

NFPA 921 and Fire Investigation

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There is no more controversial topic in fire investigation than the subject of NFPA 921, “Guide to Fire and Explosion Investigations.” More and more this documents is being accepted by the courts as a “treatise” of the industry, to the dismay of many professionals. With the recent legal decisions involving the use of “Science” in Fire Investigation, I am sure this debate will continue far into the near future.

First, the most important factor of NFPA 921 with regard to fire investigation has to do with whether it is to be considered a guide or a standard. The National Fire Protection Association, NFPA, has clearly defined the reference text as a guide, “...a document that is advisory or informative in nature containing only non-mandatory provisions. A guide is not suitable for adoption into law.” However the American National Standards Institute, ANSI, adopted NFPA 921 as one of their standards as far back as the original edition in 1992.

It is important to understand that while the NFPA has classified Document 921 as a “guide” rather than as a “standard”, there is a critical difference between the NFPA designation of the document and whether a court may consider the document as the “Standard of Care” or recognized treatise. The NFPA 921 document has passed many of requirements by the courts to satisfy its recognition as a treatise of the industry, and as such, it is commonly used by attorneys to try and discredit expert witnesses. The bottom line of this discussion is not how the NFPA classifies their documents, but whether or not the document meets the legal criteria to be accepted by a court as a recognized treatise.

The following is an excerpt of a recent court decision¹, involving the Daubert case, which indirectly incorporates NFPA 921 and recognizes it as a treatise of the industry.

“On appeal to the United States Supreme Court the lower court’s rulings were reversed and a new standard of admissibility was created. The court first established a two step analysis to by used by the courts, describing the courts functions as the “gatekeepers” relative to the introduction of expert testimony. Those criteria are:

**That the evidence is relevant, and
That the evidence is reliable.**

In determining the issue of whether the evidence is to be considered reliable, the court established a separate, non-exclusive four part test,

**Can the theory or technique be tested;
Has it been subjected to peer review and publication,
Is there a known or potential rate of error; and
Is there a level of general acceptance in that particular disciplines community.”**

The following is another supporting example of this criteria, an excerpt from a case before the Michigan Court of Appeals².

“The word ‘recognized’ connotes a general acknowledgement of the existence, validity, authority, or genuineness of a fact, claim, or concept. Black’s Law Dictionary (6th ed) p1271 – Webster’s New World Dictionary, Third College Edition, p 1121. The adjective ‘scientific’ connotes a grounding in the principles, procedures, and methods of science. Id., p1202; *Daubert v Merrell Dow Pharmaceutical, Inc*, 509 US 579, 113 S CT at 2795. The word ‘applies to any body of known facts or to any body of ideas inferred from such facts or accepted as truths on good grounds.’ Id., quoting Webster’s Third International Dictionary, p 1252 (1986)”

In contrast, the following information is based upon statements made in the June 1997 issue of *Fire & Arson Investigator*, published by the IAAI. “The Board of the IAAI recognizes NFPA 921 (The Guide for Fire and Explosion Investigations) and NFPA 1033 the Standard for Professional Qualifications for Fire Investigators) as guides to assist investigators in the field of fire and arson investigation. Further, the CFI committee, per previous Board approval acknowledges and recognizes NFPA 921 and NFPA 1033 as reference material along with other recognized reference materials for purposes of our certification program of fire investigators within our industry.”

The IAAI also infers the required use of “science” in its CFI Certification Testing. It has been documented that the CFI Certification Program clearly identifies “science based” topics as a minimum requirement, via the Education Requirement, including “Fields related to fire investigation include Engineering, Physical Sciences and Law Enforcement. The fields of Education, Mathematics and Liberal Arts DO NOT qualify as fire investigation related. Mechanical, Electrical and Chemical Engineering, as well as Chemist, Law Enforcement and Fire Protection Degrees will be accepted as fire-related.” Another quote from promotional literature also clearly states, “The examination is comprehensive and evaluates the investigator’s knowledge in respect of the following topics:

- Chemistry of Fire
- Laboratory Evaluation of Fire Scene Evidence...”

As such, attorneys have argued that because portions of the CFI Certification are clearly based upon “science” and ANSI has recognized it as a standard, therefore fire investigators are subject to follow the generalized information contained in NFPA 921.

NFPA 921 (1998 ed) states, “The guide is intended for use by both public sector employees who have statutory responsibility for fire investigation and private sector persons conducting investigations for insurance companies or litigation purposes. The goal of the Committee is to provide guidance to investigators that is based on accepted scientific principles or scientific research.” You will note that it clearly identifies that material contained within is based upon “accepted scientific principles.” It also states, “This document is designed to produce a systematic, working framework or outline by which effective fire investigation and origin and cause analysis can be accomplished. It contains specific procedures to assist in the investigation of fires and explosions. These procedures represent the consensus judgment of the committee on a system that, if followed, can be expected to lead to sound conclusions with supporting evidence. Deviations from these procedures, however, are not necessarily wrong or inferior but need to be justified.”

One of the most basic principles of NFPA 921 is the “Scientific Method.” This allows an individual to produce a logically sound and scientifically based opinion as to a fire’s cause. It has been found that a few individuals fail to use this basic principle, rather supporting their opinions by the use of conjecture and supposition which have no factual basis in the case. Briefly speaking, the “Scientific Method” incorporates six steps, and each step must be completed before advancing to the next one.

- 1) Recognize the Need,
- 2) Define the Problem,
- 3) Collect Data,
- 4) Analyze the Data (Inductive Reasoning),
- 5) Develop a Hypothesis,
- 6) Test the Hypothesis (Deductive Reasoning).

It is only after these steps have been completed, and the subject theory has survived the testing at each step, that the theory as to the fire’s cause be presented.

It has also been learned that due to the recent legal rulings, where long time fire experts have had their testimony thrown out of court, many investigators now refuse to recognize any texts or reference materials as treatise, authoritative, or standards of our field, for fear of a similar “Daubert” challenge to their testimony. The interesting part about this tactic is that while these individuals may easily avoid such a challenge and be able to present their opinions based upon their knowledge and experience, it does not change the factual and scientific content of the NFPA 921 document. As such, the individual’s testimony may very well be challenged using NFPA 921, as well as other authoritative treatise, even if they have not relied upon them. When confronted with these documents by opposing counsel, specific relevant and “scientific” data can very easily be used as “ammunition” to erode the testimony and credibility of the individual.

An individual who relies upon “knowledge and experience” instead of “science” can easily be misled and misinterpret the “data” before them, as they have little or no factual understanding of the materials involved, chemical composition, and physical properties. It is very unlikely that one can truly understand, interpret, and explain fire behavior and its effects, without having an understanding and relying upon the basics of fire science and fire dynamics. Based upon this principle, an exaggerated argument can be made that if a mere “knowledge and experience” without reliance upon fire science and dynamics is sufficient to render opinions, then anyone who has observed a building burning can be qualified to offer opinions as to the fire. Utilizing “science” to understand, interpret and explain fire behavior does not, as it has been implied, mean that only laboratory scientists can properly conduct a fire investigation. Rather, the final decision on the qualification of an expert and the relevancy of that expert’s opinions is left to the “gatekeepers” of the court, per the “Daubert” ruling.

An article on this specific topic was authored by Ms. Terry Dawn-Hewitt (Chair of IAAI Fire Investigation Standards Committee and member of NFPA 921), and published by the NFPA in 1996³. The following is an excerpt of that article.

“Where experts haven’t relied on a given authority in formulating an opinion presented in direct examination, there are three main lines of authority regarding the extent to which such experts can be cross-examined on authoritative treatise. First, experts who rely on authorities to corroborate their opinions can be cross-examined on authoritative treatise that aren’t necessarily the same as those on which they relied. Second, experts may be cross-examined on an authoritative treatise, whether or not they’ve relied on authorities in forming their opinions, where the authoritative status of the work is established by the expert’s own admission, by the admission of other experts, or by the admission of judicial notice. And third, a cross-examiner may use authoritative treatises to cross-examine witnesses on their qualifications, as distinct from cross-examining the experts on the substance of their opinions. However, the authoritative standing of the treatise must be established in evidence.”

It is important that our field understand that whether you agree with it or not, NFPA 921 is being recognized by the courts as a treatise. A fire expert may not agree with it and may not rely upon it, but as can be seen above, one should expect that opposing counsel will have the document in their cross-examination arsenal. The NFPA 921 Document is a consensus document, based upon accepted scientific principles. It is equally important that many portions of the document change constantly with each new revision. The revisions are due in fact to many myths, old wives-tales, and out-dated facts have been recently disproven through the use of “science”. As such, new theories and procedures are constantly being updated and submitted for incorporation into the next document.

Whether or not you decide to accept that NFPA 921 as a treatise or standard, one must follow the generalized guidelines of the document, with all conclusions drawn being logically sound, the theories presented withstanding the scrutiny of the “scientific method”, and final opinions based upon the documented facts of the case. Under such conditions, one’s unbiased and objective opinions should be able to withstand any challenge presented. It is important to remember that you can freely disagree with certain portions of the document. However, if you do, it is stated in that document that you may be required to offer substantiation in support of your disagreements to the court or risk being discredited as a fire expert.

I would also like to offer my gratitude to Mr. James Munger, another private fire loss consultant who is located in Alabama, for his valuable input into this article. More information on Mr. Bloom can be found at <http://cjbfire.com> and more information on Mr. Munger can be found on his website: <http://jgmunger.com/>

The above article expresses the author’s own personal opinions. Supporting documents are available upon request.

¹ : Taepke v Lake States Insurance Co, State of Michigan, Circuit Court for Chalevoix County, 98-1946-18-CK.

² : Nelson v American Sterilizer Co, 453 Mich 943; 554 NW2d 989 (1996).

³ : NFPA Journal, March/April 1996, Volume 90 / Number 2, National Fire Protection Association, Quincy, MA, pages 41-42.