



INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Providing leadership for the fire and emergency services since 1873

4025 FAIR RIDGE DRIVE • FAIRFAX, VA 22033-2868 • TEL: 703/273-0911 • FAX: 703/273-9363 • www.iafc.org

December 7, 2007

Carol Jones
Acting Director
Office of Biological Hazards
Occupational Safety and Health Administration
Directorate of Standards and Guidance
Room N-3718
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

RE: Request for Information for Emergency Response and Preparedness Docket No. OSHA-2007-0073

Dear Ms. Jones:

On behalf of the nearly 13,000 chief fire and emergency officers of the International Association of Fire Chiefs (IAFC), I would like to submit the following comments in response to the Occupational Safety and Health Administration (OSHA)'s Request for Information regarding Emergency Preparedness and Response that was listed in the September 11, 2007, edition of the *Federal Register*.

=====

SUMMARY

Elements of emergency responder health and safety are currently regulated by OSHA primarily under the following standards: The Hazardous Waste Operations and Emergency Response Standard; the personal protective equipment general requirements standard; the respiratory protection standard; the permit-required confined space standard; the fire brigade standard; and the blood borne pathogens standard. Some of these standards were promulgated decades ago, and none was designed as a comprehensive emergency response standard. Consequently, they do not address the full range of hazards or concerns currently facing emergency responders, nor do they reflect major changes in performance specifications for protective clothing and equipment. Current OSHA standards also do not reflect all the major improvements in safety and health practices that have already been accepted by the emergency response community and incorporated into industry consensus standards.

OSHA is requesting information and comment from the public to evaluate what action, if any, the Agency should take to further address emergency response and preparedness. The Agency will be considering emergency response and preparedness at common emergencies (e.g., fires or emergency medical and other rescue situations), as well as large scale emergencies (e.g., natural and intentional disasters). OSHA's areas of interest are primarily: personal protective equipment;

training and qualifications; medical evaluation and health monitoring; and safety management. The agency will also be evaluating the types of personnel who would constitute either emergency responders or skilled support employees at such events, as well as the range of activities that might constitute emergency response and preparedness.

A. The Scope of Emergency Response

The terms “emergency response” and “emergency responder” have been defined and used differently in various government laws and regulations as well as industry consensus standards and reports. Additionally, emergency response work is unlike many other types of employment, in that the actual work site and hazards will vary based upon the location and nature of the incident. As the Agency considers the issue of emergency response, it is important to define the scope and nature of work activities that might be called emergency response and preparedness, as well as the types of employees and work activities that might be associated with emergency response and preparedness.

1. Emergency response and preparedness activities occur at both common incidents (e.g., fires, car accidents, or structural collapses) and rare or unexpected incidents (e.g., natural disasters, terrorist attacks, or special events that require enhanced preparedness). If the Agency takes action on emergency response and preparedness, should it consider either all types of emergency incidents (e.g., both common and rare events) or should certain types of incidents be excluded? If you believe a limited range is appropriate, what types of incidents or activities should be included?

If the Emergency Operations Plan for the jurisdiction designates the fire department with specific responsibilities other than response to fires, car accidents, or structural collapse, then it is appropriate for the fire department to be adequately prepared, having the necessary resources and competencies to safely respond to fulfill these specific responsibilities. Here is an example:

The Los Angeles County Fire Department (LACoFD) prepares for, and responds to, both ‘common’ and ‘rare or unexpected incidents’ though classification for incidents differs from the definition presented. Extensive wildland fires, for example, and the potential for earthquakes are natural disasters not regionally viewed as “unexpected” events, and are planned for accordingly. Planning for terrorist attacks and other ‘rare or unexpected’ incidents is done in conjunction with Homeland Security sections from Los Angeles County agencies, including the County Sheriffs’ Department.

2. Emergency response and preparedness activities have historically included a range of events from pre-planning for an emergency, to the actual emergency response, and, ultimately, to remediation/recovery. Should OSHA consider the full continuum of activities to be considered “emergency response and preparedness?”

Yes, the full continuum needs to be considered as emergency response and preparedness. Inclusion in the planning and preparedness efforts will provide invaluable pre-incident information and will provide the basis for emergency responders to establish SOPs on

how to respond. This action will evolve into focused training. Remediation/recovery efforts still maintain a level of hazard. The emergency services need to be part of all aspects involving hazardous materials. Activities pertaining to the three phases of emergency response, (preparedness, response, and recovery,) are distinctly different - especially in regards to risks posed to responders.

If not, what is an appropriate range of activities for the Agency to consider, and why?

The appropriate range of activities that should be considered includes emergency acts and non-emergency functions. Both are required to achieve the safe, effective and efficient mitigation of an emergency incident or non-emergency event. This should include planning activities necessary to respond to any type of event properly. Situations occurring during preparedness and recovery efforts can be planned for, but it is not possible to foresee all activities that will be required or undertaken during emergency response operations. OSHA requirements or "consideration" should reflect an understanding for ever-changing situations and the need for flexibility during any emergency response.

3. What are the factors that should indicate when the emergency response to an event has fully transitioned into remediation/recovery?

An event has fully transitioned into remediation/recovery when the incident no longer presents an obvious life threatening environment, such as an IDLH atmosphere. Recovery actions often extend long after the incident itself. The goal of recovery is to minimize the consequence of an emergency through management of resources. The recovery phase of an incident can include incident investigation, damage assessment, clean-up and restoration. A key factor indicating that an incident has transitioned from response to recovery phase relative to the fire department is once the incident scene has been stabilized and the fire department presence and resources are no longer required.

Factors that indicate transition to the remedial stage include removal and transport of hazardous materials, the abatement of hazards in general, and completion of 'overhaul' activities to ensure that the site does not present a hazard to personnel. OSHA should consider that recovery and site security involve tasks that differ greatly from emergency response and rescue efforts.

4. What types of work tasks (e.g., interior structural firefighting, exterior firefighting, pre-hospital emergency medical work, technical rescue, heavy equipment operation) should be considered emergency response or skilled support work? What are the hazards associated with each type of work task? Are there any specific work tasks that should be excluded from consideration (e.g., work that is inherently and exclusively performed by law enforcement officers)?

Using the “control zones” concept identified in NFPA 1500:

- *Any activities that require people to enter the hot or warm control zone of an incident or emergency should be considered emergency response or support work.*

Work tasks performed by any responder/worker within the hot/warm zones should be considered as emergency response. Support personnel are located outside these zones, but not in a position to be exposed to any hazardous substances. Even though some personnel are located in the cold zone, they may still be exposed based on change of circumstances or incomplete decontamination. Therefore, certain functions in this zone should be included as emergency response. Emergency responders include, but it not limited to, all firefighting, law enforcement, emergency medical services, decontamination, technical rescue, water rescue, hazardous materials, public works, health, safety, and emergency management. Support personnel are those that are located a significant distance from an incident without any likelihood of being exposed and include, but are not limited to, command functions, feeding, logistics, finance/administration, planning and staging. Law enforcement is emergency response and must not be excluded.

5. Are there any new data that describes the nature, magnitude, or impact of emergency response and preparedness operations (e.g., type and number of incidents, type and quantity of employees considered emergency responders, financial costs, or occupational injuries, illnesses, and fatalities) that OSHA should consider when evaluating the issue of emergency response and preparedness? In particular, is there relevant data on skilled support employees at emergency incidents or during preparedness activities?

Data on the impact of hazardous materials emergency response can be provided by NIOSH, NFPA, Rand Corporation, CDC, and the Federal Department of Transportation Chemical Safety Board for consideration when OSHA evaluates the issue of response and preparedness. In addition there is health and safety data available for both emergency responders and skilled support workers from the World Trade Center and Pentagon attacks, as well as Hurricane Katrina. This data includes personal protection issues and health issues.

6. Many emergency responders are State, county or municipal employees in States with OSHA-approved safety and health plans who are subject to the requirements of the State Plan-equivalent of the current OSHA standards in the same manner as private sector employees. As OSHA considers the necessity for further action on the safety and health of emergency responders, are there issues or concerns that are specific to such employers or employees that the Agency should consider? If your State has promulgated standards or issued guidance on emergency response and preparedness that differs from the existing OSHA standards and guidance, please describe the action taken as well as the impact and effect on the user community. Are there any concerns specific to the State agencies administering OSHA approved safety and health plans regarding OSHA's consideration of action in this area?

N/A

7. In States that do not have OSHA-approved workplace safety and health plans, to what extent are OSHA standards used as guidance for emergency responders who are public sector employees or as guidance for voluntary State public sector protection programs (e.g., personal protective clothing and equipment, training, and safety procedures)?

All fire departments should be required to meet the requirements of consensus standards that reduce the risk of firefighter injury and death. Although a handful of state OSHA jurisdictions have issued their own regulations that apply specifically to fire and rescue departments (including California, Michigan, and Washington), most state OSHA jurisdictions have simply adopted the Federal standards. This means that in most state OSHA jurisdictions, public sector agencies, including state and local fire departments and rescue agencies, comply with the Federal OSHA standards. Fire departments in state OSHA jurisdictions have been advised by national organizations such as the IAFC and NVFC to contact their state occupational safety and health agency to determine what standards apply to them. In a 4/6/2001 joint communication to its members the IAFC and IAFF clarified the applicability of the two-in and two-out requirements in the respiratory standard. In this communication fire departments in non OSHA states who adopted NFPA 1500, Standard for Fire Department Occupational Safety and Health Program were advised that NFPA 1500 was less stringent than the OSHA respiratory standard.

The OSHA standards are considered the final rule when justifying the financial commitment of public sector agencies. Recommended standards are considered, but are often debated by government employers that hold financial responsibility for the execution of these standards. The ability to reference OSHA standards as "required" provides a vehicle for emergency responders to meet minimum standards regardless of the funding issues of the employer.

B. Personal Protective Equipment

Since a great deal of emergency response work occurs in an uncontrolled and dynamic work environment, personal protective equipment is a particularly important aspect of assuring the responding employees' health and safety. This section addresses a variety of

types of personal protective equipment that emergency responders might use, depending on the nature of the hazards they face. The Agency is particularly interested in determining appropriate national consensus standards on the design and construction of such equipment as it considers the issue of emergency response and preparedness.

8. The current OSHA standard for firefighters' protective clothing is based upon the 1975 edition of "NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting." The NFPA standard specifies the minimum design, performance, and certification requirements, and test methods for structural firefighting protective ensembles that include protective coats, protective trousers, protective coveralls, helmets, gloves, footwear, and interface components. The OSHA standard still allows treated fabrics as an acceptable outer shell material in firefighters' protective clothing, rather than fabrics that are inherently flame resistant. More recent editions of NFPA 1971, recently renamed the Standard on Protective Ensemble for Structural Fire Fighting and Proximity Fire Fighting, require the use of fabrics that are inherently flame resistant. Inherently flame resistant fabrics are made from fibers where the flame resistance is an intrinsic property of the material, whereas treated materials are only made flame resistant by the application of a secondary chemical that can wear off or wash off over time (Ex. 1-13). Is the 1975 edition of NFPA 1971 still an appropriate standard for firefighters' protective clothing?

Regarding NFPA Standards, advances in the field of fire service equipment are rapid, and the integration of new practices, PPE, and requisite procedures is an ongoing, dedicated effort. It is doubtful that imposing additional standards will enable response agencies to keep pace with those improvements and may restrain the development and implementation of new approaches.

As for the standards regarding protective clothing for firefighters, the 1975 edition of NFPA 1971 is outdated. The current edition of the standard is appropriate, but international (ISO) standards may not be applicable.

Is the current edition of the NFPA standard, including the requirement for inherently flame resistant material, appropriate to consider?

Yes

Should OSHA consider other standards, such as those issued by the International Standards Organization (ISO)?

Yes, the more stringent requirement should apply. In addition, in order to better define first responder equipment needs, government organizations established and continue to support the Inter Agency Board (IAB) for Equipment Standardization and Inter-Operability. The IAB is a user-working group supported by voluntary participation from various local, state, federal government and private organizations. Its mission is to establish and coordinate local, state and federal standardization, inter-operability and responder safety to prepare for, respond to, mitigate and recover from any incident by identifying requirements for Chemical, Biological, Radiological, Nuclear or Explosives

(CBRNE) incident response equipment. Its scope is expanding to cover all hazards associated with first response such as floods, hurricanes and other natural disasters.

9. With the exception of the shipyard fire protection standard (29 CFR 1915.505), OSHA standards do not require the use of a personal alert safety system (PASS) device by firefighters in order to help locate missing, trapped, or incapacitated firefighters. Is such a device necessary and appropriate for firefighters' safety in non-shipyard situations?

Yes.

If so, under what circumstances is it to be used?

Personal alert safety systems (PASS) are designed so that firefighters can signal for help if they're incapacitated while operating at an emergency. NFPA 1500, Fire Department Occupational Safety and Health Program, requires that everyone involved in rescue, firefighting, and other hazardous duties use a PASS. According to a needs assessment study conducted by the NFPA for the USFA, 29% of the fire departments surveyed don't have enough PASS devices to equip a shift.

Is the current edition of "NFPA 1982, Standard on Personal Alert Safety Systems (PASS)" an appropriate standard to consider (Ex. 1-14)?

Yes.

This standard specifies the NFPA minimum design, performance, and certification requirements and test methods for all PASS to be used by firefighters and other emergency services personnel who engage in rescue, firefighting, and other hazardous duties. Are there additional features of a personnel accountability system, other than these safety devices, that should be an element of an emergency response system?

Yes.

Are there emergency response situations, other than firefighting, that should necessitate the use of a PASS device?

NFPA 1500, Fire Department Occupational Safety and Health Program, requires that everyone involved in rescue, firefighting, and other hazardous duties use a PASS. This should include any circumstance that has the potential to result in the need of a firefighter/rescuer to become incapacitated, disoriented and need to signal for help.

Are emergency responders at your workplace provided with PASS devices?

N/A

What are the costs of PASS devices or an alternate system?

No comment.

What is the expected service life of such a device in your work environment?

No comment.

Are there any data on their effectiveness?

There are inherent limitations and concerns that may actually be detrimental if such requirements were imposed on fire service agencies, especially for organizations in small municipalities. Situations have been encountered which render the devices less effective. In situations where visibility is limited – especially in heavy interior smoke – PASS devices are indispensable. But accountability measures such as “two in, two out” and a focus on team efforts, in addition to coordinated planning, are superior measures to the features offered by PASS devices. Such automated accountability systems provide additional safeguards and offer protection that could save lives by augmenting personal accountability systems in chaotic emergency response situations.

10. It has been OSHA’s policy to enforce the use of “NFPA 1976, Standard on Protective Ensemble for Proximity Fire Fighting” compliant protective clothing and equipment for proximity firefighting (e.g., jet fuel fires) (Standard Interpretations 04/03/1997--Appropriate protective clothing for aircraft firefighting) The NFPA 1976 standard has recently been subsumed in the NFPA 1971 standard on firefighter’s protective clothing (Ex. 1-13). This standard contains the NFPA minimum design, performance, and certification requirements and the test methods for proximity protective ensembles, including protective coats, protective trousers, protective coveralls, helmets, gloves, footwear, and interface components. Does the NFPA 1971 standard adequately protect employees performing such proximity firefighting tasks?

Yes. The standard does protect the employee. The standard does reference the response to hazardous material release where applicable, enacting appropriate related standards to protect the responder with the exception of Wildland Firefighting.

If not, what other standards should OSHA consider?

NFPA 77 Standard on Protective Clothing and Equipment for Wildland Fire Fighting. This standard specifies the minimum design, performance, testing, and certification requirements for protective clothing, helmets, gloves, and footwear that are designed to protect fire fighters against adverse environmental effects during wildland fire-fighting operations.

Other standards for protective ensembles are as follows:

Technical rescue protective ensembles (NFPA 1951)

Hazardous materials liquid splash protective ensembles (NFPA 1992)

First responder chemical/biological protective ensembles (NFPA 1994)

Emergency medical protective clothing (NFPA 1999)

11. Under the respiratory protection standard (29 CFR 1910.134), OSHA requires that all self-contained breathing apparatus (SCBA) be certified by the National Institute for Occupational Safety and Health (NIOSH) (42 CFR part 84). Because NIOSH does not test SCBA for exposure to heat and flame, is this certification adequate?

No.

Would it be appropriate for all SCBAs used for firefighting or emergency response to be certified by NIOSH and also certified as compliant with the current edition of “NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) Emergency Services” (Ex. 1-15)?

It should be required for all SCBAs utilized for emergency response to be certified by NIOSH, NFPA (NFPA 1981) compliant, and tested for exposure to heat and flame.

The majority of municipal hazardous material response teams utilize NFPA compliant breathing apparatus. All emergency responders, including support personnel that may utilize SCBA, should be required to utilize NFPA compliant SCBA.

NFPA 1981 specifies the minimum requirements for the design, performance, testing, and certification of open-circuit SCBA and combination open-circuit self-contained breathing apparatus and supplied air respirators (SCBA/SAR) for fire and emergency services personnel and includes tests for heat and flame resistance. NIOSH requires this in its new Chemical, Biological, Radiological, and Nuclear (CBRN) certification (42 CFR part 84). Are the SCBA currently used in your workplace compliant with the NFPA 1981 standard?

N/A

12. Emergency response to weapons of mass destruction such as chemical, biological, radiological, or nuclear (CBRN) agents has increasingly become viewed as a component of a local emergency response. The U.S. Department of Homeland Security (DHS) has adopted NIOSH and NFPA standards for CBRN personal protective equipment (PPE). For example, DHS requires CBRN chemical protective clothing to meet “NFPA 1994, Standard on Protective Ensembles for CBRN Terrorism Incidents” (Ex. 1-16). This standard specifies the NFPA minimum requirements for the design, performance, testing, documentation, and certification of protective ensembles designed to protect fire and emergency services personnel from chemical/biological terrorism agents. These standards

provide more detailed and stringent performance testing requirements for PPE than the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120), which requires only minimal testing for chemical resistance and garment integrity. Under what circumstances is protective clothing tested to meet the NIOSH and NFPA standards necessary (e.g., all emergency responses, or emergency response to a known or suspected CBRN agent, or only during remediation or recovery)?

Emphasis should be on risk assessment to determine appropriate PPE. Protective clothing issued to protect fire and emergency services personnel that have the potential to respond for uncontrolled hazardous materials releases should meet NIOSH and NFPA standards. These agencies cannot predict what events to which they may respond. Therefore, all responders should be provided protective equipment tested to these minimum standards. All emergency responses to the uncontrolled release of toxic industrial chemicals should utilize personal protective ensembles certified to NFPA 1991.

Similarly, the Department of Homeland Security has adopted “NFPA 1991, Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies” for use against toxic industrial chemical (TICs) and toxic industrial materials (TIMs) (Ex. 1-17). Are there emergency response situations that would necessitate the use of chemical protective clothing that was certified to NFPA chemical protective clothing standards, which involves more thorough testing than chemical protective clothing currently specified under the Hazardous Waste Operations and Emergency Response Standard?

No comment.

Are there any other standards on chemical protective clothing that OSHA should consider?

Protective clothing issued to protect fire and emergency services personnel that have the potential to respond for uncontrolled hazardous materials releases should meet NIOSH and NFPA standards. These agencies cannot predict what events to which they may respond. Therefore, all responders should be provided protective equipment tested to these minimum standards. All emergency responses to the uncontrolled release of toxic industrial chemicals should utilize personal protective ensembles certified to NFPA 1991.

13. Emergency medical service providers may be exposed to hazards not common to other employees that have exposure to blood or body fluids (e.g., jagged metal or broken glass from motor vehicle accidents). Currently, OSHA’s bloodborne pathogens standard (29 CFR 1910.1030) and respiratory protection standard (29 CFR 1910.134) require personal protective equipment such as gloves, gowns, eye protection, respirators, and surgical masks. Is there any PPE for pre-hospital emergency medical service personnel (EMS), not currently required by the bloodborne pathogens standard or the respiratory protection standard (29 CFR 1910.134), which may be necessary to protect EMS employees (e.g., “NFPA 1999, Standard on Protective Clothing for Emergency Medical Operations”) (Ex. 1-18)? NFPA 1999 specifies the NFPA minimum design, performance, testing, and

certification requirements for emergency medical clothing used by fire and EMS personnel during EMS operations. Is such equipment currently used in your workplace?

Current OSHA and NFPA 1999 standards adequately cover the necessary PPE for pre-hospital emergency medical service personnel. Clearer verbiage is recommended in the respiratory protection guidelines regarding the use of HEPA N-95/100 masks in specific medical environments, including TB, MRSA, Norovirus and other scenarios with airborne exposure potential.

Although one could make an argument for ballistic protection when involved in Police activity, this would be very difficult due to the expense, training and maintenance of such a mandate. It is also difficult to identify a single level of ballistic protection that could be considered universal across the country; for example, inner city responses in urban areas clearly require a higher level of protection while responses in rural areas or small towns may not require any protection at all in events not identified as hostile (i.e. active-shooter or domestic violence situations).

Controversy remains among EMS personnel over the value/cost benefit of protective gear required by NFPA 1999, and many fire based EMS responders already have such protection as offered by fire suppression garments. Some agencies utilize such gear for response to hazardous EMS incident scenes. In June, 2005, Emergency Medical Service Authority (California) created a document describing the minimum level of PPE that should be available on every ambulance.

The comprehensive list of items is appropriate, but it also includes escape hoods and MARK auto-injectors, which should not necessarily be mandated on all ambulances.

What would such PPE cost and what is the expected life of the equipment?

No comment.

14. Is there any PPE for emergency responders providing technical rescue services (e.g., vehicle extrication, high-angle rescue, swift-water rescue) that may be necessary for protecting employees providing such services?

PPE requirements for technical rescue services are specialized for the types of response that each group provides. Swift-Water rescue teams are trained in diving operations and must be issued appropriate equipment along with training in its use. Similarly, personnel performing vehicle extrications requiring 'over the side' operations are issued modified protective gear to allow more freedom of movement. Equipment includes a protective helmet with a smaller visor to allow entry into restricted confines often found in such responses. Urban Search and Rescue (USAR) technicians are also issued protective gloves that are lighter and offer improved dexterity over standard hand protection used in firefighting, along with lightweight, tear-resistant jumpsuits rather than heavy 'turnout' pants and jackets. The circumstances encountered dictate the use of such equipment.

If so, under what circumstances should the use of such equipment be considered necessary?

Technical rescue incidents involving building or structural collapse, vehicle/person extrication, confined space entry, trench/cave-in rescue, rope rescue, and similar incident should use such equipments. Technical rescue incidents in urban and other non wilderness locations are complex incidents requiring specially trained personnel and special equipment. Protective clothing issued to protect fire and emergency services personnel that have the potential to respond for uncontrolled hazardous materials releases should meet NIOSH and NFPA standards. These agencies cannot predict what events to which they may respond to. Therefore, all responders should be provided protective equipment tested to these minimum standards. All emergency responses to the uncontrolled release of toxic industrial chemicals should utilize personal protective ensembles certified to NFPA 1991.

Please describe specific tasks and associated equipment that OSHA should consider.

A utility ensemble, which provides protection from physical hazards, a basic flame resistance for the ensemble and the elements of the ensemble, and a high level of “breathability” of the ensemble to reduce heat stress for the wearers.

A rescue and recovery ensemble, which provides the physical protection of the utility ensemble and a blood-borne-pathogen barrier to protect wearer’s from body fluid infection from injured or deceased victims.

A CBRN ensemble, which in addition to all the protections of the rescue and recovery ensemble, provides limited protection from chemicals, biological agents, and radiological particulates during incidents involving chemical warfare agents or weapons of mass destruction.

15. Employees performing urban search and rescue (USAR) tasks may be exposed to a variety of physical hazards from building debris as well as incidental exposure to thermal, chemical, or biological hazards. The Department of Homeland Security has adopted “NFPA 1951, Standard on Protective Ensemble for Technical Rescue Incidents” for emergency responders conducting USAR operations (Ex. 1-19). NFPA 1951 establishes the NFPA minimum requirements for garments, head protection, gloves, and footwear, for fire and emergency services personnel operating at technical rescue incidents involving building or structural collapse, vehicle/person extrication, confined space entry, trench/cave-in rescue, rope rescue, and similar incidents. What PPE may be necessary for protecting these emergency responders?

NFPA 1951 is an appropriate standard for USAR operations. In the event a hazardous material release is identified at the emergency incident, then appropriate HazMat standards on PPE must be enforced.

Is NFPA 1951 an appropriate standard for OSHA to consider on the subject?

Yes.

What equipment is being used currently in your workplace?

No comment.

What does the PPE cost, and how many responders are equipped with it?

No comment.

What is the expected life of the equipment?

No comment.

16. Is there any other PPE, not already identified, that may be necessary for emergency responders or skilled support personnel? What is the equipment, what would it cost, and how many responders would need to be equipped with it? What is the expected life of the equipment?

The level of PPE available to emergency responders should dictate the safe extent of their involvement at both common and rare events. This is not to suggest that all response personnel be required to have immediate access to extensive CBRNE PPE. The level of access to an incident should be determined by the individual responder's level of PPE training. Regardless of the definition of the operation (emergency response, recovery or skilled worker), the hazards encountered should dictate the level of PPE required. (Law enforcement, medical examiners and private contractors may ALL require the same PPE regardless of the specific operations involved).

C. Training and Qualifications

The knowledge, skills and abilities of emergency responders and skilled support employees will depend largely on the training and qualifications for required work tasks. Training and qualifications typically include both initial training as well as any periodic training (e.g., annual refresher training) that may be necessary to maintain an appropriate level of functional capability.

17. The OSHA Fire Brigade standard (29 CFR 1910.156(c)) contains broadly worded requirements on training and education and requires the quality of such training to be "similar to" a number of State fire training schools. Is this standard adequate to ensure firefighters are appropriately trained to perform required tasks safely?

No.

If not, what level of initial training and qualification is necessary to safely perform fire fighting tasks? Is “NFPA 1001, Standard for Fire Fighter Professional Qualifications” an appropriate standard to consider (Ex. 1-20)?

Yes, as a basis. Many jurisdictions have developed certification programs where the curriculum is based on the NFPA standard however the qualifications may vary. OSHA should focus on “QUALIFICATION” of responders rather than “certification.” It is important that responders to incident and emergencies be qualified by the agency or jurisdiction that deploys them to accomplish the activities that they have been assigned to accomplish in a safe manner. This can occur without a responder being “certified”, however the burden of proof of qualification would be on the agency or jurisdiction that commissions a person to respond on their behalf.

NFPA 1001 identifies the minimum job performance requirements for two levels of progression of firefighters whose duties are primarily structural in nature. Are there other standards or recommendations that OSHA should consider?

In addition to, NFPA 1001: Standard for Fire Fighter Professional Qualifications the following standards should be utilized as appropriate:

NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications

NFPA 1003: Standard for Airport Fire Fighter Professional Qualifications

NFPA 1005: Standard on Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters

NFPA 1006: Standard for Rescue Technician Professional Qualifications

NFPA 1021: Standard for Fire Officer Professional Qualifications

NFPA 1026: Standard for Incident Management Personnel Professional Qualifications

NFPA 1051: Standard for Wildland Fire Fighter Professional Qualifications

NFPA 1404 Standard for Fire Service Respiratory Protection Training.

What amount and type of periodic refresher training should be considered the minimum necessary for firefighters?

Once this initial minimum training is complete, specialized training and refresher training should be provided as frequently as possible. All active responders who may engage in interior firefighting should be exposed to the basics weekly. This may be actual responses or weekly reviews. Specialized training should be conducted at least bi-monthly. Annual skills and competency evaluations should be conducted. NFPA 1410: Standard on Training for Initial Emergency Scene Operations provides an excellent guideline on required basics and performance criteria. Additional topics should include building construction, fire behavior search & rescue, rapid intervention, use of special equipment such as thermal imaging cameras, ventilation, vehicle extrication, vehicle fires, hose deployment, master stream set-up, use of foam, driver’s training, engine pump operation, firefighting tactics & strategies uses pre-incident plans and focusing on unique hazards such as high rise buildings, big box stores, basement fires, nursing homes

etc. All of the above are in addition to other skills such as confined space rescue and hazardous material responses, water rescue, as appropriate.

What is the appropriate format for acquiring this training?

Training should include the opportunity to utilize skills and competencies. Training should also include participation in familiarization tours of buildings with unique challenges. The amount and type of periodic training is left to or the authority having jurisdiction who are charged with determining the scope of response, the hazards involved and providing education and training that is "adequate" to meet the scope of response. OSHA requires annual training as the minimum; it is the responsibility to each department to determine the frequency that meets the "minimum" requirement.

What are the training practices in your workplace?

N/A

18. The U.S. Department of Transportation (DOT), National Highway Traffic Safety Administration (NHTSA), develops the National Standard Curricula for all levels of EMS personnel. What level of initial occupational health and safety training and qualification is necessary to safely perform emergency medical services? Are there any additional initial training requirements beyond the NHTSA standards appropriate for OSHA to consider (e.g., training on emergency vehicle operation or incident scene safety)? What amount and type of periodic refresher training is necessary for EMS personnel? What are the current training practices in your workplace?

Regarding levels of training necessary to "safely perform emergency medical services," the determination will need to be based on roles that employees are required to perform and how those roles are procedurally defined.

Depending on the level or type of service provided by the agency, training requirements beyond the National Standard Curricula are justified in areas such as emergency vehicle operation and incident scene safety to ensure that EMT technicians have the necessary skills to perform assigned duties in a safe and effective manner.

The NHTSA National Standard Curricula referenced above establishes four levels of emergency medical responder. The education and training received to achieve these levels provides adequate initial training for safe delivery of emergency medical services. These curricula address general scene safety topics and specifically blood borne pathogens, mental health (responder stress) issues, violence and some vehicle operations topics. Most course managers have also included the Hazardous Materials First Responder Awareness course and may include the Operations level dependent on specific agency policy. In recent years many fire service EMS providers have addressed the issue of traffic management on the scene of active roadway incidents; however, this has been largely a voluntary effort with little or no standardization.

Specific to emergency vehicle operations, the IAFC supports the curricula as written (with the exception of the First Responder curriculum, which needs a vehicle operations module) for the general safety practices that are necessary to operate a vehicle. However, specific certification coursework prior to the driving of vehicles during emergency response is recommended. This would not be considered initial training unless the individual agency policy dictated that even new responders would be required to drive under emergency conditions. This course could consist of both didactic material, which includes the NFPA 1002 standard criteria or similar, as well as a driving course and supervised road driving in the apparatus/vehicles specifically used by that agency prior to obtaining approval to drive such vehicles under emergency response conditions.

A potential problem lies with the states or agencies that may not require one of the four levels of EMS provider outlined by the National Standard Curricula. Some responders may be providing response and initial patient care under a curriculum or certification model that may not address the specific safety topics listed above.

Pertaining to annual refresher training: the IAFC is unaware of any states that have EMS licensure requirements that do not also require continuing or ongoing education to obtain credits toward that license renewal. This ongoing education addresses (refreshes) knowledge and skills in all of the safety topics outlined above, as well as introduces new understanding or technology in any given topic area as such changes may occur. This is adequate for the maintenance of safety skills and knowledge.

19. OSHA does not currently require any specific training for rescue technicians. What level of initial training and qualification is necessary to safely perform technical rescue tasks?

The qualifications outlined in NFPA 1006, Standard for Rescue Technician Professional Qualifications should be the standard level for initial training and qualifications.

USAR training and recertification requirements should also be used in jurisdictions with USAR teams.

Is “NFPA 1006, Standard for Rescue Technician Professional Qualifications” an appropriate standard to consider (Ex. 1-21)?

Yes

NFPA 1006 establishes the NFPA minimum requirements necessary for fire service and other emergency response personnel who perform technical rescue operations. These include rope rescue, surface water rescue, vehicle and machinery rescue, confined space rescue, structural collapse rescue, and trench rescue. Are there other standards or recommendations that OSHA should consider?

Yes. Training should never be less than annual. Any skill that is not the subject of training and evaluation in a period of a year or less should void a responder’s status as “qualified.” This doesn’t necessarily mean that each and every task needs to be

evaluated, rather a sample of the tasks necessary to function in a particular kind of response discipline. No skill should go without evaluation for more than three years.

What amount and type of annual refresher training should be considered the minimum necessary for such emergency responders?

Refresher training should be based upon what is necessary to maintain an acceptable level of competency.

What is the appropriate format for acquiring this training (e.g., does this require travel to a specialized training facility)?

The refresher training should be designed to maintain the necessary level of skills and competencies to safely perform those types of rescues that the individual may be expected to perform.

What are the current training practices in your workplace?

Current training practices are across the board, thus not very applicable in this context. OSHA should resist identifying "how" responders training and focus on the fact that they maintain a level of competence commensurate with the activities in which they engage.

20. Skilled support work at emergency incidents is work that is not performed by an emergency responder (e.g., firefighter or EMS provider) but is nonetheless a critical element of a safe and successful emergency response, such as heavy equipment operation, utility shut-off, and cutting and removal of iron work. The role of skilled support employees at emergency incidents is only directly addressed in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) (29 CFR 1910.120), which does not apply to all types of emergency incidents. The standard requires skilled support employees that are needed on a temporary basis for immediate emergency support work to be given an initial briefing on necessary information but does not require them to receive the full training provisions of the standard (29 CFR 1910.120(q)(4)). What level of initial training and qualification is necessary to safely perform skilled support jobs?

All personnel that operate at a disaster site should have appropriate training. Obviously, for the first response community, the level of training would be significantly more than for skilled support staff which responds infrequently. The concept of an OSHA Disaster Site Worker training course is a good concept. Just-in-time training is a bad concept. This type of course should be a prerequisite to response. Therefore, if a remote possibility exists that an individual would operate as a skilled support staff, then they should receive the training. Just-in-time training does not work for many reasons. The worker has distractions. The assimilation of material is limited in that the worker does not have sufficient time to digest the material and seek answers to questions. Also, no reinforcement of training is possible. As a safety concern, this type of training is placing

the worker in harm's way. Doing pre-incident training with a basic review at the site would be more appropriate.

Should specific training for skilled support personnel, other than the initial briefing, be considered?

Yes.

Should refresher training on an annual or other basis for such responders be considered?

No.

The OSHA Training Institute has developed a 16-hour Disaster Site Worker Course (7600) which emphasizes knowledge, precautions and personal protection essential to maintaining an employee's personal safety and health at a disaster site. Should skilled support personnel take the OSHA Disaster Site Worker training course, or something similar, before responding to a disaster or is just-in-time training sufficient and appropriate?

Yes, something similar would be appropriate.

What are the current training practices in your workplace?

N/A

21. OSHA standards do not address the training or qualifications for either emergency responders who operate emergency apparatus or those personnel who may have to work on an active roadway during an emergency response (e.g., responding to a car crash). Traffic accidents involving emergency apparatus, as well as incidents where emergency responders are struck by passing vehicles at incident scenes, constitute a major source of injuries for emergency responders (Ex. 1-22). Is there any training or qualifications on emergency vehicle safety or incident scene safety (e.g., "NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications") that should be considered for emergency responders as a whole or for individual groups of emergency responders, such as emergency vehicle drivers (Ex. 1-23)?

Yes, NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications for apparatus driver/operators, Incident Scene Safety Course based on 2003 Edition of the Manual on Uniform Traffic Control Devices, Part 6, Temporary Traffic Control; Federal Highway Administration, Washington, DC; PENNDOT Publication 203, Work Zone Traffic Control, Emergency response vehicles should be inspected, maintained and tested to the NFPA 1911 standard, by personal that meet the NFPA 1071 standard and NFPA 1561: Standard on Emergency Services Incident Management System. An example lies below:

The hazards posed to fire service personnel working an active incident scene, especially on highways or other streets with high-speed traffic, require substantial measures that should be considered by OSHA. Protective measures should be established to allow for safe operations. These measures should include the use of flares, traffic cones, floodlights and other directional markers intended to provide warning to notify drivers, but these are often ineffective and additional measures have been instituted. The placement of a fire engine or ladder truck in a 'blocking' position, (placed diagonally across traffic lanes between the incident scene and oncoming traffic,) with all emergency lighting activated, provides additional warning to motorists and offers some degree of protection to responders. Smaller vehicles and personnel are then placed between the apparatus and the work scene, for protection.

Driving courses with the didactic and practical skill requirements are strongly encouraged and supported. Training for emergency vehicle operators is best accomplished with a curriculum that includes both class work and practical "on the road" instruction, with exams that focus on the classification of vehicle, (engine, ladder, squad, water tenders, etc.). While engineer training provides instruction in vehicle operation, firefighters who operate vehicles in emergency situations should be trained in collision avoidance, responding to incidents, (lights and sirens,) and other driving skills.

As for the specific topic of traffic scene management safety, the development and implementation of a minimum traffic management program that includes the elements of the DOT standard for the visibility of clothing, etc. is recommended. OSHA's question is pertinent since 25+% of fire service fatalities occur as a result of either response or traffic scene activities. This training should occur as a part of initial Firefighter or EMS responder training as well as the requirement for the development of specific procedures for safety during active roadway/traffic scenes by emergency response agencies. These procedures should be trained on and the skills and knowledge refreshed annually as with other OSHA standards. Many fire service and emergency response agencies have undertaken such development and implementation for this hazard.

What is the appropriate format for acquiring this training?

The training should be provided through the departments training delivery system and require a skills and competency evaluation.

What are the current training practices in your workplace?

N/A

22. The Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120), which does not apply to all types of emergency incidents, requires that incident commanders have specialized training beyond that of other employees. However, the Fire Brigade standard (29 CFR 1910.156) does not require any additional or specialized training for fire officers that will manage or supervise the emergency

response incident. Should the training and qualifications for fire officers be different than for firefighters?

Experience prerequisites and necessary coursework to prepare participants for all levels of the Fire Service. Certification as a 'Fire Officer' should be used to ensure that Incident Commanders are familiar with the basic principals of emergency response and have the necessary skills to manage an active response. The requirements of CFR1910.120 (HAZWOPER) do not address all issues that may be encountered during an incident response, and while the fire brigade standards of CFR1910.156 might be suitable for small municipalities or workplace responses, the training levels identified in NFPA 1021 offer superior methods and structure – something that is extremely important in any emergency response situation.

If so, what level of training is appropriate for officers? Is “NFPA 1021, Standard for Fire Officer Professional Qualifications,” an appropriate standard to consider in evaluating this issue (Ex. 1-24)?

Yes.

NFPA 1021 identifies the performance requirements necessary to perform the duties of a fire officer and specifically identifies four levels of training that progress with increasing rank and increasing responsibility. Are there other standards or recommendations OSHA should consider?

NFPA 1026: Standard for Incident Management Personnel Professional Qualifications.

What are the current training practices in your workplace?

N/A

23. OSHA’s Fire Brigade standard (29 CFR 1910.156) does not distinguish between industrial fire brigades and other types of fire departments that may respond to a wider range of emergency incidents at a variety of locations. Should the minimum training and qualifications for industrial fire brigade members be different than for other firefighters?

Yes, competencies and qualifications should be based upon the skills and competency to safely perform responsibilities designated in the employers’ emergency response plan. Skilled support workers with known responsibilities for response to the release of hazardous materials should meet training requirements previously identified (i.e.: Awareness, Haz Mat Operations, or Technician). The responding agencies or authority having jurisdiction should maintain the flexibility to provide just in time training to those support personnel who would not routinely be expected to respond to the release of hazardous materials.

If so, what is an appropriate training standard for OSHA to consider (e.g. “NFPA 1081, Standard for Industrial Fire Brigade Member Professional Qualifications”) (Ex. 1-25)?

The qualifications required in NFPA 1081, Standard for Industrial Fire Brigade Member Professional Qualifications” may exceed those required to safely perform responsibilities designated in the employers’ emergency response plan.

NFPA 1081 identifies the NFPA minimum job performance requirements necessary to carry out the duties of an individual who is a member of an organized industrial fire brigade providing services at a specific facility or site. Are there other standards or recommendations for fire brigades OSHA should consider?

Competencies and qualifications should be based upon the skills and knowledge to safely perform responsibilities designated in the employers’ emergency response plan.

NFPA 600 and 1081 may be adequate for a large number of industrial fire brigades. Industrial fire brigades respond at several levels that range from being limited to incipient fire response to interior structural fire fighting. NFPA 1081 details the performance requirement for each level of industrial response. NFPA 600 charges industrial management with identifying the scope of the industrial brigade or industrial fire department. Management is also responsible for identifying the training that is required for industrial responders to meet the requirements of 1081. Industrial fire brigades or industrial fire departments who respond beyond or outside of the facility boundaries do come under NFPA 600. In these cases NFPA 1001 would be the more appropriate performance standard.

What are the current training practices in your workplace?

N/A

24. During an emergency response the Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120), which does not cover all emergency incidents, requires that the individual in charge of the incident command system (ICS) designate a safety official. The safety official has the authority to alter, suspend, or terminate any activities that are deemed to be an imminent danger to employees. The Hazardous Waste Operations and Emergency Response Standard does not establish minimum training and qualifications for a **safety official**, but the person must be knowledgeable in the operations being implemented and able to identify and evaluate hazards with respect to the operational safety. While the Hazardous Waste Operations and Emergency Response Standard uses the term “safety official,” the National Response Plan (NRP) and National Incident Management System (NIMS) use the term “**safety officer**.” In practical application, is there a distinction between these two individuals or do they essentially perform the same function?

The terms “safety official” and “safety officer” are essentially the same for the purposes of managing the health and safety of emergency responders during an incident. The term “safety officer” would be the most appropriate for the paramilitary structure of an emergency response.

The safety officer's minimum qualifications should reflect current industry recommended standards such as NFPA:

- *The safety officer shall have and maintain knowledge of the current principles and techniques of occupational safety and health management systems.*
- *The safety officer shall have and maintain knowledge of current applicable laws, codes, and standards regulating occupational safety and health.*
- *The safety officer shall have and maintain knowledge of occupational health and safety hazards and the role of these hazards in diseases, illnesses, and injuries as related to emergency and non-emergency operations.*
- *The safety officer shall have and maintain knowledge of current health maintenance and physical fitness issues that affect the personnel.*
- *The safety officer shall maintain an awareness of the work of safety organizations, standards-making organizations, and regulatory agencies, in order to track changes in regulations or practices that are designed to eliminate unsafe practices and reduce existing hazardous conditions and that could affect the policies and procedures of the agency.*

The safety officer should maintain a role in the non-emergency functions of preparation and training of personnel. These duties should include a role in policy and procedure development, and the delivery of injury / illness prevention programs.

The NIMS describes the duties and functions of the safety officer at an emergency incident as monitoring incident operations and advising the Incident Commander on all matters relating to operational safety, including the health and safety of emergency responder personnel. The NIMS also does not specify the minimum training and qualifications to assume the role of safety officer. What are the minimum training and qualifications that a safety officer needs?

NFPA 1521: Standard for Fire Department Safety Officer contains minimum requirements for the assignment, duties, and responsibilities of a health and safety officer and an incident safety officer for a fire department or other fire service organization. These requirements are applicable to organizations providing rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services, including public, military, private, and industrial fire departments. This standard does not apply to industrial fire brigades.

Additionally, under NIMS, the Safety Officer is part of the Command Staff, the position of "safety official" as used here, would be similar to the Assistant Safety Officer (NIMS designation,) – which is defined more as an advisory role. Minimum qualifications for both positions should include a background in health and safety, (i.e. human anatomy and body mechanics in addition to a background that includes familiarity with regulatory requirements,) experience in 'job safety analysis' and other hazard recognition techniques, and in hazards' recognition specific to the environment, (i.e. Wildland fires,

USAR, vehicle extrications, etc.) that will require specific expertise not addressed in any way under HAZWOPER.

For program management, a background in occupational health and safety should be required. Safety Officers need only specific knowledge of the work tasks being performed, though to serve as a Safety Officer will require additional skills such as. The two positions are related but the focus for each is different, Safety Officers may not have the skills required to perform program management duties. Beyond program management, a safety officer should have non-emergency duties relating to their function in an emergency response, such as: preparation of forms to be used during an incident to document activities, preservation of completed, post-incident documentation, development of responder training programs, and oversight of preparedness measures necessary for responses.

Aside from responsibilities at an emergency incident, should a safety officer have a role in the management of an emergency response and preparedness program?

Yes.

If so, what should be a safety officer's non-emergency duties and functions and how would they relate to emergency response and preparedness?

The health and safety officer (HSO) should be involved in the development, implementation, and management of the official written risk management plan. In addition the health and safety officer should be responsible to communicate the health and safety aspects of the risk management plan to all members through training and education and to make the written risk management plan available to all fire department members. It should also be the responsibility of the health and safety officer to monitor the effectiveness of the risk management plan and ensure the risk management plan is revised annually as it relates to firefighter health and safety. Lastly but equally important the health and safety officer should be responsible to develop an incident risk management plan that is implemented into the fire department's incident management system.

25. Recently, there has been a greater emphasis on assuring continuity of incident management from the local and state responder level to the national level at incidents of national significance managed under the National Response Plan (e.g., large natural disasters). What training at the state and local level, if any, is necessary to facilitate seamless emergency operations at a joint field office (JFO) or area field office (AFO)?

No comment.

26. What is the best way for OSHA to specify training for a given emergency response role?
For example:

By specifying a minimum number of hours of training;
By specifying training content based on job tasks;
By specifying that training be adequate to demonstrate specified competencies;
By a combination of these methods; or
By some other method.

The most effective way for OSHA to ensure that emergency responders have the skills and competency to safely perform designated responsibilities is by specifying the use of competency based training. Skills being defined as a task or group of tasks performed to a specific level of competency or proficiency which often use motor functions and typically require the manipulation of equipment. Some skills, however, are knowledge- and attitude-based.

Competency being defined as a skill performed to a specific standard under specific conditions. Competencies are gained through a multitude of ways—life experience; formal education; apprenticeship; on-the-job experience; self-help programs; and, yes, training and development programs. Ultimately, Chiefs, company officers and firefighters working together and assessing consistency of job performance (behaviors) over time determine overall competence.

Additionally, the Federal Emergency Management Agency has been working on a national credentialing system to verify training and qualifications. Should the Agency consider credentialing systems in its evaluation of training and qualifications?

Training for a specific response role must include information to allow for use of all required equipment and be properly prepared for all activities and contingencies. There should be clearly defined levels of training for emergency response roles to prepare them for first responder roles, (those involving quick response with minimal PPE,) for incident management roles requiring advanced equipment and contingency planning, and for remediation phase activities. A combination of the listed training methods are used to train firefighters; total training hours, demonstration of competencies, and training to fill specific roles. Any of the listed methods will be sufficient for training emergency responders, provided that a training program is developed based on well-defined emergency response roles within each phase of an emergency response.

D. Medical Evaluation/Health Monitoring

Emergency responders work in an environment where they may be exposed to a variety of physical, chemical, or biological hazards. The personal protective clothing and equipment that they use, as well as the inherent nature of their work, can pose an additional physiologic burden on emergency responders. Medical evaluation and health

monitoring is an important factor in assuring the health and safety of emergency responders.

27. OSHA requires that hepatitis B vaccinations be made available to employees potentially occupationally exposed to blood or other body fluids in its bloodborne pathogen standard (29 CFR 1910.1030). Are other vaccinations necessary for emergency responders? If so, which vaccinations?

Yes, tetanus immunization and regular updates of the Hepatitis B vaccine are necessary for emergency responders. As fire and EMS personnel age, we also need to protect them from diseases that impact those that are older or have chronic medical diseases. Then we should include immunization with Pneumovax. For selected sites of service, some communities should have providers immunized to Hepatitis A.

What would these vaccinations cost?

These vaccines generally cost less than \$50 per dose.

Would they need to be repeated at some point?

Yes, Hepatitis B will require "booster" dosing.

Would they be recommended for all emergency responders or a particular subset?

All emergency responders should receive protection from Hepatitis B and Tetanus.

What are the current vaccination practices in your workplace?

N/A

28. There are currently available vaccinations for anthrax and smallpox, and other vaccinations could be developed in the future for diseases such as hepatitis C. Employers can determine, based upon their own risk assessment, if such vaccines are necessary and should be offered to their employees. If vaccines other than the hepatitis B vaccination are determined by the employer to be necessary for emergency responders, should OSHA consider non-disease specific administrative and recordkeeping procedures similar to those required for the hepatitis B vaccine (29 CFR 1910.1030(f))?

Yes.

These procedures could include requirements that the vaccine be made available at no cost to the employee, available to the employee at a reasonable time and place, and subject to appropriate medical screening. Are there any elements of an assessment process that should be implemented before an employer can determine that a vaccine is necessary, for example, a determination by the Centers for Disease Control and

Prevention's Advisory Committee on Immunization Practices (ACIP) or other appropriate medical recommendation?

The CDC makes some recommendations based on prevalence of a disease in the community. This is not a good basis for fire and EMS personnel who are exposed routinely to travelers and others from outside the community. We should rely on groups such as local public health and the Association of Practitioners in Infection Control (APIC) for state and region-specific immunization recommendations. The system Medical Director is most in touch with local infection issues, and particularly is capable of responding to immediate crises that require an immunization recommendation, like a local outbreak of Hepatitis A, or meningococcal meningitis. Some of these responses are needed within hours or days, and cannot wait for CDC intervention.

Vaccines to Hepatitis C are going to be needed immediately when they come available. This is a big risk to fire and EMS personnel. Measures should be put in place to deal with health concerns related to anthrax and smallpox. In this light, the role first responders should have in evaluating new vaccines should be defined so they do not become "experimental subjects" for vaccine development.

OSHA should consider the testing practices for tuberculosis. There is a new test, BAMT (Blood assay for mycobacterium tuberculosis) that may be easier to administer and offer recurrent and more specific indication of acute tuberculosis exposure. CDC recommendations so far support the use of this screening tool, but it is not widely available, and it is more expensive than skin testing. The use of this new tool also should be defined.

The health of fire/EMS responders assists in preventing or worsening community outbreaks of contagious diseases. Preparedness programs for everyday contagious disease also reassure emergency responders that they will be cared for in the event of a widespread outbreak of a deadly disease. If such programs are not in place and responders are not assured of their personal safety, there is a much greater risk they will not report for work in the event of Pandemic Flu or other crisis.

29. Medical evaluations for emergency responders are currently regulated under the Fire Brigade (29 CFR 1910.156), Respiratory Protection (29 CFR 1910.134), and Hazardous Waste Operations and Emergency Response (29 CFR 1910.120) standards. The Fire Brigade Standard requires that employers not permit employees with known heart disease, epilepsy, or emphysema to perform emergency response work unless approved by a physician. The respiratory protection standard requires that a physician or other licensed health care professional evaluate an employees' ability to use a respirator. Such an evaluation may consist solely of a medical questionnaire. The Hazardous Waste Operations and Emergency Response Standard has more extensive requirements for an annual medical evaluation. Is "NFPA 1582, Comprehensive Occupational Medical Program for Fire Departments" an appropriate medical evaluation for firefighters (Ex. 1-26)?

Yes. The IAFF/IAFC Joint Labor-Management Wellness-Fitness Initiative is also an appropriate medical evaluation for firefighters.

NFPA 1582 contains descriptive requirements for a comprehensive occupational medical program to ensure that fire department members are medically capable of performing their required duties. Are there other medical evaluation standards that are appropriate for either firefighters or emergency responders who perform tasks other than firefighting?

For emergency responders who **do not** perform firefighting tasks, what elements of a medical evaluation are necessary to assure that they are physically capable of performing essential job tasks while wearing an array of possibly physically burdensome personal protective clothing and equipment?

Evaluations prescribed by NFPA 1582 and the IAFF/IAFC Joint Labor-Management Wellness-Fitness Initiative would still be appropriate; however the criteria for fit for duty should be commensurate with the job tasks and physical capacities.

How often should a medical evaluation for emergency responders be conducted?

NFPA 1582 and the IAFF/IAFC Joint Labor-Management Wellness-Fitness Initiative define suggested frequencies for specific evaluations for emergency responders.

Please address the following types of medical evaluation: Pre-placement, return-to-work, annual fitness for duty evaluation, and periodic medical surveillance.

No comment.

What is the cost to the employer of these recommended medical evaluations for emergency responders?

Varies widely.

How is the medical evaluation of emergency responders addressed in your workplace?

N/A

30. The physiologic burden caused by performing emergency response activities and wearing PPE can be extreme (e.g., over-exertion, heat stress or dehydration). Additionally, cardiovascular fatalities represent a large percentage of firefighters' fatalities. Is on-scene rehabilitation and providing appropriate assistance (e.g., monitoring workers' temperature, blood pressure, hydration levels) an appropriate method of preventing or reducing the number of these injuries and fatalities?

Automated External Defibrillators (AED) should be part of the basic equipment on Department vehicles and should always be present at incidents scenes. The inclusion of

AEDs – and the EMT-level training required of all firefighters – are proper preparedness measures to address the issue of cardiac arrest and improve survivability for responders who suffer a cardiac emergency during response activities.

Is “NFPA 1584, Rehabilitation of Members Operating at Incident Scene Operations and Training Exercises” an appropriate standard for such practices (Ex. 1-27)?

Yes. On-scene rehabilitation of personnel during an emergency response accomplishes several objectives including a lessened risk of cardiovascular concerns. Additional physical fitness requirements reduce the risk further. Firefighters’ health should be monitored and the Department should have daily physical training requirements for all sworn personnel. NFPA 1584 is a comprehensive standard designed for managing the intense needs of the fireground; it describes basis “rehab” program requirements and is an effective, basic requirement.

Typically the majority of EMS incidents require less vigorous rehab, thus a less intensive rehab policy should be considered. On the other hand, EMS personnel engaged in firefighting or other activities should be provided rehabilitation at a commensurate level to the event.

NFPA 1584 describes recommended practices for developing and implementing an incident scene rehabilitation program, including: Medical evaluations, re-hydration, and protection from environmental conditions. Are there other methods of protection that are available, such as adjusting work/rest regimens or physical training?

Both the NFPA 1584 and FA-USFA Document 114/July1992 Emergency Incident Rehabilitation SOP provides direction on work/ rest regiments, hydration, nourishment, and recovery times.

Are there other standards or recommendations that OSHA should consider?

No comment.

Should defibrillators (either a defibrillator or an automated external defibrillator (AED)) be available at emergency incident scenes in case an emergency responder or skilled support worker has a cardiac event?

Mandating an on-scene defibrillator for all emergency incidents as well as all sites requiring skilled support workers seems excessive and may be logistically difficult to accomplish. The mandate may also require a trained member to stand-by to operate the defibrillator. This proposal would also require specific definitions of a “skilled worker.” As a counterpoint, most major cities and larger fire departments require Aid or Medic Units to be included on major responses, and most agencies have adopted the practice of equipping all fire/EMS apparatus with AEDs, which require very little training.

Do you currently have a defibrillator or AED at emergency events?

N/A

E. Safety

The safety of emergency responders and skilled support employees is affected by the employer's policies and procedures established to govern emergency response operations. Also, the tools and equipment used by emergency responders may affect their ability to detect and monitor hazards as well as communicate those hazards to others at the emergency scene.

31. The use of an incident management system as a means to assure the health and safety of employees is required by the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) for emergency response to hazardous materials incidents and OSHA's Fire Brigades in Shipyards standard (29 CFR 1915.505). Is an incident management system appropriate for managing all other emergency incidents?

Yes, a NIMS compliant incident management system should be required for all agencies responding to an emergency incident. While 29CFR 1910.120 and 1915.505 address response activities and requirements specific to hazardous waste and shipyards, the measures described for an incident management system could be adopted for all response activities. Specific measures should be devised based on history of previous incidents and anticipated concerns.

32. The NIMS specifies that a unified command structure be employed for all employees at an incident when there are multiple jurisdictions and agencies involved. Since each employer is responsible for the health and safety of his or her employees at emergency incidents and may affect the safety and health of other employers' employees, how can a safety management structure be developed that incorporates a multi-employer response that is commanded within a single incident command system for all types of incidents?

The command structure provides for supervision (Company Officer) at the crew level. Although the supervisor of the crew may not be a direct employee-employer relationship at a multi-jurisdictional incident, consistent safe practices can be ensured by the utilization of agreed upon Standard Operating Guidelines and Competencies.

33. The NIMS describes the duties and functions of the safety officer at an emergency incident. However, the NIMS does not address non-emergency functions for the safety officer that may be necessary to assure the health and safety of emergency responders and skilled support personnel when an emergency does occur (e.g., assuring training requirements are met, assuring that protective clothing and equipment is adequately maintained, or reviewing and updating standard operating procedures). What are the non-emergency duties and functions that are necessary to assure the proper management of an

emergency response and preparedness program? Is a designated safety program manager or administrator needed?

The responsibilities of a Health and Safety Officer include non-emergency functions. The management of safety programs has been discussed in question #24, identifying training and background requirements for such personnel. Designating a safety program manager will allow for coordinated pre-incident planning and does require a background in regulatory requirements and an understanding of the incident management system.

34. Do emergency responders need hazard detection and monitoring equipment capabilities, such as 4-gas monitors, thermal imaging cameras, or chemical, biological, and radiological detection equipment? If so, for each type of job task what abilities and equipment are needed?

Emergency responders need detection and monitoring equipment when they have the potential to respond to emergency incidents. The type and capability should be determined by the responder's role during the response.

How much would these devices typically cost to own and operate?

The cost to own and operate this equipment can vary greatly:

4-gas monitor: Purchase \$2000.00 to \$3000.00, annual maintenance of \$300.00, typical service life of five years.

Thermal imaging camera: Purchase \$8000.00 to \$10,000.00 with an annual maintenance cost of \$200.00.

What is the devices' expected service life?

The service life is typically greater than five years.

35. Should emergency response organizations establish written standard operating procedures (SOPs) or standard operating guidelines (SOGs) for expected emergency response activities?

Emergency response organizations should develop written standard operating procedures or guidelines for expected emergency response situations. The SOP/SOGs should address the following issues:

- 1) *The policy of the department regarding the incident if applicable.*
- 2) *The broad tactical objectives identified by the department.*
- 3) *Operational considerations for responding, deploying personnel and equipment, and initiating actions to mitigate the incident.*
- 4) *Firefighter safety concerns pertinent to the incident type.*

The SOP/SOG's should be broad enough in scope to deal with variations of incident situations, yet provide overall guidance to responders in the above areas.

For example, while a fire department may have an SOP/SOG for responding to mobile property (vehicle) fires which should address the tactical objectives and considerations that personnel should take in consideration during an incident, the department need not have specific SOP/SOG's for dealing with each different type of alternative fuel vehicle in production. If an individual emergency response organization routinely deals with hybrid power vehicles their SOP/SOG should include any pertinent tactical objectives, and personnel safety issues.

If so, what types of issues should be addressed in the SOPs or SOGs?

The Emergency Response Organization working in conjunction with Office of Emergency Management should identify potential hazards, the likelihood of their occurrence, and the vulnerability of people, property, and the environment to those hazards. Hazards to be evaluated should include the following:

- (1) Natural hazards (geological, meteorological, and biological)*
- (2) Human-caused events (accidental and intentional)*
- (3) Technological-caused events*

How should employers determine what activities are within the expected range of operations and what activities might be outside the range of expected planning?

In order to determine which types of incidents require specific SOP/SOG's, agencies should review historical incident type data, new technologies, and national trends.

Over 75% of fire departments in the United States are comprised of "on-call" personnel. These departments typically have limited resources and have to balance training and incident responses against their member's occupational and family demands.

While large career fire departments may choose to develop very specific SOP/SOGs for many types of incidents, it is not practical for smaller on-call departments serving suburban or rural areas to develop specific SOP/SOG's for a multitude of incidents that they may never encounter.

How should employers plan and prepare for special hazards within their area of operations (e.g., high-rise buildings, industrial facilities, or open-pit mines)?

If there are multiple occupancies of a specific hazard in the department's area, then the department may wish to develop an SOP/SOG dealing with the occupancy type such as: high rise, industrial facilities, etc. For a unique occupancy it may be more appropriate for a department to create a site specific SOP/SOG.

36. How can communication at emergency incidents be maintained?

The report *RADIO COMMUNICATIONS FOR THE FIRE SERVICE (attached)* compiled jointly by the IAFC, NVFC, CFSI, and NFFF addresses the following questions.

Incident communication may be categorized as strategic and tactical. Strategic communication involves designated supervisors and higher ranking officers who are coordinating the overall incident response activity. Tactical communication involves teams of personnel who are assigned tasks as part of the overall incident strategy.

Face to face and wireless voice communications have been the optimal methods of strategic and tactical communications for many years. Ideally, all personnel involved in a response should be able to communicate with other appropriate personnel when necessary. This may be accomplished by face to face communication and/or radio technology. It must be noted that there is a practical requirement to control radio communications at an incident. After action reports of incidents typically indicate that communications, especially radio, were problematic for numerous reasons.

Is a certain type of communications hardware, such as radio systems, or handheld radios, needed by all emergency responders?

Radio is the most efficient communications technology available at this time. There is a wide divergence in radio technology deployed within fire departments. While large departments in urban areas are deploying 700/800 MHz digital trunked radio systems, the majority of fire departments in the United States are communicating with conventional analog radios operating in VHF/UHF spectrum. Typically, personnel using conventional analog radios can communicate with each other without the aid of communications infrastructure. Personnel using digital trunked radios must be within the coverage of the system infrastructure in order to communicate. This creates issues within structures which attenuate infrastructure radio coverage. It is extremely expensive to build a communications infrastructure that provides 95% coverage of all structures within a jurisdiction. There are technologies available to provide additional coverage within structures such as vehicle mounted repeaters and building specific signal amplifiers. Both of these options add cost and complexity to the communications system.

What training in communications is needed?

Fire departments using conventional radio systems require periodic training on the communications equipment and procedures. This training may involve several hours every 24 months.

As communications systems become more sophisticated, there is an increased need for training personnel in their use. Review of 700/800 MHz digital trunked radio system implementation by departments which reported problems indicate that lack of training and poor system coverage were the two main issues. Fire departments that have implemented new communications technology successfully have indicated that a

minimum of 6-12 hours of training is required initially and that 3 hours of refresher training is required annually to maintain proficiency.

Is there evidence that portable radios are necessary for either each individual emergency responder or each team of emergency responders?

Ideally, all personnel operating in IDLH (immediately dangerous to life/health) conditions should be equipped with a portable radio capable of communicating with the appropriate tactical command officer, and the Rapid Intervention Team (RIT) in the event the personnel experience an emergency necessitating assistance. Practically, each team of personnel working in an IDLH atmosphere should be equipped with a radio capable of the above communication.

If new equipment and training would be necessary, how much would they cost?

Current conventional analog portable and mobile radios cost less than \$1,000 per unit. Infrastructure costs are relatively minimal for conventional systems due to the mode in which they operate.

700/800 MHz digital trunked portable radios cost from \$2,500 to \$4,500 each. Vehicular repeaters to extend the coverage of portable radios within structures cost from \$3,000 to \$9,000 each. Tower sites to extend 700/800 MHz infrastructure coverage within buildings can cost over \$1,000,000 each. Structure specific coverage solutions such as a bidirectional amplifier which enhances system coverage within a particular building can range from \$5,000 to \$20,000 per building.

37. The Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) gives the incident commander broad authority in managing risk by determining the scope of operations possible at a given incident. The “two in/two out” provision of the Respiratory Protection Standard (29 CFR 1910.134 (g)(4)) for interior structural firefighting implies, but does not directly address, the concept of risk management. How can OSHA more thoroughly address the concept of risk management at emergency incidents?

Risk Management at an incident is dynamic and is the primary responsibility of the Incident Commander and the Safety Officer. The key elements of any assessment of risk are:

- *Identification of the hazards;*
- *Assessment of the risks associated with the hazards;*
- *Identification of who is at risk;*
- *The effective application of measures that control the risk;*

The Incident Commander must ensure that safe practices are followed and that, so far as is reasonably practicable under the circumstances, risks are eliminated or, if not, reduced to the minimum commensurate with the needs of the task. However, because

personnel may be working in sectors or smaller teams, everyone must be constantly aware of their own safety as well as that of their colleagues and others who may be affected by the incident. Therefore all personnel should continually risk assess their position.

What guidance should be given in weighing the health and safety of emergency responders against victims' lives, against property loss, or in situations where concerns about immediate safety may have negative consequences for long-term health, such as lung damage?

The IAFC rules of engagement prescribe the following:

- *Firefighters will take some risk to save lives;*
- *Firefighters will take a little risk to save property;*
- *Firefighters will not take any risk at all to try to save lives or property that is already lost..*

How should risk management guidelines address the various phases of an emergency response from rescue, incident stabilization, through remediation/recovery?

The focus of operational activity changes as an incident evolves. The stages are:

The Initial Stage

The Development Stage

The Closing Stage

Initial Stage includes:

1. *Evaluate the situation (identify hazards) , tasks (rescue, suppression, control) and persons (firefighters, public) at risk*
2. *Introduce and declare tactical mode (Offensive, Defensive, and Transitional)*
3. *Select safe systems of work (Standard Operating Guidelines, Pre Incident Planning)*
4. *Assess the chosen systems of work and that risks involved are proportional to the potential benefits of the outcome.*
5. *Ensure Optimization of control measures (Proper Use of all PPE, Available Technology e.g. Pass Devices, Thermal Imaging Cameras,)*
6. *Evaluate progress and re-evaluate Risk vs. Benefit*

The Development Stage

As the incident develops changing circumstances may make the original course of action inappropriate, for example:

1. *Fire fighting tactics may change from defensive to offensive.*
2. *New hazards and their associated risks may arise, e.g. the effects of fire on building stability.*
3. *Inadequate resources to sustain the tactics*
4. *Personnel may become fatigued.*

Both Incident and Sector Commanders, therefore, need to manage safety by constantly monitoring the situation assessing progress and risk vs benefit.

The Closing Stage of Incident

- 1. The key activities involved in the closing stages of an incident are:*
- 2. Maintaining Control*
- 3. Rehab*
- 4. Incident debrief*
- 5. Maintaining Control*

The process of task and hazard identification, assessment of risk, planning, organization, control, monitoring and review of the preventive and protective measures must continue until the last apparatus leaves the incident.

There are usually fewer reasons for accepting risks at this stage, because there are fewer benefits to be gained from the tasks being carried out. Incident and Sector Commanders should therefore have no hesitation in halting work in order to maintain safety.

Details of all near misses' i.e. occurrences that could have caused injury but did not in this instance must be recorded because experience has shown that there are many near misses for every accident that causes harm. If, therefore, we fail to eradicate the causes of a near miss, we will probably fail to prevent injury or damage in the near future.

Rehab

The rehab of personnel is an important consideration throughout the incident however it becomes more critical during the final phase. It must be given particular attention by the command team. The condition of crews must be continually monitored by company officers.

Incident Debrief

Following an incident any significant information gained, or lessons learned should be documented.

It is important to identify any unconventional procedures used which was successful or made the working environment safe.

It is equally important to highlight all equipment, systems or procedures which did NOT work satisfactorily, or which made the working environment unsafe.

How does your workplace address the concept of risk management during emergency response and preparedness activities?

N/A

38. Are there specific features of an occupational health and safety program not addressed in previous questions that are necessary for emergency responder health and safety (e.g., any elements contained in “NFPA 1500, Fire Department Occupational Safety and Health Program” such as life-safety rope systems) (Ex. 1-28)?

No comment.

NFPA 1500 provides the NFPA requirements for a fire service occupational safety and health program for fire departments. The Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120(b)) requires that employers develop and implement a written safety and health program for their employees involved in hazardous waste operations (e.g., safety and health training, medical surveillance, necessary interface between general program and site specific activities). Would a health and safety program similar to that required in 29 CFR 1910.120(b) be appropriate for emergency response activities?

Support personnel such as utility drivers and firefighters are issued PPE, but when reporting to the scene of an incident, they are required to be accompanied by firefighting personnel. Briefings are provided for any equipment provided, PPE assigned or for other specific instructions to be relayed for the employee’s safety.

39. Are there any other issues or concerns related to the health or safety of all emergency responders, or any particular group of emergency responders, that should be considered? Are there any issues related to the health and safety of skilled support personnel at emergency incidents that should be considered?

From the Cincinnati Health News article:

University of Cincinnati (UC) environmental health researchers have determined that firefighters are significantly more likely to develop four different types of cancer than workers in other fields.

Their findings suggest that the protective equipment firefighters have used in the past didn’t do a good job in protecting them against cancer-causing agents they encounter in their profession, the researchers say.

The researchers found, for example, that firefighters are twice as likely to develop testicular cancer and have significantly higher rates of non-Hodgkin’s lymphoma and prostate cancer than non-firefighters. The researchers also confirmed previous findings that firefighters are at greater risk for multiple myeloma.

Grace LeMasters, PhD, Ash Genaidy, PhD, and James Lockey, MD, report these findings in the November edition of the Journal of Occupational and Environmental Medicine. The UC-led research is the largest comprehensive study to date investigating cancer risk associated with working as a firefighter.

“We believe there’s a direct correlation between the chemical exposures firefighters experience on the job and their increased risk for cancer,” says LeMasters, professor of epidemiology and biostatistics at UC.

Firefighters are exposed to many compounds designated as carcinogens by the International Agency for Research on Cancer (IARC)—including benzene, diesel engine exhaust, chloroform, soot, styrene and formaldehyde, LeMasters explains. These substances can be inhaled or absorbed through the skin and occur both at the scene of a fire and in the firehouse, where idling diesel fire trucks produce diesel exhaust.

“Firefighters work in an inherently dangerous occupation on a daily basis,” LeMasters adds. “As public servants, they need—and deserve—additional protective measures that will ensure they aren’t at an increased cancer risk.”

The UC-led team analyzed information on 110,000 firefighters, most of them full-time, white male workers, from 32 previously published scientific studies to determine the comprehensive health effects and correlating cancer risks of their profession.

Risk for 20 different cancers was classified into three categories—probable, possible or not likely—patterned after the IARC’s risk-assessment model.

UC epidemiologists found that half the studied cancers—including testicular, prostate, skin, brain, rectum, stomach and colon cancer, non-Hodgkin’s lymphoma, multiple myeloma and malignant melanoma—were associated with firefighting to varying levels of increased risk.

“There’s a critical and immediate need for additional protective equipment to help firefighters avoid inhalation and skin exposures to known and suspected occupational carcinogens,” says Lockey, professor of environmental health and pulmonary medicine at UC. “In addition, firefighters should meticulously wash their entire body to remove soot and other residues from fires to avoid skin exposure.”

The research was supported in part by a grant from the Ohio Bureau of Workers Compensation. Study collaborators include UC’s Paul Succop, PhD, James Deddens, PhD and Kari Dunning, PhD, as well as Tarek Sobeih, MD, PhD, of Cairo University, and Heriberto Barriera-Viruet, PhD, of the Interamerican University of Puerto Rico.

Decontamination Protocol for Firefighting

Hazardous Material Emergency Responders have a specific protocol on how to decontaminate their personal protective equipment as well as their tools from exposure to the toxic materials that may have been present. Yet a firefighter who enters an atmosphere that is thick with toxins present in the smoke, fire gases, and run-off follow no such protocol. A decontamination protocol needs to be developed for all firefighters who enter a structure fire.

A significant issue that has not received appropriate emphasis is the safety benefits of automatic fire sprinkler systems in buildings. The statistics clearly indicate that these systems dramatically reduce the risk of death or injury to an emergency responder.

From 1997 through 2006, 250 firefighters were killed in 207 structure fires. Of those 250 firefighters, 241 were killed in buildings that were not protected by a fire sprinkler system. Nine were killed in five buildings reported to have suppression systems. (This does not include the 340 firefighters killed at the World Trade Center in 2001.) Just reviewing these statistics on face value indicates that 96% of firefighter deaths occurred in non-fire sprinkler protected buildings.

However, upon closer examination, the statistics are even more impressive as to the effectiveness of fire sprinklers. Of the 9 that were killed in buildings reported to have fire sprinkler systems, three were killed in an explosion, four were killed in buildings where the fire sprinkler system was shut off/not hooked up and two perished in buildings that were partially sprinklered. Excluding the unknowns in the explosion incident, none of these deaths occurred in buildings where the fire sprinkler system protected the entire structure and the system was fully functional. The details on these fires are as follows and indicate that, even in the circumstances surrounding these 9 deaths, the effectiveness of a fire sprinkler system in reducing firefighter deaths and injuries is even more profound as these incidents are not failures of the automatic fire sprinkler system.

- *Three firefighters were killed in an explosion at a pesticides repackaging facility. The building was reported to have been protected by a wet pipe sprinkler system, but no information on the system could be obtained because of damage to the facility.*
- *Three firefighters were killed in a fire in a high-rise apartment building. The sprinkler system in that building had been shut off prior to the fire.*
- *A firefighter died of a heart attack while taking video of overhaul operations at a fire in a nursing home. The sprinkler system in that wing of the building was not functional because the sprinkler pipe was not hooked up. (That's the wording in the report.)*
- *A firefighter collapsed and died during overhaul after a fire in a three-story apartment building (elderly housing) that had a wet-pipe sprinkler system. The fire started in the cockloft, above the sprinklers which never operated. (<http://www.cdc.gov/niosh/fire/reports/face200132.html>)*
- *And finally, a firefighter became disoriented and ran out of air in a high-rise apartment building that had a partial sprinkler system (the common areas were protected). The fire started in an area of the building that was not protected. (<http://www.cdc.gov/niosh/fire/reports/face200133.html>)*

These numbers are even more impressive considering that fire sprinkler systems have been traditionally installed in higher hazard occupancies where fire risk and consequences are more severe than the typical fire incidents.

OHSA should actively advocate for the widespread utilization of automatic fire sprinkler systems across all occupancy types. This advocacy should extend to the installation of fire sprinkler systems in new one-and two-family dwellings as these occupancies are a significant contributor to firefighter deaths and injuries. It is clear that no other single safety initiative can have the success in reducing firefighter deaths and injuries on the fire ground than the widespread installation of automatic fire sprinkler systems.

(Statistics are from the National Fire Protection Association.)

F. Additional Information

40. In addition to the specific questions above, the Agency is seeking general information on the cost of safety and health measures undertaken by municipal emergency response agencies (e.g., fire departments) and any other first responders or skilled support employees. From what levels of government are revenues derived to support emergency response and preparedness?

Revenues are derived from all levels of government, federal, state, and local. These revenues can be from tax income, grant programs, or direct payment for service from government agencies. The cost could be absorbed through a tax increase, identified grant revenues, or an offset of other services deemed a lower priority.

What other sources of revenue are available?

No comment.

How are increased costs of operation dealt with (e.g., reduction in service, increase in response time, or increased revenue sources)?

Increased costs of operation are dealt with depending on the priority of the issue. It should be noted that OSHA compliance often determines the priority of the issue to a government employer. An issue identified in a "recommended" standard (i.e. not required or enforced) is often not addressed by the restricted budget of local and state government.

How are these issues different for smaller emergency response operations or rural areas than for larger or mid-sized operations?

No comment.

How often are emergency response operations contracted out to specialists, either by companies or communities?

No comment.

41. Are there any existing OSHA standards, guidelines, or recommendations that, when viewed in conjunction with other Federal, State or local codes and/or the recommendation of consensus standards organizations such as, but not limited to NFPA, ANSI or ASTM, create conflict or uncertainty in the practice of emergency responding, safety and health planning, in the selection of protective equipment, in the procurement of emergency response equipment, or in the provision of training?
1. *29 CFR OSHA 1910.134 was never validated as a true working regulation for the public fire service when it was adopted in 1997.*
 2. *In most parts of the country, whether career, combination, or volunteer, there is not enough staffing to support 29 CFR OSHA 1910.134.*
 3. *29 CFR OSHA 1910.134 promotes uncoordinated fire attack.*
 4. *Exterior operational use as a pump operator or IC is limited to only one firefighter of the 29 CFR OSHA 1910.134 "2 Out" . When "assistance" by the interior crew is needed, is the pump abandoned?*
 5. *When the regulation refers to "assistance", how is that to be defined? Where do the "2 Out" draw the line given risk versus benefit?*
 6. *In the event of a Mayday incident, the "2 Out" crew is not enough manpower and are not going to have enough of the proper equipment to effect an effective and calculated search and rescue effort.*
 7. *Levels of training are always in question, and if the "2 Out" are not properly trained or experienced, this can easily add to the risk of contributing to a Mayday incident instead of solving it.*
 8. *As 29 CFR OSHA 1910.134 is a Federal regulation originally for industrial fire brigades, for the variety of public fire services available, "one size" can not feasibly fit all services.*

Data collected on insurance claim for the nature of the injury itself is very vague (e.g., "burn" vs. "3rd degree contact burn")

OSHA standards can create conflict or uncertainty with emergency responders when the OSHA standard's relevance has not kept pace with applicable consensus or industry standard. These consensus standards are updated more frequently than OSHA standards

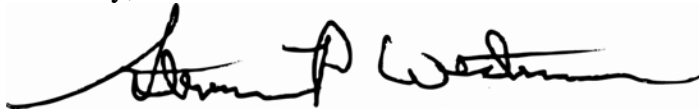
but are often not “required” by an employer. This can leave responders without the resources necessary to meet the more recent, possibly more relevant consensus standard. OSHA could attempt to remedy these situations by appropriately participating in the development of consensus standards. This would allow the existing OSHA standard that references a consensus standard, to be updated in a timely manner.

If so, what could OSHA do to remedy these situations?

Address the issue through research, validation and a clear standard of practice. Require a new claim form (standard workman’s comp with questions designed to get more information for injury tracking).

If you have any questions about these comments, please feel free to call Ken LaSala, Director of Government Relations at (703) 273-9815 x347 or Victoria Lee, Program Manager, at (571) 221-2813. Thank you for the opportunity to provide our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven P. Westermann". The signature is fluid and cursive, with a long horizontal stroke at the end.

Chief Steven P. Westermann, CFO
President

cc: OSHA Docket Office
Mr. Andrew Levinson, OSHA