining whether electronic equipment was damaged by lightning, Phoenix has a program to help its clients get the equipment repaired.

Typically, for approximately \$35 per unit, we will obtain a written estimate to repair if repairable.

For more customized systems such as unique home management systems or home entertainment centers, Phoenix will coordinate the repair and/or replacement effort. Phoenix can help guide you through and understand the technical aspects of such claims. Please call to discuss the specifics of your situation.

Lightning Damaged Well Pump Motors: Although it is always best to investigate such water well pump claims on site, we can sometimes tell

how such motors failed by looking at the windings. Ship the evidence to Phoenix, again by traceable means.

Different types of motor failures leave different burn patterns in the electrical windings of the motor. By looking at the burn patterns on the motor windings, we can determine, for example, that the motor failed due to a single phase condition. Thus, the failure was not due to lightning.

FIRE STOPS, FIRE BLOCKS & DRAFT STOPS

by Robert Holmberg, C.F.I., C.F.E.I.

A subject of interest came up recently that I thought I might throw out there for contemplation. The subject presented to me for research was the use of fire stopping materials regarding FIRE STOPS, also referred to as FIRE BLOCKS, and DRAFT STOPS. Fire stopping is often required by code to be installed to prevent the spread of fire.

Both fire stopping and draft stopping are designed to limit the movement and spread of flames, hot gases, and smoke through concealed spaces to other areas of a building.

The Uniform Building Code requires that fire blocks be provided at 10-foot intervals horizontally and vertically along walls that are either furred out of double-wall construction or are greater than 10 feet in height. The platform framing that is used most often today in wood-frame construction meets these requirements and provides adequate fire blocking between stories in the stud walls.

So, you ask, what is the difference between the two?

Fire stops, also referred to as fire blocks, are used to limit the movement of these fire products through relatively small, concealed passageways such as those between the vertical wall studs or under stairs. Materials that may be used as a fire stop are:

1. At least 2-inch nominal lumber
2. Two thickness of 1-inch nominal lumber with broken lap joints
3. One thickness of 23/32-inch wood structural panel with joints backed by 23/32-inch wood

- structural panel
- 4. One thickness of 3/4-inch Type-2-M particleboard with joints backed by 3/4-inch Type 2-M particleboard plywood
- 5. Gypsum board
- 6. Cement fiber board
- 7. Batts or blankets of mineral or glass fiber
- 8. Other approved materials installed in such a manner as to be securely retained in place.

Walls having parallel or staggered studs for sound transmission control must have fire blocks of batts, blankets of mineral or glass fiber, or other approved flexible materials. Fire blocks must also be used around vents and pipes that penetrate wood members that would otherwise act as a fire block.

Draft stops are constructed to limit the movement of fire products through large concealed passages such as open web floor trusses, concealed spaces such as attics, concealed spaces within roof and floor-ceiling assemblies, false fronts, and similar spaces.

Draft stops are to be installed in floor-ceiling assemblies as follows:

1. Single-family dwellings. Where there is useable space above and below the concealed space within the floor-ceiling assembly, the code requires that draft stops be installed so that the area of any concealed space does not exceed 1,000 square feet and that the draft stops divide the concealed space into approximately equal areas.
2. Two or more dwelling units and hotels. In this case the code requires that draft stops be installed in line with walls separating tenants from each other and separating tenants from other areas. In this case, a fire originating in a dwelling unit or hotel room will find draft stops in the concealed space blocking the transmission of fire and hot gases into other hotel rooms or apartments.

A difference in the material used to construct draft stops and fire stops is the thickness of the material that may be used to construct them. Draft stops may be constructed with:

1. 1/2-inch gypsum board
2. 3/8-inch wood structural panel

3. 3/8-inch Type 2-M particleboard
4. Other approved materials adequately supported.

These are all good construction ideas, but using the word FIRE BLOCK or FIRE STOP and DRAFT STOP promotes a misconception. They are all designed and installed to limit the movement of the fire products. The wording tends to make a person think that they are going to stop the spread of a fire. If one thinks about the burn rate of some materials, which is also a rough estimate, how long is the fire movement going to be delayed?

It is a rule of thumb that a solid wood board burns at approximately 1-inch in thickness in 45 minutes. This is, of course, variable due to conditions of the limitations of the surrounding types of fuel and the oxygen supply, but over time, the combustible fire block is going to burn and the non-combustible fire block materials are going to degrade, allowing the extension of a fire.

If you receive information that people smelled smoke for several hours before the fire department arrived on scene, there is a good chance that the fire blocking has been compromised.

Another key factor in this would be movement and collapse in the structure. If structural members shift a little bit, the integrity of the fire stopping material may have been negated.

How many times have you had the opportunity to look into an attic or joist space? The next time you do, take a minute and examine the draft stopping. You can almost be assured that there will be gaps and spaces at points where holes were cut out to fit around structural members or for penetrations to facilitate the passage of pipes or wiring. Under fire conditions as the gases are heated in the spaces, they expand. This causes a nozzle effect at the opening and will cause a quicker failure of the draft stop.

Another thought about the failure of a fire stop to stop a fire: plastic vent pipes penetrate the vertical stud spaces! As the fire burns in or into a wall stud space, it melts and burns out the PVC waste lines and compromises the integrity of the fire stop. This allows the stud space to become a chimney, spreading the fire from one level to the other at a much greater rate

than might be expected. This effect must be taken into consideration while examining the fire scene to gather information used to draw the origin and cause conclusion.

One amazing area for fire spread is in the floor joist assembly. If parallel wood trusses are installed that are held together with metal gusset plates, consider how deeply those gusset teeth are embedded into the wood truss framing. Let's say possibly 3/8-inch. When you consider the rate that wood burns away, (the rate is faster to begin with because the surface isn't protected by a layer of char), it isn't going to take long before there can be a truss failure.

Currently a lot of the floor joist assemblies are constructed with TJI's. These are an I-beam assembly using solid wood beams top and bottom and a solid web made of chipboard in the center. A TJI is a strongly constructed assembly when in good condition, but consider how quickly the thin web will burn out. When this happens, rather than acting as a draft stop, it is more of a fuel load for the fire. If you get a chance to compare the difference between fire damage that occurs to a solid wooden joist and a TJI, it is enlightening. If you have the type of fire that starts in the joist space, or the melting burning foam rubber from the couch drips onto the floor, burns a hole through the flooring, and penetrates into the joist space, the fire patterns and amount of damage sustained can change dramatically.

The point I am trying to make is that even though the words say FIRE STOP, FIRE BLOCK, or DRAFT STOP, the fact of the matter is these things only slow down the rate of fire spread. When properly installed, they give the fire department a greater chance to extinguish the fire. To get a better understanding of the fire spread in a structure, I would encourage all who can to seek out fire investigation training seminars where live burns are conducted. If this isn't possible, contact your local fire department to see if they have a copy of the NFPA video films Fire Power or Fire, Countdown to Disaster. Both of these demonstrate the different effects that can occur during a fire and give a better understanding of what can happen.

THE INSURANCE CLAIMS REPRESENTATIVE'S ROLE IN EVIDENCE AND SCENE SPOILIATION

By Donald F. Peak, C.F.I., C.P.I.I.

NFPA 921 states that the spoliation of evidence refers to the loss, destruction, or material alteration of an object or document that is evidence or potential evidence in a legal proceeding by one who has the responsibility for its preservation. Spoliation of evidence may occur when the movement, change, or destruction of evidence or the alteration of the scene significantly impairs the opportunity of other interested parties to obtain the same evidentiary value from the evidence, as did the prior investigators.¹

As claims representatives, you can at times be placed in a difficult situation following a fire claim by the insured. For instance, you have the fire investigated and the investigator determines that a product failure was the fire cause. As the adjuster you need to place the product manufacturer on immediate notice and provide the manufacturer, defendant, or involved parties an opportunity to inspect the scene and conduct their investigation. This notification must be completed as soon as possible in writing and by phone, and you must work with the investigators or engineers to establish time frames, guidelines, and protocols for the examination.

In direct conflict with this procedure is your obligation to the insured to handle their claim in a prompt and efficient manner. You are obligated to make the scene safe, to eliminate liability issues, and to provide a prompt settlement or solution for the insured.

In many instances the potential parties are not identified until well into the investigation. N.F.P.A. 921 states that these investigations should consider the entire fire scene evidence

¹Taken from NFPA 921, Guide for Fire and Explosion Investigations, 2001 Edition. Prepared by a technical committee of the Nat'l Fire Prevention Assoc..

and all parties, starting with firefighters and continuing through the investigators, should preserve the scene.

There are instances when a product is identified as the fire cause, but the manufacturer cannot be identified until the evidence can be examined. In these cases it is imperative to document the area of origin, the burn and fire travel patterns, other potential fire causes and their elimination, and the removal, collection, and examination of the product in question. If at all possible preserve the scene until the potential parties can be identified.

It is your investigator's responsibility to photograph, document, preserve the evidence in the case, and to inform you of further actions that are necessary in the case. This evidence documentation not only pertains to the substantiation of the fire cause, but the evidence in and near the area of origin that was eliminated as the fire cause. There are times when the evidence needs to be removed to protect the evidence from theft or damage, and in those instances, the evidence should be thoroughly documented with photographs, diagrams, and any other means necessary to substantiate the validity of the evidence. It may be necessary to provide scene security to protect the scene and prevent contamination and removal of evidence or injury to children or other parties.

There are no recommended guidelines or time frames to allow the other interested parties access to the scene. One guideline currently being used is to allow access to the scene for 10 days if conditions allow.

As of this date, Colorado appellate courts have not addressed the issue of fire scene spoliation. When addressing the evidence spoliation in another context, the Colorado Court of Appeals has ruled that the state of mind of the party

destroying evidence is an important consideration when determining the appropriate sanctions. The court should analyze whether the destruction was intentional or accompanied by bad faith before levying a sanction. One possible sanction discussed is an "adverse inference" jury instruction, which permits or directs a jury to infer that the lost evidence, if presented, would have been adverse to the losing or destroying party. Note that the "adverse inference" sanction may be used even in the absence of intent or bad faith.

Courts from other jurisdictions, which have addressed fire scene spoliation, have identified possible sanctions. Those sanctions include the adverse jury instruction, exclusion of the destroying party's expert report/testimony and dismissal of claims. In addition to analyzing the intent or bad faith of the destroying party, most courts will also fashion a sanction based in part upon the degree of harm to the innocent party resulting from the destruction of evidence.²

When dealing with a scene spoliation issue you should work with your insured, keep them informed of what is happening, notify the interested parties involved in the loss by phone, fax, and in writing, and give them specific time frames to respond. This notification can be completed by the adjuster, the investigator at the adjuster's direction, or by the company's legal counsel. It is not unreasonable to give the involved parties a week to ten days to look at the scene before restoration starts.

Once the involved parties respond and indicate they will examine the scene, coordinate with your legal counsel and investigator to establish guidelines, protocols, and rules for the examination. Have your investigator coordinate the examina-

²Information on court rulings and sanctions provided by Mr. David Piper, Beck and Cassinis, 3025 Parker Road, Aurora, Colorado 80014

tion and have all parties identify the evidence they want secured. Your investigator or representative can mark, document, and secure the evidence that is identified. Do not allow anyone to remove or alter the scene or evidence.

After the scene examination is complete then your investigator can document and secure the identified evidence. Laboratory and engineering

examinations can then be coordinated and scheduled for later dates and the scene can be released for restoration.³

³Information and assistance provided by Mr. Tom Racine and Mr. Tim Holland, State Farm Insurance.

Phoenix Investigations, Inc., is pleased to welcome a new investigator, **Pat Warkentin**, to our staff. He is a retired Denver fire fighter and fire investigator with 28 years of experience. Pat is based in Sand Point, Idaho, and is available for fire investigations throughout the northwest area.

At Phoenix Investigations, Inc., our clients are number one!

We appreciate your business and your satisfaction is our first priority.

Please call us at 1-800-580-7047 or 303-762-8487, fax 303-762-8510, or send e-mail to phoenixi@ix.netcom.com Let us know what more we can do for you.