

Fred Herrera Fire Investigations

Investigative Update

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Current Events

There are two excellent ways in California to keep informed on current events. One is the magazines published by membership organizations, primarily the International Association of Arson Investigators, the National Association of Fire Investigators, and the California Conference of Arson

Investigators.

Peer-reviewed articles, editorials, legal updates, and recall information will be found in all. There is also Fire Findings, which is an excellent subscription newsletter (www.firefindings.com).

Another way to keep informed is through bulletin boards / forums. The most active is the IAAI Forum, located in the member's area at www.forumworld.com/arson-investigations. There are also message boards at www.interfire.org and www.firefindings.com.

CFI

Being a Certified Fire Investigator is an important part of any expert's qualifications. The certification process provides a benchmark by which an investigator can be evaluated, tested, and recognized.

Some certification processes are more complex than others. The following are the recognized Certified Fire Investigator programs available to California fire investigators.

The California State Fire Marshal (CSFM) offers the Fire Investigator I & II Certifications. The requirements for Level I are completion of two 40-hour investigation classes, PC 832 class, and 100 fire investigations. Level II requires an additional two 40-hour classes, an additional 50 fire investigations, and courtroom qualification. There is no test and no expiration for the certifications.

The California Conference of

Arson Investigators (CCAI) offers the CCAI-CFI program. The requirements are similar to the CSFM requirements, but there is an education-based recertification every three years.

The International Association of Arson Investigators (IAAI) offers the IAAI-CFI program. This is the most difficult certification to obtain. Qualification categories are Education, Experience, and Training. A total of 150 points are needed to qualify to take the certification test. If the applicant qualifies and passes the written test, a five-year certification is issued. The recertification requires current education, experience, and training.

The National Board on Fire Service Professional Qualifications (NBFSPQ). The NBFSPQ has recognized NFPA 1033 and the IAAI-CFI program as meeting certification standards.

Obtaining IAAI-CFI certification qualifies the investigator for certification by the Pro Board. There is no expiration for the certification.

The National Association of Fire Investigators (NAFI) offers the CFEI (Fire & Explosion), CVFI (Vehicle), CFII (Instructor) programs.

The NAFI programs are similar to IAAI, except that there are no point values; the applicant is evaluated by the entire application package.

NFPA 921

Each issue of this newsletter will address and discuss the functions and operations of the National Fire Protection Association (NFPA), as well as chapters of *NFPA 921 Guide for Fire and*

Explosion Investigations. Many of you are already familiar and understand the importance of this document. By discussing the organization and the essence of each chapter, you will become more

familiar with investigative issues and methodology. You should certainly see these components in the origin and cause reports that you receive.

NFPA documents are created by technical committees, which comprise many experts in the respective disciplines. Page 921-2 lists the Technical Committee members and alternates. Page 9/99A, which is after the Index, lists the NFPA 921 Technical Committee Classifications and what interest group they represent. On the same page is the *Sequence of Events Leading to Publication of an NFPA Document*.

NFPA 921, 2004 Edition, Chapter 5 Basic Fire Science

The subjects covered are Chemistry of Combustion (5.1), Heat Transfer (5.2), Ignition (5.3), Fuel Load (5.4), Fire Development (5.5), Products of Combustion (5.6), and Flame Spread (5.7). A good understanding of basic fire science is critical to the accurate interpretation of fire patterns observed during the investigation, which makes this a very important chapter to study fully.

The first part of the section describes how heat, fuel, and oxygen, combined with an event, cause a fire to occur. The properties of a fuel package; configuration, density, orientation, and placement within the compartment, will affect how easily a fire will progress and how quickly it will spread.

The middle portion describes the ignition characteristics of gases, liquids, and solids and how the transfer of heat causes these materials to ignite and support combustion.

The last part of the section describes how ignited fuel packages cause the fire to progress. Fire development is misunderstood by the general public, which is why so many die trying to reenter a fire that did not initially look that big. The significance of the plume, ceiling layer, and resulting radiant heat are explained. The reader will get an understanding of how these factors will cause the transition to flashover in a large percentage of average-sized residential and commercial rooms.

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