

YOUR FIRE EXPERT ON TRIAL!

Daubert and The 2008 Revisions to NFPA 921

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I.

INTRODUCTION

As succinctly stated in the 2008 Edition of NFPA 921 §11.1 "Legal considerations impact every phase of a fire investigation." Such considerations run the gamut from the constitutionality of entries into private property by public authorities; evidence retention or the spoliation thereof; and the qualifications and admissibility of testimony of those engaged in the fire investigation field. While the 2008 Edition to NFPA 921 continues to describe itself as a "guide," the Courts increasingly consider the provisions of NFPA 921 as requirements to render expert opinion in the fire field qualified and admissible under the Daubert standard. This paper addresses the development of the relationship between NFPA 921 and the Daubert decision; how Daubert and the alternative Kelly/Frye standard for admissibility of expert testimony differ; relevant changes in NFPA 921; and suggestions of how the claims professional can avoid later exclusion of expert testimony in fire cases under these standards.

II.

**THE VARYING BASES OF ADMISSIBILITY
OF EXPERT OPINION EVIDENCE**

The Supreme Court's decision in Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993), is by now well-known to insurance adjusters, fire investigators, and attorneys alike. Daubert and Kumho Tire v. Carmichael, 526 U.S. 137 (1998) have had a profound effect upon how all fires should be investigated. Unfortunately, given the constraints of economics and time, it is often unrealistic to expect that every fire investigation will be conducted so that the investigator will later be able to satisfy the "scientific" method and reliability standards

required before the opinions of such investigator can be considered by the jury. NFPA 921, by early on adopting the "scientific" approach to fire investigation, has provided fire investigators with clear guidelines, which, if followed, substantially increase the likelihood of their testimony being deemed admissible by the trial judge.

In Frye vs. United States, 293 F. 1013 (D.C. Cir. 1923), the District of Columbia Circuit Court set forth the rule that governed the admissibility of scientific evidence for 70 years. Under the Frye test, scientific evidence was only admissible when a court finds it to be "generally accepted" by a meaningful portion of the scientific community. Practically, this required a series of experts in the scientific field testifying as to the validity of the science behind the expert's testimony or evidence. After 1975, considerable uncertainty existed, however, as to the application of the Frye test, with the adoption of the Federal Rules of Evidence. Specifically, Rule 702 set forth a new standard for scientific testimony, that where the scientific information would "assist the trier of fact to understand the evidence or determine a fact in issue," then a qualified expert could testify. Nothing in the new Federal Rules required a showing of "general acceptance" as required by Frye.

The Supreme Court resolved this issue for all Federal Courts in Daubert. The Court stated that Frye no longer applied and had been superseded by Rule 702. Instead, the Court set forth a two prong test to determine whether scientific testimony was admissible under Rule 702. First, a judge must determine if the expert testimony is relevant, or fits the facts of the case. The second prong requires a showing that the expert testimony is reliable, drawn from a scientific method. The Court further enumerated a variety of ways the evidence could fall within an approved scientific method. The list, though not exhaustive, included empirical testing, peer review and publication, and whether the theory or technique is "generally accepted by a relevant scientific community." Two cases further refined the test for admissibility of expert testimony. General Electric Co. v. Joiner, 522 U.S. 136 (1997), established that admissibility of expert testimony fell under an abuse of discretion standard of review, allowing appellate courts to overturn lower decisions only if very apparently wrong. Lastly, Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999) broadened the Daubert test to apply to all forms of expert testimony, specifically adding technical testimony to the previously stated scientific testimony. In 2000, the Federal Rules of Evidence

were adapted to reflect this "Daubert trilogy," with Rule 702 requiring expert testimony to be based on sufficient facts, a "product of reliable principles and methods," and reliable application of those methods.

The California Supreme Court adopted the Frye test in People v. Kelly, 17 Cal. 3d 24 (1976). California's combined Kelly/Frye test requires a "preliminary showing of general acceptance of the new technique in the relevant scientific community." Following this, California Evidence Code §720 and §801 require a showing of the reliability of the method used, and the expert testifying must be sufficiently qualified. After the Supreme Court's decision in Daubert, the California courts reaffirmed its adherence to the Kelly/Frye standard. See People v. Leahy, 8 Cal. 4th 587, 882 P. 2d 321 (1994). California continues to require a showing that the technique or methods employed by the expert is generally accepted in the scientific community. Although on its face, this is a more conservative standard, in practice the trial court judges appear more liberal with the admission of expert testimony than those required to follow Daubert.

Daubert is required to be followed by all judges in Federal Court. It is suspected by some that this is one reason that defendants, particularly in product liability cases, seek to remove cases filed in State Court to Federal Court. The New Mexico state courts follow Daubert. See State v. Frye, 138 N.M. 700 (2005). As noted above, California does not follow Daubert. Nor do Arizona, Nevada or Utah. See Logerquist v. McVey, 96 Ariz. 470 (2000); Lohmeier v. Hammer, 214 Ariz. 57, 67 (2005); Krause Inc. v. Little, 117 Nev. 929 (2001); State v. Crosby, 927 P. 2d 638 (Utah 1996).

The Utah standard may actually be more stringent than Daubert. In State v. Rimmasch, 775 P. 2d 388 (Utah 1989), the Utah Supreme Court laid out a three-step test to determine the admissibility of scientific evidence. The first step requires the court to determine if the scientific principles and techniques used by the expert are inherently reliable, either by judicial notice if they are generally recognized and accepted by the legal and scientific communities, or if the court determines the evidence sufficiently demonstrates the reliability of the testimony. The second step requires a finding that the scientific principles and techniques were applied in a proper manner by an expert. Lastly, the third step requires the court to determine if the evidence is more probative than prejudicial. These steps were laid out four years prior to the decision of the Supreme Court in Daubert, but reflect an almost identical

analysis. However, the Supreme Court stated in Daubert that it did not "presume to set out a definitive checklist or test" (509 U.S. at 593-95) whereas Utah's courts rely exclusively on the detailed step-by-step test set out in Rimmasch.

Frankly, it is difficult to differentiate at times between the foregoing standards. Each require scientific reliability, both in approach and application. In Daubert jurisdictions, however, judges - particularly Federal court judges - tend to be more stringent "gatekeepers." The Frye/Kelly standard is on its face more conservative, but it is liberally applied to the point where the jury is generally entitled to weigh the expert's opinions for whatever they are worth if not based upon speculation. The trend even in Daubert jurisdictions appears to be to liberalize the qualifications process for experts, leaving it to the jury to weigh the competency and credibility of the expert.

III.

THE NFPA COMES TO THE RESCUE OF FIRE INVESTIGATORS

NFPA 921 was initially promulgated in 1992. The publication has always been self-described as a "guide." Although there was initial controversy in describing the recommended method for investigating a fire as "scientific" as opposed to "specialized" or "systematic," the Technical Committee went with the scientific method. The Daubert decision the following year validated this decision. As graphically represented in Figure 4.3 of the 2008 Edition, the scientific method essentially involves identifying the problem, *i.e.*, the origin and then the cause of the fire; collecting the necessary facts and evidence to properly analyze the problem; developing a hypothesis as to both issues; and then testing such hypotheses through deductive reasoning to arrive at a final, supportable opinion of cause and origin.

Although the results of cases discussing the relationship between NFPA 921 and the Daubert decision are often quite fact-sensitive, when an expert can show that his opinions are based upon the scientific approach endorsed by NFPA 921, the testimony will generally be considered accepted by the scientific community and deemed admissible.

IV.

RECENT CASES OF INTEREST

An excellent discussion of Daubert and the relevance of an expert's following or failing to follow NFPA 921 appears in Thompson v. State Farm Fire and Casualty Company, Case No. 2:05-cb-2368 (decided May 1, 2008, WD of Tenn., U.S.D.C.). In Thompson, the plaintiff brought a motion to exclude the testimony of the insurance carrier's fire expert to the effect that the fire at the plaintiff's home was intentionally set. Plaintiff based its motion upon the expert's alleged failure to follow NFPA 921 as he based his opinion of incendiary origin upon (1) it was a "hot fire"; (2) it was a fast-moving fire; (3) there was melted copper; and (4) there were irregular burn patterns. Finally, the expert allegedly failed to obtain a comparison sample of hardwood flooring, three samples of which established the presence of mineral spirit. Plaintiff contended that the foregoing bases of the expert opinion were no longer recognized as valid under NFPA 921 and, therefore, such opinion should be excluded.

In finding the opinion admissible, the District Court in Thompson initially extensively reviewed Daubert and the basis for admission of expert testimony. Noting its primary function as a "gatekeeper," the Court stated its primary inquiry was of the "principles and methodology" underlying the expert's opinions, as opposed to second-guessing the validity of the conclusions reached by such expert. It further held that the provisions of NFPA 921 relied upon by the plaintiff seeking to exclude such expert testimony were guidelines or recommended practices, and the expert was able to successfully explain why he relied upon the cited factors even though they did not necessarily or collectively establish that the fire was intentionally set.

Although not decided at the appellate level, the Thompson decision recognizes the importance of a fire investigator's acceptance of the scientific method of NFPA 921 and at the same time permitting an expert to explain why the basis of his opinion may differ from the guidelines set forth in this publication.

Fireman's Fund Insurance Co. v. Canon U.S.A., Inc., 394 F.3d 1054 (8th Cir. 2005) is an example of a Federal Court's rejection of expert opinion which was claimed to be based upon the scientific method of NFPA 921. In this case, a fire began

in the store room of a video rental store and spread to damage other businesses in a strip mall. Various insurers brought subrogation actions against Canon as the manufacturer of a copier determined by the public and a number of private fire investigators to be the origin of the fire. The initial theory advanced by the subrogating insurers' experts was that the fire was caused by the upper fixing heater assembly of the copier and that the design of the copier was defective because it included a thermal fuse safety device which was not properly rated to prevent a fire. Testing undertaken, however, demonstrated that the fire could not be caused by a malfunctioning heater assembly before the thermal fuse operated. The experts then revised their opinion to attribute the fire to a malfunction of the composite power supply board in a different section of the copier.

Noting this change in opinion, the Court of Appeals in Canon sustained the grant of summary judgment by the trial court which was based upon the rejection of these expert opinions as not sufficiently reliable for jury consideration. The Court of Appeals agreed that NFPA 921 is a guide that qualified as a reliable method of investigation endorsed by a professional organization so as to comply with Daubert. It sustained the rejection of the experts' opinions, however, as they failed to reconcile their hypothesis as to the cause of the fire with the empirical facts as required by NFPA 921 §2-3.6 (now §4.3.6).

A less rigid application of Daubert was evident in the Court's decision in Royal Insurance Company of America v. Joseph Daniel Construction, Inc., 208 F. Supp. 2d 423 (S.D.N.Y. 2002). A fire began in a garage upon which construction work was being performed a number of hours after the last workers had left the construction site. Welding was ongoing earlier in the day and a number of smaller fires had been set by this work. Approximately one year after the loss, the subrogating insurer retained a fire expert who determined, through an elimination of all other causes, that the fire was caused by such earlier welding work. Although the precise point of origin of the fire could not be determined, the Court agreed that the fire investigator's opinion was sufficiently reliable to permit it to be considered by the jury. In doing so, it noted that the investigator followed the scientific methodology of NFPA 921 by collecting all available data, analyzing such data, developing a hypothesis based upon the data, and in testing the hypothesis to determine the most probable cause of the fire. The Court was satisfied with the expert's elimination of other potential causes and the evidence supported the hypothesis that molten

slag was the most probable cause of the fire in the determined area of origin.

Unlike the foregoing cases, the Texas Court of Appeals refused to recognize NFPA 921 as a reliable methodology for arson investigators so as to require judicial notice of NFPA 921. Davis v. State of Texas, 147 S.W. 3d 554 (2004). The defendant there sought to challenge his conviction based upon a claim that the State's investigator had not followed the provisions of NFPA 921. The Court refused to take judicial notice of NFPA 921 in the absence of another Texas court doing so. The decision was not critical, however, of the specific content of any section of NFPA 921.

The 2008 Edition of NFPA 921 amplifies upon its prior discussion of determining the cause of a fire by the process of elimination. See §18.2.1. The revisions appear to be a cautionary instruction to investigators of the need to adopt this process in support of a final hypothesis only where the area of origin of a fire is quite clear and other potential causes of the fire can be eliminated by way of testing or other scientific analysis. The vast majority of courts throughout the United States consider a process of elimination to be a reliable scientific method in determining the cause of fires. In Farmland Mutual Insurance Companies v. Chief Industries, Inc., 170 P. 3d 832 (Colo. Ct. App. 2007), the Court found admissible the testimony of a forensic expert who concluded that a fire was caused by a crop dryer due to a failure to provide a fuel line strainer. In doing so, the Court noted NFPA 921's approval of the process of elimination methodology and that such publication was an accepted reference for fire investigators.

In Michigan Miller's Mutual Insurance Co. v. Benfield (11th Cir. 1998), a first party homeowner's claim was denied based upon an arson defense. At trial, the insurance company's expert testified that in his opinion the fire began on a dining room table of the home and was incendiary by eliminating all potential accidental sources of fire at this location. Upon cross-examination, however, the expert acknowledged that he was unable to eliminate the chandelier above the table as a possible source of ignition of the fire. He further testified that he believed someone poured oil from an lamp oil bottle over clothing and set the fires ablaze on the table. Upon further examination, however, he admitted that he did not even know if the lamp oil bottle contained lamp oil and he performed no tests to determine what was in such bottle. Based upon the foregoing testimony, the trial court excluded such testimony as ipsa dixit and otherwise unsupportable. The Court of Appeals affirmed this

decision finding that such testimony was not scientifically based and that it was within the discretion of the trial court to exclude such testimony on this basis. It is not clear from the opinion whether the expert testified that he was relying upon NFPA 921, but the decision illustrates the difficulty of basing an opinion of incendiary fire cause upon an elimination of all other potential causes without strong evidence supporting such exclusions.

Another ground for disqualification of expert opinion has been held to be the failure to comply with the provisions of NFPA 921, such as required evidence collection and identification. Indiana Insurance Co. v. General Electric Co., 326 F. Supp. 2d 844 (N.D. Ohio 2004) is an example of this. There, the plaintiff's fire investigator meticulously went through his step-by-step compliance with the recommended methodology of fire investigation §2-3 (now §4.1). The expert failed to properly identify the power cable to the appliance which he contended was the source of the fire. This rendered inadmissible his testimony and that of the forensic engineer relying upon such physical evidence. This highlights the 2008 Edition's emphasis on retention of original field notes and drawings (§§15.3.4 and 15.4) and proper preservation and identification of evidence (Chapter 16).

Most of the cases analyzing the interplay between NFPA 921 and Daubert are at the summary judgment stage. The defendant, usually a product manufacturer, has moved to exclude the plaintiff's fire cause and origin or forensic expert and, if successful, obtains summary judgment because the plaintiff cannot prove its case in the absence of such testimony. These motions frequently result in sincere expressions that the plaintiff's expert religiously followed the guidelines of NFPA 921. These motions appear more successful when challenging a forensic engineer's opinion of causation as opposed to the fire investigator's determination of area of origin of the fire. A failure of tests undertaken to support the hypothesis is viewed critically even though under Daubert testing is not required if a hypothesis can be supported through other means.

V.

SIGNIFICANT CHANGES IN THE 2008 EDITION OF NFPA 921 TO THE ADJUSTER

The 2008 Edition contains a number of changes of significance to fire investigators in terms of how to determine

the origin and cause of a fire. Among these are the recognition that a different process of determining burn patterns or "fire patterns" must be utilized whenever the room of origin has gone into flashover. Of particular significance to the adjuster, however, are the following changes involved in the initial investigation of a fire:

Section 11.3.5.4 NOTIFICATION TO INTERESTED PARTIES

This new section sets forth recommendations regarding the content of notification of potentially interested parties, including setting forth the date of the incident, the nature of the incident, location, nature and extent of damages, the interested parties' potential connection to the incident, and an identification of the party in control of the scene and to whom the notified party should reply.

Section 15.3.4 RETENTION OF FIELD NOTES

This new section recommends the retention of original notes in addition to any dictated field notes. The current practice of fire investigators has been to dispose of their handwritten field notes once a report is prepared. Although the retention of original field notes under this section is described as a "best practice," the trend of court decisions permitting expert testimony under NFPA 921 is likely to make this a "requirement."

Section 15.4 SKETCHES AND DRAWINGS

This section recommends that original fire scene sketches and finalized diagrams be retained throughout the life of the investigation and any resulting litigation. It is presently a common practice to dispose of original sketches and field drawings once a report with final diagrams is prepared.

Section 16.2 PHYSICAL EVIDENCE

Section 16.2.1 defines "physical evidence" as "any physical or tangible thing that tends to prove or disprove a particular fact or issue. Physical evidence at the fire scene may be relevant to the issues of the origin, cause, spread, or the responsibility for the fire." Pursuant to new Section 16.2.2, the decision of what physical evidence to collect rests with the fire investigator. It recognizes that additional evidence may be collected by others, including potentially adverse parties, such as manufacturers or their investigators. Under the foregoing definition of "physical evidence," the entire fire scene may be considered evidence and, therefore, it is important

to avoid a later spoliation claim by involving the potentially adverse parties in the decision making process in terms of what evidence is to be preserved and the manner of its preservation.

VI.

SUGGESTIONS TO AVOID DAUBERT EXCLUSIONS OF EVIDENCE

It is impossible for the adjuster upon being assigned a new fire loss to anticipate everything that has to be done for the investigation to comply with NFPA 921. The best advice that can be given is to develop a "team" approach to the handling of a fire claim. The team consists of the claims professional, an attorney, an origin and cause investigator and, if appropriate, forensic engineering experts. An attorney should be consulted as soon as possible on any significant fire claim, preferably before the retention of a fire expert. This early retention enables the attorney to hire the fire expert, thus protecting fire investigation reports and communications as work product. It also relieves the adjuster of the early notification of interested party requirements of NFPA 921 and those dealing with spoliation or retention of evidence issues. Although there may be a reluctance to retain counsel early on to avoid counsel fees if it appears that the case can be easily resolved with a third party, it is a rarity today to be able to resolve any case in excess of \$100,000 without counsel's involvement.

The following are suggestions to coordinate a fire investigation so as to maximize the chances of complying with NFPA 921 and later Daubert challenges.

1. Have a copy of the most recent edition of NFPA 921 in your office library. Reference to this publication will give you a guide to whether or not your fire origin and cause expert and assigned attorney are doing what they should be doing.

2. Retain the right expert(s).

What background does the investigator to be assigned have as a fire investigator? Is he qualified under NFPA 1033? Does he or she generally ascribe to NFPA 921? Is his prior experience in the public sector? How often has the proposed expert testified at trial? Has he been found to be unqualified in any state court? Do you need references?

3. Can you rely upon the public fire investigators? The answer in most cases is "no." With all due respect to most fire department investigators, their investigation is not about

subrogation or the ultimate recovery of money from third parties. Upon a determination that the fire was accidental, a scientific method of determining origin and cause is frequently not followed. Evidence is generally not secured. Interested parties are not notified. There are, of course, exceptions to the need for a private fire investigator, but these usually involve cases such as abandoned homes or burn-outs of unoccupied building with no suspects identified where subrogation or coverage will not be a factor.

4. Notification of Interested Parties.

Section 11.3.5.4, which is new to the 2008 Edition of NFPA 921, emphasizes the need for both verbal and written notification of all potentially interested parties at the earliest date possible. This is something the adjuster must do if counsel has not been retained. It can be delegated to the fire investigator, although many are not equipped to perform this function. The NFPA 921 referenced section sets forth the nature of the notice to be given, including the person to contact to gain access to the scene and when evidence may be potentially moved or removed. It is recommended that any person or company potentially involved in the fire be notified once their identity is known to avoid later spoliation of evidence claims. An opportunity should be given to such interested parties to participate in the decision regarding retention of evidence and how it is to be stored and at whose expense. Putting the onus on a potential defendant to store evidence it believes necessary defuses the argument that the entire fire scene is evidence and must be preserved for months on end. In analyzing who should be put on notice, remember parties who may be responsible under a fire spread theory, such as material suppliers, manufacturers, and fire protection providers. Once evidence is selected for retention, a protocol should be agreed to regarding its location, who will be the custodian of such evidence, and what testing is to be undertaken and by whom at a later time.

5. Preparation of Reports.

Generally, if a subrogation case is likely to be pursued, a written report from the origin and cause expert should not be requested unless absolutely necessary. The reason for this is that it serves primarily as fodder for later defense cross-examination of the witness, particularly if additional or different factual information is determined which requires the expert to change his opinion. It is a better practice for the expert to prepare a set of photographs, annotated with his or

her factual observations relevant to both origin and cause of the fire. From these annotated photographs, a report can be prepared at a later time setting forth the expert's final opinions and conclusions in compliance with Daubert and NFPA 921 requirements.

6. Test the Expert's Hypotheses.

Ultimately, a jury is going to have to understand and believe the expert's opinions both as to origin and cause of the fire. Sections 4.3.7 and 4.3.8 of NFPA 921 warn against avoiding "presumption" and "expectation bias." Too often, an expert will rely upon initial information received from the adjuster or other sources regarding where the fire began or its cause. There may be early information that a heater or other product was having problems and/or had been the subject of a recall. In those cases, as the adjuster, you must determine whether your expert is concluding this was a probable cause based upon it being at the point of origin, or has he or she established the area or point of origin because of such information? As previously mentioned, a process of elimination is considered a valid basis for an opinion, but only in cases where there is a clear point or area of origin of the fire and other potential causes of the fire have been properly eliminated. Be satisfied that the proper area of origin has been determined and other causes sufficiently eliminated before jumping on the band wagon only to find out years later that the "obvious" cause of the fire proved a scientific impossibility.

VII.

CONCLUSION

NFPA 921, as further refined in 2008, provides fire investigators and related forensic experts with concrete guidelines in terms of proper fire investigation and fire-related scientific principles. Although it can be said from a trial cross-examination standpoint that there is "something for everyone" in NFPA 921, failure to comply with its recommendations will jeopardize the admissibility of your expert's testimony and your entire case. It all starts and often ends with the initial fire scene examination and collection of facts and physical evidence. Repeatedly test the basis of the hypotheses reached by your fire investigator and other members of the investigation team.