

**International Association of Fire Chiefs**

***Safety, Health, and Survival Section***

**Fire Fighter Fatality Investigation and  
Prevention Program Task Force**

**Implementation Plan**



**April 8, 2008**



## **Background**

In fiscal year 1998, Congress recognized the need for further efforts to address the continuing national problem of occupational fire fighter fatalities and funded NIOSH to implement the Fire Fighter Fatality Investigation and Prevention Program (FFFIPP). The budget for the NIOSH-FFFIPP is about \$2 million per year and is directed toward investigating fire fighter line-of-duty deaths to formulate recommendations for preventing future deaths and injuries. The program does not seek to determine fault or place blame on fire departments or individual fire fighters, but to learn from these tragic events and prevent future similar events.

The FFFIPP includes two components. The first is a team of two researchers at laboratories in Cincinnati, Ohio that investigates deaths caused by heart attacks and other medical causes. A second team, based in Morgantown, West Virginia focuses on traumatic fatalities. The traumatic fatality team currently has seven authorized positions for investigators and is reviewing applications to fill one vacancy. Supervisory and support staff also contribute to the program. NIOSH has recently established a mechanism to have a former employee provide additional investigative services.

The FFFIPP also works closely with the NIOSH National Personal Protective Technology Laboratory (NPPTL) in Pittsburgh to examine the performance of SCBAs and other personal protective equipment (PPE) issues relating to fatality investigations.

The IAFC Safety, Health and Survival Section's FFFIPP Task Force was convened in early 2007 with the stated objective of developing recommendations to enhance and improve the FFFIPP and released these recommendations in an August 2007 report. In November 2007, members of this Task Force, along with representatives from NIOSH and USFA, met to lay out the implementation steps for each of the recommendations.

The original text from the recommendations report is included verbatim in this implementation plan in order to provide background and context for the necessary action items.

## **Monitoring, Tracking and Evaluation**

The FFFIPP Task Force co-chairs, with the assistance of 3-4 other members of the Task Force, will be monitoring the progress of the action steps for each of the nine recommendations and will follow up with appropriate staff, organizations, and agencies as appropriate.

Some of the action items, particularly the ones that require Congressional action, may take several months or more to complete.

Quarterly progress reports will be provided by the FFFIPP Task Force to the SHS Section Board of Directors.

**A. Enhance and support the existing National Institute for Occupational Safety and Health – Fire Fighter Fatality Investigation and Prevention Program.**

The Fire Fighter Fatality Investigation and Prevention Program (FFFIPP) is a very small program in a very large organization. This program was assigned to NIOSH as a result of fire service requests to Congress to have firefighter line of duty deaths investigated and causes reported in an attempt to decrease deaths and injuries. The fire service has a vested interest in ensuring that the FFFIPP is provided the necessary resources, both in personnel and funding, to accomplish that mission. While the program has been successful in performing investigations of a number of firefighter fatalities, enhancements to the program would improve the value and impact of the program's products.

NIOSH is a research and educational organization. It has limited investigative authority to support the research mission, but it has no enforcement powers and no mandate to conduct "official fact finding" investigations of specific incidents. The current program effort is directed toward discovering and making the fire service aware of information that will help to prevent future fatalities. This process needs to evolve into a process that produces usable data that can impact the problems which lead to firefighter deaths and injuries.

The mission of the FFFIPP is divided between two teams: one to investigate cardiovascular and medically-related fatalities and the other to investigate traumatic fatalities. The FFFIPP cardiovascular fatality team has the appropriate skills and qualifications to analyze deaths resulting from heart attacks and other medical conditions. This group is producing valuable information that is supporting efforts to reduce cardiovascular fatalities. The Fire Service should ensure that the cardiovascular fatality team continues to receive the necessary resources to complete their mission.

The FFFIPP traumatic fatality team is based in Morgantown and it has limited resources given the complex circumstances and varied scenarios that result in traumatic firefighter deaths. Some members of the traumatic fatality team have fire service backgrounds or fire service training but most of the members of the team come from an occupational safety or occupational forensics background. The traumatic fatality program's products could be improved by more fire service involvement in directing the work of the team and through direct participation in the work of the team.

NIOSH prides itself on the organization-wide use of the FACE (Fatality Assessment and Control Evaluation) method for investigating workplace fatalities. This method is successfully used across many industries by NIOSH. The approach is a valid way of conducting investigations and should be retained.

The current analysis of operational fatalities is based entirely on references to existing standards and recommended practices. This approach frequently identifies repetitive causal factors that can be associated with failure to follow the existing standards and recommended practices. While this effort has educational value, it can only serve to reinforce "conventional wisdom". It does not develop new information or provide additional insight into areas where different strategies should be considered or developed. The program should be expanded to evaluate the existing approaches in relation to real world experiences and outcomes and to consider a broad range of strategies to prevent firefighter fatalities, injuries, and occupational illness. This would require a paradigm shift in the orientation of the program, coupled with an increased sense of urgency in reducing firefighter fatalities.

The FFFIPP traumatic fatality team needs to be enhanced to include fire service subject matter experts (SMEs). These SMEs should be involved at all levels of an investigation to include: initial investigation and interview of witnesses, examination of physical evidence,

analysis and review of findings, and development of the investigation report. In addition, the SMEs should be involved in the evaluation of “conventional wisdom” and the identification of areas where different approaches should be researched.

The presence of fire service SMEs in the NIOSH investigative effort would improve communication between professional NIOSH investigators and local fire department members, provide context information for the NIOSH investigators, and lend additional credibility to the NIOSH team. The SMEs can “speak” the firefighter language and act as a facilitative interpreter between the parties.

The role of the FFFIPP should be directed toward obtaining information from primary investigations, assembling and analyzing that information and making that information available to the national fire service audience. A single data collection and dissemination point for information regarding the investigation needs to be established. The efforts of IAFC and the other fire service organizations should be directed toward helping NIOSH obtain the resources to perform that mission well.

Subject matter experts (SME) should be nominated/selected/recommended by the joint coalition of fire service organizations, so they can be recognized for their expertise and independence as opposed to their affiliations. The SMEs should be involved in the overall project oversight and review process, as well as assisting with specific investigations and reviewing the reports. The selected SMEs need to be federally credentialed employees in order to gain access to sites where local law enforcement personnel are enforcing security or conducting investigations.

## **Recommendations**

- 1. In conjunction with the other fire service organizations, develop an advisory board to work directly with NIOSH and the FFFIPP. This advisory board should be actively involved in representing the fire services interests much more actively than the current stakeholder systems.**

### **IMPLEMENTATION:**

The Federal Advisory and Committee Act (FACA) governs federal agency advisory boards. Not only are there strict rules to which such advisory boards must adhere, but the federal government is trying to reduce the number of advisory boards. In order to achieve the goal of this recommendation, the focus has shifted to more frequent stakeholder meetings.

- NIOSH will call a stakeholder meeting every 2 years to receive feedback on the FFFIPP program.
  - TARGET DATE: Spring 2008 and every 2 years thereafter.
- NIOSH will invite the major fire service organizations and affiliated federal agencies (e.g., IAFC, IAFF, NFPA, USFA, OSHA, NTSB, ATF, FAA Investigations) to participate in the stakeholder meetings. Any interested party may comment on the program at these meetings.
  - TARGET DATE: Spring 2008 and every 2 years thereafter.
- The IAFF and IAFC will explore the development of a joint labor-management LODD Investigation Committee (referenced in a recent IAFF resolution) that would meet regularly to discuss/monitor issues related to LODD investigations and findings. The joint committee would provide feedback to NIOSH during the stakeholder meetings.
  - TARGET DATE: Summer 2008

- 2. In conjunction with the other fire service organizations, develop a working group to augment the information provided in the NIOSH reports. There have been concerns that current reports only go “so far” and need to include significantly enhanced command and control as well as tactical recommendations. In addition, the working group should identify the necessary resources to produce the recommended outcomes and performance benchmarks (i.e. investigation team response times, investigation report publication timelines, etc.).**

**IMPLEMENTATION:**

NIOSH is currently developing goals that address the agency’s response and publication timelines and will focus on outcomes as well as processes. Input on these goals will be solicited from fire service organizations.

- TARGET DATE: Spring 2008 (attendees of the stakeholder meeting will be solicited for input into the goals development process).

NIOSH also plans to continue to seek external review of the reports. The external reviewers are encouraged to provide concrete suggestions and help to increase the depth of the investigations. The proposed IAFF/IAFC LODD Investigation Committee could be invited to participate in the review process and NIOSH would welcome any specific concrete suggestions the Committee may have to increase the depth of NIOSH investigations.

- 3. In conjunction with the other fire service organizations and NIOSH, identify the need for statutory changes, additional resources (staffing and funding), and enhanced capabilities to facilitate the mission of the FFFIPP. In addition, develop marketing and lobbying strategies to successfully promote implementation of the necessary changes.**

**IMPLEMENTATION:**

Additional evaluation is needed by the IAFC and IAFF government relations staffs to assess the pros/cons of any legislative changes that would impact on the FFFIPP program. Any recommendations for statutory and/or resource changes will be managed by the government relations departments via joint efforts.

- TARGET DATE: Summer 2008

- 4. In conjunction with the other fire service organizations and NIOSH, develop a plan to integrate fire service subject matter experts into the NIOSH-FFFIPP investigative process, in both administrative and onsite response roles.**

**IMPLEMENTATION:**

NIOSH plans to place more emphasis on fire service knowledge and experience as criteria in ranking applicants for its investigator positions. The IAFF and IAFC have agreed to assist in distributing job announcements to the fire service when vacancies arise.

NIOSH has already begun outreach to fire service subject matter experts (SMEs) for assistance with specific parts of their investigations. They have contracted with an independent expert to test PPE on select cases and are considering contracting to model fire growth.

There is currently a mechanism within NIOSH that would allow SMEs to assist with the field investigations; however, they have to be classified as NIOSH agents and their objectivity has to be assured. The use of SMEs involves substantial overhead costs and their availability is an additional challenge.

**B. Work toward the development of a national system to conduct investigations of significant operational line-of-duty death (LODD) incidents.**

The NIOSH-FFFIPP, by its nature, cannot devote significant resources in terms of investigator time and effort to a single firefighter fatality incident. There are simply too many firefighter fatalities and not enough resources. A more focused effort needs to be developed to address firefighter fatality incidents that are significant in some way or significant as an example of a number of similar incidents.

For many years, the United States Fire Administration conducted a significant fire investigation program that provided in-depth analysis of large loss fires – in terms of civilian deaths, firefighter deaths, or property loss. This, or some similar program, should be revitalized to provide in-depth analysis of selected firefighter fatality incidents.

The focus of the revitalized program could be to rapidly investigate significant firefighter fatality incidents. These investigations could provide additional information that is not practical to provide in a standard NIOSH-FFFIPP investigation. This additional information could include more detailed analysis of decision-making, communications, risk management decisions, and other more complicated factors. These investigations would analyze less than a dozen events a year and would complement the existing NIOSH-FFFIPP efforts.

The program would need to identify, in advance, the types of incidents that would receive this additional investigative effort. An investigative team or teams would need to be identified and be prepared to react to an incident in a short period of time. The team or teams would bring together structural specialists, fire protection engineers, experienced commanders, and other needed for the effort. In many ways, this team would be similar to the teams gathered to investigate significant wildland firefighter fatality events.

**Recommendations:**

**1. Formulate written criteria to identify incidents that require or merit the more in-depth investigations discussed above.**

**IMPLEMENTATION:**

The recommended criteria for conducting in-depth investigations are events involving multiple fatalities/serious injuries combined with one or more of the following:

- a. Commercial occupancies
- b. Construction, design, renovation
- c. Multi-story occupancies (sprinklered or non-sprinklered)
- d. Mixed use properties
- e. Injuries not consistent with historical initial evidence
- f. Incidents covered by the national media

**2. Provide a method for these investigations to be conducted and funding for the effort. This may be through an expansion of the USFA significant incident program or through some other effort.**

**IMPLEMENTATION:**

Funding options include:

- a. An increase of the line item budgets for NIOSH, NIST, and/or USFA through Congressional action to fund the program. This option will need to be evaluated and promoted by the IAFC and IAFF government relations staffs.
  - TARGET DATE: Fall 2008

- b. Private sector donations to IAFC/IAFF, state and federal grants, financial partnerships with insurance companies, etc. The FFFIPP Task Force will develop a comprehensive list of funding recommendations for consideration.
  - TARGET DATE: Fall 2008

**3. Implement the expanded investigations program.**

**IMPLEMENTATION:**

Implementation of the expanded investigations program is contingent upon funding of the program as described in #2 above.

- TARGET DATE: Early 2009

**C. Develop a system/network/organization to collect, analyze and distribute information relating to protective clothing and equipment issues.**

One of the catalysts to bring issues to the surface regarding the FFFIPP program involved malfunctions of the Personal Alert Safety System (PASS) devices worn by fire fighters. PASS devices are designed to provide an audible alarm when a fire fighter becomes incapacitated and motionless. Several investigations revealed that PASS devices were failing to operate as designed.

It was quickly identified that there exists a serious void within the fire service to collect, analyze, and disseminate information regarding failures or difficulties involving personal protective equipment (PPE). Our inability to collect, analyze, and disseminate pertinent information enables PPE failures and defects to negatively impact our personnel and could result in serious injuries and/or death.

The fire service has worked to develop the National Fire Fighter Near-Miss Reporting System, which has had an immediate impact on information sharing among practitioners. However, this system is not currently designed or capable of filling the current void. The task force believes it is a viable model, and could be replicated to specifically track equipment-related issues.

A single point of contact (e.g., 800 #, website, task force, etc.) should be developed that would allow individual firefighters, fire departments, or fire service organizations to provide input on specific difficulties with a piece of safety equipment or protective clothing. These comments should be vetted by knowledgeable staff and an advisory board, posted for viewing by the fire service, and passed on to the responsible manufacturer and certification organization, as appropriate.

Within NIOSH, there exists the National Personal Protective Technology Laboratory (NPPTL), which has the mission to conduct research on protective clothing and equipment. The task force believes that the NPPTL would be the logical agency to provide technical expertise in this area for the fire service; however, NPPTL would require additional resources, both personnel and funding, to take on this enhanced mission. The task force believes that an interim system should be developed to perform this mission until NPPTL is in a position to accept this responsibility.

**Recommendations**

- 1. In conjunction with the other fire service organizations, NIOSH and industry representatives, develop a program to collect, analyze, and disseminate information regarding personal protective clothing and equipment problems and failures. The working group should also identify the most appropriate agency to house this program and look for potential funding sources.**

**IMPLEMENTATION:**

There is a need to develop a system, similar to the National Fire Fighter Near Miss Reporting System, to report and track equipment issues and concerns. To that end, a steering committee (i.e., the FFFIPP Task Force or the proposed IAFF/IAFC LODD Investigation Committee) must be established to oversee the design of the system and identify funding streams for the development, implementation and administration of the system.

- TARGET DATE: Fall/Winter 2008

- 2. In conjunction with the other fire service organizations, NIOSH and industry representatives promote rapid development of enhanced capabilities within or through the NIOSH-NPPTL to conduct technical evaluation and testing of personal protective clothing and equipment involving fire fighter fatalities and other incidents where performance deficiencies or failures are suspected.**

**IMPLEMENTATION:**

The IAFC should approach FAMA/FEMSA to explore the possibility of forming a risk pool that would provide funding to the NPPTL for development and to coordinate testing of equipment involved in LODD/injury incidents and alleged equipment failures.

- TARGET DATE: Fall 2008