



# Alarm Alert

**Bill Nelson:** State Fire Marshal, Treasurer, and Insurance Commissioner

Summer, 1999

## Fire Service Calendar

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**11th Annual Fire and Life Safety Education Conference** June 14 - 17, 1999, Naples, FL Contact: FL Fire Marshals Association Karl Reynolds 941.597.9227 or Amy Haston 941.574.0522

**42nd Annual Meeting & Executive Development Conference** July 16 - 21, 1999, St. Petersburg Beach, FL. Contact: FL Fire Chiefs Association 904.676.2744

**NFA Florida Weekend** August 20 - 22, 1999, Emmitsburg, MD. Contact: Bureau of Fire Standards and Training, Jacquie Niles 352.732.1330

**1999 Florida Arson Seminar** September 12 - 17, 1999, Orlando, FL. See page 4

**Great Florida Fire School** Nov. 5 - 9, 1999, Tallahassee, FL. Contact: Mike Randolph 850.671.8320 or Katrina White 850.921.6102



## Radio cache issue: A reality

*Bureau Chief Randall Napoli*

*Bureau of Fire Standards and Training*

As an outgrowth of recommendations following Florida's wildfires of 1998 and other statewide disasters, State Fire Marshal Bill Nelson, in conjunction with the Florida Fire Chiefs Association, the Florida Professional Firefighters and other fire service organizations, have received authority from the Governor and the Florida Legislature to purchase portable radios, mobile radios and 100' mobile radio towers with generators in the amount of \$850,000.00.

These radios will be pre-positioned in caches located in seven areas throughout the state. Six of these caches will be housed, maintained and deployed by local fire service agencies designated by the Florida Fire Chiefs Association and one by the Division of State Fire Marshal. Deployment of this equipment will be through the Statewide Fire-Rescue Disaster

Response Plan. Utilizing the plan, local agencies, state agencies or other entities can request one or more of the caches through their County Emergency Operations Center to the State Emergency Operations Center, as outlined in the Statewide Comprehensive Emergency Management Plan. The request will then be forwarded to Emergency Support Function 4 & 9, whose lead agency is the State Fire Marshal, supported by the Florida Fire Chiefs Association, for deployment.

The operational concept is that as mutual aid response agencies arrive at an area impacted by disaster, each unit can be issued a programmable radio so that all units and individuals will be in communication with each other and the local command authority.

At the time of this writing, the portable and mobile radios have been received and organizational and tactical training in the deployment and use of the equipment and in the development of a communications plan is ongoing. More information on the deployment and use of this vital equipment will be available through Alarm Alert and other publications.

This joint effort between Florida's fire and emergency service organizations is a dramatic step forward in providing for the safety of emergency responders, as well as for the citizens that we serve.



# News from the Division Director, Charles Clark, Office of the State Fire Marshal



## *Melvin Stone named Bureau Chief*

We would like to welcome Melvin M. Stone to the Division of State Fire Marshal. On April 26, Melvin assumed the responsibility of Chief of the Bureau of Fire and Arson Investigations.

Melvin has eighteen years of service with the Tampa Fire Department. During his tenure he served as a member of the Vertical/Highrise Rescue Team and the Honor Guard, a Fire & Arson Investigator, Inspector, Captain of Public Affairs, Assistant Fire Marshal and Fire Marshal. He has an Associate's degree in Fire Science, a Bachelor's degree in Education and a Master's degree in Public Administration.

Melvin is looking forward to the exciting challenge of leading the Bureau of Fire and Arson Investigations and to experiencing life in Tallahassee. Please join us in welcoming Melvin, along with his wife, Pamela, and two daughters, Melva and Kyrstin, to Tallahassee.

## State Fire Marshal employees recognized for sustained superior achievements

Several State Fire Marshal employees were recognized at the Department's annual picnic on April 10, 1999, by Insurance Commissioner Bill Nelson for their sustained superior accomplishments. These employees were recognized for their innovation, creativity, and smart work that measurably increased performance and productivity in the delivery of state services.

Ross Holt, Law Enforcement Captain, Bureau of Fire and Arson Investigations was awarded the Department's highest award for sustained superior accomplishment, receiving both a plaque and a \$1000 check. His supervisor, Major Nancy Olon, in recognition of his outstanding dedication and service to the Department, submitted Captain Holt's nomination. Ross has been with the Department of Insurance for more than seventeen years. For the past five years, he has provided leadership, guidance and training to both the sworn personnel and staff support of the Southeast Region.

A Team Performance Award was presented to Law Enforcement

Investigators Dave Hollenbach, Gloria Whitehurst, Don Muirheid, and Norm Harris in recognition of their outstanding work performance in the Central Region. The nomination submitted by their supervisor, Lieutenant Charlie LaCorte, praised this team for their professionalism and dedication during a period of time when the Region experienced a shortage of sworn personnel. In appreciation for exceeding the standards set forth by the State Fire Marshal's Office through the voluntary acceptance of an added workload, each investigator received a certificate and a \$250 check.

Our congratulations and thanks go to each of the above named individuals for a job well done.



*Ross Holt at DOI Picnic*

### **Credits:**

**Managing Editor:**

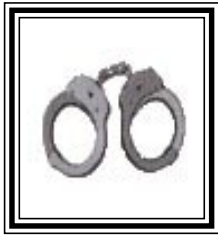
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e-mail [caina@doi.state.fl.us](mailto:caina@doi.state.fl.us)**



# Crime Scenes

*News from the Bureau of Fire and Arson Investigations*

## Sparkler safety stressed

*Capt. Ron McCardle  
Crime Lab Manager Carl Chasteen  
Crime Lab Analyst Mike Koussiades*

*Bureau of Fire and Arson  
Investigations*

This time of year, several questions about sparklers are always asked. The most common one is, “will a sparkler cause a fire?” The answer is “maybe” or “just depends”. The second question is, “why can’t you be more precise?” In an attempt to answer that second question we recently conducted several tests at the Fire & Arson Laboratory.

Below are some of the common classes of chemical compounds used to manufacture sparklers:

- < Perchlorates
- < Nitrates
- < Oxides
- < Metals

Examples of some burn temperatures for a few formulations:

- < Strong Oxidizer (perchlorates or nitrates) mixed with powder metals (aluminum or magnesium): Up to 5400 °F.
- < Powdered aluminum mixed with iron oxide: 4500 °F
- < Magnesium shavings or powder: 5400 °F

Does this allow a more precise answer to the question? No! it still depends on important variables. While the temperatures achieved are sufficient to ignite most all cellulose materials (ignition temperatures range from 400 °F to 650 °F ) there are several “it just depends”.

Those variables include:

1. *The outside or ambient temperature and the temperature of the material to be ignited.*

Temperatures vary throughout the day and from day to day. Norms are different in every part of the world. Temperature affects the heat energy necessary to initially start a fire. High temperatures in fires, intensify the fire, produce significant damage, and is the mechanism by which fire spreads (higher temperatures drive combustible materials toward their ignition temperature faster). It is also the primary barrier to extinguishment. Besides the affect temperatures have on ignition, they also affect the vapor to air ratios (the flammable range) of the fuels in an area.

2. *The relative humidity of the scene.* Higher humidity typically raises ignition temperatures and lowers the rate which fuels burn.  
3. *Wetness of fuel and its equilibrium point.* Any material exposed to air will come to an equilibrium with the air and will have its moisture content affected.

Typically, the more wet the air, the more wet the material. The length of exposure, age of the material, and the absorbency of the material also affect its degree of wetness. This also raises the fuel’s ignition tem-

perature and lowers the rate that it burns.

4. *Air velocity.* Affects how far a spark will travel and its cooling time before reaching its destination – the fuel.

5. *Material/Fuel.* There are many other factors which will determine whether a fuel will ignite from a spark or heat source. These include the physical size of the material (quantity), its configuration (thin sheets or thick piles), and placement in the scene (how close is it to the ignition source?). Most importantly, how flammable are its components and the components of the materials around it?

We could add a few more variables and even discuss the various combinations of the above. Every fire is different and is affected by all of these items. All the above variables can and do effect whether or not a sparkler or its sparks will initiate a fire. So, now when the answer is that, “it just depends”, you can consider the variables which affect that answer. If all the conditions are right, the chances are that the answer will change to, “it will!”.

Tests were performed on a random sampling of sparklers as well as several types of lighters and matches. The following temperature ranges were recorded:

<i>Device</i>	<i>Average Temperature</i>	<i>Average Time of Burn</i>
<i>Butane cigarette lighter</i>	<i>1550 – 1600°F.</i>	<i>as long as you hold it on</i>
<i>Butane gas grill lighter</i>	<i>1550 – 1600°F.</i>	<i>as long as you hold it on</i>
<i>Kitchen Match</i>	<i>1300 – 1500°F.</i>	<i>45 Seconds</i>
<i>Book Match</i>	<i>1300 – 1500°F.</i>	<i>30 Seconds</i>
<i>Safety Match</i>	<i>1300 – 1500°F.</i>	<i>30 Seconds</i>
<i>Sparklers (8-10”long)*</i>	<i>900 – 1100°F.</i>	<i>35 - 40 Seconds</i>
<i>Hand Held Torch Sparklers*</i>	<i>1300 – 1500°F.</i>	<i>10 - 15 Seconds</i>
<i>Long Multicolored Sparklers*</i>	<i>1300 – 1800°F.</i>	<i>40 - 50 Seconds</i>
<i>Ground Base Sparklers*</i>	<i>1300 – 1800°F.</i>	<i>15 - 50 Seconds</i>

\*In addition, the majority of hand held sparklers take another 30 – 40 seconds to cool below 200° F, once they have stopped emitting sparks. Some ground base sparklers and hand held torches had flames measured in excess of 1900° F. for a short duration.

# Port St. Lucie fires under investigation

Lt. Skeet Schuler

## Bureau of Fire and Arson Investigations

On Wednesday, 4/14/99, there was a brush fire in Port St. Lucie that threatened houses in the area. At that time there were no structure losses. On Thursday, 4/15/99, there was a second separate brush fire in the same area. It consumed approximately 2400 acres of woodlands, totally destroyed 43 homes and significantly damaged 33 other homes. In addition, there were at least 25 other losses such as vehicles, boats, RV's and detached structures. The fire is still being investigated by a task force comprised of the Division of Forestry (DOF), the St. Lucie County Sheriff's Office and the State Fire Marshal's Office (SFM). There was no accidental cause for these losses. The fires were "man caused."

Other agencies involved in the investigation of these fires include the Port St. Lucie Police Department, St.

Lucie/Ft. Pierce Fire Department and St. Lucie County Sheriff's Office. Other agencies involved in the original fire suppression, law enforcement and search and rescue functions are too numerous to list by agency. However, personnel and equipment representing law enforcement agencies and fire departments from Dade, Broward, Palm Beach, Martin, St. Lucie, Indian River, Okeechobee, Brevard and Orange Counties, as well as those from other central and north Florida areas, all responded to assist in this devastating catastrophe. The military made fixed wing bombardiers and Blackhawk helicopters available for water drops on the fires.

The Red Cross was overwhelmed by the needs of victims, but was there to assist with food, clothing and temporary housing. So far, the estimated property loss is in the millions of dollars, and rising.

Reward posters from the DOF and SFM are still bringing in "tips" about those responsible for these losses. Dry conditions and relatively low humidity continue to plague this area. Professionals and volunteers alike are standing by to meet the next challenge. Hopefully, not too soon though....

## 1999 FLORIDA ARSON SEMINAR September 12 – 17, 1999 Orlando, Florida

Plan early to attend the 55<sup>th</sup> Annual Florida Arson Seminar. This five-day program utilizes specialists and experts from around the nation to bring you the best in fire and arson education. This year's seminar focuses on a wide range of investigative issues encountered in fire and arson investigations. Our speakers and instructors will present a comprehensive program which encompasses all aspects of arson investigations, from basic skills to advanced techniques, including legal issues and others.

Who should attend: Arson Investigators, Firefighters, Cause and Origin Specialists, Legal Investigators, Law Enforcement Investigators, Attorneys, Insurance Special Investigative Units, and others.

Seminar announcements will be mailed in the very near future. Anyone needing additional information can contact **Charlie LaCorte, 407/897-2892, or Mary Fields, 850/413-3654.**

## SCHOLARSHIPS FOR FACAP SEMINAR

The Florida Advisory Committee on Arson Prevention (FACAP) will sponsor its annual seminar at the Florida State Fire College, November 17 – 19, 1999. FACAP will once again offer full scholarships to cover room and board at the Fire College Dormitories, along with waiver of registration fees for qualified representatives of fire service and law enforcement agencies. The seminar will offer a variety of workshops on topics such as scene examination, latent investigation, testimony and legal issues. FACAP expects more than 300 persons to attend from across the state and country. For more information on the seminar scholarships, contact:

Ken Keebler, SE Region Manager of Investigations, USAA  
Special Investigations Unit  
P.O. Box 20486  
Tampa, FL 33622-0486  
Or call: 1-877-742-1627 (Fax 1-800-531-6062)

## FACAP INVESTIGATOR OF THE YEAR

FACAP is soliciting nominations for potential recipients of this award. The award is presented annually to a member of fire service or law enforcement who has had an impact, through his or her fire investigations, arrests, community service and other responsibilities beneficial to arson prevention and combating the crime of arson. Letters of nomination should include the recipient's biographical data and accomplishments and submitted to:

Ken Keebler, SE Region Manager of Investigations, USAA  
Special Investigations Unit  
P.O. Box 20486  
Tampa, FL 33622-0486

Ken Keeber is Chairman of the Fire Service and Law Enforcement Sub-Committee for FACAP.



# Inspection Report

*News from the Bureau of Fire Prevention*

## The evolution of Florida's first statewide fire prevention code

*Bureau Chief Jim Goodloe*

*Bureau of Fire Prevention*

The 1998 Florida Legislature put into place a requirement for the Division of State Fire Marshal to develop a fire prevention code with statewide application. The Legislature listed several findings to support this process. The system of regulating construction is of statewide significance yet, it is considered complex and confusing due to the multiplicity of codes affecting Florida's built environment.

The Division's Director, Charles Clark began organizational meetings for this process in the fall of 1998. Three Technical Advisory Committees (TACs) were proposed to meet each of the tasks mandated by the Legislature. A Fire Code TAC would review the two mandated base documents, NFPA 1 and NFPA 101. This TAC would also receive proposed amendments and make a recommendation for or against its inclusion to the Fire Code Advisory Council. A Fire and Building Code Coordination TAC would review amendment proposals in an effort to reduce conflicts between the proposed fire codes and the building code, now under development by the Florida Building Commission. The Legislature also mandated a requirement designed to ensure that all persons with authority to enforce this code have a proper level of training and understanding of the Code. Therefore, a Training TAC was established to develop a curriculum and establish methods of delivery for this training.

The first meetings of the TACs were held in Tallahassee in January. Each TAC has continued to meet monthly throughout Florida. The Fire Code TAC received 315 proposed amendments from cities, counties, state agencies and businesses from around the State. Any amendment denied by the TAC can be readopted later by the local jurisdiction. This provision provides a means for local jurisdictions to govern the level of fire safety standards within their community. There are provisions which ensure that the codes are revisited at a three year interval.

The Fire Code TAC denied 268 of the submitted amendments for a variety of reasons; however, most were determined to be too restrictive for statewide application. For example, one amendment would have required that when a barge was being used for initiating a fireworks display, that it be placed at least 1,000 feet offshore. This would be an acceptable requirement in coastal areas; however, it could virtually eliminate such displays in inland jurisdictions where lakes are used for this purpose.

In another proposed amendment, all jurisdictions would have been required to enforce provisions for the use of key boxes. There is presently language in the Code which permits this requirement. The TAC felt that the authority already exists and that key boxes must be tailored to a specific jurisdiction. A single statewide key system is not feasible. Several amendments strongly supported by the TAC were referred to the Fire and Building Coordination TAC. This allowed a thorough review to ensure that the proposed changes would not create a conflict with the Florida Building Code.

The first draft of the Fire Prevention Code is now being finalized. Public comment will be accepted during nine meetings scheduled around the State. Additional information is available on the web site [www.doi.state.fl.us](http://www.doi.state.fl.us) or may be obtained by contacting Sam Gillespie at 850-413-3746. A final draft of the Code is expected in late summer when rule-making procedures will begin.

## NEWS of Safety Shoppers Fight Fire With Furnishings

(NAPS) - Fight fire with furnishings? That's what smart shoppers can do when they buy flame-retardant furnishings.



*Many fire marshals believe that setting national fire safety standards for furniture could save lives.*

According to the U.S. Consumer Product Safety Commission (CPSC), more than 55 Americans die each month in fires involving upholstered furniture. When it comes to fires, "Upholstered furniture is the most dangerous product in the home," said Donald P. Bliss, Spokesman for the National Association of State Fire Marshals (NASFM).

California is currently the only state that requires furniture to meet flammability standards. Since these standards took effect in the 1970s, California has seen a 25 percent decrease in deaths from fires starting in upholstered furniture.

Consumers in other states can benefit from California's standards, too. "Many stores across the nation will sell furniture meeting California flammability standards - but you have to ask for it," said Bliss.

You should not have to pay extra for furniture with this additional measure of safety, Bliss added.

In 1994, NASFM urged the CPSC to develop national flammability standards to deter furniture fires. That research is ongoing, but progress has been delayed by furniture industry lobbying.

So for the time being, buy only upholstered furniture that meets California flammability standards, and rest a little easier, said Bliss.

# Boiler safety program

Chief Boiler Inspector  
Mohammad A. Malek, P.E.

## Bureau of Fire Prevention

The Boiler Safety Program of the Bureau of Fire Prevention is responsible for the administration and enforcement of Florida Statute 554, "The Boiler Safety Act." By Rule Chapter 4A-51, Florida Administrative Code, the department adopted the "State Boiler Code." The law regulates the construction, installation, maintenance, repair and inspection of boilers located in public assembly locations.

Boilers are inspected by the deputy inspectors employed by the state and special inspectors employed by the companies authorized to write insurance in the State of Florida. The Boiler Safety Program issues Certificates of Compliance to those boilers passing inspection. A Certificate of Compliance is valid for one year for a high pressure boiler (a steam boiler operating at a pressure of more than 15 psig) and two years for a low pressure boiler (steam heating boiler operating pressure less than 15 psig, hot water heating boiler operating at pressure not exceeding 160 psig, hot water supply boiler or lined storage water heater operating at a pressure not exceeding 160 psig)

Rule 4A-51.001(1) emphasizes on a joint responsibility among the owner, the user, and the operating employees for compliance with the Boiler Rules, which established provisions to safeguard life, limb and property. The owner, the user and operator should follow 10 (ten) recommendations for a safe boiler room:

- 1) Install a boiler that has been constructed, inspected and stamped in conformity with the ASME boiler and pressure vessel code and registered with the National Board.
- 2) Keep the boiler room clean and clear of all unnecessary items. The burner requires proper air circulation to prevent incomplete fuel combustion and the production of carbon monoxide.
- 3) Ensure that all operating employees are properly trained on all equipment, controls, safety devices, and up-to-date operating procedures.
- 4) Remember that the safety valve and low water cut-off are the two main safety devices on a boiler. Test the safety valve once in every two months to make sure

- that it is free to operate. Test low water cut-off once a week to ensure that the system will shut the burner in case of low water level in the boiler.
- 5) Blow down the boiler as per recommendation of the boiler manufacturer or water treatment consultant. Test and treat feed water to keep the boiler clean.
- 6) Establish a check list for proper startup and shutdown of boilers and all related equipment according to manufacturer's recommendations.
- 7) Use boiler operating log sheets, maintenance records, and manufacturer's recommendations to establish a preventive maintenance schedule based on operating conditions.

- 8) Ensure that the boiler is inspected thoroughly either by a deputy inspector or an insurance inspector. Do not operate a boiler without a valid Certificate of Compliance.
- 9) Contact a boiler inspector and obtain his approval before undertaking any repair on the boiler. A repair contractor holding a National Board "R" stamp must perform welded repair on the boiler.
- 10) In case of an accident, promptly notify the Chief Boiler Inspector at 850-413-3614/3722 and then your insurance company. Neither the boiler, nor any parts thereof, shall be removed or disturbed before permission has been given by the Chief Inspector, except for the purpose of saving human life.



*Testing of a safety valve by lifting lever*

## 1999 Annual Florida Fire Marshals Association Awards Program

Nominations for the following positions are being accepted:

- ← Fire Marshal of the Year
- ← Fire Inspector of the Year
- ← Public Educator of the Year

The criteria for each category will include a review of the submission packet for each nominee which must include an official entry form. The entry forms may be obtained by any member of the Executive Board. A committee of Fire Service peers will review the submissions for each category based on the nominee's resume, special innovative accomplishments, recognition and achievements and supporting back-up material. ***All completed packets must be received no later than September 3, 1999 to:***

R. Stephen Painter  
Second Vice President  
Florida Fire Marshal's Association  
180 West Lyman Avenue  
Winter Park, Florida 32789



# Lab Notebook

*News from the State Fire and Arson Laboratory*

## Digital imaging at the fire scene

*Foresnsic Technologist  
Brock Dietz*

### *Fire and Arson Laboratory*

For more than a century, images have played a crucial role in law enforcement and public safety efforts; from surveillance, to gathering evidence, to courtroom testimony. These efforts were first accomplished with film-based products and most recently with digital imaging technology.

We are all familiar with the use of conventional film and its process; an image is captured on silver halide film, and developed in a wet darkroom. Digital imaging works by capturing the image on an image sensor, and creating an image resolution. The resolution is comprised of picture elements known as "pixels." Each pixel contains all the necessary image element information-color plus light values. It is this information and values provided by pixels that allows us to see an image.

The Fire and Arson Laboratory and the Bureau of Fire and Arson Investigations (BFAI) currently use both conventional photography and digital imaging to capture images. Many questions arose as to which technology would best suit our needs. In the end, the answer became obvious; integration is by far the best option. That's because each imaging technology has strengths that complement the other. Digital technology has its instant processing speed, its image management efficiency and cost savings while film offers the high-resolution, wide exposure latitude characteristics and versatility. One of the best ways we found to integrate film and digital technologies is to digitize film negatives, slide and prints.

This hybrid approach gives the high-resolution of film, and the image management benefits offered by the Laboratory's imaging software.

In making the decision to use both conventional and digital photography, several guidelines were considered.

#### **Choose a film-based camera:**

- if you don't need the images right away
- if you want the highest-quality image resolution and detail
- for wide exposure latitude
- the need of an inexpensive one-time-use camera for special circumstances
- if your department lacks a digital imaging infrastructure (computer, color output, etc.)

#### **Choose a digital camera:**

- when you need pictures immediately
- to shoot pictures without recurring consumable cost (instant film, i.e.)
- if you want to review your pictures for composition, lighting etc., before removing the evidence or leaving the crime scene
- for faster forensic documentation in the lab (case cataloging)

#### **Choose the hardware/software of a "digital darkroom" in order to:**

- process images taken with a digital camera
- digitize your film negatives, slides, and prints in order to view all images on screen, and organize, store and retrieve them electronically (rather than manually)
- label images with peripheral data
- prepare the image for printing and courtroom presentation more quickly and efficiently than conventional methods
- share images and data electronically across networks
- ensure the integrity and security of your images
- reduce or eliminate physical storage space for images ( files, boxes, cabinets etc.)

These guidelines helped us to determine how to integrate the two technologies. Currently, both the Laboratory and BFAI are still testing the use of the digital cameras and hardware/software. At this point, we are able to capture and store digital images for archival purposes only; digitize negatives, slides and prints for storage or presentations; create a searchable database for BFAI pictures; and, to ensure the integrity of the images by using Writable CD ROM to store images.

With any new field of technology entering into the law enforcement field there is the question of admissibility in court. Yes, digital imagery is admissible in court! There's much confusion about this because digital technologies make it relatively easy to manipulate images, thus suspect in the courtroom. The problem is, digital technology also makes it easy to alter film images and video footage. For instance, a malicious operator could take a film negative to a professional photo lab, scan the image into a computer, modify it, and write the new image to a strip of the same film. Making this fraudulent film strip highly undetectable.

What has to be remembered is that imagery is not evidence. Instead, the testimony of a witness is evidence, and the image is an "exhibit" to that testimony. Ultimately, all evidence in a case revolves around the integrity and veracity of the witness presenting the image, who must demonstrate its authenticity to the court. Furthermore, a person testifying under the fear of perjury must explain what the image shows, why it is relevant, how it was acquired, how it came to be in court, and what it implies. The issue therefore is much greater than the image by itself.

For further verification, the following are two court cases that supply significant testimony to verify the admissibility of digital-enhanced photos;

1. *State of California v. Phillip Lee Jackson*
2. *State of Washington v. Eric Hayden*

# Submitting cases to the Fire and Arson Laboratory

*Crime Laboratory Manager  
Carl Chasteen*

## *Fire and Arson Laboratory*

The Fire and Arson Laboratory serves both state and local fire investigators throughout Florida by providing fire debris analysis. It is the only state forensic laboratory in Florida providing this service. In 1998, the laboratory analyzed 1724 cases containing over 3500 samples. The State Fire Marshal's Bureau of Fire and Arson Investigations (BFAI) submitted approximately 79% of the samples. The other samples were submitted by Local and County Fire Departments - 17% and County Sheriff's/ Local Police Agencies - 4%. These analyses are provided to all submitters without cost.

The laboratory also provided photographic processing for the Division of State Fire Marshal. In 1998, over 3200 rolls of film were processed. Processing includes development of film and printing of photographs. In 1998 the laboratory added a photographic mini-lab, similar to those in commercial one-hour photolabs, to aid in meeting customer needs. The laboratory also added a digital darkroom for processing digital images and scanning film negatives to a digital format. In 1998 over 800 images were processed and archived.

In all the work we do, one of the most critical items is the condition of the samples, which are submitted. If a sample is not properly packaged and shipped to us, there may be serious problems with getting the item accepted as evidence in court. The following provide a few basic tips on sample packaging.

1. A properly packaged container satisfies the following criteria:
  - a. It seals the trapped volatile materials in the container (It's air tight!).

- b. It prevents contamination between samples.
  - c. It provides a proper chain of custody for the collected material.
2. Use only clean, non-rusted, containers such as unused metal paint cans. Glass jars with tight sealing lids may also be used but they may break during transport. In either case make certain the lid is completely sealed.
3. Package each article of evidence separately. Placing several samples in plastic bags or small tins in one large container can lead to cross-contamination.
4. Do not hold onto a sample. Submit it right away. There are legal as well as chemical considerations for this.
5. Never fill a container to more than seventy-five percent (75%) of capacity. **DO NOT** over-stuff cans. The method used in the laboratory for recovering ignitable liquid residues requires an adequate headspace above the debris. **If the can is too full, the quality of the analysis will suffer.**
6. Liquid samples should never be more than one-half ounce of a pe-

- troleum/organic product. The liquid should be placed in clean glass vials with screw-on lids. An absorbent material like a paper towel should be put in the jar to soak up the liquid. The vial should then be double sealed inside a pint or quart can, which has more absorbent packing around the vial.
7. Tissue and body parts should be preserved **only** by freezing the sample. Contact the laboratory **BEFORE** shipping. Samples of body parts or other items contaminated by bodily fluids (such as a victim or suspect's clothing) **must** be labeled as containing a **BIOHAZARD** before shipping to the laboratory.
8. Use strips of evidence tape to seal the container so that it would be obvious if someone were to break the seal. This is a valuable indicator of an unbroken chain of custody.

These are only a few short tips for submitting evidence. If you want more, we have a free Guide on the subject. Please call the laboratory at 850-539-8446 to request your copy today.





# *Dateline: Ocala*

## *News from the Bureau of Fire Standards and Training*

### SFM establishes new search and rescue team

*Training and Research Manager,  
Ronald C. Thomas Jr.*

*Bureau of Fire Standards and  
Training*

The State Fire Marshal's lead responsibility for coordinating firefighting in times of state emergency is becoming increasingly well known, especially over the past few years as SFM's activation for Emergency Support Function 4 in the state emergency management plan has increased.

However, SFM is also responsible for Emergency Support Function 9, which is search and rescue. Toward that end, the Division of State Fire Marshal has spent the last few years increasing its capabilities in that area.

In April of this year, a wave of training was completed that led to three dozen members of the Division becoming nationally certified as search and rescue technicians. Roughly a third of this group will go to advanced training as search and rescue crew leaders.

The program is conducted by the National Association for Search and Rescue (NASAR) and this organization's certification system is recognized by the Federal Emergency Management Agency, United States Air Force and other entities involved in search and rescue work. Lead instructor for the program was Kevin Rolfe of Alachua County Fire-Rescue who has also been activated as a search and rescue manager on the national level.

The participants came from all three bureaus of the Division: Fire Prevention, Fire and Arson Investigations, and Fire Standards and Training. The members went through classroom and practical training that in-



cluded first aid, survival skills, map reading and orienteering, wilderness search procedures, and tracking of lost victims.

One challenging aspect of the training was in the survival phase, which required participants to improvise shelters for an overnight exercise, using only the materials they could carry in their backpack.

The team will be supported by the mobile crime labs and Bobcat units of the Bu-

reau of Fire and Arson Investigations and by rescue and ground support vehicles from the Bureau of Fire Standards and Training. Funding for the training and supplies was made possible by a series of grants from the Florida Department of Community Affairs, Division of Emergency Management.

The State Fire Marshal's Forward Response Team for search and rescue should be fully operational later in 1999.

### Volunteer Week '99 draws 130

*Training and Research Manager  
Ronald C. Thomas Jr.*

*Bureau of Fire Standards and  
Training*

The Florida State Fire College hosted its fourth annual Volunteer Week this past April with over 130 volunteer firefighters coming from across the state for a week of classroom and fieldwork.

Based on one part of State Fire Marshal Bill Nelson's "Ten Point Plan for Florida's Fire Service," this program opens up the entire campus for free to these students. There is no tuition, no charge for dormitories and all books are provided.

In addition to numerous short courses, students could also choose one of two of the Fire College's regular 40-hour programs: "Methods and Techniques of Instruction" or "First Responder." Another highlight

was the Class A Foam course taught by prominent author Dominic Colletti. Students were also introduced to innovative methods of self-rescue, including breaking through interior walls, in a firefighter survival course.

Among the other practical programs offered were flammable liquid firefighting, LP gas burns, fire apparatus pump operations, Farmedic (agricultural rescue), and auto extrication. Lecture courses included the National Fire Academy's arson detection for first responders, tactics, leadership, and hydraulics.

Next year's Volunteer Week will also be in April. Look for more announcements in future issues of Alarm Alert and on the Florida State Fire College website <http://www.fsfc.ufl.edu> under the "What's New" button.

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## *Scenes from Volunteer Week '99*





# Fire Line

*News from Florida and across the country*

## SEI adopts new testing criteria and certifies first emergency eyewash safety showers

McLean, VA...March 24, 1999. The Safety Equipment Institute (SEI) is pleased to announce that its 7-member board of Directors has unanimously voted to adopt the new NFPA criteria for testing protective clothing against penetration of chemical and biological warfare agents. SEI-certified suits meeting the new NFPA criteria will be available in early 1999.

SEI also announces the certification of emergency eyewash and safety showers to the new ANSI Standard, ANSI Z358.1, 1998 Edition.

All products carrying the SEI label are required to be re-certified annually. This means that all products must be re-tested annually, and the manufacturing facility must continue to successfully meet all SEI quality assurance requirements during the annual audit

"As a non-profit organization, we are committed to making sure emergency responders have confidence in the safety products they rely on for protection from unforeseen hazards", stated Patricia A. Gleason, SEI President. SEI's sole purpose for existence is to assure that products have been manufactured to specifications and should perform at expected levels.

Information about SEI's certification program and the most current version of the SEI **Certified Product List**, can be accessed on SEI's web site, <http://www.SEInet.org>. It may also be obtained free of charge by writing to SEI, 1307 Dolley Madison Blvd., McLean, VA 22101. Requests may also be sent by fax 703/442-5756 or by E-mail [info@SEInet.org](mailto:info@SEInet.org).

## Facts about fire

### *Fire Loss in the United States and Canada*

- In 1997, public fire departments attended 1,795,000 fires in the United States, of which 552,000 occurred in structures, 397,000 occurred in vehicles, and 719,000 occurred in outside properties. ***Every 18 seconds, a fire department responds to a fire somewhere in the United States.***

- In 1997, 4,050 civilians (non-firefighters) died in fires, a significant decrease of 18.8% from the previous year, and 3,360 of those deaths occurred in home fires, a decrease of 16.7%. About 83% of all U.S. fire deaths occurred in home fires. ***Nationwide, there was a civilian fire death every 130 minutes.***

- In 1997, there were an estimated 23,750 civilian fire injuries, of which 17,300 occurred in homes. ***Nationwide, there was a civilian fire injury every 22 minutes.***

- In 1994, Canadian fire departments responded to 66,700 fire incidents, causing 376 civilian deaths, 2,470 injuries, and \$1.152 billion (Canadian) in direct property damage.

- The fire death rate in Canada in 1994 was 12.7 deaths per million people.

- Smoking materials are the leading cause of civilian deaths in the United States and Canada, accounting for more than one-fourth of the total in both countries.

### *United States Fire Service*

- In 1997, there were 1,079,050 firefighters in the United States, serving in 30,665 departments. Of these firefighters, 275,700 were career and 803,350 were volunteer.

- All career fire departments totalled 1,979 (or 6.4% of all departments) in 1997, protecting 42.1% of the population. Mostly career departments totalled 1,490 (4.9% of all departments), protecting 16.5% of the population. Mostly volunteer departments totalled 4,808 (15.7% of all departments), protecting 18.4% of the population. All volunteer departments totalled 22,388 (73.0% of all departments), protecting 23.0% of the population.

- In 1997, a total of 96 firefighters died in the line of duty. Of these, 31 were career, 57 were volunteer, and 8 were non-municipal (those not employed by local, public fire departments).

- In 1997, 85,400 firefighters were injured in the line of duty. Of those, 40,920 occurred on the fireground.

### *False Alarms in the United States*

- In 1997, United States fire departments responded to 1,814,500 false alarms. Of the total of false alarms, 816,500 are estimated to result from a system malfunction, 286,500 are malicious, 490,000 unintentional, as well as some 221,500 others, such as bomb scares.

Source: NFPA's "1997 U.S. Fire Loss" by M.J. Karter, Jr.; "Fire in the U.S.A. and Canada," by J.R. Hall, Jr.; "U.S. Fire Department Profile through 1996" by M.J. Karter, Jr.; "1997 Firefighter Fatalities," by A.E. Washburn, P.R. LeBlanc, and R.F. Fahy; and "U.S. Fire Fighter Injuries in 1997" by M.J. Karter, Jr. and P.R. LeBlanc.

**Updated 12/98 National Fire Protection Association, Fire Analysis and Research Division**

# Fire College Schedule

## INSPECTION

Fire Prevention Practices (Course #313 / 1200) July 12 –16,  
August 21-22/28-29  
Private Fire Protection Systems (Course #314 / 1620)  
July 19 – 23, Sept. 18-19/25-26  
Building Construction (Course #311 / 2320) July 26 – 30  
Blueprint / Plans Review (Course #316 / 2326) August 2 -6  
Codes and Standards (Course #312 / 1300) August 9 - 13  
NFPA 1 ( 24hr ) (Course #119) August 3 -5  
Special Fire Inspector (Course #310) July 26 -30

## ARSON

Fire Chemistry (Course #400) August 16 - 20

## OFFICER

Company Officer (Course #209 / 2130) June 28 – 7/2,  
August 7-8/14-15  
Tactics I (Course #206 / 2410) July 19 – 23, Sept. 27-Oct. 1  
Tactics II (Course #304 / 2420) July 26 –30  
Fire Service Instructor I (Course #208 / 2150) June 14-18,  
August 9 – 13, Sept. 27-Oct. 1  
Management (Course #303 / 2100) August 2 - 6  
Introduction to Command (Course #507) June 7-11,  
August 16 - 20  
Incident Safety Officer (Course #506) August 7 - 8

## HAZARDOUS MATERIALS

Haz - Mat I (Course #207 / 2500) June 14-18

Haz - Mat II (Course #319 / 2501) June 21-25  
Haz – Mat Awareness ( 8 hr.) (Course #107) June 26  
Haz - Mat Incident Management (Course #504) August 30 – 9/2  
NFA Terrorism Basic Concepts (Course #801) June 2-3,  
August 31 - Sept. 1  
Level A Suits Qualification (Course #124) August 2

## APPARATUS

Fire Service Hydraulics (Course #203 / 2640) August 23 – 27  
Apparatus Operations (Course #202 / 1601) August 30 - 9/3  
Aerial Operations (Course #703) Sept. 13 - 17  
FEVT F1 (Course #601) August 30 - Sept. 1  
FEVT F2 (Course #602) Sept. 27 - Oct. 1

## PUBLIC EDUCATION

Fire & Life Safety Educator Level I (Course #320) August 2 - 6  
Public Information Officer (Course #505) August 16 – 20

## EXTINGUISHER

Fire Extinguisher Certification (Course #708) June 7-11,  
July 12 – 16, Aug. 23 – 27, Sept.13 – 17

## RESCUE

Confined Space Operations (Course #211) June 28-7/2  
First Responder (Course #161) June 5-6/12-13,  
July 10 -11/17-18

Division of State Fire Marshal  
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