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### **“Fire and Explosion: Investigations That Sizzle”**

*“Luck is what happens when preparation meets opportunity.”* Legendary football coach Vince Lombardi often talked about how success stems from the will to properly prepare for any endeavor. Therefore, it is important to prepare for and understand all of the issues that arise in catastrophic fire damage claims.

*“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts”<sup>1</sup>* At the very outset, be aware that no investigation should begin with a preconceived conclusion about anything, especially the cause of fire. As the famous detective Sherlock Holmes noted:

With that quote in mind, we will begin today’s program by giving you an overview of the basic fire science principles that are part of every fire scene investigation. Once we have begun our preparation with a general understanding of the tools that your expert scientist will use to determine cause and origin, we can look at how a plaintiff’s counsel can use that information to make out a case against a prospective defendant. There are two sides to every case. Therefore, we will discuss the scene investigation from the perspective of a defendant’s counsel who will be looking to use those same principles at the same site to create an opportunity for success for his or her client. Finally, we will look at the scene from the point of view of an experienced claim professional and gain his perspective on how he can be used to assist in successful resolutions of these potentially costly cases.

### **Fire Science Principles**

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<sup>1</sup> Arthur Conan Doyle “A Scandal in Bohemia”  
The Adventures of Sherlock Holmes – The Strand Magazine 1891

Fire total in 2015, 1,345,500 in America causing 14.3 billion dollars in damage and 3,280 fatalities. Heating, cooking, electrical malfunction, appliances, other equipment and mis-operation/ failure account for 46% of residential fires.

Fire investigations are performed through the guidelines and guidance found in National Fire Protection Association 921 and 1033. Your expert should be vetted to ascertain their working knowledge of the fundamentals of the science involved with proper fire investigative protocol.

NFPA 921 & 1033 represents the National Standard with regard to appropriate methodology for investigation by Fire Science Experts.

#### Applying the Scientific Method

- Recognizing the need
- Define the problem
- Collect data
- Analyze the data
- Develop a hypothesis
- Test the hypothesis
- Select the final hypothesis

The determination of the origin of the fire involves the coordination of information derived from one or more of the following: NFPA 18.1.2

- Witness information; the analysis of observations reported by persons who witnessed the fire or were aware of the conditions present at the time of the fire
- Fire Patterns; the analysis of effects and patterns left by the fire
- Arc mapping; the analysis of the locations where electrical arcing has caused damage and the documentation of the involved electrical circuits.
- Fire dynamics; the analysis of the fire dynamics that is the physics and chemistry of the fire initiation and growth and interaction between the fire and the buildings system.

Beginning with the claim inception it is critically important to maintain clear concise communication with your expert.

1. Immediately following the incident post fire, it is imperative to ensure that all manipulation of the evidence and scene are protected and secured.
2. Avoiding spoliation; specific areas of interests must be preserved while placing interested parties on notice, to give them opportunity to see the evidence in place.
3. Preservation of the fire scene and physical evidence, avoiding contamination of evidence, identifying evidence. Transportation of evidence, chain of custody, establishing protocol for examination and testing of physical evidence.
4. Establishing the "Specific Ignition Sequence" and/or the "Ignition Sequence" the succession of events and conditions that allow the source of ignition, the fuel and the oxidant to interact in the appropriate quantities and circumstance for combustion to begin.
5. Hypothesis testing; the application of any fundamental principles of science, physical experiments or testing, cognitive experiments, analytical techniques, tools, and system analysis.
6. Products presumed to be potentially involved in litigation, must be preserved and maintained so other potential parties have the ability to view the evidence in the same condition it was found, as outlined in ASTM E1188, standard practice for collection and preservation of information and physical items by a technical investigator. ASTM E 1459 standard guide for physical evidence labeling and related documentation during the investigation.
7. The expert should have a clear understanding of their opinions being "probable or possible". Proven to an "acceptable level of certainty" civil proceedings the preponderance or "more likely than not".

Classification of fire causation;

- Accidental
- Natural
- Incendiary
- Undetermined

"Undetermined" "can cover those fires still under investigation"

## The Subrogation Perspective

The most critical aspect of any successful recovery from the subrogation perspective is the preservation of evidence for use at trial. In *Landry v. Charlotte Motors Cars, LLC*, District Court of Appeal of Florida, Second District, 2017, the Court reiterated the severe sanctions for spoliation of evidence:

"Generally speaking, sanctions may be appropriate when a party has spoliated, lost, or misplaced evidence. League of Women Voters of Fla. v. Detzner, 172 So. 3d 363, 391 (Fla. 2015). Spoliation is defined as "[t]he destruction, or significant and meaningful alteration of [evidence]," Vega v. CSCS Int'l, N.V., 795 So. 2d 164, 167 n.2 (Fla. 3d DCA 2001) (quoting Black's Law Dictionary 728 (5th ed. 1983)); or "the failure to preserve property for another's use as evidence in pending" or reasonably foreseeable litigation, *id.* (quoting Jay E. Rivlin, Note, Recognizing an Independent Tort Action will Spoil a Spoliator's Splendor, 26 Hofstra L.Rev. 1003, 1004 (1998)). See also Aldrich v. Roche Biomedical Labs., Inc., 737 So. 2d 1124, 1125 (Fla. 5th DCA 1999) (similar definition); *Spoliation*, Black's Law Dictionary 1620 (10th ed. 2014) (defining spoliation as "[t]he intentional destruction, mutilation, alteration, or concealment of evidence"). Evidence is deemed "lost" when it is "beyond the possession and custody of its owner and not locatable by diligent search." *Lost*, Black's Law Dictionary 1089 (10th ed. 2014).

When there is a basis for imposing spoliation sanctions, "the appropriate sanction varies according to 1. the willfulness or bad faith, if any, of the party who lost the evidence, 2. the extent of the prejudice suffered by the other party, and 3. what is required to cure the prejudice." Fleury v. Biomet, Inc., 865 So. 2d 537, 539 (Fla. 2d DCA 2003) (first citing Harrell v. Mayberry, 754 So. 2d 742, 745 (Fla. 2d DCA 2000); then citing Sponco Mfg., Inc. v. Alcover, 656 So. 2d 629, 630 (Fla. 3d DCA 1995)). Generally speaking, in the absence of willfulness or bad faith, dismissal—the harshest of all sanctions—is appropriate only when the movant presents evidence (e.g., expert testimony) demonstrating that its case is fatally prejudiced by its inability to examine the spoliated evidence. See Fleury, 865 So. 2d at 539 ("Dismissal . . . [is] reserved for cases in which one party's loss of evidence renders the opposing party completely unable to proceed with its case or defense." (citing Harrell, 754 So. 2d at 745)); Reed v. Alpha Prof'l Tools, 975 So. 2d 1202, 1204 (Fla. 5th DCA 2008) ("Spoliation is not a strict liability concept—'lose the evidence, lose the case'—no matter whether the plaintiff or the defendant was responsible for the loss."); see, e.g., Sponco Mfg., 656 So. 2d at 631 (holding

that default was appropriate when expert testimony showed the movant "was no longer able to proceed" without the crucial evidence)."

"That is, to dismiss a case based solely on prejudice to the movant, the spoliated evidence must be so crucial as to completely prevent the movant from defending itself, not merely prevent the movant from defending itself completely. Reed, 975 So. 2d at 1204; compare Nationwide Lift Trucks, Inc. v. Smith, 832 So. 2d 824, 826 (Fla. 4th DCA 2002) (affirming the spoliation sanction because the "plaintiffs were unable to proceed without the altered or lost evidence"), with Fleury, 865 So. 2d at 540 (finding no basis for spoliation sanctions when neither party was at fault for the spoliation and the "the defendants were not prejudiced by the spoliation"). Otherwise, the "courts prefer to utilize adverse evidentiary inferences and adverse presumptions during trial to address the lack of evidence." Golden Yachts, Inc. v. Hall, 920 So. 2d 778, 780 (2006)."

## **The Defense Perspective**

A fire emergency requires an immediate and focused response. In advance of a call, defense counsel should establish a team that includes tried and tested forensic experts. It is also helpful to have a kit handy that includes a hardhat, camera, appropriate shoes, pens and paper for sketches.

Prior to any site visit, counsel should try and obtain as much information about the incident as he or she can. Try and obtain any incident reports, statements, newspaper accounts, video footage and local police and fire reports. These accounts will give your expert some general information and will identify potential witness names for follow up at a later date. By way of example, few month ago, I was brought in to defend a fire death case that also included serious injuries to 3 firefighters. Within a few minutes on line, I learned the age of the decedent and the fact that that there were no working fire alarms present in his house.

You need to prepare for that first site visit. If you are bringing your client to the site, be sure to open lines of communication, and obtain all necessary contact information. You will want to prepare your attendees in advance about what you expect to happen and define their roles. Discuss when and where to communicate so that you maintain any attorney client and work product privileges. Inform them why these privileges are important and how to maintain them.

Of course, you must preserve the site by way of photographs, measurements, equipment, manuals and component parts. Avoid spoliation at all costs. The issues that can flow from spoliation can range from an imposition of liability to an instruction from the trial judge that drastically impacts your chances of success. Additionally, failure to preserve evidence may impact your own expert's ability to give a full and helpful opinion. That is, the expert may be limited by the lack of factual support for critical opinions.

Your preparation should include having a plan in place to deal with other parties. Typically, the first site visit/view of a product is a "visual only" inspection. The parties can photograph and measure the site/product. They can attempt to find labels to identify manufacturer(s). Be sure to track all attendees' names at these visits. Prior to any **destructive testing**, make sure that (1) all potential parties have been notified and (2) there is a written protocol in place prior to the day of the testing.

At your earliest practical moment round up and preserve key documents which may include: photos, videos, labels, invoices, operator manuals, equipment logs, maintenance records, safety manuals, service records, contracts, any general contract, general conditions, subcontracts, vendors endorsements, certificates of insurance, drawings, specifications, RFIs, training documentation, safety protocols, tool box talks and insurance agreements.

A defense counsel looks to the expert to exonerate the insured's activities and/or product and to find a material cause of the injury/damages that does not involve his or her client. If that does not pan out, the above referenced documents may help you eliminate, reduce or share the risk. So get them as soon as you can.

### **The Claims Professional's Perspective**

One of the most challenging assignments for an adjuster is to skillfully use experts, lawyers and consultants for a successful handling of a complex fire claim. Be it a policy defense, product liability or subrogation investigation, the issues are often technical, obtuse and high-stakes. The presentation from the adjuster point of view will be on effectively understanding how to use, respond and manage the technical aspects of a fire investigation and collateral issues.

These general considerations are not all comprehensive, nor applicable to all situations. Rather, it is intended only as a guide to the adjuster for important facets of the

investigation, allowing for close consideration of what is material to the particular facts in your case. These thoughts are also not jurisdictionally specific; refer to the applicable statutes and requirements where loss occurs.

### Initial Issues

Review the insurance policy thoroughly. Be fully aware of all the terms, conditions and coverage available under the policy and all endorsements, including duties of the insured, and requirements of the insurer. Look for other insurance likely in place by tenants, building owner or liability policies for insured or others. Investigate other insurable interests or third-party exposures. Determine the age of the policy and prior claim history.

Examine the underwriting file and if possible the agent/broker's file to determine whether there is anything unusual that might create more coverage than anticipated or potential ambiguities. On complex loss investigations, discrepancies and underwriting snafus are not unknown; try to surface any underwriting concerns earlier rather than later. Reconcile significant discrepancies between the agent/broker file and the underwriting file. Look for waiver/estoppel issue (i.e. do the underwriting file and agent's file coincide?) Be aware of relevant underwriting procedure manual provisions.

If an application for insurance is attached to the policy, this may be relevant if there are issues of misrepresentation. If misrepresentations are discovered, are they material? In other words, would it have affected the underwriting of the insurance and/or the premium paid? What were the circumstances under which the application was taken (i.e. signed, telephone, etc.)? To what extent did the policyholder directly contribute to the potentially "material" misrepresentations? Identify the named insured and all other parties with potential rights under the policy or against the property, including mortgagees, lien holders, co-payees, and additional insureds.

### The Scene

Determine the status of securing the scene - whether by public officials or by the insured. Verify security and that access is permitted. Determine if excavation and/or demolition will be necessary for origin and cause investigation. Make sure the property is secured and carefully preserve the chain of evidence. Identify any potentially interested parties as soon as possible, and if feasible notify them before the fire scene is altered. Remember that spoliation of evidence can be a sword or shield in fire related claims and litigation.

Will another insurance company, the insured or some other entity share in the cost of the initial excavation/demolition? What part of the cost of excavation is investigative expense, rather than debris removal that may be covered under the policy? What are the policy limits for debris removal coverage? Avoid spending policy indemnity dollars for purely investigative expense.

Weigh the advantage of using a "loan receipt," or non-waiver for any advance payments to the insured for securing the property, as opposed to waiting for the insured to properly secure the premises and possibly exposing the property to degradation or liability issues. Be wary of creating any waiver in advance payments. Advise the insured in writing as soon as practicable of the duty under the policy to safeguard and secure the premises.

Document all contents of structure as to the quantity, quality and condition. Verify ages, serial numbers and brand names on major items that can be identified, both inclusive and exclusive to the potential cause of loss. Look for items missing that should normally be in the structure. Ensure that machinery, equipment and trade fixtures were actually in operating condition. Compare the inventory listed by the insured with the list and photos obtained during your investigation to look for inconsistencies.

At the scene, identify wiring and outlet problems or recent electrical work for rewiring, identify all appliances, as well as prior problems and repair to each, if any. Identify extent, age, value and origin of contents, stock or other personal property. Actively search out and document alternative causes of loss. Are the requirements of any Protective Safeguards Endorsements in place? These may represent a potential coverage defense or a defense to your subrogation claim if ignorance of Protective Safeguards raises the claim that the claim was paid as a volunteer. Consider if preliminary demolition is necessary to prevent further collapse, which may cause damage to surrounding property or injury to persons. Establish contact with key people with the government body to determine what concerns there may be about securing the premises. Identify potential claimants for property damage or personal injury and regulate your dealings with them accordingly.

### Events Surrounding the Fire Loss

Determine the whereabouts of key parties at the time of the fire, and within 24 hours prior, and whom with, and whether the telephone was used, or credit cards or bank ATM card. Confirm what clothing was worn at the time of the fire. Identify any vehicle color, make and license plate.



Determine if the insured was a witness, and if so, determine when he made his observations; the nature, color, location, intensity, and duration of the fire and smoke that he observed; also have him identify other people on the scene when he was there and other conditions of the scene, including signs of forced entry and unusual smells, including accelerant. Document the insured's account of the time and cause of the fire, and the basis for the claim.

Give serious consideration to and explore insured's theories, if any as to why the fire would occur, including motives of others to burn the building, or dangerous conditions that might contribute to accidental fire. Document conversations the insured had with the authorities or others concerning the loss to commit insured to an account of those conversations.

#### Retain Investigative Team and Counsel

Be aware of the dangers of loosely linked committees running the investigation. When all is said and done, the adjuster must make the decision as to the disposition of the claim. While the adjuster no doubt reports to a higher authority, the one person remains the decision point and the leader of the investigative team. The investigative team may be two members or ten, regardless each member should have a clear assignment and direction, keeping the adjuster advised of progress and results.

An origin and because expert is needed as soon as possible. Have a list of qualified, proven investigators ahead of time. Searching for a name over the weekend after a major fire is not the best practice. Obtain qualifications and check references in advance of need. Your fire investigative experts should have a working knowledge of up to date applicable reference resources, including for example, the latest editions of NFPA 921 and 1033, NFPA Fire Protection Handbook and other relevant authoritative resources.

Other experts may be needed quickly as investigation progresses, including engineers of varying disciplines. Consider applicability of licensure statutes for origin and cause investigators and professional engineers. Don't assume all professionals are licensed in your state: I have had to testify at trial following the gap left by an engineer who couldn't testify as he was not licensed in that state. Not a position one would want to be in.

The strength of factual, evidentiary basis for each expert opinion is just as crucial as the opinion itself. Gut feelings are not acceptable. Ensure your experts understand the

dangers of any appearance that there has been a conclusion prior to a completed investigation, and the dangers of flip, offhand comments, either orally or in their communications. Don't assume any expert understand these concepts unless you have dealt with them previously.

Consider retaining defense counsel immediately to assist in preservation of evidence, as well as for timely legal analysis. The attorney is a key member of the investigative team who can keep the investigation within the legal sidelines. Delaying retention of counsel generally does not save expense dollars and can imperil the investigation. A visit to the scene by counsel, if possible, will allow a valuable perspective of the investigation. Counsel should not be expected to direct the investigation or engage in other conduct which may result in the attorney becoming a potential witness.

### Origin & Cause

Plan and follow up with the investigative activities that are ongoing to make a timely decision! The adjuster should actively participate in developing a clear understanding of the strengths and weaknesses of any origin and cause determination. The experts should be required to explain the basis of their opinions in layman's terms (as they would to a jury). Are the facts technically supported and do they tell a compelling story? Be wary of strained, implausible interpretations.

Often arson cases involve circumstantial (indirect) evidence rather than direct evidence. Therefore, it is often challenging to make a decision as to whether or not to deny insurance coverage based upon the strength of circumstantial evidence. It is important to gather all needed (available) information, exhaust the analytical process, and to make a timely decision as soon as possible, to avoid exposure to bad faith damages. It is important to remain goal directed in the investigative approach.

Be aware of policy and statutory deadlines for making decisions concerning coverage. If statutory deadlines are stricter than policy deadlines, they will likely control. If policy deadlines are vague, be aware that they may be construed strictly against the insurer, as drafter of the language. This is an area where your attorney's counsel may be of significant value.

Spoliation of evidence. Ensure that your experts carefully observe legal protocols concerning preservation of evidence when removing evidence for the scene, and during subsequent storage and testing. Written agreements should be obtained among all potentially interested parties whenever feasible prior alteration of evidence (including

removal from scene). Obtain a court protective order when agreement cannot be reached. Consult with legal counsel and your experts early on about this crucial issue - the credibility of your expert testimony can be weakened or destroyed by the mishandling of evidence.

Accidental cause. When determining incendiary origin or product liability, other potential causes or explanations for the fire must be eliminated. It can be as important to identify and rule out all potential accidental causes as to document the actual cause of the loss.

Determine whether there has been an increased hazard (i.e., drug operations or other illicit activities or some modification to the premise, which would make it more hazardous, without notification to the insurance company). Identify any modifications to the building to affect its value (also regarding the possible cause of loss, i.e., electrical rewiring), without notice to the insurer.

#### Document Requests

Solicit early in the investigation the suggestions of all of your experts as to what documents or information would assist them. Request documents from the insured in writing, making reference to the policy conditions related to cooperation and production of documents. Avoid requests that are burdensome and not material to the investigation; this will only dilute the strength of your demand for books and records and create potential exposure to a bad faith claim.