

Emergency Response Standard
Small Business Advocacy Review Panel - Small Entity Representatives
Issues Document
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1. Background

OSHA is considering promulgating a new standard that would require employers to take measures to protect workers who respond to emergency incidents. The standard would seek to ensure that covered employers and workers are safer in their workplaces and appropriately prepared for emergency incidents. This standard, called Emergency Response, would cover workers who respond to emergency incidents as part of their regularly assigned duties as well as those who may be called upon, from time to time, to respond to emergencies. This new standard

would replace, in its entirety, existing 29 CFR 1910.156, Fire Brigades. It would apply only to entities that are already required to comply with Federal OSHA or state plan regulations. Many entities with emergency responders (primarily State, county and municipal government employers) do not fall under OSHA's jurisdiction.

As a program standard that is predominantly performance based, the draft Emergency Response standard parallels several existing National Fire Protection Association (NFPA) standards. Many of the draft standard's provisions are based on, or incorporate by reference, the NFPA standards. The draft standard was developed by a National Advisory Committee on Occupational Safety & Health (NACOSH) subcommittee of emergency response subject matter experts. NACOSH was established under the Occupational Safety and Health Act of 1970 (OSH Act) to advise the Secretaries of Labor and Health and Human Services on occupational safety and health programs and policies.

OSHA has convened a Small Business Advocacy Review (SBAR) Panel under the Small Business Regulatory Enforcement Fairness Act (SBREFA). The SBAR Panel has several purposes. First, the Panel provides an opportunity for affected small employers to provide comments to OSHA in advance of the formal rulemaking process. Second, by reviewing the potential provisions that might be included in an Emergency Response standard and estimates of the potential impacts of that rule, Small Entity Representatives (SERs) and the Panel can offer recommendations to OSHA on ways to tailor the rule to make it more cost effective and less burdensome for affected small entities. Third, early comments permit identification of different regulatory alternatives the agency might consider. Finally, the SBAR Panel report can provide specific recommendations for OSHA to consider on issues such as reporting requirements, timetables of compliance, and whether some groups, including small entities, should be exempt from all or part of any proposed rule.

This document contains a brief discussion of each topic OSHA is considering including in a proposed rule and initial estimates of the unit costs of complying with those provisions. This document also presents potential regulatory alternatives (both those that reduce burdens on small entities and are considered significant alternatives under the Regulatory Flexibility Act (RFA) and those that may increase burdens) and questions for SERs. This issues document is meant to serve as both a summary of the longer Preliminary Initial Regulatory Flexibility Analysis (PIRFA) and as a discussion guide for SERs participating in the teleconferences. OSHA welcomes comment on all aspects of the PIRFA, but this document focuses on specific areas of interest to the agency. Throughout the document, the Panel has listed issues, along with questions, where the Panel would appreciate SER input. However, SERs should feel free to bring up any issues they would like the Panel to consider. This document does not include discussions of wage rates or detailed calculations of total cost. If costs are incurred to purchase a good or

service, OSHA presents the estimated dollar cost of that purchase, but where costs are accounted for in additional time requirements from employees, OSHA has largely focused on the estimated time demands. The full calculations of costs, tables, and references are found in the PIRFA. It should also be noted that costs estimates in this document focus on the costs to specific establishments; a partial estimate of the aggregate costs to the entire economy can be found in the PIRFA.

The OSH Act imposes a number of requirements OSHA must satisfy before adopting a standard. Among other things, a safety standard must be highly protective, materially reduce a significant risk to workers, be technologically feasible, and be economically feasible. It is important to note that the PIRFA is only one of several analyses OSHA will conduct in developing a proposed rule. OSHA has not yet prepared a health effects analysis nor conducted a preliminary risk assessment or technological feasibility assessment. Although the PIRFA contains some information about potential risks and hazards that may be faced by firefighters and other emergency responders, OSHA has not yet made a preliminary determination about whether the regulatory provisions in the draft standard would materially reduce significant risks to workers who respond to emergency incidents or provide skilled support at emergency incidents.

2. Scope, Affected Entities, and Other Industry Characteristics

Scope

The draft Emergency Response standard would apply to employers that mitigate a hazard in an emergency response situation and the activity is currently covered by 29 CFR 1910.156, or is not covered by another OSHA standard. The standard would apply to, but not be limited to, entities that provide one or more of the following services as a primary or secondary function:

- Firefighting
- Fire rescue
- Emergency medical service
- Technical rescue (rope/high angle, cave, collapse)
- Vehicle/machinery rescue
- Water rescue/recovery (land/shore based, swiftwater, underwater)
- Search and rescue (urban, mountain, wilderness)

Also covered by the standard are general industry, construction, and maritime industry employers that expect, based on past experience providing skilled support services to ESOs, a mutual aid agreement, or a contract, to provide skilled support personnel at an emergency incident. Examples include employers who provide operators and equipment such as:

- Cranes
- Construction equipment (bulldozers, backhoes, excavators, etc.)

- Vacuum trucks
- Heavy duty wrecker/rotator tow vehicles
- Utility service (gas, water electric)
- Public health employers.

Some employers provide emergency services or designate employee tasks that are already covered by other OSHA standards and are therefore are not covered by the draft Emergency Response standard. They are:

- Employers that designate and train certain employees to assist in the orderly evacuation and rescue of other employees during an emergency in accordance with 29 CFR 1910.38, Emergency action plans, or to use portable fire extinguishers in accordance with 29 CFR 1910.38, and 1910.157, Portable fire extinguishers;
- Employers that handle small releases covered by 29 CFR 1910.119, Process Safety Management of highly hazardous chemicals (PSM), and who may also be covered by 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPR), and employers that respond to hazardous materials releases covered by HAZWOPR;
- Employers that provide medical services and first aid in accordance with 29 CFR 1910.151, Medical services and first aid;
- Employers that provide any of the following specialized types of rescue or emergency response:
 - Confined spaces rescue in accordance with 29 CFR 1910.146, Permit-required confined spaces, or 29 CFR 1926 Subpart AA, Confined spaces in construction;
 - Equipping and training grain handling employees for rescue procedures in accordance with 29 CFR 1910.272, Grain handling facilities;
 - Employers with employees who may enter trenches and other surface excavations in accordance with 29 CFR 1926 Subpart P, Excavations;
 - Shipyard fire protection in accordance with 29 CFR 1915 Subpart P, Fire protection in shipyard employment.

For example, if an employer has employees who only mitigate hazardous chemical releases in accordance with 29 CFR 1910.120 (HAZWOPR), the employer would not be covered by the draft Emergency Response standard since these activities are already regulated by an OSHA standard, and the employer would have no obligation to comply with the draft standard. But, if the employer's HAZWOPR responders are also firefighters on the fire brigade (an activity not

covered by HAZWOPR), then the employer would have to comply with the draft Emergency Response standard, with respect to the employees' duties as firefighters.

This standard would not apply to employers during post-emergency incident activities (which begins when emergency incident command is terminated by the Incident Commander (IC) or Unified Command). Any employers whose employees remain at the location of the incident during post-emergency incident activities would comply with all other OSHA standards (Parts 1910, 1926) as appropriate to the industry.

Coverage of Public Employees in State Plan States and Volunteer Responders

The OSHA standard does not apply to all public sector emergency responders. The scope is limited to Emergency Service Organizations (ESOs) and responders under OSHA's jurisdiction. Only public ESOs that are in state plan states are under OSHA's jurisdiction and therefore the analysis excludes public ESOs and responders in non-state-plan states. The following states and territories have state plans and public ESOs in these states are therefore covered by the draft standard:

- Alaska
- Arizona
- California
- Connecticut
- Hawaii
- Illinois
- Indiana
- Iowa
- Kentucky
- Maine
- Maryland
- Michigan
- Minnesota
- New Jersey
- New Mexico
- New York
- Nevada
- North Carolina
- Oregon
- Puerto Rico
- South Carolina
- Tennessee
- Utah
- Vermont
- Virginia
- Washington
- Wyoming

An unusual aspect of the draft standard is that many emergency responders are unpaid volunteers rather than paid employees. Some state plans cover volunteers and some do not. OSHA has preliminarily determined that the following state plan states do not consider volunteers to be employees and therefore do not extend OSHA protections to volunteers.

- Connecticut
- Maryland
- North Carolina
- Vermont
- Wyoming
- Kentucky
- New Mexico
- Tennessee
- Virginia

OSHA has preliminarily determined that there are approximately 5,200 volunteer firefighting ESOs, 200 separate Emergency Medical Services (EMS) ESOs, 173,000 volunteer firefighting responders and 14,000 volunteer ambulance responders in OSHA state plan states that extend occupational safety and health coverage to volunteers.

ISSUES

OSHA welcomes comments on the issue of who would be covered by a draft Emergency Response standard. Is it appropriate to include all employers that are currently identified as being included? If so, please explain why.

Should any types of employers or entities currently included be excluded from the draft standard? If so, please explain why.

Has OSHA has not to identified any industries or emergency service providers that would or should be included but are not? Please identify them and give your reasons why they would or should be included.

Do you understand how OSHA intends to cover or not cover emergency services where other OSHA standards address those activities?

The agency welcomes suggestions on how to clarify anything you find confusing or potentially confusing.

Affected Entities

Combined Fire Department and Emergency Medical Service Profile

Table 1 summarizes the number of ESOs and responders in the scope of this analysis; the number of ESOs that are considered small by either the RFA definitions (for public ESOs) or Small Business Administration (SBA) definitions (for private ESOs); the number of ESOs that are considered very small (those with fewer than 20 employees) and the number of responders who work at those various size ESOs. Appendix A to this document summarizes the industry profile estimates. Full calculations and estimates and additional details are available in the PIRFA.

Table 1 - Combined Fire Department and Emergency Medical Service Profile – Summary

Employment Size Class	Total in Scope		RFA/SBA Small		< 20 Responders	
	ESOs	Responders	ESOs	Responders	ESOs	Responders
Fire Departments						
<25	4,296	73,050	4,294	72,302	1,897	23,247
25-49	4,879	154,364	4,879	154,364	0	0
50-99	1,686	105,775	1,346	77,960	0	0
100-249	567	77,711	24	3,434	0	0
250-499	100	33,339	2	600	0	0
500+	59	80,251	0	0	0	0
Total	11,587	524,489	10,545	308,660	1,897	23,247
Emergency Medical Services						
<25	4,126	45,539	3,615	13,694	3,592	32,177
25-49	1,210	47,732	1,061	14,324	0	0
50-99	615	48,831	538	14,811	0	0
100-249	342	57,243	298	17,481	0	0
250-499	108	35,795	94	10,983	0	0
500+	187	129,885	12	24,289	0	0
Total	6,589	365,025	5,619	95,581	3,592	32,177
Total						
<25	8,422	118,589	7,909	85,996	5,489	55,424
25-49	6,089	202,096	5,940	168,688	0	0
50-99	2,301	154,606	1,884	92,771	0	0
100-249	909	134,953	322	20,915	0	0
250-499	208	69,134	96	11,583	0	0
500+	246	210,136	12	24,289	0	0
Total	18,176	889,514	16,164	404,241	5,489	55,424

Sources: See PIRFA

Note: See PIRFA for full notes.

How Are Small Entities Defined?

For the purposes of SBREFA, publicly owned fire departments and EMS providers are classified as small if they are controlled by a government serving a population of less than 50,000 people. OSHA lacks data precisely identifying the number of small ESOs controlled by governments and how many people they each employ. To estimate these numbers, OSHA relied on available data from ESOs that serve larger populations and extrapolated the numbers (using median population served per firefighter) to estimate the allocation of firefighters among small governmental entities. For this estimate, the agency relied on registry data from Firehouse Magazine and the U.S. Fire Administration.

Lacking data on the distribution of EMS ESOs by size, OSHA calculated that distribution by assuming that the distribution of EMS ESOs and firefighting ESOs are similarly distributed across size categories and applying the ratio of the number of fire departments serving various

population sizes to the total number of fire departments and the total number of EMS ESOs, as detailed in the PIRFA.

There are potentially many affected private entities across a wide range of North American Industry Classification System (NAICS) industry codes. For purposes of the PIRFA, OSHA is classifying private entities as small if they have less than 500 employees. This cutoff is based on size classifications from the SBA.

In addition, OSHA estimates there are approximately 30,000 privately employed fire fighters in the U.S., mostly in NAICS 561, Administrative and Support Services.

OSHA's preliminary analysis suggests that the majority of regulated entities meet the RFA/SBA definitions of small entities.

Skilled Support Employers (SSE)

Under OSHA's draft Emergency Response standard, an SSE is defined as an entity whose primary function is something other than providing an emergency service, but who designates one or more employees to provide a service at the scene of an emergency incident. Examples include employers who provide cranes, heavy duty wrecker/rotator tow vehicles, construction equipment, or utility and public health services. While detailed data are available regarding the establishments and employees in industries that might provide these services in general, no information is currently available to characterize or profile the numbers of entities or employees that have arrangements with emergency service organizations to provide such services on a periodic or an ongoing basis.

ISSUES

As an ESO, do you have advance agreements in place for skilled support services to help at the site of an emergency when needed? If so, with what type(s) of support services do you have an agreement and for what support services? Are these agreements formal (written) or informal (standing relationship)? How common are these agreements? If you do not have any agreements in place, do you ever use skilled support services on an ad hoc basis? If so, what type(s) of support services do you use? How commonly do you use these services?

As a SSE, do you have advance agreements in place to provide services to ESOs? If so, what type(s) of agreement(s) do you have? Are these agreements formal (written) or informal (standing relationship)? To what extent do these agreements involve requirements similar to those in the draft standard? Would you be willing to continue working with your ESO if you could only do so if you met these kinds of requirements?

OSHA welcomes comment on how many skilled support employers and skilled support workers would be impacted by the draft rule as currently written, and as discussed in the alternatives.

Regulatory Alternatives Addressing the Scope of the Draft Standard - ESOs:

These alternatives would alter the scope of the draft standard, removing some of the ESOs (and associated responders) from coverage. This first set of alternatives would either fully exempt all-volunteer ESOs, or exempt smaller ones that serve populations below various sizes from the scope of an Emergency Response standard. OSHA recognizes that volunteer ESOs have a limited revenue stream. Most are dependent on donations from the residents and small businesses in their communities to cover the ESO's operating costs and expenses. They generate donations by conducting various fundraising activities, such as bake sales, pancake breakfasts, spaghetti dinners, fund drive mailers, raffles, bingo nights, carnivals, etc. Some volunteer ESOs receive limited funding from the local government based on a "fire tax" or "EMS tax." OSHA understands that some volunteer ESOs may not be able to absorb some of the costs to comply with all the provisions of the potential standard.

PIRFA Alternative 1: Exempt ESOs whose responders are all volunteers.

Under this alternative, 186,234 responders at 5,439 all-volunteer ESOs in state-plan states would be completely exempt from the rule.

PIRFA Alternatives 2(a)-2(e): Exclude some all-volunteer ESOs from the draft standard based on the size of the population served.

Alternatives 2(a) – 2(e) are as follows:

2(a) Exempt volunteer ESOs if the population served is less than or equal to 2,500

This alternative would completely exempt the ESOs that serve a population less than or equal to 2,500, or an estimated 12 ESOs and 80 responders.

2(b) Exempt volunteer ESOs if the population served is less than or equal to 5,000

This alternative would completely exempt the ESOs that serve a population less than or equal to 5,000, or an estimated total of 100 ESOs and 631 responders.

2(c) Exempt volunteer ESOs if the population served is less than or equal to 10,000

This alternative would completely exempt the ESOs that serve a population less than or equal to 10,000, or an estimated total of 871 ESOs and 12,237 responders.

2(d) Exempt volunteer ESOs if the population served is less than or equal to 25,000

This alternative would completely exempt the ESOs that serve a population less than or equal to 25,000, or an estimated total of 4,049 ESOs and 99,769 responders.

2(e) Exempt volunteer ESOs if the population served is less than or equal to 50,000

This alternative would completely exempt the ESOs that serve a population less than or equal to 50,000, or an estimated total of 5,002 ESOs and 148,936 responders.

ISSUES

Are OSHA's estimates of number of affected firefighters and the categories they belong in reasonable? If not, please explain. Are there other sources OSHA should look at?

The Panel welcomes feedback on these alternatives. Are there populations of responders that face less risk and could therefore be exempted from an Emergency Response standard? If so, please identify them. If you believe some ESOs could or should be exempt from this draft standard, what would you recommend the threshold be for this exemption?

Should OSHA consider exemptions or modifications based on whether an ESO is all volunteer or should small combination or small career departments be exempted or have modified requirements? Please explain why.

The Panel also welcomes input on the possible impacts of the draft standard on ESOs in the various categories and sizes of affected entities. The Panel is interested in any ways the draft standard might impact the ability of ESOs to serves their communities.

3. Regulatory Summary and Costs

The following paragraphs discuss potential requirements for the draft standard. However, not all paragraphs apply to all employers covered by the rule. Some paragraphs apply to ESO employers whose workers respond to emergency situations as part of their regularly assigned duties. This would include employers with workplace emergency response teams. Other paragraphs apply to SSEs who provide Skilled Support Workers (SSW) and equipment to assist emergency responders at incident scenes. The ESO paragraphs do not apply to SSEs, and the SSE paragraphs do not apply to ESOs. For each provision, we have provided information on the aggregate costs and alternatives to that provision that OSHA is considering.

OSHA estimates that the total costs of the draft standard would be \$656 million per year. Of that total, OSHA preliminarily estimates that the cost to SBA/RFA defined small entities would be \$405 million per year and the cost to very small entities with fewer than 20 employees would be \$78 million per year. OSHA has preliminarily estimated that the average cost per fire department with fewer than 25 responders would be about \$26,000 annually, about \$37,000 annually for a

department with 25-49 responders, and about \$48,000 for a department with 50-99 responders (calculated using a 3 percent discount rate and 10-year time horizon). For emergency medical services ESOs, OSHA estimates that an ambulance ESO with fewer than 25 responders would have costs of about \$12,000 annually, about \$28,000 annually for an ambulance ESO with 25-49 responders, and \$48,000 for an ambulance ESO with 50-99 responders (calculated using a 3 percent discount rate and 10-year time horizon). Additional details are presented in Appendix B and in PIRFA tables VI-12, VI-13, and VI-14 and VI-15.

OSHA has not estimated total costs for SSEs due to lack of data regarding the number and types of SSEs and current industry practices. Unit costs and examples of per entity costs for a model SSE are presented in Appendix B.

The following paragraphs apply to employers that are, by definition, Emergency Service Organizations (ESO).

Establishment of Emergency Service(s) Capability

This provision would require an ESO to conduct a community or facility vulnerability and risk assessment for its service area; evaluate the resources needed, including personnel and equipment, for mitigation of emergency incidents identified in the assessment; and establish the type(s) and level(s) of emergency service(s) the ESO is capable of performing. For the purposes of this draft standard, an ESO whose primary service area is a community (municipality, county, parish, region, state) would assess the community it serves. An ESO whose primary service area is, for example, a manufacturing or processing facility, a military facility, or a research and development facility would assess that facility.

The assessment would include the following considerations:

- Civilian and worker injury or loss of life;
- Property damage or loss;
- Critical infrastructure damage or loss; and
- Environmental damage or loss.

Factors taken into account when developing the assessment would include:

- Size, height, construction types and configuration of buildings;
- Special life safety risks, for example: hospitals, nursing homes, prisons, etc.;
- Proximity between structures;
- Occupancy classifications;
- Fixed facilities;

- Transportation modes; and
- Other hazards.

The community or facility vulnerability and risk assessment process would identify the Authority Having Jurisdiction (AHJ) for command responsibility during mitigation activities, and ensure all activities occur within the framework of the existing AHJ, legislation, and other legal restrictions. The vulnerability and risk assessment would identify how the ESO incorporates itself into large-scale mitigation efforts managed by Federal or State agencies that have the authority to manage larger scale incidents.

The ESO would evaluate the resources needed, including personnel and equipment, for mitigation of emergency incidents identified in the community or facility vulnerability and risk assessment, and establish the type(s) and level(s) of emergency service(s) it is capable of performing.

The type of service identifies the broad category of service to be provided; for example, firefighting, technical rescue, or emergency medical service. The level of service identifies narrow categories of service to be provided within each type. For example:

Firefighting (type of service)

Incipient (level of service)

Interior (level)

Exterior (level), etc.

Emergency Medical Service (type of service)

Basic life support emergency response and transport – ground based (level of service)

Advanced life support emergency response and transport – ground based (level), etc.

Additionally, within the type and level of service designated, the ESO would need to establish tiers of responder responsibilities, duties, qualifications and capabilities. Each tier in ascending order would have a higher level of training/certification needed, and more complex duties assigned, than the previous tier. In the first example below, a responder in the Technician tier would be trained and/or certified, as appropriate, to perform all the duties of the lower tiers: Operation, Awareness, and Support. The Support tier would need minimal training and have the least complexity of responsibilities. Examples of tiers include:

- Fire/Rescue
 - Technician
 - Operation
 - Awareness
 - Support
- Emergency Medical Services
 - Physician

- Nurse
 - Paramedic
 - Advanced EMT
 - EMT
 - EMR
 - Support

*[Note: The concepts in the preceding paragraphs are carried through the rest of the draft standard. Essentially, almost everything the ESO would be required to do is based on the **type(s)** and **level(s)** of emergency service(s) it provides. Requirements specific to responders, such as medical, fitness, training, and certifications, are determined based on the differences between **tiers** of assigned duties and responsibilities.]*

Based on the assessment, the ESO would determine what services its service area needs that it is unable to provide, identify how those service(s) can be provided through neighboring ESOs, and develop written mutual aid agreements. The mutual aid agreements would need to include, but not be limited to, the following issues:

- Legal authorizations;
- When and how to request assistance;
- Operating procedures;
- Prohibitions against self-deployment to an incident in another ESO's jurisdiction;
- Liabilities for injuries, disabilities, and deaths;
- Cost of service;
- Staffing and equipment, including the resources to be made available;
- The designation of the incident commander; and
- Responder training and qualifications.

Occasionally, the ESO may need to call for services that are beyond the scope of typical emergency services. In those situations, the ESO may require the services of an entity that is able to provide skilled support. Again, based on the assessment, the ESO would identify what service(s) would be needed from an SSE. The ESO would:

- Identify the type(s) of skilled support the ESO anticipates it will need.
- Develop written service agreements/contracts with the SSE(s).
- Ensure the SSE is advised of likely responses.
- Provide SSEs with information regarding services, required and special equipment, personal protective equipment (PPE) needs, and other information as may be needed.

This is the point where the ESO/SSE relationship begins; in advance, during the ESO's preparation for anticipated events. This is the point where the SSE would need to determine if it can meet the requirements of being an SSE (in accordance with the requirements below) and enter into an agreement/contract with the ESO to be an SSE. In some situations, the skilled support entity may have previously provided skilled support at an emergency incident and can anticipate being designated as an SSE subject to the regulatory requirements based on prior patterns of engagement with ESOs.

Organization Risk Management Plan

The ESO would also be required to develop a comprehensive risk management plan for the organization itself. This plan would cover, at a minimum, risks associated with:

- Administration;
- Facilities;
- Training;
- Vehicle operation;
- Personal protective equipment;
- Operation at emergency and non-emergency incidents; and
- Other related activities.

The plan would include, at a minimum, the following components:

- Hazard identification – actual and potential hazards;
- Risk evaluation – likelihood of occurrence of a given hazard and severity of consequences;
- Establishment of priorities for action – the degree of a hazard based upon the frequency and risk of occurrence;
- Risk control techniques – solutions for elimination or mitigation of potential hazards; implementation of best solution;
- Risk management monitoring – evaluation of effectiveness of risk control techniques;
- Personal Protective Equipment hazard assessment;
- Respiratory protection for responders that meets the requirements of §1910.134;
- Infection control, equivalent to the requirements of NFPA 1581, 2015 ed., that identifies, limits, or prevents the exposure of responders to infectious and contagious diseases; and
- Protection for responders from bloodborne pathogens that meets the requirements of §1910.1030.

OSHA estimates that these provision would cost \$13 million per year for all affected entities. OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B.

ISSUES

Do all establishments have the technical capabilities necessary to meet these requirements?

Do SERs currently develop formal plans that outline their emergency services capabilities? If not, do you have informal plans, for example as part of your ESO's institutional knowledge?

Does your ESO have any formal (written) mutual aid agreements? Any informal (standing relationship) agreements? Do you think it is necessary that mutual aid agreements be in writing? Why or why not? If you do not have mutual aid agreements (written or standing) with neighboring ESOs, do the ESOs still provide assistance when called upon? Do you think there are additional elements that OSHA should require being part of the mutual aid agreements?

Do you believe that ESOs are able to develop the establishment of services capability and community/facility vulnerability and risk assessment components of the Emergency Response program without the help of hired consultants? If you believe consultants will be necessary – what parts of the program development do you envision being difficult for ESOs to develop on their own? What sorts of assistance could OSHA offer to help assure that ESOs could develop the necessary program on their own without needing to hire outside consultants?

To what extent does your ESO have a tier system to establish different level of training, medical requirements, fitness requirements, etc.? If not, do you anticipate it would be difficult to develop such a system? Do you agree that employees at the higher tier level should be trained to perform all of duties of the lower tiers?

Responder Medical/Fitness Requirements

This provision of the draft standard would, based on the type and level of service(s) established by the ESO, require the ESO to establish minimum medical requirements based on the tiers of responder duties, tasks, and responsibilities. A qualified healthcare professional would perform the medical evaluation of the responders. The medical evaluation would include a medical and vaccination history, physical examination, and any laboratory tests required to detect physical or medical conditions that could adversely affect the responder's ability to safely perform the essential job functions.

Components of the medical evaluation program would comply with the corresponding requirements of §1910.95, Occupational noise exposure; §1910.134, Respiratory protection; and §1910.1030, Bloodborne pathogens. The medical evaluation would be performed on each

responder as a baseline for surveillance and annually thereafter. Also, each responder would be evaluated following an occupational exposure, illness, injury, or protracted absence from the job.

The draft standard would also require the ESO to establish minimum physical performance requirements for responders and ensure responders meet the requirements before beginning training or becoming a responder if already trained.

To develop and maintain a level of fitness that allows responders to safely perform their duties, the ESO would be required to implement a health and fitness program as determined by a qualified health care professional. The program would include at least the following components: assignment of a health and fitness coordinator; periodic (not to exceed 3 years) fitness assessment of each responder; exercise training; education and counseling regarding health promotion; and a process for collecting and maintaining health-related fitness data. OSHA has never before required a health and fitness program in the workplace. These provisions of the draft standard are based on NFPA provisions and were recommended by the NACOSH subcommittee.

This provision of the draft standard would also require ESOs to provide access for responders to a confidential behavioral health and wellness program that would include the following components as a minimum: the capability to provide assessment; access or referral to basic counseling (at this time, OSHA does not intend to require ESOs to bear the costs for responders to attend counseling); crisis intervention training; referral to services that would provide an assessment that includes alcohol and substance abuse, stress and anxiety, depression, and personal problems that affect work performance; prevention strategies and health promotion activities related to identified risk factors for emergency responders' health and safety; and protocols to address occupational exposure to atypically stressful events. OSHA has never before required behavioral health and wellness programs in the workplace. These provisions of the draft standard are based on NFPA provisions and were recommended by the NACOSH subcommittee.

Under the draft standard, the ESO would also maintain a permanent health database for analysis of factors pertaining to the overall group of its responders, as well as a confidential file for each responder.

The physical and mental health provisions (including initial and periodic medical screening and surveillance, health database, physical performance plan and implementation, health and fitness plan and implementation, and fitness for duty assessment, and behavioral health and wellness program) are the most expensive provisions of the standard. OSHA estimated new costs of \$253 million per year for ESOs to comply with this draft provision. Of that total, periodic medical surveillance is estimated to cost \$173 million per year for ESOs; fitness for duty provisions are estimated to cost \$27 million per year; initial medical surveillance is estimated to cost \$23 million per year; implementation of the health and fitness program is estimated to cost \$17

million per year; and establishing the behavioral health and wellness program is estimated to cost about \$3.3 million per year (using a 3 percent discount rate and 10-year time horizon). OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B for reference.

OSHA's estimates for the physical and mental health provisions include the time for Fire Chiefs or EMDs to develop minimum medical and physical performance requirements; enter data into a health database; develop a physical performance rehabilitation program; establish and implement a health and fitness program; and for Firefighters or EMTs/Paramedics to obtain medical assessments for the initial and periodic surveillance requirements and fitness for duty assessments. OSHA did not estimate any potential costs to develop the confidential health database (such as costs associated with computer programming or review by privacy or legal experts), time spent by emergency responders to participate in rehabilitation or health and fitness programs, or any costs associated with situations where there is a fitness for duty requirement that is not met. OSHA assumes that the health and fitness coordinator, fitness assessor, exercise trainer functions would be performed in-house; that ESOs will not need additional exercise equipment; and that employee rehabilitation and fitness activities would be conducted in otherwise unproductive downtime. OSHA assumes there will not be additional labor costs, such as for additional staffing if a firefighter were to be suspended for failure to meet fitness for duty requirements or overtime, associated with these provisions.

OSHA estimate of costs for the behavioral health and wellness program is limited to the time of a Fire Chief or EMD to identify such a program to participate in. OSHA did not estimate any potential costs associated with contracting for behavioral health and wellness provider services, such as to provide the required crisis intervention training, development of prevention strategies, and health promotion activities and protocols.

OSHA's draft standard as written assumes that ESOs would follow the NFPA 1582 standard's requirements for medical screening and surveillance. It is possible that some types of medical screening and surveillance may have a minimal impact on protecting responders from significant occupational risks. If this were determined to be the case, some tests or group of tests could remain as recommended by the consensus standard but would not be required under an OSHA standard. OSHA has grouped different medical screening and surveillance elements into "modules" to show potential cost decreases, but any individual tests detailed in Appendix C could be included or excluded. OSHA welcomes input from the SERs on which individual types of screening and surveillance, if any, should be included or excluded.

In the following table (Table 2), the initial general health assessment includes the cost of a responder's time to receive the exam, plus the cost of an office visit with a healthcare provider, an audiogram, and a chest X-ray. The cost for cardiopulmonary function includes the cost of an EKG and spirometry. The cost for the initial immunological components of medical surveillance

includes a tuberculosis skin test and a Hepatitis C screening. The periodic health assessment would occur annually and includes the cost of an employee’s time to receive the exam, an office visit, and an audiogram.

The periodic cancer screening cost includes the cost for mammography, colonoscopy, lung cancer screening using low-dose CT, blood tests, urinalysis, and prostate cancer screening. When calculating the cost per responder for periodic cancer screenings, OSHA took into account how many responders, based on responder characteristics such as age, sex, smoking status, etc., would receive a given type of cancer screening.

The cost for the periodic immunological components includes the cost of a TB screening, HIV screening, immunizations (influenza, TDAP, MMR, varicella, Hepatitis A/B), and immunization administration.

It should be emphasized that the unit costs presented in Table 2 contain all the potential elements of testing simultaneously; the average responder would be receiving only a fraction of those tests since many are included only for certain subsets of the population (for example, colon cancer screenings would only be provided to responders who are over 50 and breast cancer screenings would be provided only to female responders). The total unit cost for periodic tests for firefighters is about \$1,400, but the average firefighter would only be receiving about a quarter of those tests, for an effective unit cost of about \$340 per average firefighter. There will, of course, be substantial variations for individual circumstances in a given year. For example, a “typical” 50 year old male firefighter might have over \$600 in periodic screening expenses in a given year, but approximately one-third of that might be once-in-a-decade screening procedures such as a colonoscopy and TDAP booster.

Table 2 - Summary of Costs of Each Medical Surveillance Component

Exam	Responders	% Receiving	Unit Cost (for All Potential Exams)	Average Unit Cost (% Receiving × Unit Cost)
Fire Departments				
Initial Medical Surveillance				
General Health Assessment	524,489	100%	\$239	\$239
Cardiopulmonary Function	524,489	84%	\$54	\$45
Immunological	524,489	100%	\$53	\$53
<i>Initial Subtotal</i>	<i>524,489</i>	<i>97%</i>	<i>\$347</i>	<i>\$338</i>
Periodic Medical Surveillance				
General Health Assessment	524,489	100%	\$197	\$197
Cardiopulmonary Function	524,489	33%	\$54	\$18
Cancer Screening	524,489	10%	\$679	\$70
Immunological	524,489	11%	\$497	\$57
<i>Periodic Subtotal</i>	<i>524,489</i>	<i>24%</i>	<i>\$1,427</i>	<i>\$341</i>
Medical Surveillance Total				
Initial and Periodic Total	524,489	38%	\$1,773	\$679

Table 2 - Summary of Costs of Each Medical Surveillance Component

Exam	Responders	% Receiving	Unit Cost (for All Potential Exams)	Average Unit Cost (% Receiving × Unit Cost)
Emergency Medical Services				
Initial Medical Surveillance				
General Health Assessment	365,025	100%	\$223	\$223
Cardiopulmonary Function	365,025	84%	\$54	\$45
Immunological	365,025	100%	\$53	\$53
<i>Initial Subtotal</i>	<i>365,025</i>	<i>97%</i>	<i>\$330</i>	<i>\$321</i>
Periodic Medical Surveillance				
General Health Assessment	365,025	81%	\$180	\$147
Cancer Screening	365,025	1%	\$679	\$4
Immunological	365,025	9%	\$497	\$44
<i>Periodic Subtotal</i>	<i>365,025</i>	<i>14%</i>	<i>\$1,410</i>	<i>\$194</i>
Medical Surveillance Total				
Initial and Periodic Total	365,025	30%	\$1,740	\$515

Sources: See PIRFA

Notes: See PIRFA for full notes

Figures may not add to totals due to rounding.

Alternatives Addressing Medical Screening and Surveillance - ESOs:

PIRFA Alternatives 3(a) – 3(e): Exclude medical surveillance requirement or reduce the frequency for which it is required.

3(a) Remove the requirement for initial medical surveillance

This alternative would completely remove the initial medical surveillance requirement, reducing the costs by \$347 per average firefighter and \$321 per average EMS responder. This alternative would maintain periodic medical surveillance meaning that responders would receive medical surveillance screenings annually starting one year after the effective date.

3(b) Remove the requirement for periodic medical surveillance

This would completely remove the periodic medical surveillance requirement, reducing the cost by about \$341 per average firefighter and about \$194 per average EMS responder annually.

3(c) Revise frequency for periodic medical surveillance

The costs of OSHA’s draft standard are calculated assuming that responders would receive periodic medical surveillance every year. These alternatives would reduce the frequency of periodic medical surveillance from annual to every two (Alternative 3(c)(1)) or three years (Alternative 3(c)(2)). Reducing the frequency of medical exams would reduce the cost for ESOs since these costs would be incurred less frequently.

PIRFA Alternatives 4(a) – 4(d): Remove certain elements of the medical surveillance requirement.

There are various ways in which the medical surveillance provisions could be modified. For purposes of discussion, OSHA has grouped them into several modules: (a) immunological, (b) cancer surveillance, (c) cardiopulmonary screening, and (d) the base physical exam.

4(a) Medical surveillance would not include an immunological component.

This alternative would eliminate requirements for HIV and TB screening, as well as immunizations for various illnesses. This would reduce the average per responder initial unit costs by \$53 in the first year and \$57 in future years.

4(b) Medical surveillance would not include cancer-screening elements.

This alternative would remove the requirements for any tests that serve to screen for various types of cancers and would reduce the average per responder cost of periodic testing by \$70 per year.

4(c) Medical surveillance would not include cardiopulmonary test elements.

This alternative would remove the requirement for EKG and spirometry exams. This would reduce the initial per responder costs by \$45 and then \$18 per year thereafter.

4(d) Substitute a medical questionnaire for routine medical exams.

This alternative would substitute a questionnaire for a routine in-person physical, saving money by reducing medical professionals' time. This would reduce initial costs by most of the cost of the exam and the responder's time.

Alternatives Addressing Fitness and Behavioral Health and Wellness - ESOs:

PIRFA Alternatives 5(a) – 5(b): Remove or reduce requirements for assessing fitness for duty

These alternatives would remove certain fitness and behavioral health elements from the standard or reduce the frequency with which fitness for duty is evaluated.

5(a) Remove requirements to assess fitness for duty

This alternative would completely remove the requirement that ESOs assess responders for fitness for duty before beginning training or becoming a responder if already trained. This alternative would mean that responders would not receive the initial fitness assessment at the time of hiring, which OSHA estimates would take approximately one hour for the emergency responder (and whoever is performing the assessment), but would receive periodic assessments in subsequent years. If there are any costs or benefits associated with ensuring that firefighters

meet fitness for duty requirements those would be deferred from the time of hiring to future periodic assessment periods.

5(b) Revise frequency for assessing fitness for duty

These alternatives would reduce the frequency with which fitness for duty must be evaluated from annually to every two (Alternative 5(b)(1)) or three years (Alternative 5(b)(2)). It is possible that fitness for duty does not change enough on a yearly basis to necessitate annual assessments and that assessing fitness for duty every two or three years may be adequate to detect any health problems that put responders at risk.

PIRFA Alternative 6(a) – 6(b): Remove requirement for health and wellness programs

These alternatives would remove the requirements for programs addressing worker health and wellness.

6(a) Remove requirements for health and fitness programs

This alternative would completely remove the health and fitness program requirement, saving an average of two hours of a Fire Chief's time annually. OSHA's draft standard doesn't require the hiring of additional or outside personnel or the purchase of exercise equipment or any additional purchases or expenditures and OSHA expects that participation in the health and fitness program can be done by responders during otherwise nonproductive downtime. However, to the extent OSHA has not captured certain costs related to this potential provision, there may be additional cost savings related to this alternative.

6(b) Remove requirements for behavioral health and wellness programs

This alternative would completely remove the behavioral health and wellness requirement, saving an average of two hours of a Fire Chief's time annually. While OSHA expects that most ESOs will meet the requirements of this provision by making available third party counseling, crisis intervention, or other similar services, to the extent that OSHA has not considered additional costs, removing this potential requirement may result in additional costs avoided by ESOs.

Alternative Addressing the Health Database or Health File - ESOs:

PIRFA Alternative 7: Remove the requirement to maintain a confidential health database/health file for analysis of factors pertaining to the overall group of responders

This alternative would completely remove the requirement to maintain a confidential health database and health file, which would save an estimated five minutes of the Fire Chief's time per responder. To the extent OSHA did not capture certain costs related to this potential provision, there may be additional cost savings related to this alternative.

ISSUES

Does your ESO currently follow all of the medical and fitness requirements in the draft standard? Why or why not? Do you currently offer opportunities and equipment to support exercise training or health promotion resources to emergency responders? Are medical and fitness requirements necessary for all ESOs? Do you think these provisions are feasible for your organization? Why or why not?

OSHA has preliminarily estimated that it will take a fire chief five minutes per responder to establish the confidential medical database. How does this estimate compare with your experiences or with the amount of time you anticipate this activity taking? If you currently maintain a medical database for responders at your ESO, how did you go about developing that database? Did you use off-the-shelf technology? Do or would you need legal counsel to address issues related to privacy or confidentiality of medical information to establish such a database?

OSHA believes that it may not be necessary for EMS providers and technical rescuers to receive the same periodic exam elements as firefighters. OSHA welcomes comment on whether all the outlined tests and screenings are appropriate. Do you believe that any of these tests or screenings are unnecessary? Are there additional tests that OSHA has not included that you believe should be included?

How frequently does your ESO assess fitness for duty? The draft standard includes a requirement that responders be medically evaluated initially as a baseline for surveillance and annually thereafter. If an emergency responder did not meet fitness for duty requirements, what types of actions would you currently consider (e.g., termination, provide time to recuperate, provide or require medical treatment, assign light duty, medically retire)? Do you think the fitness-for-duty provision is necessary? Are annual evaluations common practice for your ESO? Do you think these provisions are feasible for your organization? Why or why not?

What procedures do you have in place for physical performance rehabilitation? OSHA estimated that developing a physical performance rehabilitation program for responders who are unable to meet the physical performance requirements would take between 8 and 24 hours of a fire chief's time depending on the size of the ESO. Do you agree with this estimate? If not, how long do you think this activity will take? Are there other costs besides the fire chief's time that OSHA has not considered with regards to physical performance rehabilitation?

The draft standard includes a requirement that responders be medically evaluated following an occupational exposure, illness, injury, or protracted absence from the job. Is this common practice for your ESO? Do you think this provision is necessary? Do you think it is feasible for your organization? Why or why not?

How important is it for ambulance ESOs to have health and fitness plans?

Do you currently have minimum fitness requirements? Are there any consequences if a responder does not meet these requirements -- can they still participate in training and/or response efforts?

Do you currently have a health and fitness program or similar activities? For example, do you offer exercise equipment, exercise training, and/or health counseling? OSHA estimates that participation in health and wellness programs including exercise can be done during otherwise nonproductive downtime. Do you agree with this assessment? Why or why not? OSHA estimated the time to implement a health and wellness program would be between 8 and 24 hours of a fire chief's time annually. Do you agree with this estimate? Are there other costs related to health and wellness programs that you anticipate you would incur if OSHA enacted this draft standard? Please explain.

Do you have a behavioral health and wellness program for all employees? Why or why not? How important do you think such requirements are? The draft standard currently requires that ESOs provide access to programs that provide access or referral to basic counseling. At this time, OSHA does not intend to require ESOs to bear the costs for responders to attend counseling. Do you agree with this approach? Why or why not? OSHA has estimated that a fire chief will spend two hours annually on developing and implementing the behavioral health and wellness program. Do you agree with this estimate? Why or why not? Are there additional costs, such as costs associated with contracting with an outside behavioral health and wellness provider, that you would anticipate that OSHA has not considered?

The draft standard includes a requirement that ESOs maintain a permanent health database for analysis of factors pertaining to the overall group of responders and a confidential file for each responder. Do you currently keep records on the health and fitness of responders? Do you foresee any difficulties with meeting this draft requirement? Are you using or aware of off the shelf-technology or would you need to hire expert help to develop this database (systems engineers, privacy lawyers, etc.)? Would your ESO find the permanent health database useful or beneficial? How would you use such a database? Should OSHA require ESOs to maintain a permanent health database?

Are there alternatives SERs favor over the draft standard or alternatives that OSHA has not considered that you believe should be considered? If so, please describe them.

Responder Training and Qualifications

This provision of the draft standard would require the ESO to establish the minimum level of knowledge and skills required for each responder to participate in emergency operations, based on – and differing by – the type, level and tier of service(s) performed by the ESO.

This provision would also require the ESO to provide initial training, ongoing training, refresher training, education, and professional development for each responder commensurate with the performance of expected duties and functions assigned to them. The ESO would establish the professional qualifications for responders commensurate with the performance of expected duties and functions of the ESO, and ensure responders maintain proficiency in the skills and knowledge commensurate with the performance of their duties and functions by providing periodic skills checks and monitoring training progress. The NFPA has established professional qualifications standards for a broad spectrum of emergency responders. The ESO could choose to follow the NFPA qualifications or develop comparable standards.

OSHA estimates that this is the second most expensive provision of the draft standard with total costs of \$177 million per year. However, it is not necessarily the most costly provision for a given ESO. OSHA preliminarily estimates that nearly all ESOs currently provide the necessary training or require adequate professional qualification. The cost of meeting these requirements in their entirety if an ESO is not currently providing any training or certification is high but OSHA has preliminarily determined that very few ESOs are currently providing *no* training or certification. In these cases, the cost to ESOs would only be a fraction of the training cost to address any deficiencies rather than the cost of training a completely untrained responder. OSHA has included estimates of compliance adjusted per-entity costs for model ESOs of various sizes in Appendix B for reference.

Alternative Addressing Training - ESOs:

PIRFA Alternative 8: Reduce training requirements

This alternative would scale back the initial training requirements to the basic NFPA volunteer firefighting training of 110 hours, as opposed to the estimated 355 hours in the main cost analysis of the draft standard. This alternative would mean that less time is spent in training and thereby lower the cost to the ESO to train responders. Firefighter compensation for 110 hours spent in training would be about \$4,000, about \$8,000 less per responder than the approximately \$12,000 for 355 hours of training using a loaded wage rate of \$35.05 as estimated in the PIRFA.

Alternative Addressing Professional Qualifications - ESOs:

PIRFA Alternative 9: Remove requirements that responders have certain professional qualifications

This alternative would completely remove the requirement to ensure that employees meet professional qualifications. This cost would vary widely per ESO, depending on the technical demands of the ESO.

ISSUES

How are responders at your ESO trained currently? Is it important for responders to receive training and/or professional qualifications? Why or why not? Are there types of ESOs that may not need to meet these requirements? Please describe. If you have training requirements, how are those structured? Do you require a minimum number of hours of training per responder?

OSHA's analysis of costs assumes that smaller ESOs have lower levels of training (i.e., the baseline compliance for small ESOs is lower than for larger ESOs). Do you agree with this assumption? Why or why not?

OSHA's analysis also assumes that smaller ESOs would have lower training requirements or needs – that smaller ESOs would, in general, be less likely to encounter highly complex emergency situations or would be more likely to call for specialized responders from out of the area. Do you agree with this assumption? Why or why not?

Do you currently establish professional qualification standards for different roles (e.g., firefighter, emergency medical service providers) or follow current NFPA 1001 professional qualifications standards?

Facility, Equipment, and Vehicle Preparedness

Facility Preparedness

This draft provision addresses safety and health concerns at the ESO's own facility. The provision contains requirements related to facility sleeping and living areas and other safety requirements, such as the prohibition of slide poles in newly constructed ESO facilities.

Equipment Preparedness (including PPE)

This draft provision would require that newly purchased or newly acquired tools and equipment meet the design and manufacturing requirements of a nationally recognized consensus standard or applicable OSHA standard. Additionally, ESOs would be required to inspect, maintain, functionally test and service test equipment at least annually; in accordance with manufacturer's instructions and industry practices; and as necessary to ensure equipment is in safe working order. Any tools or equipment found to be defective or in an unserviceable condition would be required to be immediately removed from service.

Existing PPE, including respiratory protection equipment, would need to comply with the edition of the respective national consensus standard that was current when the equipment was manufactured. New equipment would need to meet the current edition of the respective national consensus standard. ESOs would need to provide for cleaning, care, and maintenance of PPE and respiratory protection equipment, in accordance with the manufacturers' specifications, and remove from service any damaged or defective ensembles, elements, or equipment.

OSHA estimates that the Equipment Preparedness (including PPE) provision and the Facility Preparedness provision would cost a total of \$81 million per year. OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B for reference.

Alternatives Addressing Equipment - ESOs:

PIRFA Alternative 10: Remove requirements that equipment meet specified design and manufacturing requirements.

OSHA is assuming that removing this requirement would reduce the unit cost of equipment preparedness to 90 percent of the unit costs under the draft standard. This is estimated to save between \$597 and \$1,790 annually per average firefighting ESO.

PIRFA Alternative 11: Remove the requirement for PPE to be compliant with consensus standards.

This alternative is assumed to reduce the unit cost of PPE provision to 90 percent of the unit costs under the draft standard. OSHA estimates that this would save approximately \$6 to \$12 per responder annually. It should be noted that, under this alternative, the PPE would still need to conform to any applicable OSHA standard.

Vehicle Preparedness and Operation

This draft provision would require that ESOs establish and implement standard operating procedures (SOP) to inspect, maintain, and repair, or remove from service each vehicle that responders use. The ESO would also be required to ensure each vehicle is driven/operated by a responder who has completed a training program on operating the vehicle, and develop and implement SOPs for safely driving vehicles during both non-emergency travel and emergency response.

OSHA estimates that this provision would cost \$24 million per year. OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B for reference.

ISSUES

Does your ESO currently follow the provisions on facility preparedness and equipment and PPE preparedness? Do you consider it important? Are there any requirements currently included that you believe are not necessary? Please explain your answers.

Do you anticipate any difficulty in complying with the draft requirement that PPE meet the requirements of the corresponding standard that was current when the PPE was manufactured? Do you expect that your ESO would need to purchase new or additional PPE to meet the

requirements of this potential standard? If so, what type(s) of PPE would you need and how many items would you need? Should OSHA grandfather existing PPE into the standard? Do you agree with this approach? Why or why not?

Should OSHA remove requirements for specified design and manufacturing standards or that PPE be compliant with consensus standards? Why or why not?

Pre-Incident Planning and Procedure Development

Pre-Incident Planning

This provision of the draft standard would require ESOs to develop Pre-Incident Plans (PIPs) for significant structures, facilities, locations, and infrastructure, with development prioritized based on the life safety hazards to responders and facility occupants. PIPs would include actions to be taken if the scope of the incident is beyond the capabilities of the ESO.

OSHA estimates that this requirement would cost \$5.4 million per year. Per-entity costs for model ESOs of various sizes are presented in Appendix B for reference.

Standard Operating Procedures for Emergency Incidents

Under this draft provision, ESOs would be required to develop and implement SOPs: for operating at emergency events that the ESO foreseeably expects to encounter, based on the community or facility vulnerability and risk assessment; that describe the actions to be taken in situations involving special hazards in the ESO's workplace; and that address how responders are to operate at incidents that are beyond the capability of the ESO.

OSHA estimates that this provision would cost \$5.6 million per year. See Appendix B for per-entity costs for model ESOs of various sizes.

Incident Management System Development

The ESO would be required to adopt or develop in writing and implement an incident management system (IMS), compatible with the National Incident Management System (NIMS) and the National Response Framework (NRF), to manage all emergency incidents based on the type and level of service(s) the ESO has established and the pre-incident plans developed.

The IMS would provide structure and coordination to the management of emergency incident operations to provide for the safety and health of responders involved and designate an IC who is responsible for front-line management of the incident, tactical planning and execution, and other needs necessary for mitigation of the incident.

OSHA estimates that this provision would cost \$1.5 million per year. OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B for reference.

ISSUES

Does your ESO currently perform these types of planning exercises and program development? Do you consider them important? Are they necessary for all ESOs? Do you recommend that OSHA consider not including all or some part of any of these provisions? Please explain your answers.

Emergency Incident Operations

This provision would require ESOs to ensure: the IMS is utilized at every emergency incident; one individual responder is assigned as the IC to coordinate and direct all activities and establish a command post; the safety officer function of overseeing incident scene safety is addressed by the IC, or an Incident Safety Officer (ISO) is assigned and designated; the IC conducts a comprehensive and ongoing size-up of the incident scene, conducts a risk-benefit analysis based on the size-up, and utilizes the information in the Pre-Incident Plan to draft an Incident Action Plan; and the IC implements a personnel accountability system to account for all responders at the incident scene.

To ensure operations at an incident scene are conducted in a safe manner, the ESO would be required to: identify minimum staffing requirements to ensure incidents are mitigated safely and effectively; ensure operations are limited to those that can be safely performed by the responders available on the scene; ensure at least four responders are assembled before operations are initiated in an Immediately Dangerous to Life or Health (IDLH) atmosphere; and ensure at least two responders enter the IDLH to operate as a team and at least two responders are present outside the IDLH to provide assistance to, or rescue of, the entry team.

To further ensure responder safety on incident scenes, the ESO would be required to implement the following in accordance with the SOPs established above: a responder accountability system; a Rapid Intervention Team; medical and rehabilitation procedures; and scene safety (traffic) procedures.

At some incidents, there may be a need for assistance from employers that are typically considered to be outside the emergency response community but who may be called upon to assist an ESO by providing a service, equipment, or worker. For instance, an ESO may need to remove a heavy object, requiring the use of a crane or other heavy duty equipment, available through an SSE. To ensure SSWs are prepared to operate safely on an emergency incident in

support of the ESO, the ESO would need to ensure: an initial briefing is provided to each SSW, which includes instruction in the use of appropriate PPE, what hazards are involved, what safety precautions are to be taken, and what duties are to be performed by the SSW; an effective means of communication between the IC and the SSW; and other appropriate on-scene safety and health precautions provided to ESO responders that are used to ensure the safety and health of the SSW.

OSHA estimates that this provision would cost \$1.0 million per year. See Appendix B for per-entity costs for model ESOs of various sizes.

ISSUES

Does your ESO currently follow the emergency incident operations provisions? Do you consider it important? Is it more or less important for different situations (emergencies might vary in type or in size and scale)? Is it necessary for all ESOs? Please explain your answers.

The NIMS recognizes that overall incident management for most emergency incidents is the responsibility of a single IC. Additionally, NIMS says in some instances, the size and complexity of an incident may require an alternative manner of incident management; utilizing a unified command structure. The draft standard requires the establishment of one responder as the IC, and also requires that the ESO ensure that a unified command structure is utilized on incidents where the complexity requires a shared responsibility among two or more ESOs or agencies.

Does your ESO currently utilize or have plans on how to utilize a unified command structure where responsibility is shared between two or more ESOs? How does your ESO currently deal with complex incidents where two or more ESOs are responding to the scene?

The jurisdictions and organizations involved in managing incidents vary in their authorities, management structures, communication capabilities and protocols, and many other factors. The Panel would like your thoughts on the feasibility of the unified command and single incident commander provisions.

Post-Incident Analysis (PIA)

This provision would require ESOs to conduct a PIA following events such as a large-scale incident, a near miss incident, and a responder or SSW fatality, injury or illness that requires off-scene treatment. Based on the lessons learned as a result of the PIA, the ESO would identify and implement recommended changes to the Pre-Incident Plan, Incident Action Plans, and/or SOPs.

OSHA estimates that this provision would cost \$21.8 million per year. OSHA has included estimates of per-entity costs for model ESOs of various sizes in Appendix B for reference.

ISSUES

Does your ESO conduct any type of PIA? If so, please describe. Do you consider it important? Is it necessary for all ESOs?

Program Evaluation

This provision would require the ESO to evaluate the adequacy and effectiveness of the Emergency Response program at least annually, and implement changes as necessary.

OSHA estimates this will take between 20 and 60 hours of a fire chief's time annually depending on the size of the ESO for a total of about \$49.6 million annually for all affected ESOs.

The following paragraphs apply to employers that are, by definition, Skilled Support Employers.

OSHA recognizes the importance of protecting SSWs when they are providing assistance or a service at an emergency incident scene under the control of an ESO. Not every employer will be an SSE; in fact, most will not be. Also, not every employee of an SSE will be an SSW. The SSE would need to determine which of their workers, based on the workers' knowledge, skills and abilities, could be sent to provide skilled support assistance at an emergency incident scene. The SSE would designate each of those workers to be an SSW.

Skilled Support - Employer General Requirements

The SSE would be required to establish the type and level of emergency service(s) it expects to perform. Only workers who are properly trained, qualified, and fit, based on the requirements herein, would be designated to perform as SSWs at an emergency incident.

The SSE would be required to establish the minimum fitness for duty requirements for SSWs, based on the type and level of service being provided, and to medically screen each SSW and have the screening evaluated by a qualified health care professional annually. The screening would verify that the SSW: is physically able to safely perform required activities without requiring direct assistance of another individual; is not significantly limited in musculoskeletal mobility or exercise tolerance, regardless of assignment given; does not have any medical condition (physical or psychological) that prevents them from performing the essential job functions or prohibits the wearing of appropriate PPE; and is capable of receiving essential and requisite immunizations, prophylaxis, treatments, pharmaceuticals, and other interventions that are necessary to safeguard health and allow assigned duties to be successfully completed.

The draft standard would require that SSEs have and implement a fatigue management plan that includes at least the following: a fatigue risk management policy that identifies the roles and responsibilities of personnel under the plan; an education and awareness training program that includes the identification of fatigue risk factors associated with the emergency operations being performed, and recognition of the effects of fatigue; implementation of control/mitigation strategies that manage SSW fatigue, such as work/rest strategies with shift lengths and rotations, and time off periods; and assessment of the effectiveness of the controls in mitigating SSW fatigue that include evaluations and monitoring to enable quick course corrections.

Skilled Support – Personal Protective Equipment

This provision would require that the SSE conduct a PPE assessment to determine what is needed to protect SSWs, based on the type and level of service being provided. PPE would need to meet the requirements of the corresponding OSHA standard. The SSE would be required to ensure that SSWs properly use or wear PPE. The SSE would also be required to provide for cleaning, care and maintenance of PPE. The SSE would provide PPE at no cost to the SSWs.

Skilled Support – Training

This provision of the draft standard would require the SSE to provide pre-incident training covering the following topics: disaster/emergency site safety and health hazard recognition; care and proper use of PPE and procedures to safely work on a disaster site, including limitations of respirators; decontamination procedures; and basic principles of the incident command system.

The pre-incident training would be a minimum of seven and a half (7.5) hours, similar to the OSHA Outreach Disaster Site Worker programs. The requirement to provide this training would not be waived because of the emergency nature of an incident.

Skilled Support – Worker Participation

This provision of the draft standard would require the SSE to: consult with SSWs in developing and updating the Emergency Response program and involve SSWs in implementing and evaluating the program and in the review and change process. It would also require the SSE to: request input from SSWs regarding workplace modifications; involve SSWs in SSE facility inspections and incident investigations; encourage SSWs to report safety and health concerns, such as hazards, injuries, illnesses, near misses, and deficiencies in the program; respond to such reports in a reasonable period of time; and post procedures for reporting safety and health concerns in a conspicuous location.

Under the draft standard SSEs would be prohibited from retaliating or discriminating against SSWs for reporting safety and health concerns, and prohibited from engaging in practices or

implementing policies that deter SSWs from participating in the program. OSHA anticipates that a worker participation program would be considerably less complex and take less time than for ESO and would not be ongoing. Do you agree?

Skilled Support – Program Evaluation

This provision would require the SSE to evaluate the adequacy and effectiveness of the Emergency Response program at least annually, and implement changes as necessary.

OSHA estimates that program evaluation will take SSEs 30 minutes of a skilled support supervisor's time annually.

Alternatives Addressing SSEs:

PIRFA Alternative 13: Exclude all or some types of SSEs from the scope of the standard.

The SSE provisions have the potential to have significant impact on a broad number of employers in a wide range of industries. An alternative would be to exclude all SSEs from a potential standard, or limit the scope to only certain types of SSEs who may be called to provide assistance at an individual emergency incident; versus all who may operate at a disaster site. Due in part to uncertainties of the potential reach of such provisions as well as the manner in which injury and illness data is recorded, OSHA has found it challenging to quantify the number of injuries, illnesses, and fatalities among workers providing skilled support services at emergency incident scenes. Therefore, the benefits of the SSE provisions are undetermined at this time. The cost per establishment is estimated to vary by size, but even for the smallest establishments, compliance with the draft standard is estimated to take at least 8 hours of employers' time, plus additional cost for each SSW.

PIRFA Alternative 14: Delete or reduce the requirement for annual fitness for duty medical screenings for SSWs.

The draft provision requires annual fitness for duty medical screenings for each employee designated as an SSW to evaluate the worker's physical fitness to perform the assigned duties. These screenings are estimated to cost \$51.31 per SSW for the initial unit cost of the medical screening part of the fitness for duty screening and \$25.66 annually thereafter. These screenings are estimated to take an hour of a worker's time. OSHA is considering alternatives that would remove the requirement for fitness for duty assessments for SSWs (Alternative 14(a)) or that would reduce the frequency of screening SSWs for fitness for duty from annually to every two (Alternative 14(b)(1)) or three (Alternative 14(b)(2)) years.

PIRFA Alternative 15: Delete or reduce the requirement for pre-incident training for SSWs.

The draft standard requires that SSWs receive at least 7.5 hours of training for working at emergency incident scenes. OSHA estimates the unit cost per SSW would be about \$280 per SSW for 8 hours of training (7.5 hours as required by the provision plus 0.5 hours of pre-incident training). OSHA is considering removing the training requirement in its entirety (Alternative 15(a)) or reducing the amount of training required per SSW (Alternative 15(b)) from a specified 7.5 hours to a performance based requirement where the SSE would determine the appropriate training duration for their workers and the type of skilled support work they perform.

PIRFA Alternative 16: Delete or reduce the requirements for worker participation for SSWs.

The draft standard requires that SSWs participate in the development of the SSE's Emergency Response program including (among other things) consulting in the development and updating of the plan, providing input regarding workplace modifications, participating in SSE facility inspections and incident investigations, and being encouraged to report safety and health concerns. This alternative would remove or reduce these requirements. OSHA has preliminarily estimated that this provision would be a one-time cost of between one and three hours depending on the size of the SSE.

PIRFA Alternative 17 : Create a new subsection for disaster site workers and move applicable SSE requirements into it.

Many of the draft SSE provisions are more applicable to operating at a disaster site, such as a tornado, rather than directly assisting an ESO at an individual emergency incident scene, such as an overturned truck trapping victims in a car. This alternative considers whether to maintain the provisions as drafted; reduce the requirements to the minimum needed for SSWs operating at individual incident scenes (similar to HAZWOPR); or reorganizing the current draft provisions to maintain those most applicable to assisting ESOs in individual incidents, and create a new subsection for the provisions more applicable to disaster sites.

ISSUES

Do you think it is important to include SSEs in the scope of the draft standard? Do you think the draft standard addresses the hazards faced by SSEs in a reasonable manner? Why or why not?

Should OSHA reduce the provisions for SSEs to only the minimum needed for assisting ESOs at individual incidents? Should OSHA reorganize the SSE provisions to move some of them into a new subsection for disaster site employers/workers?

Are there additional requirements OSHA should include for SSEs and SSWs? Are there provisions that you think are unnecessary for SSEs and SSWs to follow?

Given that SSEs are required to comply with existing general industry, construction, or maritime requirements on disaster sites, is it necessary for OSHA to add additional requirements for SSEs in this standard? If so, which requirements?

How do SSEs/SSWs and ESOs coordinate at emergency scenes to ensure the safety of the SSWs?

What PPE do SSWs use at emergency sites? Do SSWs need specialized PPE when providing skilled support services at an emergency site? If so, who typically provides that PPE for the SSWs? Is it provided by the SSE or the ESO?

The draft standard currently states that the pre-incident training requirement would not be waived because of the emergency nature of an incident. Do you believe this is the correct approach? Is it possible that this would inhibit emergency response support by SSEs? OSHA welcomes suggestions on how to assure that SSWs receive the proper training to keep them safe while still allowing ESOs to access the support services they need in emergency situations.

Do you establish minimum fitness for duty requirements for SSWs? Do you screen SSWs for medical conditions (psychological or psychological) that would prevent the SSW from performing essential job functions? If so, how often? Would you be able to do so annually?

Do you require an assessment of whether SSWs are capable of receiving essential and requisite immunizations, prophylaxis, treatments, pharmaceuticals, and other interventions that are necessary to safeguard health and allow assigned duties to be successfully completed?

Considering the frequency with which you respond to emergency situations, do you believe that the draft fitness for duty or medical screening and assessment requirements are necessary? Would they improve your ability to respond to emergencies?

Does your SSE currently maintain fatigue management plans in emergency situations? If so, how are those plans implemented? What and how much are the costs associated with these plans, for example in terms of nonproductive time, support equipment, rest/cooling facilities, etc. Is it more or less important for different situations (emergencies might vary in type or in size and scale)? Please explain your answers.

The draft standard would require skilled support worker participation. Do you currently maintain an Emergency Response program? If so, do you currently consult with and involve SSWs in development of Emergency Response programs? Do you think all of the draft requirements, such as involving SSWs in SSE facility inspections, are related to or an essential part of an Emergency Response safety program? Do you recommend that OSHA adopt some or all of these requirements?

Do you recommend that OSHA adopt any of these alternatives addressing SSEs and SSWs? Please explain your reasoning. Are there alternatives that OSHA has not considered that you believe the agency should consider?

Are you aware of workplace injuries or fatalities involving SSEs/SSWs? OSHA would welcome any information you have on the subject.

4. Cost of Compliance: Unit Costs and Baseline Non Compliance

In order to estimate the potential impact of an Emergency Response standard, OSHA developed estimates of the amount of time needed to comply with each provision (referred to as “labor hours”). The full development of these costs is provided in the PIRFA. Two of the most important factors affecting costs are OSHA’s estimate of labor hours required, and of the baseline compliance rate. The baseline compliance rate represents the percentage of employers, by size class, that already do what OSHA’s rule would require, and Appendix B provides a summary of these results.

ISSUES

Do you believe OSHA has made a reasonable preliminary estimate of potential unit costs in its analysis? For example, do you believe the time estimates for fulfilling the programmatic elements of the standard are reasonably accurate? Alternatively, do you believe OSHA’s preliminary estimates of baseline compliance are reasonably accurate? Please explain your answers.

One potentially relevant element of costs is overhead, for example, costs for property or equipment. What are your overhead costs? Would any of them be substantially affected by this potential standard?

OSHA preliminarily estimated that the labor time for responders to engage in physical activity as required by the fitness program provision would add no costs because that physical activity could be done on down and waiting time. Do you agree?

5. General Regulatory Alternatives

This section describes some general regulatory alternatives OSHA is considering. OSHA presents a number of alternatives in this section but welcomes suggestions from the SERs for any additional alternatives you believe should be considered. The total cost of each potential regulatory alternative developed by OSHA thus far is summarized in the PIRFA Section VIII. Regulatory Options and Alternatives, Table VIII-2, and in Appendix D. Where applicable,

OSHA has included the unit cost savings for these alternatives to allow SERs to evaluate the potential impact of any of these changes.

Alternative Removing Certain Requirements for Certain Sized ESOs:

PIRFA Alternative 12: Remove certain groups of ESOs from the requirement to meet particular provisions of the standard.

The draft standard could be changed to combine elements of any of the alternatives. For example, OSHA could require all ESOs to comply with the draft planning provisions but could exempt some small volunteer fire departments from the fitness for duty requirements. This would save small volunteer ESOs an estimated \$68 per responder in a typical year. The agency is open to all suggestions on how to best structure an Emergency Response standard that is both protective for responders and that does not result in ESOs reducing services to their surrounding communities.

ISSUES

If you were structuring an Emergency Response standard, what provisions do you believe are absolutely necessary? What provisions, if any, do you believe could be relaxed for certain groups, types, and/or sizes of ESOs?

OSHA is very interested in the impact of an Emergency Response standard on small ESOs and welcomes any comment from the SERs on this issue.

Alternatives Addressing Level of Specification in the Draft Standard:

PIRFA Alternative 18: Increase or decrease the level of specification in the standard for various elements.

OSHA believes this potential standard should be a performance-based program standard. Many of the provisions in the draft standard set performance-based objectives for the employer to meet, leaving the employer to determine which means are best suited to meet the objectives for compliance with the provisions. However, the draft standard, as written by the NACOSH subcommittee, has varying levels of specification for provisions addressing similar requirements. The provisions for ESOs are drafted as more performance-based, while the SSE provisions are more prescriptive. In this alternative, OSHA is asking for feedback on two directions the agency could take in preparing a draft standard:

- a) The provisions for ESOs could be written to be more prescriptive, similar to the current draft provisions for SSEs; or

- b) The provisions for SSEs could be written in a more performance-based manner, similar to the current draft provisions for ESOs.

The costs or cost savings for these alternatives are difficult to quantify, but OSHA believes that ultimately many of the same elements would be required under any language. Nonetheless, there may be cost advantages to presenting the requirements for different types of affected employers in a consistent manner. Less prescriptive, more programmatic approaches to compliance allow employers greater flexibility in complying with OSHA rules. This allows employers to find innovative approaches to meeting OSHA requirements that can save the employer money while still accomplishing the goal of the requirement.

Do you prefer a more prescriptive or less prescriptive approach to an Emergency Response standard? Or should OSHA retain the language as drafted by the subcommittee? Do you believe it is easier for a small ESO or SSE to comply with a rule that is more prescriptive? Or with a rule that is more programmatic? Please explain the reasoning behind your answers.

General Questions

How might your county, city, municipal, etc., budget cycle affect your ESO's ability to implement the draft standard? Would a phase-in period be helpful to your ESO? What do you think is a reasonable phase-in time for an Emergency Response standard?

OSHA is interested in how ESOs address Spontaneous Unaffiliated Volunteers (SUV) and Good Samaritans at emergency scenes. The draft standard includes requirements for ESOs to (among other things) establish assembly and registration for SUVs, provide instruction on the use of appropriate PPE, hazards, safety precautions, and duties to be performed by the SUV. What procedures does your ESO have in place to address the safety of SUVs and Good Samaritans? Do you think it is appropriate for OSHA's Emergency Response standard to address SUVs and Good Samaritans? Why or why not? Are there situations where SUVs and/or Good Samaritans create hazards for your responders? If so, how do you keep your responders safe from these hazards?

Appendix A. Summary of Estimation of Affected Entities

Profile of Affected Fire Departments

OSHA primarily used data from the NFPA registry to estimate the number of ESOs and responders covered by the draft standard. In addition to removing some ESOs and responders that are not covered for various reasons, OSHA adjusted the number of private firefighting ESOs and responders to account for underreporting to the registry. After these adjustments, OSHA estimates that a total of 11,587 ESOs and 524,489 responders would be affected by this draft standard. Table A-1 shows the number of affected firefighters, by ESO type, in each ESO size category.

**Table A-1 - Fire Departments and Firefighters in Scope by
Department Type and Employment Size Class**

ESO Type/Size Class	ESOs	Responders
Career		
<25	1,243	22,028
25-49	1,541	51,030
50-99	577	38,532
100-249	221	32,225
250-499	51	17,876
500+	36	52,960
Total Career	3,669	214,651
Volunteer		
<25	2,667	45,513
25-49	2,296	74,846
50-99	595	37,598
100-249	172	23,432
250-499	15	4,618
500+	2	1,258
Total Volunteer	5,747	187,265
Combination		
<25	386	5,509
25-49	1,042	28,488
50-99	514	29,645
100-249	174	22,054
250-499	34	10,845
500+	21	26,033
Total Combination	2,171	122,573
Total		
<25	4,296	73,050
25-49	4,879	154,364
50-99	1,686	105,775
100-249	567	77,711
250-499	100	33,339
500+	59	80,251
Total All	11,587	524,489

Source: See PIRFA

Note: See PIRFA for full citations. Figures may not add to totals due to rounding.

In addition to the USFA registry data, OSHA examined BLS Occupational Employment Statistics data to provide more context about private sector firefighters. BLS data suggest there are approximately 16,000 firefighters employed in the private sector nationwide. BLS data likely exclude firefighters who are trained to respond to emergency situations but who are primarily employed in another occupation, but these responders would be affected by the draft rule. Therefore, OSHA has accounted for the absence of these workers in the data by increasing the number of estimated private sector firefighters. As a preliminary adjustment for this reason as well as underreporting by the fire registry, OSHA’s judgment is that the estimated number of private fire departments and affected firefighters would be approximately twice what appears in

the available data. This adjustment is also meant to include an unknown number of private sector ESOs providing wildland firefighting and firefighting support services (classified in NAICS 115310, Support Activities for Forestry), primarily to state and Federal agencies. OSHA welcomes comment and input on this aspect of the analysis.

As shown in Table A-2, the majority of private firefighters in this dataset (86 percent) are employed in NAICS 561000 Administrative and Support Services, providing firefighting services as a commercial activity. The remainder includes industrial fire brigades, fire departments at universities, and the like.

Table A-2 - Private Fire Department Employment by NAICS

NAICS	Industry	Employment in SOC 33-2011 Firefighters
488100	Support Activities for Air Transportation	290
541330	Engineering Services	60
541600	Management, Scientific, and Technical Consulting Services	100
541710	Research and Development in the Physical, Engineering, and Life Sciences	160
561000	Administrative and Support Services	13,490
562900	Remediation and Other Waste Management Services	50
611000	Educational Services	190
621000	Ambulatory Health Care Services	360
622100	General Medical and Surgical Hospitals	40
711000	Performing Arts, Spectator Sports, and Related Industries	240
31-33	Manufacturing	700
488100	Support Activities for Air Transportation	290
541330	Engineering Services	60
541600	Management, Scientific, and Technical Consulting Services	100
Total Employment in SOC 33-2011 Firefighters		15,680

Source: See PIRFA

Note: Figures may not add to totals due to rounding.

Fire Departments and Responders by Population Served

Because of the preponderance of public entities in emergency response, the population served is of particular relevance. Under the RFA, small governmental jurisdictions are defined as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.” This analysis also examines a number of other population thresholds of less than 50,000 because these are of interest for several regulatory alternatives. OSHA estimated the population served by each ESO by applying the ratio of population served per firefighter in Firehouse Magazine’s 2017 National Run Survey to the number of firefighters in the USFA registry data. The resulting distribution of ESOs by population served is shown in Table A-3.

Table A-3- Public Fire Departments by Estimated Population Served in Affected States

	Total for all Populations	Pop. ≤ 2,500	Pop. ≤ 5,000	Pop. ≤ 10,000	Pop. ≤ 25,000	Pop. ≤ 50,000
Total Fire Departments in Scope: Public – State Plan State						
Career	3,429	15	45	294	2,274	3,000
Volunteer	5,237	38	104	860	4,048	4,962
Comb.	2,053	1	15	93	1,017	1,719
Total	10,719	54	164	1,247	7,339	9,681

Source: See PIRFA

Note: Figures may not add to totals due to rounding.

Table A-4, below, shows the number of responders by estimated population served.

Table A-4- Publicly Employed Firefighters by Estimated Population Served in Affected States

	Total for all Populations	Pop. ≤ 2,500	Pop. ≤ 5,000	Pop. ≤ 10,000	Pop. ≤ 25,000	Pop. ≤ 50,000
Total in Scope: Public – State Plan State						
Active Firefighters - Career	182,918	25	166	1,349	20,004	51,891
Active Firefighters - Volunteers	236,615	13	437	10,451	102,003	164,758
Active Firefighters - Paid per Call	74,078	4	63	2,317	42,417	62,787
Total	493,611	42	666	14,117	164,424	279,436

Source: See PIRFA

Note: Figures may not add to totals due to rounding.

Emergency Medical Services

The draft standard also covers public and private ESOs that provide emergency medical services. However, detailed data for EMS providers similar to those for fire departments are not available. OSHA combined data from several sources in order to construct a profile with similar parameters as the firefighter profile.

First, statistics reported by the National Association of Emergency Medical Technicians (NAEMT) based on 2008 data suggest an estimated 15,276 ambulance services ESOs in the United States. NAEMT reported that an estimated 49 percent of EMS providers are fire departments with either cross-trained or separate EMS responders. Other “government or third party” providers represent an estimated 15 percent of the total, while private EMS providers account for 18 percent, and hospital-based services represent 7 percent of the total.

NAEMT estimates that these ambulance services employ 840,669 responders which includes first responders, emergency medical technicians (EMTs), paramedics, and registered nurses. This analysis assumes that those responders are distributed proportionately among the ambulance services of each type, which yields an estimate of 363,353 responders at in-scope ESOs, with 69,118 of those responders at public ESOs in state plan states and 294,234 responders at private ESOs.

The estimates of career, volunteer, and “combination” services and responders are shown in Table A-5, below. Detailed information can be found in the PIRFA. The agency welcomes feedback on these methods and estimates.

Table A-5 - Estimated Number of Ambulance Services and Personnel – By Type of ESO

	Private	Public, State Plan State	Total in Scope
Ambulance ESO Entities			
Career	2,032	507	2,538
Volunteer	2,139	533	2,672
Comb.	5,347	1,242	6,589
Total	5,347	1,242	6,589
Ambulance ESO Responders			
Career	111,809	27,884	139,693
Volunteer	117,694	29,352	147,046
Comb.	117,694	29,352	147,046
Total	294,234	70,791	365,025

Sources: See PIRFA

Notes: See PIRFA for full notes and citations.

Figures may not add to totals due to rounding.

Finally, OSHA has distributed ambulance ESOs and responders at those ESOs into employment size classes, which parallel the size classes used for fire departments above (fewer than 25 responders, 25 to 49 responders, etc.). OSHA based this distribution on data from the U.S. Census Bureau's 2012 Statistics of U.S. Businesses (NAICS 621910 Ambulance Services). The number of ambulance ESOs by type and employment size class are shown in Table A-6, below.

Table A-6 - Estimated Number of in Scope Ambulance ESOs by ESO Size

ESO Employment Size Class	Private	Public, State Plan State	Total in Scope
Career Responder Ambulance ESOs			
<25	1,274	318	1,591
25-49	374	93	467
50-99	189	47	236
100-249	105	26	131
250-499	33	8	41
500+	57	14	71
Total	2,032	507	2,538
Volunteer Responder Ambulance ESOs			
<25	737	122	859
25-49	216	34	251
50-99	110	21	130
100-249	61	13	73
250-499	19	4	23
500+	33	8	41
Total	1,176	202	1,378
Combination Career and Volunteer Ambulance ESOs			
<25	1,341	335	1,675
25-49	394	98	492
50-99	199	50	249
100-249	110	28	138
250-499	35	9	44

Table A-6 - Estimated Number of in Scope Ambulance ESOs by ESO Size

ESO Employment Size Class	Private	Public, State Plan State	Total in Scope
500+	60	15	75
Total	2,139	533	2,672
Total In Scope Ambulance ESOs			
<25	3,352	774	4,126
25-49	984	226	1,210
50-99	498	117	615
100-249	276	66	342
250-499	87	21	108
500+	150	37	187
Total	5,347	1,242	6,589

Sources: See PIRFA

Notes: See PIRFA for full notes and citations.

Figures may not add to totals due to rounding.

Table A-7 below, shows the estimated number of responders employed at in-scope ambulance ESOs by size class.

Table A-7 - Estimated Number of in Scope Ambulance Responders by ESO Size

ESO Employment Size Class	Private	Public, State Plan State	Total in Scope
Career Ambulance ESO Responders			
<25	14,058	3,506	17,564
25-49	14,749	3,679	18,428
50-99	15,012	3,744	18,756
100-249	17,541	4,374	21,915
250-499	10,944	2,729	13,673
500+	39,504	9,852	49,356
Total	111,809	27,884	139,693
Volunteer Ambulance ESO Responders			
<25	8,139	1,347	9,486
25-49	8,539	1,367	9,907
50-99	8,691	1,640	10,332
100-249	10,155	2,103	12,258
250-499	6,336	1,393	7,729
500+	22,871	5,704	28,575
Total	64,732	13,555	78,286
Responders in Combination ESOs			
<25	14,798	3,691	18,489
25-49	15,526	3,872	19,398
50-99	15,803	3,941	19,743
100-249	18,464	4,605	23,069
250-499	11,520	2,873	14,393
500+	41,583	10,371	51,954
Total	117,694	29,352	147,046
Total Ambulance ESO Responders			
<25	36,995	8,544	45,539
25-49	38,814	8,918	47,732
50-99	39,506	9,325	48,831

Table A-7 - Estimated Number of in Scope Ambulance Responders by ESO Size

ESO Employment Size Class	Private	Public, State Plan State	Total in Scope
100-249	46,161	11,082	57,243
250-499	28,800	6,996	35,795
500+	103,958	25,926	129,885
Total	294,234	70,791	365,025

Sources: See PIRFA

Notes: See PIRFA for full notes and citations

Figures may not add to totals due to rounding.

Similar to the approach OSHA used for fire departments, OSHA estimated the number of public ambulance ESOs serving small governmental jurisdictions (those serving fewer than 50,000 people) as well as a number of other population thresholds of less than 50,000, because these are of interest for several regulatory alternatives.

As noted previously, no detailed data exist on the size of the jurisdiction served by ambulance ESOs. OSHA applied the same ratios used for calculating firefighting ESOs of different sizes to the total number of ambulance ESOs. This assumes that the distribution across size classes are the same for both firefighting and ambulance ESOs. Table A-8, below, shows the resulting distribution of ambulance ESOs by estimated population served.

Table A-8 - Public Ambulance ESOs by Estimated Population Served

	Total for all Populations	Pop. ≤ 2,500	Pop. ≤ 5,000	Pop. ≤ 10,000	Pop. ≤ 25,000	Pop. ≤ 50,000
Total in Scope Public Ambulance ESOs in State Plan States						
Career	507	1	3	32	145	180
Volunteer	202	0	1	7	34	42
Comb.	533	1	4	35	161	200
Total	1,242	2	8	74	339	422

Sources: See PIRFA

Note: Figures may not add to totals due to rounding.

Table A-9 shows the estimated number of affected ambulance responders employed by public ambulance ESOs by population served.

Table A-9 - Public Ambulance Responders by Estimated Population Served

	Total for all Populations	Pop. ≤ 2,500	Pop. ≤ 5,000	Pop. ≤ 10,000	Pop. ≤ 25,000	Pop. ≤ 50,000
Total in Scope Public Ambulance Responders in State Plan States						
Career	27,884	141	475	4,576	21,016	26,124
Volunteer	13,555	68	231	2,224	10,216	12,699
Comb.	29,352	148	148	148	148	148
Total	70,791	358	854	6,948	31,380	38,971

Sources: See PIRFA

Note: Figures may not add to totals due to rounding.

Skilled Support Employers

Under OSHA’s draft Emergency Response standard, a Skilled Support Employer is defined as an entity whose primary function is something other than providing an emergency service, but who designates one or more employees to provide a service at the scene of an emergency incident.

Examples include employers that provide cranes, heavy duty wrecker/rotator tow vehicles, construction equipment, or utility and public health services. While detailed data are available regarding the establishments and employees in industries that might provide these services in general, no information is currently available to characterize or profile the numbers of entities or employees that have arrangements with Emergency Service Organizations to provide such services on an ongoing basis.

Appendix B. Unit Costs and Baseline Compliance

Table B-1 shows unit cost estimates for fire departments by employment size class. Table B-5 shows corresponding cost estimates for ambulance ESOs and Table B-9 shows unit cost estimates for SSEs. For ESOs, OSHA first estimated the amount of time needed to comply or the cost in dollars to comply for establishments in the 250-499 employee size class, based upon the experience of fire departments or ambulance ESOs in that size class, and then extrapolated it to the other size classes. Tables B-1, B-5, and B-9 also show whether a unit cost is applied per ESO or entity or per responder or SSW, the type of worker expected to undertake a given activity, and whether an activity is estimated to take place only for newly hired responders or SSWs or annually for all responders or SSWs. The sources used for these estimates, additional calculations, and additional data are available in the PIRFA. The agency requests feedback from SBREFA participants on all aspects of these cost estimates. Are these estimates in line with what these elements would cost or how long these elements would take based on your experience?

Costs for Firefighting ESOs

Program development and planning

OSHA estimated costs for a number of program development activities as shown in Table B-1. The agency estimates that developing the community and facility vulnerability risk assessment and the Emergency Response program would be the most burdensome in terms of hours. Those activities are estimated to take 40 to 120 hours and 20 to 40 hours, respectively, depending on the size of the ESO. Those and other planning and program development times are detailed in Table B-1 below. OSHA welcomes feedback on whether these time estimates seem reasonable. Are these estimates in line with the amount of time spent on these activities at your ESO?

Fitness for Duty

Table B-1 shows that the estimated costs of this draft standard include a per-employee cost to comply with the draft requirement for evaluating fitness for duty. OSHA estimates that this would take, on average, two hours per responder (for all ESO sizes). This time estimate includes a one-hour fitness assessment, with one responder being assessed and another performing the assessment. The agency acknowledges that multiple responders may be evaluated at the same time which would lower the per-responder cost of this provision. OSHA requests information on

how fitness for duty is currently established. How long does it take? What type of evaluations are performed? How many responders are evaluated at one time? How frequently are assessments done?

The draft standard would provide a framework for facilitating responders to maintain sufficient fitness levels for their responsibilities, including, for example, providing for exercise training. However, the agency believes that the standard would not require an increase in compensation of responders by ESOs – that this activity could be undertaken while the responder is on duty and required to be at the firehouse but not engaging in emergency response activities. Based on preliminary research, OSHA found that fitness exercises are routine among firefighters during downtime (research indicates that between 80 and 95 percent of firefighters engage in exercise as least “some days” while at the fire station). Do responders at your ESO routinely engage in exercise during downtime at the fire station?

Training and Qualifications

Table B-1 also shows per-employee training and qualification costs. The hours necessary to complete state-required training can vary significantly by state and by type of firefighter (career, volunteer, or paid per call). To broadly capture new-hire responder training, OSHA averaged the time needed to complete a 110-hour NFPA-approved volunteer firefighter course and the 600 hours a responder would spend training at a State Fire Academy in order to derive the average number of training hours. Using this method, OSHA estimates that, in the base-case, a “typical” firefighter would complete 355 hours of responder training upon hire. This estimate was scaled for the remaining fire department size classes based on an initial assumption that shorter training courses would be adequate for smaller departments while large departments would need to utilize more extensive training courses for their responders. This in turn reflects the assumption that larger departments would be more likely to encounter more complex firefighting situations. OSHA welcomes feedback on these estimates and assumptions. What training is provided to responders in your ESO? How long does that training take? Is the cost of a training course paid for by your ESO? If so, how much do those courses cost? How frequently is refresher training provided?

Medical Surveillance

OSHA also examined the unit costs for establishing and providing regular medical surveillance for emergency responders. The unit costs for medical surveillance are drawn from the Centers for Medicare and Medicaid’s (CMS) Physician’s Fee Schedule for 2018, CMS’ Clinical Laboratory Fee Schedule, the Centers for Disease Control and Prevention Adult Vaccine Price List, Joshi’s estimate of the cost of Hepatitis C screening, and Healthcare Administrative Providers’ estimate of the cost of a CT scan to screen for lung cancer. The type and frequency of exams were based on the 2018 NFPA 1582 standard’s recommendations for occupational medical programs. In estimating the cost of providing medical screening and surveillance, OSHA took into account that certain tests are only needed or recommended for certain subsets of

responders (e.g., only responders over 50 would need a colonoscopy). Given these considerations, the agency estimates the average unit cost of medical surveillance per responder would be approximately \$250. The full list of tests OSHA included in this cost analysis and the corresponding costs of those tests are presented in an appendix to this document for your reference.

What type of medical surveillance is provided at your ESO? If it is currently provided, how do your responders receive that surveillance? For example, do you have an on-site medical provider? Are responders sent to their primary care physician? Does your ESO pay for your responders to receive the full complement of NFPA recommended tests and screenings? Are there certain tests that you believe are more impactful in improving responder health than others? Are there tests that you believe are not necessary for firefighters?

Baseline compliance

Table B-2 shows the estimated baseline current compliance rate for each provision of the draft standard, by entity size, for fire departments. These represent the percentage of ESOs that OSHA estimates are currently doing what would be required by a given draft provision. Do these estimates reflect your experiences working in the industry? Are there areas where you believe OSHA has significantly over- or under-estimated compliance?

Table B-1 - Labor Hours by Employment Size Class - Fire Departments and Firefighters

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
Emergency Responder Program (ER)									
Develop ER Program	20	24	24	30	40	60	ESO	Fire Chief	One-time
Update and Revise ER Program	4	5	5	6	8	12	ESO	Fire Chief	Annual
Responder Participation-Meetings	8	10	10	12	16	24	ESO	Firefighter	Annual
Responder Participation-Post Sign	0.05	0.05	0.05	0.05	0.05	0.05	ESO	Fire Chief	Annual
Establishment of Service(s) Capability									
Establishment of Service(s) Capability	12	14	14	18	24	36	ESO	Fire Chief	One-time
Develop Mutual Aid Agreements with other ESOs	1	1	1	1	1	2	ESO	Fire Chief	One-time
Community or Facility Vulnerability and Risk Assessment	40	48	48	60	80	120	ESO	Fire Chief	One-time
Organization Risk Management Plan (RMP)									
Prepare Written RMP	12	14	14	18	24	36	ESO	Fire Chief	One-time
Update Written RMP	5	6	6	8	10	15	ESO	Fire Chief	Annual
Responder Medical/Fitness Requirements									
Minimum Medical Requirement - Statement	8	10	10	12	16	24	ESO	Fire Chief	One-time
Confidential Health Database	0.08	0.08	0.08	0.08	0.08	0.08	Responder	Fire Chief	One-time
Physical Performance Requirement - Statement	8	10	10	12	16	24	ESO	Fire Chief	One-time
Develop Physical Performance Rehabilitation Program	8	10	10	12	16	24	ESO	Fire Chief	One-time
Establish Health and Fitness Program -Written Plan	8	10	10	12	16	24	ESO	Fire Chief	One-time
Implement Health and Fitness Program	8	10	10	12	16	24	ESO	Fire Chief	Annual
Medical Surveillance - Initial	2.5	2.5	2.5	2.5	2.5	2.5	Responder	Firefighter	One-time
Medical Surveillance - Periodic	2.5	2.5	2.5	2.5	2.5	2.5	Responder	Firefighter	Varies
Fitness for Duty	2	2	2	2	2	2	Responder	Firefighter	Varies
Behavioral Health & Wellness Program	2	2	2	2	2	2	ESO	Fire Chief	Annual
Responder Training and Qualifications									
Document Responder Training	8	10	10	12	16	24	ESO	Fire Chief	One-time
Initial New Responder Training	178	213	213	266	355	533	Responder	Firefighter	Annual
Ongoing Responder Training	6	7	7	9	12	18	Responder	Firefighter	Annual
Refresher Responder Training	2	2	2	2	3	5	Responder	Firefighter	Annual
Professional Development	20	24	24	30	40	60	Responder	Firefighter	Annual
Document Professional Qualifications	20	24	24	30	40	60	ESO	Fire Chief	Annual
Facility & Equipment Preparedness									
Facility Preparedness	40	48	48	60	80	120	ESO	Fire Chief	Annual

Table B-1 - Labor Hours by Employment Size Class - Fire Departments and Firefighters

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
Equipment Preparedness	40	48	48	60	80	120	ESO	Fire Chief	Annual
Inspect, Maintain, and Test Equipment	40	48	48	40	80	120	ESO	Firefighter	Annual
PPE Hazard Assessment	8	10	10	12	16	24	ESO	Fire Chief	One-time
PPE Provision	8	10	10	12	16	24	ESO	Fire Chief	One-time
PPE Maintenance	40	48	48	60	80	120	ESO	Firefighter	Annual
Vehicle Preparedness & Operations									
Written SOPs - Vehicle Preparedness and Operation	8	10	10	12	16	24	ESO	Fire Chief	One-time
Vehicle Inspection and Maintenance	40	48	48	60	80	120	ESO	Fire Chief	Annual
Pre-Incident Planning									
Pre-Incident Planning	20	24	24	30	40	60	ESO	Fire Chief	One-time
Standard Operating Procedures for Emergency Incidents									
SOPs	20	24	24	30	40	60	ESO	Fire Chief	One-time
Incident Management System Development									
Incident Management System Development	20	24	24	30	40	60	ESO	Fire Chief	One-time
Emergency Incident Operations									
Emergency Incident Operations	20	24	24	30	40	60	ESO	Fire Chief	One-time
Communicate Commander/Location of Command Post	0.08	0.08	0.08	0.08	0.08	0.08	ESO	Fire Chief	One-time
Changes to Incident Perimeter	0.25	0.25	0.25	0.25	0.25	0.25	ESO	Fire Chief	One-time
Post Incident Analysis									
Post Incident Analysis	8	10	10	12	16	24	ESO	Fire Chief	Annual
ID/Implement Changes to Pre-Incident Plan	1	1	1	1	1	2	ESO	Fire Chief	Annual
ER Program Evaluation									
ER Program Evaluation	20	24	24	30	40	60	ESO	Fire Chief	Annual
ID and Implement Changes to ER Program	0.50	0.50	0.50	0.50	0.50	1.00	ESO	Fire Chief	Annual

Source: see PIRFA.

Table B-2 - Baseline Compliance Rate by Provision and Size of Fire Department

Provision	ESO Size by Number of Firefighters					
	<25	25-49	50-99	100-249	250-499	500+
Emergency Response Program	81%	82%	85%	87%	90%	92%
Establishment of Service(s) Capability	7%	12%	25%	37%	50%	62%
Organization Risk Management Plan	7%	12%	25%	37%	50%	62%
Medical/Fitness Requirements	7%	12%	25%	37%	50%	62%
Training	91%	91%	92%	94%	95%	96%
Facility Preparedness & PPE	63%	65%	70%	75%	80%	85%
Vehicle Preparedness & Operations	72%	74%	77%	81%	85%	89%
Pre-Incident Planning	0%	0%	0%	12%	30%	47%
Standard Operating Procedures	0%	0%	0%	12%	30%	47%
Incident Management System Development	72%	74%	77%	81%	85%	89%
Emergency Incident Operations	81%	82%	85%	87%	90%	92%
Post Incident Analysis	0%	0%	0%	0%	20%	40%
Program Evaluation	0%	0%	0%	0%	10%	32%

Source: OSHA estimates.

Table B-3. Costs and Impacts for a Model Fire Department with 20 Responders

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscounted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
ER Program	\$0	\$0	\$0	\$167	\$167	\$167	\$167
Establishment of Service(s) Capability	\$7,351	\$1,047	\$862	\$0	\$7,351	\$1,047	\$862
Org RMP	\$1,664	\$237	\$195	\$694	\$2,358	\$931	\$889
Medical/Fitness Requirements	\$10,945	\$1,558	\$1,283	\$1,387	\$12,332	\$2,945	\$2,670
Training	\$107	\$15	\$13	\$3,081	\$3,188	\$3,096	\$3,094
Facility Preparedness & PPE	\$883	\$126	\$104	\$4,920	\$5,803	\$5,045	\$5,023
Vehicle Preparedness & Operations	\$334	\$48	\$39	\$1,670	\$2,005	\$1,718	\$1,710
Pre-Incident Planning	\$2,983	\$425	\$350	\$0	\$2,983	\$425	\$350
SOPs	\$2,983	\$425	\$350	\$0	\$2,983	\$425	\$350
Incident Management System Development	\$835	\$119	\$98	\$0	\$835	\$119	\$98
Emergency Incident Operations	\$576	\$82	\$68	\$0	\$576	\$82	\$68
Post Incident Analysis	\$0	\$0	\$0	\$1,342	\$1,342	\$1,342	\$1,342
ER Program Evaluation	\$0	\$0	\$0	\$3,058	\$3,058	\$3,058	\$3,058
Total	\$28,662	\$4,081	\$3,360	\$16,318	\$44,980	\$20,399	\$19,678
Revenue	–	–	–	–	\$2,400,000	\$2,400,000	\$2,400,000
Total Costs as % of Revenue	–	–	–	–	1.87%	0.85%	0.82%
Locality Revenue	–	–	–	–	\$74,193,162	\$74,193,162	\$74,193,162
Total Costs as % of Locality Revenue	–	–	–	–	0.06%	0.03%	0.03%

Source: See PIRFA

Note: Figures may not add to totals due to rounding. Costs are estimated using a 10 year time horizon.

Table B-4. Costs and Impacts for a Model Fire Department with 40 Responders

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscounted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
ER Program	\$0	\$0	\$0	\$197	\$197	\$197	\$197
Establishment of Service(s) Capability	\$8,269	\$1,177	\$969	\$0	\$8,269	\$1,177	\$969
Org RMP	\$1,837	\$262	\$215	\$787	\$2,625	\$1,049	\$1,003
Medical/Fitness Requirements	\$17,562	\$2,500	\$2,059	\$1,575	\$19,137	\$4,075	\$3,634
Training	\$134	\$19	\$16	\$6,991	\$7,125	\$7,010	\$7,007
Facility Preparedness & PPE	\$1,044	\$149	\$122	\$5,584	\$6,628	\$5,733	\$5,707
Vehicle Preparedness & Operations	\$388	\$55	\$45	\$1,861	\$2,249	\$1,917	\$1,907
Pre-Incident Planning	\$3,580	\$510	\$420	\$0	\$3,580	\$510	\$420
SOPs	\$3,580	\$510	\$420	\$0	\$3,580	\$510	\$420
Incident Management System Development	\$931	\$133	\$109	\$0	\$931	\$133	\$109
Emergency Incident Operations	\$653	\$93	\$77	\$0	\$653	\$93	\$77
Post Incident Analysis	\$0	\$0	\$0	\$1,641	\$1,641	\$1,641	\$1,641
ER Program Evaluation	\$0	\$0	\$0	\$3,654	\$3,654	\$3,654	\$3,654
Total	\$37,978	\$5,407	\$4,452	\$22,291	\$60,269	\$27,698	\$26,743
Revenue	-	-	-	-	\$4,800,000	\$4,800,000	\$4,800,000
Total Costs as % of Revenue	-	-	-	-	1.26%	0.58%	0.56%
Locality Revenue	-	-	-	-	\$148,386,324	\$148,386,324	\$148,386,324
Total Costs as % of Locality Revenue	-	-	-	-	0.04%	0.02%	0.02%

Source: See PIRFA.

Note: Figures may not add to totals due to rounding. Costs are estimated using a 10 year time horizon.

Costs for Ambulance ESOs

Program development and planning

OSHA estimated costs for a number of program development activities as shown in Table B-5. The agency estimates that the Emergency Response program, pre-incident planning, standard operating procedures for emergency incidents and other planning activities would take between 20 and 60 hours of a supervisor's time for an ambulance ESO to develop, based on the size of the ESO. Those and other planning and program development times are detailed in Table B-5 below. OSHA welcomes feedback on whether these time estimates seem reasonable. Are these estimates in line with the amount of time spent on these activities at your ESO?

Health and fitness, and medical surveillance

OSHA has preliminarily determined that EMS providers engage in less physically demanding tasks and have a lower risk of exposure to hazardous environments or materials relative to firefighters and therefore EMS providers have fewer health, fitness, and medical exam requirements. As shown in Table B-5, OSHA has preliminarily estimated that ambulance ESOs would need to develop and implement health and fitness plans. OSHA has judged the tests likely necessary for EMS providers based on consultation with occupational physicians and other personnel with experience in the area. The agency has preliminarily determined that EMS providers would not generally need to receive the following periodic exam elements under the draft standard: audiograms, spirometry, EKGs, colonoscopies, CT screenings for lung cancer, HIV screening, blood tests, urinalysis, PSA testing, and TB screening. Similar to firefighters, only EMS providers of certain ages or sexes need given tests. OSHA has preliminarily determined that not every responder would need every type of medical screening exam every year.

The unit costs for medical surveillance for EMS responders are based on the same sources used for firefighters. Likewise, the costs are applied on a per employee basis but – other than the time needed to complete these medical exams – do not depend on the wage.

Qualifications and Training

The initial training time for EMS providers varies widely depending on the responder's certification level. Estimates for training hours for emergency responders, basic EMTs, advanced EMTs and paramedics were based on information from the National Highway Traffic Safety Administration's (NHTSA) Emergency Medical Services (EMS) National Emergency Medical Services Education Standards and UCLA Center for Prehospital Care. NHTSA reports a range of hours of training needed to attain each certification level. Based on an initial assumption that EMS providers at smaller ESOs will have lower levels of certification, OSHA assigned the estimated hours of training at the low end of that range to the smallest establishments (those with <25 and 25-49 employees) and the hours of training estimated at the higher end of that range to the remaining size classes. The agency then estimated the weighted average initial training hours

by multiplying the number of training hours by the estimated share of responders of each certification level.

OSHA used a similar approach to estimate the hours required for ongoing training. OSHA took the estimates for training hours for emergency responders, basic EMTs, advanced EMTs and paramedics from the National Registry of Emergency Medical Technicians, and multiplied those estimates by the estimated share of responders of each certification level to estimate the weighted average ongoing training hours.

The ESO would establish the professional qualifications for responders commensurate with the performance of expected duties and functions of the ESO. The NFPA has established professional qualifications standards for a broad spectrum of emergency responders. The ESO could choose to follow the NFPA qualifications or develop comparable standards.

Baseline Compliance

Table B-6 shows the estimated baseline current compliance rate for each provision of the draft standard, by entity size, for emergency medical service providers. These represent the percentage of ESOs that OSHA believes are currently doing what would be required by a given draft provision. Do these estimates reflect your experiences working in the industry? Are there areas where you believe OSHA has significantly over- or under-estimated compliance?

Table B-5 - Unit Burden for Labor-Based Costs by Employment Size Class - Emergency Medical Service Organizations and EMS Providers

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
Emergency Responder Program (ER)									
Develop ER Program	20	24	24	30	40	60	ESO	EMD	One-time
Update and Revise ER Program	4	5	5	6	8	12	ESO	EMD	Annual
Responder Participation-Meetings	8	10	10	12	16	24	ESO	EMT/Paramedic	Annual
Responder Participation-Post Sign	0.05	0.05	0.05	0.05	0.05	0.05	ESO	EMD	Annual
Establishment of Service(s) Capability									
Establishment of Service(s) Capability	12	14	14	18	24	36	ESO	EMD	One-time
Develop Mutual Aid Agreements with other ESOs	1	1	1	1	1	2	ESO	EMD	One-time
Community or Facility Vulnerability and Risk Assessment	40	48	48	60	80	120	ESO	EMD	One-time
Organization Risk Management Plan (RMP)									
Prepare Written RMP	12	14	14	18	24	36	ESO	EMD	One-time
Update Written RMP	5	6	6	8	10	15	ESO	EMD	Annual
Responder Medical/Fitness Requirements									
Minimum Medical Requirement - Statement	8	10	10	12	16	24	ESO	EMD	One-time
Confidential Health Database	0.08	0.08	0.08	0.08	0.08	0.08	Responder	EMD	One-time
Physical Performance Requirement - Statement	8	10	10	12	16	24	ESO	EMD	One-time
Develop Physical Performance Rehabilitation Program	8	10	10	12	16	24	ESO	EMD	One-time
Establish Health and Fitness Program -Written Plan	8	10	10	12	16	24	ESO	EMD	One-time
Implement Health and Fitness Program	8	10	10	12	16	24	ESO	EMD	Annual
Medical Surveillance - Initial	2.5	2.5	2.5	2.5	2.5	2.5	Responder	EMT/Paramedic	One-time
Medical Surveillance - Periodic	2.5	2.5	2.5	2.5	2.5	2.5	Responder	EMT/Paramedic	Varies
Fitness for Duty	0.25	0.25	0.25	0.25	0.25	0.25	Responder	EMT/Paramedic	Varies
Behavioral Health & Wellness Program	1	1	1	2	2	3	ESO	EMD	Annual
Responder Training and Qualifications									
Document Responder Training	8	10	10	12	16	24	ESO	EMT/Paramedic	One-time
Initial New Responder Training	503.84	503.84	761.23	761.23	761.23	761.23	Responder	EMT/Paramedic	Annual
<i>EMR</i>	48	48	60	60	60	60	Responder	EMT/Paramedic	Annual
<i>EMT</i>	120	120	190	190	190	190	Responder	EMT/Paramedic	Annual
<i>Advanced EMT (AEMT)</i>	150	150	250	250	250	250	Responder	EMT/Paramedic	Annual
<i>Paramedic</i>	1,200	1,200	1,800	1,800	1,800	1,800	Responder	EMT/Paramedic	Annual

Table B-5 - Unit Burden for Labor-Based Costs by Employment Size Class - Emergency Medical Service Organizations and EMS Providers

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
Ongoing Responder Training	45.67	45.67	45.67	45.67	45.67	45.67	Responder	EMT/Paramedic	Annual
<i>EMR</i>	16	16	16	16	16	16	Responder	EMT/Paramedic	Annual
<i>EMT</i>	40	40	40	40	40	40	Responder	EMT/Paramedic	Annual
<i>Advanced EMT (AEMT)</i>	50	50	50	50	50	50	Responder	EMT/Paramedic	Annual
<i>Paramedic</i>	60	60	60	60	60	60	Responder	EMT/Paramedic	Annual
Refresher Responder Training	2	2	2	2	3	5	Responder	EMT/Paramedic	Annual
Professional Development	20	24	24	30	40	60	Responder	EMT/Paramedic	Annual
Document Professional Qualifications	20	24	24	30	40	60	ESO	EMD	Annual
Facility & Equipment Preparedness									
Facility Preparedness	8	10	10	12	16	24	ESO	EMD	Annual
Equipment Preparedness	40	48	48	60	80	120	ESO	EMD	Annual
Inspect, Maintain, and Test Equipment	40	48	48	60	80	120	ESO	EMD	Annual
PPE Hazard Assessment	2	2	2	3	4	6	ESO	EMD	One-time
PPE Provision	1	1	1	1	2	2	ESO	EMD	One-time
PPE Maintenance	4	5	5	6	8	12	ESO	EMD	Annual
Vehicle Preparedness & Operations									
Written SOPs - Vehicle Preparedness and Operation	12	14	14	18	24	36	ESO	EMD	One-time
Vehicle Inspection and Maintenance	40	48	48	60	80	120	ESO	EMD	Annual
Pre-Incident Planning									
Pre-Incident Planning	20	24	24	30	40	60	ESO	EMD	One-time
Standard Operating Procedures for Emergency Incidents									
SOPs	20	24	24	30	40	60	ESO	EMD	One-time
Incident Management System Development									
Incident Management System Development	20	24	24	30	40	60	ESO	EMD	One-time
Emergency Incident Operations									
Emergency Incident Operations	20	24	24	30	40	60	ESO	EMD	One-time
Communicate Commander/Location of Command Post	0.08	0.08	0.08	0.08	0.08	0.08	ESO	EMD	One-time
Changes to Incident Perimeter	0.25	0.25	0.25	0.25	0.25	0.25	ESO	EMD	One-time
Post Incident Analysis									
Post Incident Analysis	8	10	10	12	16	24	ESO	EMD	Annual
ID/Implement Changes to Pre-Incident Plan	1	1	1	1	1	2	ESO	EMD	Annual

Table B-5 - Unit Burden for Labor-Based Costs by Employment Size Class - Emergency Medical Service Organizations and EMS Providers

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
ER Program Evaluation									
ER Program Evaluation	20	24	24	30	40	60	ESO	EMD	Annual
ID and Implement Changes to ER Program	1	1	1	1	1	1	ESO	EMD	Annual

Source: see PIRFA.

Table B-6 - Baseline Compliance Rate by Provision and ESO Size

Provision	ESO Size by Number of Responders					
	<25	25-49	50-99	100-249	250-499	500+
Emergency Response Program	81%	82%	85%	87%	90%	92%
Establishment of Service(s) Capability	7%	12%	25%	37%	50%	62%
Organization Risk Management Plan	7%	12%	25%	37%	50%	62%
Medical/Fitness Requirements	7%	12%	25%	37%	50%	62%
Training	91%	91%	92%	94%	95%	96%
Facility Preparedness & PPE	63%	65%	70%	75%	80%	85%
Vehicle Preparedness & Operations	72%	74%	77%	81%	85%	89%
Pre-Incident Planning	0%	0%	0%	12%	30%	47%
SOPs	0%	0%	0%	12%	30%	47%
Incident Management System Development	72%	74%	77%	81%	85%	89%
Emergency Incident Operations	81%	82%	85%	87%	90%	92%
Post Incident Analysis	0%	0%	0%	0%	20%	40%
Emergency Response Program Evaluation	0%	0%	0%	0%	10%	32%

Source: OSHA Estimates

Table B-7. Costs and Impacts for a Model Emergency Medical Services ESO with 5 Responders

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscounted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
ER Program	\$0	\$0	\$0	\$87	\$87	\$87	\$87
Establishment of Service(s) Capability	\$2,886	\$411	\$338	\$0	\$2,886	\$411	\$338
Org RMP	\$653	\$93	\$77	\$272	\$926	\$365	\$349
Medical/Fitness Requirements	\$3,257	\$464	\$382	\$490	\$3,747	\$954	\$872
Training	\$20	\$3	\$2	\$1,605	\$1,625	\$1,608	\$1,607
Facility Preparedness & PPE	\$65	\$9	\$8	\$1,126	\$1,191	\$1,136	\$1,134
Vehicle Preparedness & Operations	\$197	\$28	\$23	\$656	\$852	\$684	\$679
Pre-Incident Planning	\$1,171	\$167	\$137	\$0	\$1,171	\$167	\$137
SOPs	\$1,171	\$167	\$137	\$0	\$1,171	\$167	\$137
Incident Management System Development	\$328	\$47	\$38	\$0	\$328	\$47	\$38
Emergency Incident Operations	\$226	\$32	\$27	\$0	\$226	\$32	\$27
Post Incident Analysis	\$0	\$0	\$0	\$527	\$527	\$527	\$527
ER Program Evaluation	\$0	\$0	\$0	\$1,229	\$1,229	\$1,229	\$1,229
Total	\$9,974	\$1,420	\$1,169	\$5,992	\$15,966	\$7,412	\$7,162
Revenue	-	-	-	-	\$629,171	\$629,171	\$629,171
Total Costs as % of Revenue	-	-	-	-	2.54%	1.18%	1.14%
Locality Revenue	-	-	-	-	\$19,450,079	\$19,450,079	\$19,450,079
Total Costs as % of Locality Revenue	-	-	-	-	0.08%	0.04%	0.04%

Source: See PIRFA.

Note: Figures may not add to totals due to rounding. Costs are estimated using a 10 year time horizon.

Table B-8. Costs and Impacts for a Model Emergency Medical Services ESO with 30 Responders

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscou nted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
ER Program	\$0	\$0	\$0	\$103	\$103	\$103	\$103
Establishment of Service(s) Capability	\$3,246	\$462	\$381	\$0	\$3,246	\$462	\$381
Org RMP	\$721	\$103	\$85	\$309	\$1,030	\$412	\$394
Medical/Fitness Requirements	\$10,661	\$1,518	\$1,250	\$567	\$11,228	\$2,085	\$1,817
Training	\$25	\$4	\$3	\$9,420	\$9,444	\$9,423	\$9,423
Facility Preparedness & PPE	\$61	\$9	\$7	\$1,291	\$1,352	\$1,300	\$1,298
Vehicle Preparedness & Operations	\$213	\$30	\$25	\$731	\$944	\$761	\$756
Pre-Incident Planning	\$1,405	\$200	\$165	\$0	\$1,405	\$200	\$165
SOPs	\$1,405	\$200	\$165	\$0	\$1,405	\$200	\$165
Incident Management System Development	\$365	\$52	\$43	\$0	\$365	\$52	\$43
Emergency Incident Operations	\$256	\$37	\$30	\$0	\$256	\$37	\$30
Post Incident Analysis	\$0	\$0	\$0	\$644	\$644	\$644	\$644
ER Program Evaluation	\$0	\$0	\$0	\$1,464	\$1,464	\$1,464	\$1,464
Total	\$18,359	\$2,614	\$2,152	\$14,527	\$32,887	\$17,141	\$16,680
Revenue	–	–	–	–	\$2,036,290	\$2,036,290	\$2,036,290
Total Costs as % of Revenue	–	–	–	–	1.62%	0.84%	0.82%
Locality Revenue	–	–	–	–	\$62,949,486	\$62,949,486	\$62,949,486
Total Costs as % of Locality Revenue	–	–	–	–	0.05%	0.03%	0.03%

Source: See PIRFA.

Note: Figures may not add to totals due to rounding. Costs are calculated using a 10 year time horizon.

While OSHA does not estimate the aggregate costs for SSEs (due to uncertainty over the industry profile), Table B-9 shows OSHA's estimated unit burden and cost for SSEs for each provision of the draft standard. These unit costs are modeled on the time estimates developed for firefighter ESOs, with some adjustment for the specific provisions covering SSEs.

Tables B-10 and B-11 below show calculations of total costs for a model SSE in the 20-99 size class in NAICS 488410 Motor Vehicle Towing with two or five SSWs. These total costs are calculated assuming zero current compliance and annualized over a 10-year time horizon.

Table B-9. Unit Burden in Hours and Cost by ESO Size - Skilled Support Employers

	Employment Size Class						Basis	Labor Category	Frequency
	<25	25-49	50-99	100-249	250-499	500+			
Unit Burden – in Hours									
Establishment of Emergency Services Provided	1	2	2	2	3	4	SSE	Skilled Support Supervisors	One-time
Medical Screening - Initial	1	1	1	1	1	2	SSW	Skilled Support Workers	One-time
Medical Screening - Annual	0.5	0.5	0.5	0.5	0.5	1	SSW	Skilled Support Workers	Annual
Fatigue Management Plan	2	2	2	2	3	5	SSE	Skilled Support Supervisors	One-time
Decontamination SOPs	1	2	2	2	3	4	SSE	Skilled Support Supervisors	One-time
PPE Hazard Assessment	1	1	1	1	1	1	SSE	Skilled Support Supervisors	One-time
Training - Records, etc.	0.65	0.65	0.65	0.65	0.65	1	SSE	Skilled Support Supervisors	One-time
Training - Responder	8	8	8	8	8	8	SSW	Skilled Support Workers	Annual
Worker Participation	1	1	1	2	2	3	SSW	Skilled Support Workers	One-time
Program Evaluation	0.30	0.30	0.30	0.30	0.30	0.30	SSE	Skilled Support Supervisors	Annual
Unit Cost									
Establishment of Emergency Services Provided	\$51	\$103	\$103	\$103	\$128	\$205	SSE	Skilled Support Supervisors	One-time
Medical Screening - Initial	\$35	\$35	\$35	\$35	\$35	\$70	SSW	Skilled Support Workers	One-time
Medical Screening - Annual	\$18	\$18	\$18	\$18	\$18	\$35	SSW	Skilled Support Workers	Annual
Fatigue Management Plan	\$103	\$103	\$103	\$103	\$154	\$257	SSE	Skilled Support Supervisors	One-time
Decontamination SOPs	\$51	\$103	\$103	\$103	\$128	\$205	SSE	Skilled Support Supervisors	One-time
PPE Hazard Assessment	\$26	\$26	\$26	\$26	\$26	\$51	SSE	Skilled Support Supervisors	One-time
Training - Records, etc.	\$33	\$33	\$33	\$33	\$33	\$51	SSE	Skilled Support Supervisors	One-time
Training - Responder	\$282	\$282	\$282	\$282	\$282	\$282	SSW	Skilled Support Workers	Annual
Worker Participation	\$35	\$35	\$35	\$70	\$70	\$106	SSW	Skilled Support Workers	One-time
Program Evaluation	\$15	\$15	\$15	\$15	\$15	\$15	SSE	Skilled Support Supervisors	Annual

Sources: See PIRFA.

Note: Unit costs are shown with zero decimal places, but unrounded figures are used in the underlying calculations.

**B-10. Costs and Impacts for a Model SSE with 2 SSWs
In NAICS 488410 Motor Vehicle Towing, 20-99 employment size class**

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscounted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
Establishment of Emergency Services Provided	\$51	\$7	\$6	\$0	\$51	\$7	\$6
Medical Screening - Initial	\$70	\$10	\$8	\$0	\$70	\$10	\$8
Medical Screening - Annual	\$0	\$0	\$0	\$35	\$35	\$35	\$35
Fatigue Management Plan	\$103	\$15	\$12	\$0	\$103	\$15	\$12
Decontamination SOPs	\$51	\$7	\$6	\$0	\$51	\$7	\$6
PPE Hazard Assessment	\$26	\$4	\$3	\$0	\$26	\$4	\$3
Training - Records, etc.	\$33	\$5	\$4	\$0	\$33	\$5	\$4
Training - Responder	\$0	\$0	\$0	\$564	\$564	\$564	\$564
Worker Participation	\$70	\$10	\$8	\$0	\$70	\$10	\$8
Program Evaluation	\$0	\$0	\$0	\$15	\$15	\$15	\$15
Total	\$405	\$58	\$48	\$615	\$1,020	\$672	\$662
Revenue	-	-	-	-	\$3,332,254	\$3,332,254	\$3,332,254
Total Costs as % of Revenue	-	-	-	-	0.03%	0.02%	0.02%

Source: See PIRFA.

Notes: Figures may not add to totals due to rounding. Costs annualized over a 10 year time horizon.

**B-11. Costs and Impacts for a Model SSE with 5 SSWs
In NAICS 488410 Motor Vehicle Towing, 20-99 employment size class**

	One-Time			Annual	First Year (One-Time Plus Annual)	Total (One-Time Plus Annual)	
	Undiscounted	Discounted - 7%	Discounted - 3%	Undiscounted	Undiscounted	Discounted - 7%	Discounted - 3%
Establishment of Emergency Services Provided	\$51	\$7	\$6	\$0	\$51	\$7	\$6
Medical Screening - Initial	\$176	\$25	\$21	\$0	\$176	\$25	\$21
Medical Screening - Annual	\$0	\$0	\$0	\$88	\$88	\$88	\$88
Fatigue Management Plan	\$103	\$15	\$12	\$0	\$103	\$15	\$12
Decontamination SOPs	\$51	\$7	\$6	\$0	\$51	\$7	\$6
PPE Hazard Assessment	\$26	\$4	\$3	\$0	\$26	\$4	\$3
Training - Records, etc.	\$33	\$5	\$4	\$0	\$33	\$5	\$4
Training - Responder	\$0	\$0	\$0	\$1,410	\$1,410	\$1,410	\$1,410
Worker Participation	\$176	\$25	\$21	\$0	\$176	\$25	\$21
Program Evaluation	\$0	\$0	\$0	\$15	\$15	\$15	\$15
Total	\$617	\$88	\$72	\$1,513	\$2,130	\$1,601	\$1,586
Revenue	–	–	–	–	\$3,332,254	\$3,332,254	\$3,332,254
Total Costs as % of Revenue	–	–	–	–	0.06%	0.05%	0.05%

Source: See PIRFA.

Notes: Figures may not add to totals due to rounding. Costs are annualized over a 10 year time horizon.

Appendix C. Medical Exam Unit Costs

Table C-1. Medical Exam Estimated Percent of Responders Needing Tests and Unit Costs

Exam	Responders	% Receiving [b]	Unit Cost (for All Potential Exams)
Fire Departments			
Initial Medical Surveillance			
General Health Assessment [c]	524,489	100%	\$239.37
Cardiopulmonary Function [d]	524,489	84%	\$54.00
Immunological [e]	524,489	100%	\$53.28
<i>Initial Subtotal</i>	<i>524,489</i>	<i>97%</i>	<i>\$346.65</i>
Periodic Medical Surveillance			
General Health Assessment [f]	524,489	100%	\$196.89
Cardiopulmonary Function [d]	524,489	33%	\$54.00
Cancer Screening [g]	524,489	10%	\$679.17
Immunological [h]	524,489	11%	\$496.53
<i>Periodic Subtotal</i>	<i>524,489</i>	<i>24%</i>	<i>\$1,426.59</i>
Medical Surveillance Total			
Initial and Periodic Total	524,489	38%	\$1,773.24
Emergency Medical Services			
Initial Medical Surveillance			
General Health Assessment [c]	365,025	100%	\$222.60
Cardiopulmonary Function [d]	365,025	84%	\$54.00
Immunological [e]	365,025	100%	\$53.28
<i>Initial Subtotal</i>	<i>365,025</i>	<i>97%</i>	<i>\$329.88</i>
Periodic Medical Surveillance			
General Health Assessment [f]	365,025	81%	\$180.12
Cancer Screening [g]	365,025	1%	\$679.17
Immunological [h]	365,025	9%	\$496.53
<i>Periodic Subtotal</i>	<i>365,025</i>	<i>14%</i>	<i>\$1,409.82</i>
Medical Surveillance Total			
Initial and Periodic Total	365,025	30%	\$1,739.71
Total/Average			
Initial Medical Surveillance			
General Health Assessment [c]	889,514	100%	\$232.49
Cardiopulmonary Function [d]	889,514	84%	\$54.00
Immunological [e]	889,514	100%	\$53.28
<i>Initial Subtotal</i>	<i>889,514</i>	<i>97%</i>	<i>\$339.77</i>
Periodic Medical Surveillance			
General Health Assessment [f]	889,514	93%	\$190.01
Cardiopulmonary Function [d]	889,514	19%	\$54.00
Cancer Screening [g]	889,514	6%	\$679.17
Immunological [h]	889,514	10%	\$496.53
<i>Periodic Subtotal</i>	<i>889,514</i>	<i>20%</i>	<i>\$1,421.79</i>
Medical Surveillance Total			
General Health Assessment	889,514	97%	\$422.50
Cardiopulmonary Function	889,514	52%	\$108.00

Table C-1. Medical Exam Estimated Percent of Responders Needing Tests and Unit Costs

Exam	Responders	% Receiving [b]	Unit Cost (for All Potential Exams)
Cancer Screening	889,514	6%	\$679.17
Immunological	889,514	19%	\$549.81
Initial and Periodic Total	889,514	35%	\$1,761.56

Sources: See PIRFA.

Appendix D. Costs for Regulatory Alternatives

Alternative	One-Time	Annual	Total (One-Time Plus Annual)	Difference from Draft Standard
	Undiscounted	Undiscounted	Discounted - 3%	Discounted - 3%
Draft Standard	\$549,755,490	\$591,886,330	\$656,334,444	\$0
1. Exempt all ESOs whose responders are all volunteers	\$353,650,747	\$395,111,992	\$436,570,648	-\$219,763,796
2a. Exempt all volunteer ESOs if the population served is ≤ 2,500	\$548,877,470	\$591,323,633	\$655,668,817	-\$665,627
2b. Exempt all volunteer ESOs if the population served is. ≤ 5,000	\$547,208,323	\$590,128,394	\$654,277,903	-\$2,056,541
2c. Exempt all volunteer ESOs if the population served is ≤ 10,000	\$526,461,891	\$573,743,065	\$635,460,459	-\$20,873,985
2d. Exempt all volunteer ESOs if the population served is ≤ 25,000	\$421,448,790	\$480,689,140	\$530,095,795	-\$126,238,649
2e. Exempt all volunteer ESOs if the population served is ≤ 50,000	\$385,094,259	\$443,036,664	\$488,181,459	-\$168,152,985
3a. Remove the requirement for initial medical surveillance	\$349,612,264	\$591,886,330	\$632,871,552	-\$23,462,892
3b. Remove the requirement for periodic medical surveillance	\$549,755,490	\$418,879,807	\$483,327,922	-\$173,006,522
3c1. Require periodic medical surveillance every two years	\$549,755,490	\$418,879,807	\$571,109,556	-\$85,224,888
3c2. Require periodic medical surveillance every three years	\$549,755,490	\$418,879,807	\$552,621,091	-\$103,713,353
4. Medical surveillance not full NFPA 1582	\$519,734,006	\$565,935,351	\$626,864,032	-\$29,470,412
4a. Medical surveillance would not include an immunological component	\$517,599,630	\$560,497,570	\$621,176,037	-\$35,158,407
4b. Medical surveillance would not include cancer screening.	\$549,755,490	\$564,525,560	\$628,973,675	-\$27,360,770
4c. Medical surveillance would not include cardiopulmonary tests.	\$522,473,415	\$585,187,426	\$646,437,249	-\$9,897,195
4d. Medical surveillance questionnaire	\$369,626,587	\$436,180,460	\$479,511,972	-\$176,822,473
5a. Remove requirements to assess fitness for duty	\$549,755,490	\$564,473,680	\$628,921,794	-\$27,412,650
5b1. Assess fitness for duty every two years	\$549,755,490	\$564,473,680	\$642,830,676	-\$13,503,769
5b2. Assess fitness for duty every three years	\$549,755,490	\$564,473,680	\$639,901,203	-\$16,433,241
6a. Remove requirements for health and fitness programs	\$532,867,135	\$574,997,974	\$637,466,259	-\$18,868,186
6b. Remove requirements for behavioral health and wellness programs	\$549,755,490	\$588,550,410	\$652,998,524	-\$3,335,920
7. Remove the requirement to maintain a confidential health database/health file	\$544,180,092	\$591,886,330	\$655,680,838	-\$653,607
8. Reduce initial firefighter training	\$549,755,490	\$573,998,508	\$638,446,622	-\$17,887,822
9. Remove requirements that responders have certain professional qualifications	\$549,755,490	\$587,743,227	\$652,191,341	-\$4,143,103
10. Remove requirements that equipment meet specified design and manufacturing requirements	\$549,755,490	\$588,598,576	\$653,046,690	-\$3,287,754
11. Remove the requirement for PPE to be compliant with consensus standards	\$549,188,864	\$591,886,330	\$656,268,018	-\$66,426
12. Remove certain groups of ESOs from the requirement to meet particular provisions of the standard [a]	[a]	[a]	[a]	[a]
Alternatives Addressing Skilled Support Employers				

Appendix D. Costs for Regulatory Alternatives

Alternative	One-Time	Annual	Total (One-Time Plus Annual)	Difference from Draft Standard
	Undiscounted	Undiscounted	Discounted - 3%	Discounted - 3%
13. Exclude all or some types of SSEs from the scope of the standard [a]	[a]	[a]	[a]	[a]
14a. Remove the requirement for physical performance and fitness for duty evaluations for SSWs [a]	[a]	[a]	[a]	[a]
14b1. Assess SSW fitness for duty every two years [a]	[a]	[a]	[a]	[a]
14b2. Assess SSW fitness for duty every three years [a]	[a]	[a]	[a]	[a]
15a. Remove the requirement for pre-incident training for SSWs [a]	[a]	[a]	[a]	[a]
15b. Reduce the required training for SSWs [a]	[a]	[a]	[a]	[a]
16 Delete or reduce the requirements for worker participation for SSWs	[b]	[b]	[b]	[b]
17. Create a new subsection for disaster site workers and move applicable SSE requirements into it [Not modeled]	[b]	[b]	[b]	[b]
18. Increase or decrease the level of specification in the standard for various elements	[b]	[b]	[b]	[b]
19. Include requirements from other OSHA standards in the draft Emergency Response standard.	[b]	[b]	[b]	[b]

Source: OSHA.

Notes:

[a] Total cost savings not estimated but alternative would be burden reducing.

[b] Total cost impacts not estimated but alternative would likely result in no changes to total costs.

Figures may not add to totals due to rounding.