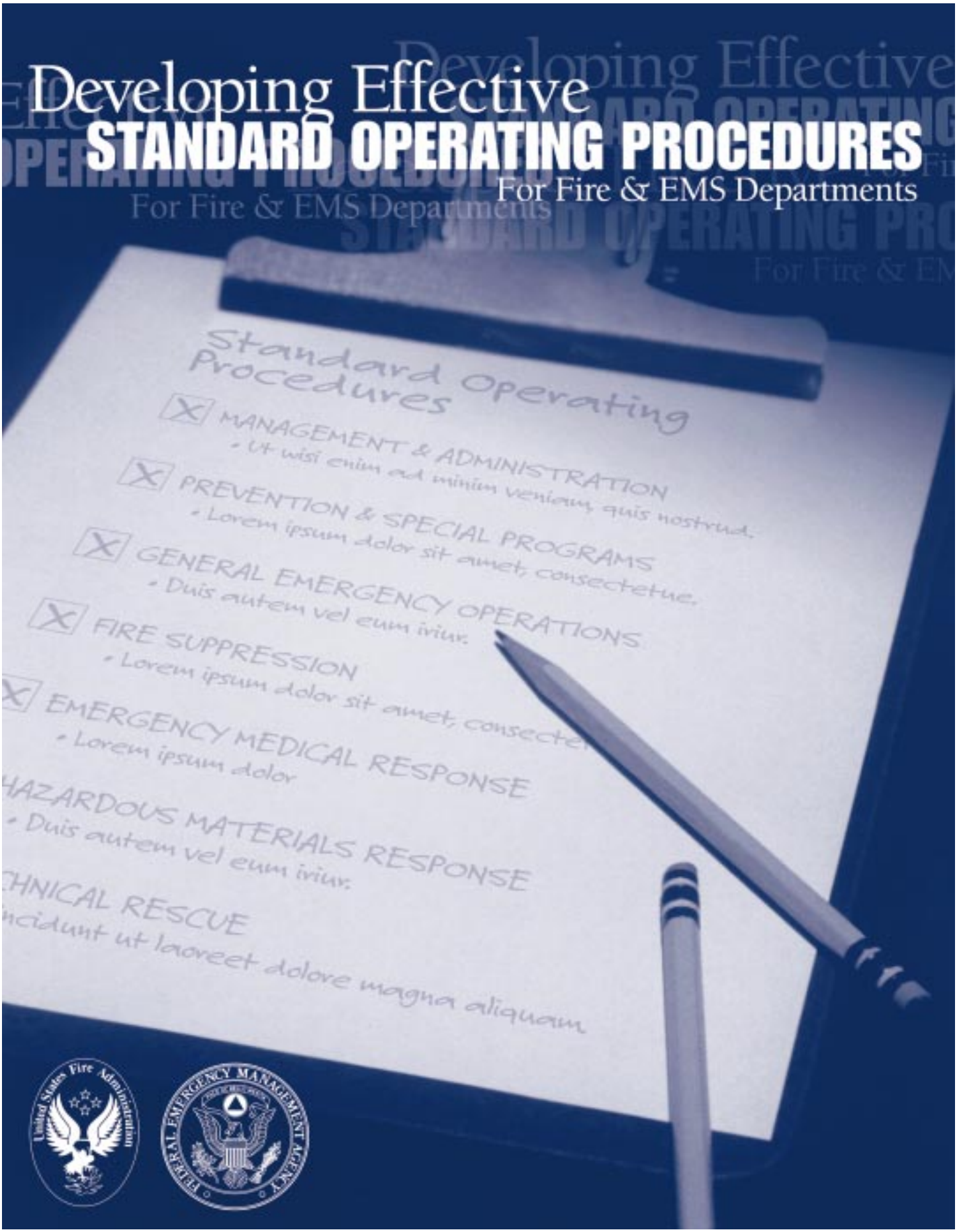
Developing Effective STANDARD OPERATING PROCEDURES

For Fire & EMS Departments



GUIDE TO DEVELOPING EFFECTIVE STANDARD OPERATING PROCEDURES FOR FIRE AND EMS DEPARTMENTS

Federal Emergency Management Agency
United States Fire Administration

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Preface

Since its inception, the United States Fire Administration (USFA) has been committed to enhancing the health and safety of emergency response personnel. Fire, rescue, emergency medical service (EMS), and other response agencies across the country rely on the USFA for current information and state-of-the-art guidance on critical fire service management and operational issues.

This *Guide to Developing Effective Standard Operating Procedures for Fire and EMS Departments* is designed to assist emergency service managers in establishing effective standard operating procedures (SOPs) within their organizations. It will serve as a valuable resource for personnel seeking a clear understanding of operational issues, and will facilitate compliance with current laws, regulations, and standards related to the emergency services.

The *Guide* explains how SOPs can be developed, lists topic areas that should be covered, and describes various styles and formats. While this material will prove helpful for fire and EMS departments developing SOPs, it is important to note that each department must conduct its own analysis, rather than copy verbatim the policies and procedures of another agency. SOPs are not "one size fits all;" they must be customized to the unique requirements of the department and community.

The *Guide* was developed by a team of experts in the emergency services, put together by IOCAD Emergency Services Group. Participants included fire and EMS officers, educators, attorneys, physicians, and other experts. The material was reviewed for accuracy and comprehensiveness by members of a Quality Review Panel made up of experts from the emergency services and pertinent federal agencies, including the U.S. Department of Labor/Occupational Safety and Health Administration (OSHA). The USFA appreciates their contributions to the manual and their commitment to the health, safety, and effectiveness of the fire and emergency medical services.

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Chapter 1

SOPs: The Fire Service Operator's Manual

Introduction

Imagine a situation where adjacent communities decide to combine firefighting operations. The members of the new consolidated department know the geographic area and local hazards. They all are well trained, with years of experience on the job. Cost savings have allowed the new department to upgrade facilities and provide better equipment. The result should be an immediate improvement in service quality and efficiency, right?

Unfortunately, the opposite may be true in situations like this. That's because each of the predecessor fire departments had its own unique way of doing things—policies, traditions, plans, methods, etc. Even some of the legal authorities under which they operated were different. As a result, combining organizational systems and personnel leads to miscommunication, conflict, and problems on the fireground.

These problems may have been avoided if the new organization had implemented written guidelines that defined precisely how operations were to be conducted. These guidelines, often called **standard operating procedures** or SOPs, clearly spell out what is expected and required of personnel during emergency response and non-emergency activities. They provide a mechanism to communicate legal and administrative requirements, organizational policies, and strategic plans to the members. In short, they get everybody "reading from the same sheet of music." *

This manual is intended to help fire service organizations develop and implement effective SOPs. The material is designed for use by managers and supervisors in all types and sizes of fire departments. Community officials, employee representatives, individual firefighters, and others with an interest in enhancing fire service operations and administration can also benefit from this information.

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* Terminology may vary. See box on next page.

SOPs vs. SOGs

An issue sometimes arises within fire service organizations about whether to use the terminology "standard operating procedures" (SOPs) or "standard operating guidelines" (SOGs). Some experts feel that the term "procedures" implies relatively inflexible task steps or instructions, while "guidelines" implies more discretion in performing the job. Since emergency incidents are unpredictable and flexibility is essential, these experts advise fire departments to develop SOGs, thereby reducing the need to identify exceptions, and perhaps even limiting liability due to actions by personnel. Other experts believe the opposite is true: the term "guidelines" implies too much flexibility and discretion, thus reducing control and increasing the likelihood of mistakes.

A review of related legal proceedings indicates that terminology is less important than content and implementation of SOPs/SOGs. Courts tend to assess liability based on factors such as:

- Systems in place to develop and maintain SOPs/SOGs
- Compatibility with regulatory requirements and national standards
- Consideration of unique departmental needs
- Adequacy of training and demonstration of competence
- Procedures used to monitor performance and ensure compliance

For convenience, the traditional terminology "standard operating procedures" is used throughout this manual. Other alternatives—including General Orders, Departmental Orders, or Executive Orders, to name a few—may be equally appropriate. Fire service organizations should consult with legal counsel and use the terminology that best reflects their unique needs. Regardless of the term used for these policies and procedures, it is important to note that judgement and discretion must be used on all incidents.

What Are SOPs?

According to the National Fire Protection Association (NFPA), a standard operating procedure is "an organizational directive that establishes a standard course of action." In other words, SOPs are written guidelines that explain what is expected and required of fire service personnel in performing their jobs. A comprehensive set of SOPs defines in significant detail how the department intends to operate.

SOPs may be prepared for any function that fire service organizations perform, including administration (hiring, equipment maintenance, building inspections, rehabilitation, etc.) and emergency response operations (fire suppression, medical services, hazardous materials response, etc.). The procedures can be organized and presented in many different ways, depending on the department's needs and preferences. (Sample topic areas are described in Chapter 2 and Appendix B.)

SOPs should not be confused with pre-incident plans or pre-plans, which describe strategies for emergency response at a specific facility. Pre-plans allow the department to gather information on designated locations, identify potential hazards, and assess site-specific factors. SOPs, on the other hand, are more generic in nature. They address general functions like equipment placement and tactical operations, and they are applicable to all emergency incidents, or at least to a specific category or type of emergency situation.

SOPs are not intended to duplicate technical information or provide step-by-step instructions for doing the job. The knowledge and skills that personnel need to perform specific job tasks—manage programs, fight fires, provide medical care, etc.—are addressed in technical protocols and professional training. SOPs, conversely, describe related considerations: safety, use of supplies, equipment maintenance, duties and rights of personnel, command structures, coordination with other organizations, reporting requirements, and so forth.

Stated differently, SOPs don't describe how to do the job (technical skills), they describe the department's rules for doing the job (procedural guidance). An example might help to clarify this point. Operating an emergency vehicle requires both technical skills and procedural guidance. Some possible components of each are listed below:

Technical Skills	Procedural Guidance
• Location of vehicle controls	• Use of seat belts
• How to activate warning systems	• Permitted uses of warning systems
• Operation of communications equipment	• Communications protocols
• Vehicle driving skills—accelerating, braking, turning, etc.	• Procedures at intersections, permissible speeds, passing other vehicles
• Parking skills	• Vehicle placement, use of traffic cones

Why Are SOPs Important?

Sometimes it seems like fire service organizations face an insurmountable array of challenges in modern society. In an era of shrinking resources, departments must contend with:

- Expanding organizational missions—emergency medical care, hazardous materials response, technical rescue, fire prevention/public education, and terrorism incidents.

- Increasing legal and regulatory requirements—safe work practices, public and employee right-to-know, equal opportunity (race, gender, age, disability), performance standards, employee relations, and much more.

- Increasing complexity in emergency response techniques and equipment—personal protective measures, chemical safety, infection control, building and industrial codes, information management, training systems, and so forth.

- Increasing coordination and reporting requirements with other groups—emergency response agencies, community managers and planners, mutual aid organizations, federal and state governments, member associations, and others.

Fire service organizations must meet these growing requirements in an environment that itself is a challenge. Budgets are tight and personnel are stretched thin. The experience of the workforce may be declining due to a decrease in the number of structural fires and the retirement of more experienced personnel. Scrutiny by the media, government, and the public is intense. Legal defenses continue to erode—concepts like sovereign immunity have been limited and narrowed by the courts; lawsuits are more common and jury awards are perceived to be greater.

As a result, the decisions that personnel face are more complex and controversial. Mistakes have greater repercussions and costs. Emergency service providers need help understanding and navigating the maze of regulatory and administrative requirements. Managers, on the other hand, need a mechanism to convey operational guidance to the members and ensure departmental compliance with laws, regulations and standards. They need tools to direct and control the rapid pace of change.

Well-designed standard operating procedures help fill both needs. For individual workers, SOPs clarify job requirements and expectations in a format that can be readily applied on the job. They explain in detail what the department wants them to do in the situations they are most likely to encounter. The result is improved safety, performance, and morale. For department managers, the advantages are equally great. SOPs provide a mechanism to identify needed changes, articulate strategies, document intentions, implement regulatory requirements, enhance training, and evaluate operational performance. The result is improved operational efficiency, greater accountability, and reduced liability. Everybody's a winner!

In short, SOPs are a vital component of fire service administrative and emergency response operations. Departments cannot operate safely or effectively in modern society without a comprehensive set of SOPs and the management systems needed to develop and maintain them. Organizations that choose to ignore this fact are increasingly vulnerable to accidents, lawsuits, unnecessary costs, personnel problems, and damage to their professional image.

Use of the Manual

This manual is intended to serve as a planning guide and reference document for fire service organizations in developing, implementing, and maintaining SOPs. It describes general concepts, related legal authorities, specific steps, and resource requirements for managing the SOP process. In addition, sample topic areas and content recommendations are provided. Each department will need to tailor this information to their own unique needs and preferences.

As noted previously, fire service organizations must address both administrative and operational functions in their SOPs. However, general administration requirements and issues—personnel, facilities, equipment, etc.—are considered to be outside the scope of this effort. Managers interested in more information on these subjects should contact the information sources in Appendix C.

This manual has been organized into chapters that reflect logical steps in a formal SOP management program, as follows:

> Chapter 2, *The Role and Function of SOPs,* describes the use and content of SOPs in a typical fire service organization. Sample SOP categories are presented, and the relationship between SOPs and other fire service documents is explored.
>
> Chapter 3, *Conducting a Needs Assessment*, describes elements of an organizational process to examine existing SOPs, identify shortfalls, and develop an action plan. Processes for assessing the current operating environment, standard of practice, and local needs are discussed.
>
> Chapter 4, *Developing Standard Operating Procedures*, describes generic steps and requirements for preparing a comprehensive set of SOPs. Related considerations include the use of committees or teams, staffing, mechanisms for gathering input, document formats, and review and approval processes.
>
> Chapter 5, *Implementing Standard Operating Procedures*, discusses the requirements and systems needed to ensure that new SOPs are understood and used correctly. Subjects include planning, notification, distribution, accessibility, training, and performance monitoring.
>
> Chapter 6, *Evaluating Standard Operating Procedures*, defines the purpose and types of formal processes that departments can use to analyze the effectiveness of existing SOPs. General steps and a detailed case study are presented.

In addition, three appendices provide detailed reference information for use by SOP program managers and process participants:

- Appendix A summarizes important laws, regulations, and professional standards affecting fire service operations.
- Appendix B lists detailed topic areas and content descriptions for fire service administrative and operational functions.
- Appendix C identifies helpful information sources and organizational contacts, including website addresses if available.

Chapter 2

The Role and Function of SOPs

Introduction

As discussed in Chapter 1, experts agree that standard operating procedures are a critical component of fire service operations. Every department needs to prepare a comprehensive set of SOPs to provide structure to important administrative functions and emergency response operations. They also need to set up the management systems and infrastructure necessary to develop, maintain, and enforce them effectively.

This chapter discusses some useful concepts and background information about SOPs and related management processes. Subjects include the role of SOPs in fire service operations; common benefits and applications of SOPs; internal and external documents that should be considered when writing SOPs; and ways to structure SOPs. The chapter concludes with a review of generic steps in the SOP management process.

The Role of SOPs

SOPs have many important functions in fire service organizations. In particular, a complete set of SOPs is the best method for departments to "operationalize" other organizational documents—by-laws, plans, policies, operational strategies, mutual aid agreements, etc. In simple terms, SOPs "boil down" the important concepts, techniques, and requirements contained in these documents into a format that can be readily used by personnel in their daily jobs. As such, SOPs help to integrate departmental operations, linking the work of managers and planners with the activities of other workers.

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SOPs are also essential for addressing the diverse legislative and regulatory requirements that affect fire service operations. Many laws and regulations state that fire departments must follow "safe work practices." Courts have generally agreed that this includes the development and maintenance of SOPs. In addition, many communities have ordinances that mandate compliance with standards developed by NFPA or other professional organizations. A very effective way to implement these

legal requirements and national standards is to incorporate them into SOPs. By documenting the department's effort and intention to be compliant, SOPs may also help to limit liability when incidents go awry.

SOPs have many other applications and benefits for fire service organizations, including:

- Explanation of performance expectations—SOPs describe and document what is expected of personnel in the performance of their official duties. As such, they provide a benchmark for personnel, an objective mechanism for evaluating operational performance, and a tool for promoting a positive organizational culture.

- Standardization of activities—SOPs identify planned and agreed-upon roles and actions. This information helps standardize activities and promote coordination and communications among personnel. SOPs also simplify decision-making requirements under potentially stressful conditions.

- Training and reference document—Written SOPs can provide the framework for training programs, member briefings, drills, and exercises. These activities, in turn, improve the understanding of work requirements and help identify potential problems. A comprehensive SOP manual also serves as a self study and reference document for personnel.

- Systems analysis and feedback—The process of researching and developing SOPs provides opportunities for managers to compare current work practices with the state-of-the-art in the fire service. Feedback from outside groups, technical experts, and staff can help to identify potential problems and innovative solutions.

- External communications—SOPs clarify the department's operational philosophy and recommended practices. As such, they may prove useful in communicating organizational intentions and requirements to outside groups, or enhancing the public's understanding of the fire service.

Interface with Other Documents

Standard operating procedures are not implemented in a vacuum. Personnel carry out SOPs within an operational environment that incorporates many internal and external components—laws, plans, agreements, etc. All of these elements must be considered when formulating or amending SOPs.

As noted above, SOPs "operationalize" the strategies and plans of the organization. In other words, they identify specific procedures that must be used to accomplish the mission, goals, and objectives of the agency, as defined in plans and other documents. They also provide a direct link between the tasks assigned to individual department members and the laws, regulations, standards, and policies that control fire service operations. If SOPs are created without adequate

consideration of these internal and external factors, the resulting guideline will be incomplete, ineffective, and possibly even dangerous to the personnel who use them.

This section briefly reviews some of the fire service documents that must be considered when creating or changing SOPs. The relationships among the various documents are depicted graphically in Figure 2-1. However, it is important to note that every fire and emergency service organization is different. Each department must identify the specific plans, documents, and relationships that are appropriate to its unique situation.

By-Laws and Constitutions—Some fire and emergency service organizations, particularly volunteer agencies and private corporations, operate under a set of by-laws and/or a constitution. These enabling documents establish the rules for the organization, including, for example, what personnel are authorized to do, how members vote within the organization, and how the leadership of the agency is organized. By-laws and constitutions are the basic guiding documents for the organization, establishing a form of internal law. If a need exists to change by-laws, the department must often undertake a complicated process to make amendments. In many cases, changes must also be filed with a state agency, such as a state corporation commission.

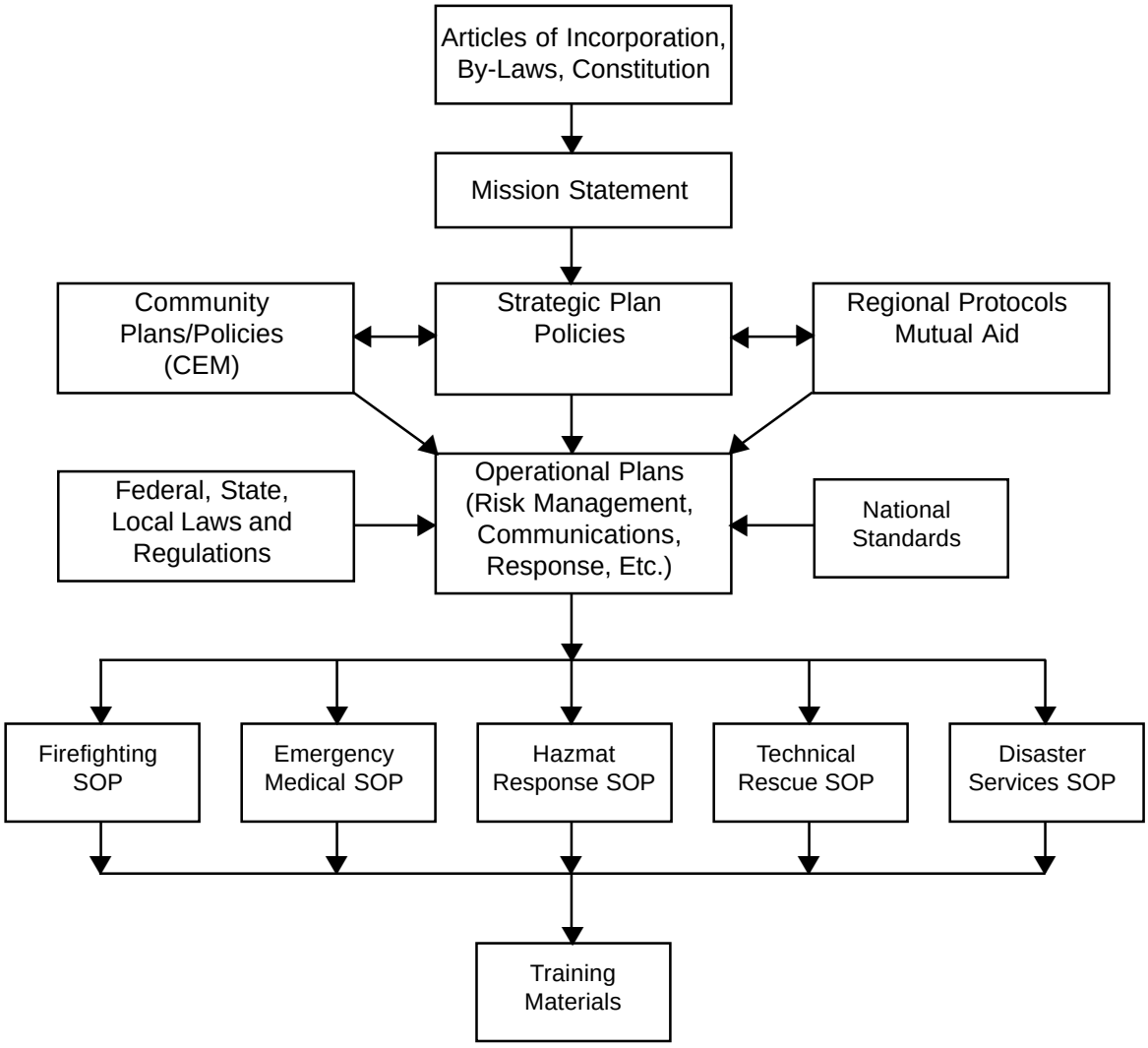
Mission Statement—Most fire and emergency service agencies operate under a general guiding principle called a mission statement. The mission statement broadly defines the purpose and goals of the organization, establishing a philosophical foundation on which to build programs and services. Fire service managers and planners should consider the mission statement in every activity or document produced by the agency, including SOPs.

Strategic Plans—Strategic plans, also called master plans, are developed by fire service agencies in conjunction with the authority having jurisdiction. These plans—whether three, five, or ten years in duration—put in place a set of expectations for the present and the future. They identify short-term and long-term goals and clarify interorganizational relationships and agreements that must be addressed in operations. SOPs must work in concert with strategic plans to meet the goals that the community has established.

Mutual Aid/Automatic Aid Agreements—Mutual or automatic aid agreements are contracts that define working relationships and response plans between departments and outside agencies or jurisdictions. These agreements, like strategic plans, create a set of expectations and requirements for the organizations and personnel involved. Incorporating these elements in SOPs helps ensure that agreements are enforced and joint operations are coordinated. For example, the agreement between the Jonesville Fire Department and the Parkerville Fire Department states that Parkerville will send two engines and one truck to all structure fires when called to respond in Jonesville. However, the Parkerville SOPs define mutual aid assistance as one engine and one truck. The cause of this confusion can easily be corrected by considering all mutual and automatic aid agreements when developing the SOPs.

Figure 2-1

Relationships Among Fire Service Documents



Regional Standard Operating Procedures/Protocols—If a fire or emergency service organization is part of a regional grouping, the possibility exists that regional protocols will come into play. In these situations, agency SOPs must be compatible with regional protocols to eliminate the possibility of confusion or uncoordinated activities. A common example includes agencies that provide emergency medical services. Regional treatment protocols allow basic and advanced life support EMS personnel to administer procedures and treatments in the field under the direct or indirect supervision of a medical director or supervising physician. SOPs must be complementary to, and not conflict with, EMS protocols established by local, state, or regional medical direction.

Comprehensive Emergency Management Plans—Comprehensive emergency management plans (or integrated emergency management plans) describe response activities, assignments, and logistical considerations during major disasters and mass casualty incidents. These documents facilitate the coordination of agencies that work together during emergencies that exceed the capabilities and resources of a single organization. Like other planning documents, comprehensive emergency management plans must be considered when developing or revising SOPs. Key elements include consistent terminology and clear command and control structures. Establishing this framework requires integrating the community's planning processes and incorporating relevant aspects in each emergency service's SOPs.

Laws, Regulations, and Standards—The legal authorities that affect fire service operations include federal, state, and local laws and regulations, case law precedents, and standards developed by national professional associations. These mandates and guidelines describe how jobs are to be performed. SOPs that violate the established fabric of statutes and rules open up the organization to lawsuits, legal actions, or other serious consequences. [The wide variety of laws, regulations, and standards affecting fire and emergency service operations is beyond the scope of this report. However, the concept behind these authorities is summarized in Chapter 3, and more detail on many important statutes and rules is presented in Appendix A.]

Risk Management Plan—Fire and emergency service agencies often develop and adopt a comprehensive risk management plan. In this effort, planners consider all policies and procedures, accident and injury data, and number and types of incidents. Based on the control measures established, new standard operating procedures can be developed.

Other Planning Documents—Like strategic plans, many departments prepare other planning documents to guide the organization and help coordinate activities. These documents might include response plans, communications plans, staffing plans, and so forth. The plans clarify operational goals, strategies, assignments, and expectations. SOPs must work in tandem with these planning documents to allow the agency to accomplish its mission. In particular, careful consideration should be given to the language and terminology used in communications plans. If dispatchers use one set of terms from communications plans, and field personnel use another set from the SOPs, a dangerous situation could develop, both for responders and for the agency.

Training Materials—Training is the best way to ensure that members understand SOPs and have the skills needed to carry them out. As such, training is the primary link between the department's SOPs and the personnel who implement them. Most fire services agencies develop training manuals and other materials to assist instructors and students in the learning process. These materials must incorporate and accurately convey the department's SOPs. In fact, they serve as "quasi-SOPs," specifically designed to facilitate the transfer of information on SOPs in a training environment. Any conflict between training materials and SOPs will cause unnecessary confusion and undermine the operational mission of the organization.

SOP Topic Areas

SOPs are statements that summarize behavioral requirements and expectations in a certain functional area, e.g., safety at emergency scenes, training and education, radio communications, hose testing and maintenance, post-incident analyses, and public education among many, many others. Typically, SOPs also contain some narrative material that explains, for example, the purpose and intent of the guidelines and possible exceptions. The subjects addressed and level of detail in SOPs may vary from department to department. In general, however, SOP writers try to provide enough guidance to control operations without overwhelming personnel or unnecessarily limiting flexibility in special situations. (See Chapter 4 for information on writing SOPs).

SOPs should be organized into a logical framework, using headings and sub-headings that help clarify functional relationships and the roles played by different groups. Most experts recommend that departments divide the SOP manual into separate sections for administration and operations. If desired, operational SOPs can be further subdivided into units that separately address each major component of the organization's mission. Personnel policies may be covered in a separate document or set of documents.

Exhibit 2-1 shows sample SOP categories for general administrative and operational functions. In addition, topic areas for each of five common fire service missions—fire suppression, emergency medical services, technical rescue, hazardous materials response, and disaster operations—are presented. Further breakouts and descriptions of these categories can be found in Appendix B. It should be noted that other ways to organize SOPs might be equally appropriate or more suitable in specific situations. This material is intended solely to give fire departments a starting point in developing their own set of guidelines.

Although the list in Exhibit 2-1 may appear extensive, keep in mind that all SOPs do not have to be written at the same time. Departments should prioritize their needs and establish a realistic SOP development plan. SOPs should be prepared, released, and assimilated into operations at a reasonable pace.

Exhibit 2-1

OVERVIEW OF SOP TOPIC AREAS

MANAGEMENT AND ADMINISTRATION

General Administration
- Organization
- Facilities
- Emergency Vehicles and Specialized Apparatus
- Equipment and Supplies
- Finance
- Fundraising
- Training, Education, and Exercises
- Information Management

Member Health and Assistance Programs
- Medical Screening/Health Assessment
- Health and Wellness Promotion
- Performance Evaluation
- Post-Injury Rehabilitation
- Employee/Member Assistance
- Facility Safety
- Hazard Communication

Organizational Planning and Preparedness
- Strategic/Master Planning
- SOP Development
- Risk Management
- Emergency Operations Planning
- Mutual/Automatic Aid

PREVENTION AND SPECIAL PROGRAMS

Public Information and Education
- Working with the Public
- Working with the Media
- Emergency Public Information
- Public Education
- Public Relations

Building Inspections and Codes Enforcement
- Authorities and Codes
- Design and Plans Review
- Residential Inspections
- Commercial Inspections
- Industrial Inspections
- Code Enforcement
- Record Keeping

Special Programs
- Fire Cause and Arson Investigation
- Hydrant Maintenance
- Other Special Programs

Exhibit 2-1 (continued)

OVERVIEW OF SOP TOPIC AREAS

EMERGENCY OPERATIONS

General Emergency Operations
- Operating Emergency Vehicles
- Safety at Emergency Incidents
- Communications
- Command and Control
- Special Operations
- Post-Incident Operations

Fire Suppression
- Fire Suppression Risk Management
- Company Operations
- Tactical/Strategic Guidelines
- Special Facilities/Target Hazards
- Special Fire Suppression Operations

Emergency Medical Response
- EMS Response Risk Management
- Pre-hospital EMS First Response
- Patient Disposition and Transportation
- Management of EMS Operations
- Special EMS Operations

Hazardous Materials Response
- Hazmat Response Risk Management
- First Responder Operations
- Special Hazmat Operations

Technical Rescue
- Technical Rescue Risk Management
- Rescue Operations
- Special Rescue Operations

Disaster Operations
- Organizing for Disaster Operations
- Disaster Operations Risk Management
- Disaster Operations
- Disaster-Specific Guidelines

The SOP Management Process

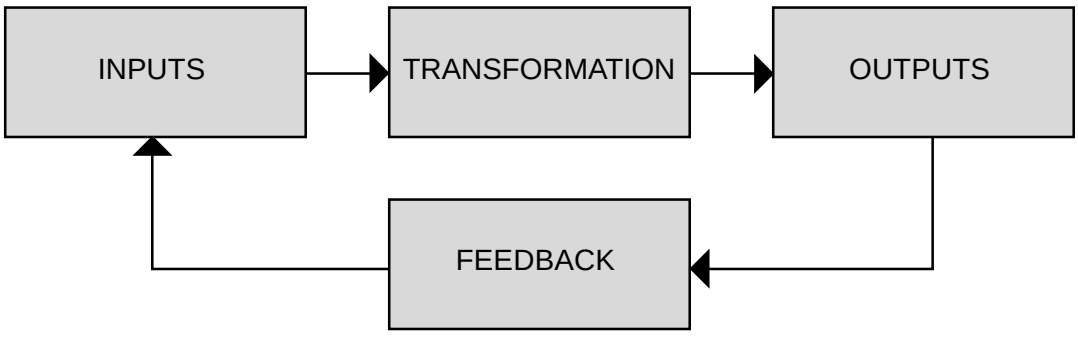
Some fire departments have never developed a formal set of SOPs. In other departments, operating procedures are incomplete, out of date, badly written, poorly understood, or inadequately enforced. Given the obvious advantages of well-designed SOPs, why is this situation so prevalent in the fire service? Reasons might include:

- Lack of appreciation for the benefits of SOPs or the potentially disastrous consequences of weak guidelines and operational systems.
- Belief that the effort required is too time consuming, complex, or controversial, especially given other pressing organizational needs.
- Fear that written SOPs will unnecessarily limit flexibility and individual discretion.
- Concern that SOPs open up the department to greater scrutiny from outside groups and increased liability if incidents go bad.

The biggest reason that departments don't have good SOPs, however, may be even more basic. Many fire agencies simply have not established the management processes—formal plans, personnel assignments, administrative systems, resource allocations—needed to make SOPs a recognized and ongoing element of the organizational culture. Without this emphasis and infrastructure, work gets delayed, and, over time, new requirements may go unrecognized. Before you know it, existing SOPs have become progressively outmoded, unused, and even dangerous.

The first step in solving this problem is deciding what needs to be done. One way to look at SOP management requirements uses *systems theory*, a concept that focuses on the interrelationships among components of a process. In this approach, an organizational **system** is considered to have four basic elements: inputs from the environment, including information and other resources; transformations, the managerial or technological processes used to convert inputs to outputs; outputs in the form of desired products or services; and feedback, the environment's reaction to outputs. Feedback serves as an input during future iterations of the process, thus completing the cycle and continually improving results. These steps are graphically depicted below.

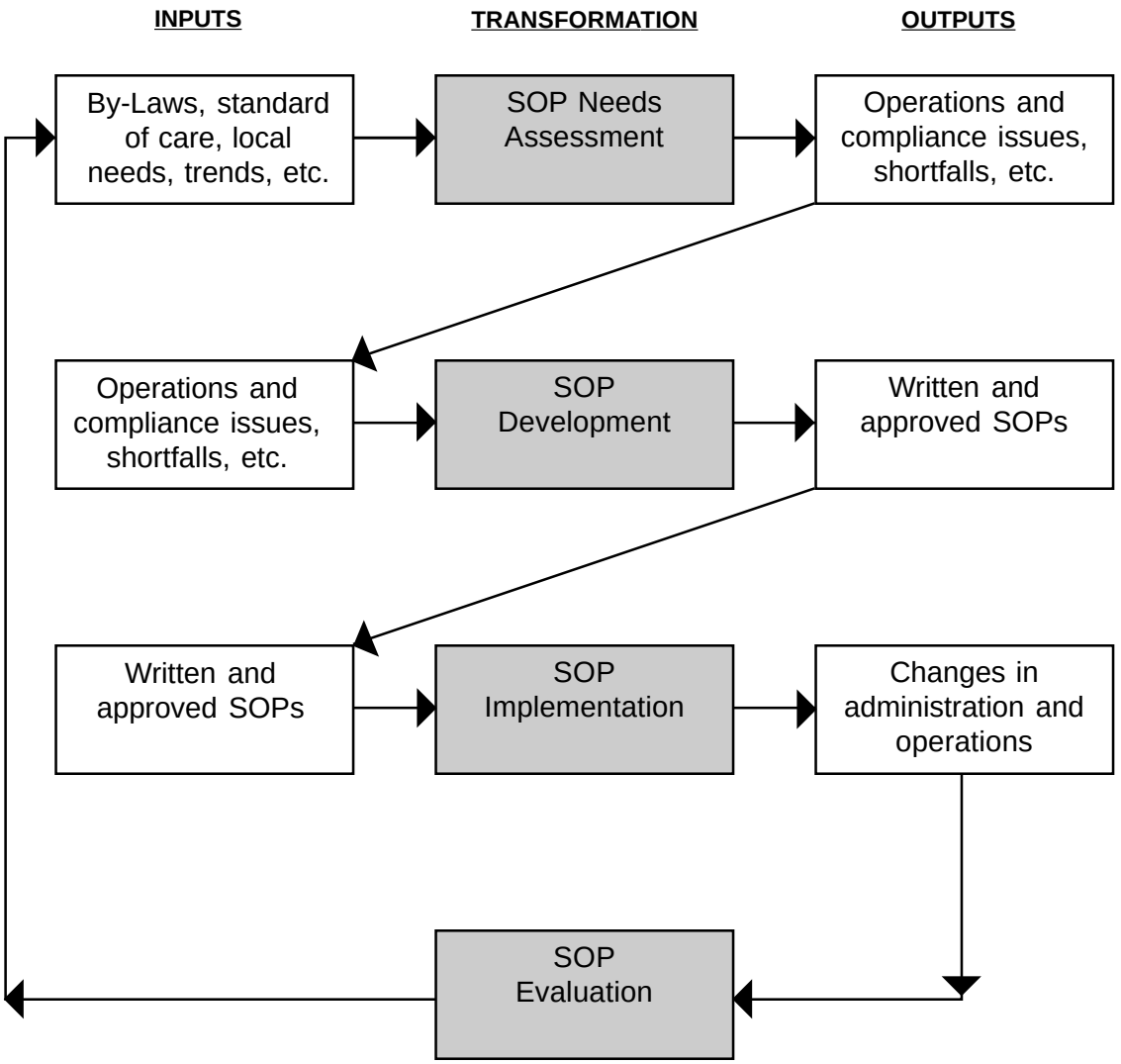
Figure 2-2



Systems theory provides a useful way to conceptualize complex processes. SOP management is shown to consist of a series of linked steps, with outputs of one element serving as inputs for the next. The components and interrelationships of this systems view are depicted in Figure 2-3. More information on each of the major process steps—SOP Needs Assessment, SOP Development, SOP Implementation, and SOP Evaluation—is presented in the following four chapters.

Figure 2-3

A Systems View of SOP Management



Summary

SOPs serve many important functions in fire service operations. When individuals carry out the department's SOPs in their work, they implement the laws, plans, agreements, and policies incorporated in the procedures. Thus, SOPs constitute a key link between organizational policy makers, planners, administration personnel, and emergency service providers.

Fire and emergency service agencies need to consider a wide variety of documents, plans, and agreements when developing or revising SOPs. Ensuring compatibility and consistency among these important components of the organization's operational environment helps standardize behavior, avoid confusion, limit liability, improve efficiency, and enhance safety. SOP documents also can be used to improve training, external communications and public education.

To simplify use, SOPs should be organized in a logical framework of functions and topic areas. Separate sets of SOPs are usually developed for administrative functions and emergency response operations. The approach chosen for structuring SOPs should reflect the needs, management style, and culture of the department.

Departments need to establish formal management systems to ensure that SOPs are adequately developed, maintained, and enforced. The process can be usefully viewed as four interrelated steps—Needs Assessment, SOP Development, SOP Implementation, and SOP Evaluation.

Chapter 3

Conducting a Needs Assessment

Introduction

Fire service managers need to be sure that operating procedures accurately reflect the department's mission, organizational environment, and regulatory requirements. A good way to make this judgement is by conducting a needs assessment. This type of study focuses on internal and external factors that affect SOPs. These might include changes to laws, regulations, or standards; recent legal precedents; modifications to internal response plans; revisions to mutual-aid agreements; demographic changes in the community; and a variety of other possibilities.

Although major changes in legal or operational requirements will prompt a formal needs assessment, the process should be performed continually to help keep SOPs current and valid. While this may seem like a daunting administrative task, it is really a matter of answering two basic questions:

- ***What SOPs do we need?*** — The number and type of SOPs required by the department is determined by examining the operating environment, standard of practice, and local needs. Industry standards, accreditation requirements, Federal or state regulations, and many other information sources can be used to help answer this question.

- ***Do the current SOPs meet our needs?*** — If yes, then update as needed and continue to use them. If no, then modify existing SOPs and/or develop new ones to reflect changes in the operating environment, standard of practice, or local needs. Delete outdated, irrelevant, or conflicting SOPs.

The simple depiction of the evaluation framework shown in Figure 3-1 can be helpful for conceptualizing the needs assessment process. The mechanics of the process are described in more detail in this chapter.

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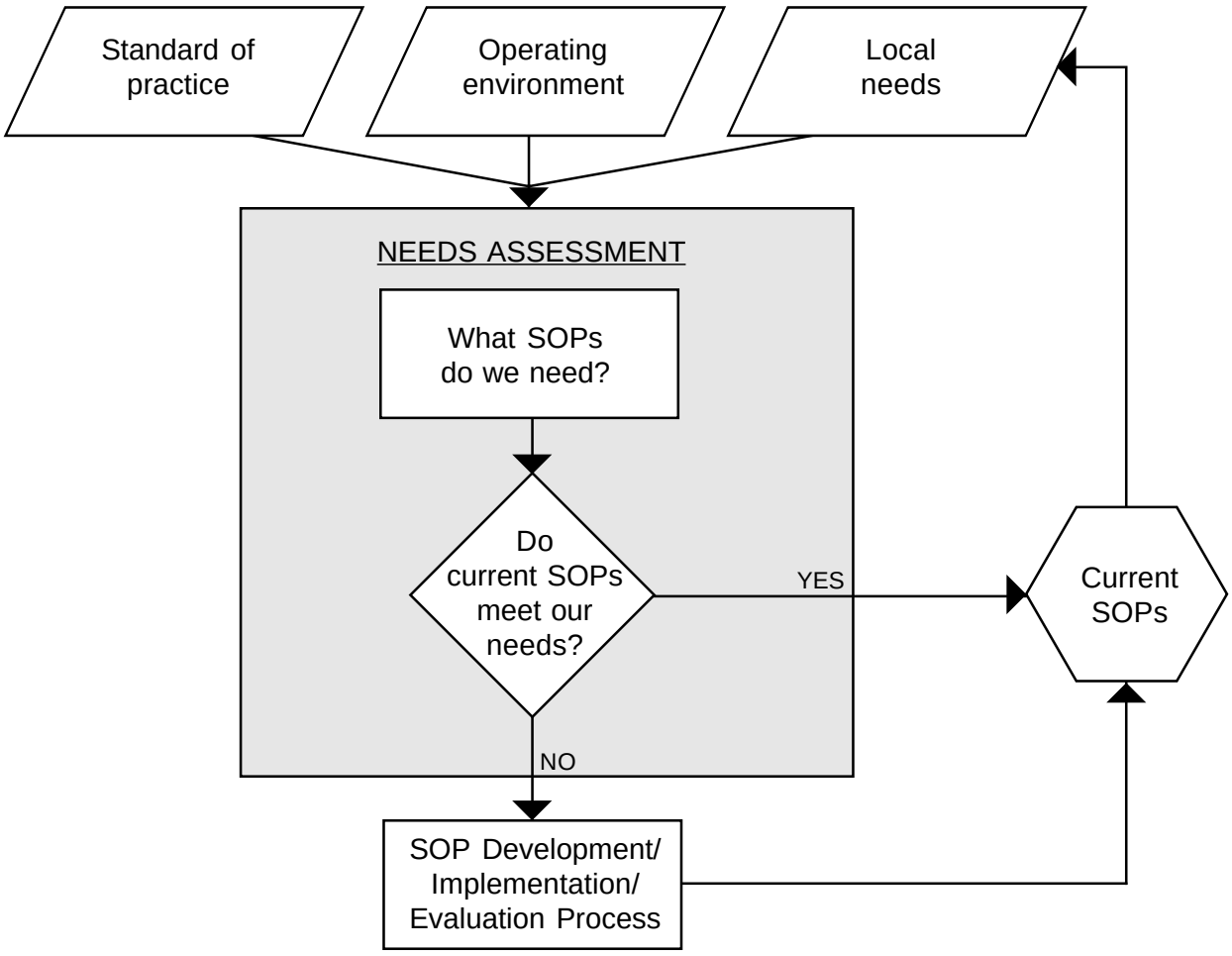
Figure 3-1

Sample Needs Assessment Model



Operating Environment

The first step in conducting a needs assessment is understanding the context in which the department functions. Fire service organizations vary widely in how they operate, depending on many internal and external factors. Examples include the size (number of personnel) and composition of the department (career, volunteer, or combination); the range of services offered (fire suppression, EMS, hazardous materials, technical rescue); funding sources (tax dollars, donations, grants, etc.); service demands; and the department's relationship with local, state, or Federal entities (local governments, mutual-aid networks, state fire service agencies, and OSHA or its equivalent). Official department documents (many of which are described in Chapter 2) define the department's operating environment and should be considered during a needs assessment.

These and other factors directly or indirectly affect the department's operating environment. In turn, the operating environment influences SOPs. For instance, the size and composition of the department has direct bearing on the resources it can provide for emergency response; resource availability affects operational strategies; and strategies are captured in SOPs. Thinking about the answers to some basic questions can help identify aspects of the operating environment that might influence SOPs:

- What is the relationship between the department and state fire/EMS agencies, such as the State Fire Marshal's Office, Department of Health, Department of Insurance, or fire training/certification body? What do these agencies require from the department? Submitting fire/EMS incident reports? Ensuring proper certification or licensure of operational personnel? Maintaining current apparatus safety or ambulance inspections?

- What is the relationship between the department and OSHA or its state equivalent? What does this agency require from the organization? Compliance with workplace health and safety regulations? Submission of employee injury reports? Hazardous materials training and certification?

- How many personnel normally respond on the first-alarm assignment for a building fire? For an automatic fire alarm in a residential or commercial structure? To an emergency medical call at 0700, 1300, 1800, or 0300?

- What mutual-aid agreements, comprehensive emergency management plans, or regional SOPs are currently in place? In different types of response scenarios, what resources should be provided to neighboring departments? What resources will they provide? Is response automatic or must it be requested?

These are just a few examples of the many questions that can be asked while trying to get a handle on the department's operating environment. While this step may seem very basic, it is critical for identifying factors that affect the adequacy of current SOPs.

Standard of Practice

Understanding the context in which the department operates helps provide the basis for the next step: comparing the department's operational systems and procedures with the standard of practice. This process helps identify areas where SOPs need to be added, changed, or deleted to meet operating requirements and legal guidelines.

The term "standard of practice" is often used to describe accepted operating practices within an industry or profession. In EMS, the term "standard of care" has a similar meaning. Several elements combine to define the accepted standard of practice for a fire or EMS department, including laws, regulations, and standards. The interaction among these authorities is often complex and varies from state to state. It is important to develop an understanding of how these factors fit together.

Laws

Laws are rules established by society to help define acceptable behavior. In the United States, most laws applicable to fire and EMS departments are statutory laws, those enacted by the legislative bodies of Federal, state, or local governments. The courts provide oversight for the legal system to ensure that laws are constitutional and fairly applied. As a result of this judicial review process, the law changes based on the outcome of court cases, called precedents.

The following Federal laws and legal precedents are examples of potentially significant considerations for fire and EMS departments. (For more detail on each, see Appendix A.) Departments should also research state and local authorities applicable to their specific situation.

- Americans with Disabilities Act of 1990 (ADA)
- Ryan White Comprehensive AIDS Resources Emergency Act of 1990
- OSHA General Duty Clause– 29 USC[1] §654(a)(1)
- Superfund Amendments and Reauthorization Act (SARA)
- *Michigan v. Tyler*
- *Michigan v. Clifford*

It can be especially difficult for fire and EMS departments to keep current with changes to case law and legal precedent. Several trade publications have regular columns dealing with legal trends, and some smaller publications like *Firehouse Lawyer* deal specifically with legal issues affecting the fire service. State agencies and professional organizations such as the International Association of Fire Fighters (IAFF) and the International Association of Fire Chiefs (IAFC) occasionally produce documents that summarize legal trends for salient issues as well.

Conducting a search of resources like the Lexis-Nexis and Westlaw databases can help departments identify pertinent court cases, both civil and criminal. Departments with access to a law library (through either a university or local court system) might also be able to obtain assistance

from staff librarians. Reference books like *Black's Legal Dictionary* can be consulted for legal definitions. However, a basic understanding of the legal system is required when researching case law and legal precedent, so the involvement of legal counsel should be considered during this effort.

Regulations

Since statutory laws are often general in nature, legislatures create agencies to interpret, apply, and enforce the statutes. The rules promulgated by these agencies, which carry the weight of law, are called regulations.

Regulations are extremely important for evaluating SOPs. Compliance with regulations is usually mandatory, and failure to comply may result in a penalty.[2] (Although some Federal regulations may be *called* standards or rules, this does not affect the mandate to comply with them.) More importantly, compliance with regulations can help protect the safety of citizens, emergency personnel, and the environment.

When evaluating current SOPs, fire departments must ensure compliance in all areas subject to regulation by Federal, state, or local government agencies. Depending on the situation, applicable regulations might govern major aspects of fire and life safety operations, arson and explosives crimes, hazardous materials response, technical rescue, program administration, and other functional areas. Departments with enforcement powers must also pay particular attention to ensure that they do not violate civil rights requirements.

Regulations are developed through a process that allows for input from interested parties including industry, organized labor, advocacy groups, and private individuals. This process has several goals: to produce regulations that follow the spirit of the laws upon which they are based; to provide for equity and consistent application; and to produce realistic regulations that can be readily implemented. The list below contains a few examples of Federal regulations that are potentially relevant to fire and EMS departments; more detail on these regulations is provided in Appendix A. (Note: Federal OSHA standards do not apply to state or local governments, their employees or to volunteers.) State and local government regulations must also be considered during the needs assessment process.

- OSHA 29 CFR[3] § 1910.95, *Occupational Noise Exposure*
- OSHA 29 CFR §1910.120, *Hazardous Waste Operations and Emergency Response* (HAZWOPER)
- EPA 40 CFR §311, Identical to HAZWOPER
- OSHA 29 CFR §1910.156, *Fire Brigades*
- OSHA 29 CFR §1910.132-1910.140, *Personal Protective Equipment*
- OSHA 29 CFR §1910.141, *Sanitation Requirements*
- OSHA 29 CFR §1910.146, *Permit-required Confined Spaces*
- OSHA 29 CFR §1910.147, *Lock-out/Tag-out Requirements*

- OSHA 29 CFR §1910.130, *Occupational Exposure to Bloodborne Pathogens*
- OSHA 29 CFR §1926.650-1926.652, *Trench/Collapse Rescue Operations*
- OSHA 29 CFR §1910.1200, *Hazard Communication*
- OSHA 29 CFR §1977-1970, *Discrimination Against Employees Under OSHA Act of 1970*
- DOT 49 CFR §178 Subpart (c), *Compressed Gas Cylinder Guidelines*

The applicability of a particular regulation to the department depends on several factors. For example, the applicability of workplace health and safety regulations promulgated by Federal OSHA depends on whether the department is located in an "OSHA-plan" or "non-OSHA Plan" state. Figure 3-2 depicts the 24 states and territories that currently operate their own state-run plans for occupational health and safety. The remaining 26 states are covered by Federal OSHA regulations. The applicability of these regulations to volunteer fire and EMS department members depends on the interpretation of individual state regulatory agencies and legal precedent. Regardless of who promulgates workplace health and safety regulations in the state, compliance is mandatory.

Figure 3-2

States with OSHA Plans

Standards

Consensus standards like those developed by the National Fire Protection Association (NFPA) and the American National Standards Institute (ANSI) play a major role in defining the standard of practice for fire and EMS departments. Standards are developed by professional organizations to help establish operating norms and certification requirements for personnel and equipment.

During the standards-making process, people with specialized knowledge work in committees to develop guidelines based on mutual agreement, or consensus. Members of the organization at large then vote to amend and/or adopt the resulting standard. Compliance by fire and EMS departments with standards is voluntary, although governmental entities may adopt nationally recognized standards as law. An example of this practice is the adoption by many state and local jurisdictions of NFPA 1, *The Fire Prevention Code*. Other commonly encountered standards pertinent to fire and EMS departments are listed below. (More detail on these standards and organizational contacts can be found in Appendices A and C.)

- NFPA 471, *Standard on Responding to Hazardous Materials Incidents*
- NFPA 1001, *Standard on Fire Fighter Professional Qualifications*
- NFPA 1403, *Standard on Live Fire Training Evolutions*
- NFPA 1404, *Standard on Fire Department SCBA Program*
- NFPA 1410, *Standard on Initial Fire Attack*
- NFPA 1470, *Standard on Search and Rescue for Structural Collapse*
- NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*
- NFPA 1521, *Standard on Fire Department Safety Officer*
- NFPA 1561, *Standard on Fire Department Incident Management System*
- NFPA 1581, *Standard on Fire Department Infection Control Program*
- ANSI Z87.1, *Eye Protection Standard*

Standards can be an invaluable resource for identifying areas where existing SOPs are inadequate. They can even serve as a blueprint for developing new SOPs. When using a standard in this manner, remember that there is no such thing as a "one-size-fits-all" standard. It may not be possible or desirable to incorporate every aspect of a national standard into the local operating environment. Still, standards serve as useful benchmarks and models in the SOP assessment process. An added benefit is that they are regularly updated and can help ensure compliance with regulations that change frequently.

Local Needs (Community Assessment)

The questioning process used to examine the operating and legal environment probably identified some areas that are not subject to outside authorities where SOPs need to be changed. Laws, regulations, and standards are very useful, but they cannot possibly address every local need. Examples of department-specific or community-specific factors that might prompt the modification of existing SOPs include:

- Target hazard occupancies (e.g., factories, nursing homes, hospitals, pipelines, tank farms, railroads, scrap tire piles, high-rise buildings, etc.)
- Unusual road conditions (e.g., load-limited bridges, steep hills, major road construction, etc.)
- Mission (e.g., coastal or water rescue responsibility, location along airport flight path, proximity to nuclear power plant or industrial site)
- Prevailing weather conditions (e.g., subject to tornadoes/hurricanes, extreme hot/cold weather, etc.)
- Significant increase or decrease in incident volume
- Staffing increase or decrease
- Changes to community plans or mutual-aid agreements

Perhaps the most common reason for initiating a review of fire department SOPs is a bad incident outcome, such as a firefighter injury or death, an EMS patient injury or death, or a catastrophic property loss. The SOP review may by prompted as part of the department's analysis of the event, or be mandated by a regulatory agency like OSHA. Factors might include law suits, public complaints, union grievances, and other negative results.

While standards may address some local situations, departments must critically assess all special needs and capabilities while evaluating current SOPs. The development of SOPs for specific local situations helps to clarify potential hazards, identify special resources, and implement response strategies that are unique to the needs of the community.

Information Sources

Information for evaluating the operating environment, standard of practice, and local needs is available from a wide variety of sources, both internal and external. Departments should take into consideration as many data sources and viewpoints as possible during the needs assessment process. Some common data sources and methods are discussed in the following sections.

Looking Inward

An objective evaluation of internal factors affecting SOPs can sometimes be difficult because the individuals assigned responsibility are themselves members of the organization. By the same token, people within the organization have the best understanding of the strengths and weak-

nesses of existing SOPs. To help mitigate the difficulties posed by this "Catch-22," reviewers should examine as wide a variety of internal information sources as possible.

Post-Incident Analyses. SOPs and reality meet on the scene of a fire or emergency incident. For this reason, post-incident or "after action" analyses are excellent tools for evaluating the adequacy of existing SOPs. If a particular aspect of an operation is successfully conducted according to the SOP, it may signal that the SOP is still valid. The opposite is also true—an aspect of the operation that went badly may indicate the need for modifying pertinent SOPs. Post-incident analyses should be conducted for all responses, with both positive and negative outcomes. This approach prevents the process from becoming punitive in nature and serves to validate beneficial procedures. Keep in mind that many different variables affect an emergency operation, and each must be examined before zeroing in on SOPs as the sole reason for success or failure.

Exercises and Drills. Problems encountered during exercises and drills may signal the need to create new SOPs or change existing ones. If questions arise about the validity or effectiveness of an existing SOP, a drill may be conducted to test it. For these reasons, Federal Aviation Administration (FAA) regulations require airport fire and EMS departments to periodically conduct large-scale drills with mutual-aid resources. Safety is the first concern when conducting drills and exercises since these activities closely simulate the reality of the incident scene. Documenting the drill using photographs, video cameras, and audio equipment can be helpful. Keep in mind that the objective is not to highlight mistakes, but to identify "lessons learned" that can be used to help modify existing SOPs or create new ones.

Surveys and Interviews. The best people to gauge whether or not a SOP is useful are those who use it. Field personnel can be polled or questioned about problems with current SOPs or the need for new ones to address changes on the street. It is important to solicit open, honest opinions without fear of retribution. Interviewing members of other departments can also be helpful, particularly when addressing a new issue. Someone with previous experience may have a better understanding of applicable regulations and standards, and know successful methods for dealing with the situation.

Looking Outward

While it is important to look inward during a needs assessment, fire and EMS departments can also benefit by examining information sources outside the department. Looking outward helps managers identify standards and trends and plan in advance for change, thus preventing problems from developing in the first place.

Literature Review. Monitoring changes in the larger fire and EMS world helps departments safely address new challenges. Trade publications report changes in government regulations, the outcome of significant court cases, and related issues. Textbooks and newsletters track and analyze trends in the fire service and cognizant Federal agencies. The continued appearance

of a particular topic in a government report, magazine, or newspaper might signal that a seemingly inconsequential issue may soon become a problem. Publications like *Congressional Quarterly* track the progress of bills through the law-making process. Changes to Federal regulations are regularly published in the *Federal Register*, available at most university and major public libraries and frequently on the Internet.

Professional and Trade Organizations. Professional and trade organizations are excellent sources of information. For example, the voluntary, consensus-based guidelines developed by the NFPA reflect the standard of practice for many fire departments. NFPA also conducts studies and produces publications on a broad spectrum of fire service issues. Many other professional and trade organizations, while not necessarily standards-setting bodies, provide information that can be useful for evaluating SOPs. Organizations like the International Association of Firefighters, International Association of Fire Chiefs, National Volunteer Fire Council, National Association of Emergency Medical Technicians, and National Association of State EMS Directors all publish documents that can be helpful during a needs assessment. (Contact information for many of these organizations can be found in Appendix C.)

Federal and State Agencies. Federal and state agencies loom large when evaluating current SOPs. Examples include the Centers for Disease Control and Prevention, Occupational Safety and Health Administration, Environmental Protection Agency, and other regulatory agencies. It is vital that existing SOPs do not conflict with regulations promulgated by these agencies. New SOPs and modifications to existing SOPs should reflect the content of Federal and state regulations, as well as programmatic guidance issued by the agencies. Since this information can change frequently or unexpectedly, it is important to stay current. Some ways to keep abreast of changes to regulations were discussed earlier in this chapter. Contact information for many Federal agencies is contained in Appendix C.

Other Departments. Other fire and EMS departments can be excellent sources of information on SOPs, or sources of SOPs to plagiarize (if they are public documents). Although local needs vary, there are few unique problems in emergency response. If you are facing a new challenge or service delivery area, chances are good that another department has already developed SOPs to address it. Most departments are willing to share these SOPs, which can serve as useful models. When using another department's SOP as a model, however, always remember that what works for one department may not work for another. SOPs should be tailored to the department's operating environment and available resources. For example, a SOP developed by a department that staffs ladder companies with six personnel will probably not work for a smaller department unless greatly modified. Still, it is always helpful to have an effective starting place when developing a new SOP.

Accreditation Manuals. Departments seeking accreditation will most likely be required to have SOPs that address certain issues and meet certain standards or indicators of performance. The guides and manuals developed to assist them through the application process contain valuable information for assessing local needs (even if the department is not actively pursuing accredita-

tion). Two organizations involved in accreditation are the Commission on Fire Accreditation International (CFAI) and the Commission on the Accreditation of Ambulance Services (CAAS).

Insurance Organizations. The Insurance Services Office (ISO) maintains evaluation factors for fire and emergency service departments which, when met, help the community served achieve a particular ISO rating. This rating is a variable in determining insurance rates paid by businesses and residential customers when purchasing insurance policies on homes, buildings, offices, or other structures. The evaluation factors may be relevant to the development and implementation of fire department SOPs. For example, if the fire department is pursuing an improved ISO rating, it may have to make changes in operational policies to achieve the higher rating.

Insurance policies held by individual departments may also impact department SOPs. For example, an insurance policy may mandate a minimum age for driving an emergency vehicle. The agency would have to ensure that its own SOP reflects this requirement.

The Internet and the World Wide Web. The Internet and the World Wide Web are quickly becoming important sources of information for fire and EMS departments. Almost all major government agencies maintain informative websites. Periodic checks of these sites can help fire and EMS personnel stay informed on changes to laws or regulations that may affect SOPs. In addition, many publications and reports can be ordered, viewed, and even downloaded on-line. Internet forums, bulletin boards, and "chat rooms" can also be helpful, providing opportunities to learn from the experiences of others. Appendix C contains the Uniform Resource Locator (URL) addresses of many Internet sites useful during a needs assessment. However, keep in mind that few controls exist on the Internet, and some information may prove to be unreliable. For most purposes, it is usually best to rely on credible and known sources (government agencies, professional organizations, etc.) and printed/published documents!

The Needs Assessment Process

Every fire and EMS department should periodically conduct a formal review of SOPs, especially those that lack a comprehensive set of written procedures. Such an assessment will most likely be handled by a committee of department members representing all ranks, with representatives from employee organizations and possibly other agencies (e.g., an attorney or policy analyst from the local government). The product of this formal review is a document that can be used as a "roadmap" for developing SOPs.

At the most basic level, such a document will include a review of existing SOPs; a list of areas where SOPs need to be created or modified; and the rationale for doing so based on an evaluation of the operating environment, standard of practice, and local needs. The document should identify deficiencies or inconsistencies in current SOPs, as well as a specific list of required changes

and additions. The list should be accompanied by references that will allow others to evaluate the rationale (e.g., compliance with a specific law, regulation, or standard) behind the recommendations.

Since it may be impossible to simultaneously address all the changes identified in the needs assessment, a discussion of priorities and an action plan can also be included. An action plan helps ensure that recommendations for change are acted upon. The plan should at a minimum identify desired end products, assign responsibilities, set realistic deadlines, and permit enough flexibility to allow for change.

Revisions to critical health and safety SOPs should receive a high priority in the action plan since they influence the safety of emergency responders and the effectiveness of emergency operations. SOPs that are inconsistent with government regulations should also be highlighted for quick action. While prioritizing, it is important to remember that SOPs must reflect reality. Creating SOPs that cannot be implemented with existing resources serves little purpose and may create a safety hazard. It can also produce significant legal exposure, since a department's standard of practice is ultimately determined by its own SOPs.

The following outline identifies some typical steps in the needs assessment process; more detail on analytical concepts and methods is contained in Chapter 6.

- **Step One: Develop organizational support for conducting the needs assessment.** Support can take many forms, from providing appropriate resources (personnel, time, meeting space, etc.) to demonstrating the commitment of fire and EMS managers to make changes based on the results of the study. The purpose of the needs assessment should be clearly stated and understood by all members of the department.

- **Step Two: Develop a plan of action.** Assign responsibilities, divide tasks, and create a realistic schedule. Conducting a thorough needs assessment can be an intense and time-consuming process. Creating a plan of action helps maintain interest, promote accountability, and help the group stay focused.

- **Step Three: Review current SOPs.** Develop familiarity with existing SOPs. Look for previously identified problem areas and inconsistencies among SOPs. Consider potential impacts of the department's operating environment on existing SOPs.

- **Step Four: Gather information on internal factors affecting SOPs.** Examples include other department documents (see Chapter 2), post-incident analyses, exercises, drills, surveys, and interviews.

- **Step Five: Consider external factors affecting SOPs.** The impact of laws, regulations, and standards should be considered here. Information sources may include literature reviews, professional and trade organizations, Federal and state agencies, other departments, accreditation manuals, and the Internet.

- **Step Six: Develop a list of required SOPs based on the needs identified in Steps 4 and 5.** Consider the impact of internal and external factors, as well as the operating environment and standard of practice.

- **Step Seven: Analyze existing SOPs based on the information gathered in prior steps.** Compare existing SOPs to the list developed in Step 6. Identify areas where new SOPs are needed, or existing ones should be modified or deleted. Realistically prioritize the results in light of department resources. SOPs required by laws or regulations must receive a high priority, as should those addressing critical health and safety issues.

- **Step Eight: Create a formal needs assessment document.** Summarize findings and provide recommendations. Explain priorities and provide a specific rationale for adding, modifying, or deleting SOPs. (E.g., SOP is needed to comply with Federal regulation 29 CFR §1910.120; SOP is needed to address the emerging trend of domestic terrorism, etc.)

Summary

Fire and EMS departments should evaluate existing SOPs on a regular basis by performing a needs assessment. The evaluation should include a review of the current operating environment, the standard of practice, and specific local needs. Based on the results of the study, existing SOPs can be modified or deleted, and new ones added, as necessary.

Often, a review of SOPs occurs after a bad incident outcome. In this situation, it is vital to consider what prompted the review in the first place and to ensure that proper steps are taken. The event may result in strong emotions or perceptual "blinders" that affect decision making. Individuals or groups may try to steer the findings for political or other reasons. These factors can make it difficult reach consensus and prepare the best operational guideline.

SOPs must address applicable regulations to ensure compliance with Federal, state, and local laws. Consensus-based standards can serve as benchmarks to help define the standard of practice and models for developing new SOPs. Many different sources of information, both internal and external to the department, can be used to evaluate local needs.

There are few new problems in the emergency services. Model SOPs are available from other departments, on the Internet, and from the Learning Resource Center at FEMA's National Emergency Training Center. However, it is important to tailor SOPs to specific local needs and resources. An SOP that is suitable for a major metropolitan department, while potentially helpful as a model, may not be useful for a small rural department without extensive modification.

Networking via telephone, Internet, or through personal contacts is a good way to obtain information for a needs assessment. Surveys or interviews of personnel who use SOPs often provide the best indicator of what is, or is not, effective. Post-incident analyses and drills provide the ultimate validation of operational SOPs.

The needs assessment process must be consistent and systematic. The end product should include a written analysis of existing SOPs, recommendations and the rationale for changes (if any), and perhaps priorities and a plan for action. Different process steps and methodologies are possible, depending on the scope and requirements of the study.

Endnotes

[1] *United States Code*, denotes a Federal statute.

[2] It is important to note that some agencies with important and substantial fire/EMS involvement do not have regulatory authority and function primarily to develop information, provide training, or coordinate response. Examples include the Federal Emergency Management Agency (FEMA), of which the United States Fire Administration is a part, and the National Institute for Occupational Safety and Health (NIOSH).

[3] The number (e.g., 29, 40, 49) and letters "CFR" preceding the regulation identify the Title of the *Code of Federal Regulations* in which the regulation is published.

Chapter 4

Developing Standard Operating Procedures

Introduction

SOP development is most effective when a well planned, standardized, and comprehensive process is followed. By contrast, SOPs created quickly and without the use of a systematic approach are more likely to result in problems during implementation. Although the exact methods used to develop SOPs will vary, certain critical strategies help define any successful process. This chapter describes a standardized methodology for developing SOPs that can be useful whether preparing a complete SOP manual or a single written procedure.

It should be noted that the Needs Assessment process discussed in Chapter 3 establishes the foundation for the SOP development effort described here. The Needs Assessment identifies areas where SOPs are deficient and summarizes specific requirements for changes to existing guidelines. A thorough Needs Assessment also streamlines the actual SOP writing process since much of the necessary research and analysis has been completed. The concepts and techniques described in Chapter 3 are not repeated here; rather, they are built upon. Personnel responsible for writing SOPs should be familiar with the material in this chapter as well.

The SOP Development Process

The SOP development process can be viewed as essentially eight sequential steps that address the most important organizational and management considerations for department personnel. The methodology used for these steps can vary, depending on the scope of the project, local needs and resources, and other variables. The steps are listed below, with additional detail on each presented in the following sections:

1. Build the Development Team
2. Provide Organizational Support
3. Establish Team Procedures
4. Gather Information and Identify Alternatives
5. Analyze and Select Alternatives
6. Write the SOP
7. Review and Test the SOP
8. Ratify and Approve the SOP

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Build the Development Team

The constantly changing environment in which fire and EMS agencies operate requires that departments regularly analyze and update their SOPs to meet current needs. To manage this ongoing requirement, managers may find it helpful to appoint a standing group or committee to oversee SOP-related work. This team is given authority and responsibility for gathering information from department members and other sources; identifying, analyzing, and selecting from among alternative operating procedures; writing SOPs that address the department's needs; distributing draft materials for peer review and testing; and submitting final SOPs to the Fire Chief or agency head for approval.

SOPs are usually most effective when members of the organization are included in every step of the development process. As a general rule, departments should get input from all groups potentially affected by the SOPs. This strategy borrows on concepts described in *Total Quality Management*, a business philosophy that encourages managers to get feedback from those using a service, as well as from workers who provide it. Member participation helps boost employee morale, increase "buy-in," and promote a better understanding of the final product.

Whenever possible, all affected viewpoints should be represented on the SOP Development Team. Regular members of the team might include:

- Operational or line emergency responders, who carry out SOPs and have the greatest stake in their success.

- Safety program representatives, such as the Health and Safety Officer, Incident Safety Officer, Operational Medical Director, department physician, and safety and health committee members.

- Managers, who have a broad organizational perspective that includes budgeting, public relations, political considerations, and other factors.

- Representatives of labor unions and employee associations, who understand contractual issues, articulate the viewpoints of their members, and provide insight on alternative procedures.

- Mutual-aid and regional response agency representatives, to help integrate and coordinate multi-jurisdictional responses.

- Representatives from other local government agencies that may interface with department operations, such as a third-service EMS agency or municipal health agency.

- Legal counsel or other personnel familiar with the content and implications of related laws, regulations, and standards.

- People with technical expertise in policy or systems analysis, operations research, evaluation theory, survey design, statistical analysis, technical writing, etc.

The number of core members of the SOP Development Team should be limited to maintain a manageable span of control. Membership can be supplemented with temporarily assigned persons who possess specific expertise in needed areas. For example, SOPs affecting hazardous materials or technical rescue operations should be developed with extensive input from department members specializing in these functions.

Periodically rotating members on and off the SOP Development Team at staggered intervals can help preserve continuity while maintaining interest and fresh perspectives. Although it may be helpful or necessary for some people to serve on both the Needs Assessment and SOP Development Teams, most members should be assigned to one or the other. This approach limits the burden on individual members, encourages diverse input, and promotes objectivity throughout the process.

The structure and leadership of the team is also important. Possibilities include assigning special sub-teams or task forces for one-time studies, and creating standing sub-committees for designated functional areas (e.g., health and safety, EMS). Personnel appointed as committee leaders need good interpersonal and group facilitation skills to help build consensus, integrate competing concerns, and facilitate decision-making. Broad technical expertise in a range of functional areas is also helpful.

Top-level management representation can help add credibility and ensure that the team has the appropriate resources to accomplish its mission. Union representation is important for securing "buy-in" from rank-and-file department members, and may be required by collective bargaining agreements. Combination and volunteer departments need representation from all groups potentially affected by changes to the SOPs, including rescue squads, fire police, "utility" or paid-on-call firefighters, etc.

Provide Organizational Support

Depending on the scope and nature of the effort, the SOP Development Team might require a substantial investment of departmental resources to accomplish its mission. Little is gained by setting up a team to prepare SOPs without giving members the organizational support needed to complete the job. Participants need time to attend group meetings, perform research and writing assignments, review draft documents, etc. Computers and dictation machines can be helpful, along with meeting space that is conducive to focused effort and group interaction. Technical writing and clerical support may be necessary for producing a finished document.

In most cases, team members carry out committee work while continuing to perform their regular duties. However, some departments may choose to temporarily assign members to the SOP Development Team in order to streamline the process and encourage focused attention on the

mission. Other departments may use a combination of regular meetings and staff retreats, where members can concentrate completely on the SOP development task without distractions from regular duties.

Establish Team Procedures

At the beginning of the process, members must clearly define the team's mission, goals, and objectives, including a projected timeframe for completing the study. Guidance from management should address such factors as the authority of the group, budget and available resources, and the desired end product. The team leader should then clarify expectations of individual members, including work assignments and standards of conduct in the development process. Meeting minutes and agendas should be prepared and distributed to members on a regular basis. Members should also document the work of the team to ensure accountability for department resources and to provide a written record of group proceedings for future reference.

Committee members should quickly establish the "rules of the game." In particular, individual roles and the mechanics of decision making—voting, negotiation, consensus-building, delegation, comment procedures, etc.—must be determined and communicated to all participants. Related considerations might include meeting dynamics, quorums, rights of appeal, representation of minority opinions, and other procedural aspects of the group decision-making process. Team members also need to understand the process for implementing the new SOPs. For example, does the chief or agency head have authority to alter the SOP without further input from the team? Does the Board of Fire Commissioners or other governing authority have this power?

Department resources and individual efforts will be wasted if the team's work is not kept "on track." Clearly defined roles, procedures, and project management systems are critical. This is where the recommendation to form a standing SOP Development Team can make a real difference. Once the team is in place, it should be able to address new or changing department needs quickly, without the inevitable organizational delays. Within the team, a variety of project management techniques can be used to monitor and facilitate the process. These range from the use of specialized software applications to more "low-tech" solutions like checklists, milestone charts, process diagrams, and flowcharts.

Gather Information and Identify Alternatives

The first task of the Development Team is to ensure that all members have a thorough understanding of work that has already been done. If prepared correctly, the Needs Assessment document described in Chapter 3 summarizes areas where SOPs are missing or deficient. It also contains much of the information required to identify alternative procedures, select the best alternative, and write a department-specific SOP. Finally, it serves as a valuable reference, providing the Development Team with supporting documentation and a comprehensive list of information sources that may be used for additional research.

Members of the SOP Development Team should familiarize themselves with the rationale for changes described in the Needs Assessment, along with any recommendations or comments by the Needs Assessment Team. Various approaches can be used to familiarize committee members with this information. Methods range from individual review of written materials to formal briefings by department managers or other experts. Whatever approach is taken, the goal is to avoid duplicating the work of the Needs Assessment Team.

Additional research undertaken by the SOP Development Team at this stage should focus on gathering information, answering questions, resolving problems, and identifying alternative procedures for consideration as SOPs. For example, the team might decide to examine the different approaches to common problems taken by neighboring departments with similar issues and emergency response requirements.

Procedural alternatives can come from many sources. SOPs from other agencies might be modified to suit department requirements. Input from focus groups, drills, or exercises could form the basis for a new procedure. Specific language from regulations or standards can help identify procedural or technological options for the department to consider. Alternatives might be generated within the Development Team, using information gathered during the research effort, or based on input from other department members. Brainstorming within the group can be particularly helpful in this process; no alternative should be immediately discarded, however unorthodox it may seem at first.

Analyze and Select Alternatives

This step is where the SOP Development Team's real work begins. Members apply the information gathered during the previous research phase to identify specific procedural methods for addressing the department's needs. The basic analytical process involves a systematic review of each alternative from a range of different perspectives. Factors to consider include, but are not limited to, the following:

- Feasibility—Is the proposed procedure realistic? Can it work "on the street" given the department's operating environment? How will responders react?

- Implementation factors—Can the procedural alternative be readily implemented given the current resources of the department? Will extensive training be required, must equipment be procured, or will new positions have to be created?

- Compliance with regulations and standards—Does the proposed procedure comply with regulatory requirements and guidelines found in industry standards? Does it minimize departmental and individual liability?

- Political viability—Will the procedure survive the scrutiny of the public, politicians, and outside interest groups? How will it affect the department's public image? Will member groups be willing to participate? How will individual career and volunteer members react?

A variety of methods can be used to analyze competing alternatives, ranging from the use of a formal policy analysis framework to a simple rating system. Models for assessing alternatives might include cost/benefit analysis, risk/benefit analysis, event-tree analysis, what-if analysis, brainstorming, and group surveys. Whatever method is selected, it is important that *every* possible alternative be thoroughly and critically examined.

The results of the analysis are then summarized and displayed for each alternative. The Development Team next decides on the best alternative procedures to develop into SOPs. The selection may be democratic, or the team might provide recommendations to the Fire Chief or agency head, who makes the ultimate decision. Deciding among competing alternatives can be difficult for a group, especially if the goal is to achieve consensus among all members.

Write the SOP

Once an alternative procedure has been selected, the next task faced by the Development Team is the actual creation of a written document. To be effective and usable by field personnel, SOPs must be written clearly and concisely, using a logical and consistent format.

The following suggestions for writing SOPs will enhance the "user-friendliness" of the final product, a key variable in determining success or failure during implementation.

- Level of detail—Generally speaking, SOPs should provide only broad procedural guidelines, not specific details of task performance. For example, a new SOP may include guidance to "*vertically ventilate the roof of a building with a suspected backdraft condition prior to committing interior forces.*" However, too much detail is provided if the SOP describes related job tasks, such as, "*(1) Check for overhead wires and obstructions prior to raising ladders to the roof; (2) Raise at least two ladders to the roof, ensuring that 3-5 rungs are protruding above the roof line; (3) Take tools to the roof including saws, axes, hooks, ropes, etc.; and (4) Cut at least a 4' by 4' hole and enlarge as needed.*" Remember: SOPs are not training manuals; they are broad organizational guidelines for performing tasks that members have already been trained to accomplish safely and effectively.

- Clarity and conciseness—SOPs should be clear, concise, and written in plain English. While simply excerpting regulatory language is easy for the SOP Development Team, such language is often difficult to understand and apply to operational situations. Clear and simple statements are the best way to describe actions in SOPs. Using an "outline" or "bulleted" style instead of a continuous narrative simplifies the presentation of information and helps clarify relationships among different components of the SOP.

- Target audience—Write for the majority of the department. Some members may require more help understanding the SOP than others. Others might already be highly experienced in the subject area. Generally, SOPs should be written to address the needs and educational level of the majority of department members, using language they can easily understand.

- Flexibility and ambiguity—To be effective, organizational guidelines must be unambiguous. At the same time, SOPs should provide enough flexibility for the on-scene commander to make decisions based on the situation at hand. Balancing the need to reduce ambiguity while maintaining flexibility can be difficult. Department SOPs should be precise but inherently flexible, permitting an acceptable level of discretion that reflects the nature of the situation and the judgement of the incident commander. (This concept should be explicitly stated at the beginning of the department SOP manual.)

A related issue involves use of the terms "shall" and "may" when writing SOPs. An action preceded by the word "shall" is generally considered to be an inviolate rule, while using the term "may" implies greater flexibility and discretion by personnel. However, simply using "may" as an antecedent for every action can reduce the effectiveness of SOPs and lead to unnecessary ambiguity. By the same token, certain actions are so critical to health and safety that the term "shall" is obligatory, e.g., "*companies shall not take the elevator directly to the fire floor in a high-rise building.*" A clear understanding by all department personnel of the purpose and function of SOPs will help eliminate confusion and misunderstanding.

A standardized format or "layout" for SOPs helps streamline the writing process. Additional benefits include improved integration of new SOPs into the department's larger SOP manual, ease of revision or updating, and enhanced usability.

Different formats may be used for SOPs depending on the intended audience and purpose. For example, SOPs intended for fire suppression operations may be formatted differently than operational protocols used by EMS personnel in the field. Regardless of their intended use, however, several items are usually included in any SOP:

- Numbering system—Important for reference, usability, and integrating individual SOPs into the overall manual.

- Effective date—Date the SOP is officially adopted for use in the field. (This may be different from the date of issue. The effective date may be purposefully later than the date of issue to allow for all department members to be informed and/or educated on the new SOP.)

- Expiration/review date—Important for ensuring the currency of SOPs by establishing a date for periodic review and revision, if needed.

- Title—For ease of reference and usability.

- Description of purpose or rationale statement—Describes the purpose of the SOP, why it is needed, and what it intends to accomplish.

- Authority signature(s)—Indicates that the SOP was properly created, reviewed, and approved by the Fire Chief or agency head, department attorney, medical director, and/or other responsible authorities. Some departments include an indication of endorsement by member organizations such at an IAFF local.

- Scope—Describes situations for which the SOP was created and the intended audience.

- General procedures—The "body" of the SOP; sets forth broad procedural guidelines for fire and EMS department operations.

- Specific procedures—Specific actions necessary under the SOP to safely mitigate a situation.

- References—Source material used to create the SOP or useful in future evaluations.

Several sample SOP formats are provided at the end of this chapter. Departments should examine these and other samples to develop a format that reflects their unique operational needs and organizational preferences.

Review and Test the SOP

Conducting a "peer review" of draft SOPs can be extremely informative for team members and department managers. The process involves sending copies of the draft SOP to all or selected department personnel affected by the SOP and others with pertinent knowledge or experience in the subject area. For example, the team might send a draft SOP for "High-Rise Fire Operations" to companies located in response areas with a heavy concentration of large buildings or to members of related special teams (e.g., aircraft firefighting personnel). Drafts might also be sent to mutual-aid or other agencies that are affected by the SOP but not represented on the Development Team.

Comments received during this review often contain valuable insights on the feasibility of the SOP, helping to identify problems before they occur. Conversely, they may simply serve to verify the efforts of the Development Team, also beneficial information. For hard data, formal critiques, drills, and exercises can be conducted to test SOPs. Indeed, there is perhaps no better way to safely determine the effectiveness of a new SOP than by conducting a realistic, real-time exercise.

Information gathered during the peer review and testing process should be analyzed to identify areas where modifications are needed. Documents under review should be clearly marked

"DRAFT" and the revision dates shown, so that reviewers knows which iteration they are examining and what has been done with their earlier comments. While it may be difficult, the Development Team should not be afraid to totally revamp SOPs found deficient during this phase of the process. SOPs are vitally important documents, and it would be irresponsible to release a new guideline without thorough testing and revision. Ideally, the department will live with the SOP for a long time, so it is important to get it right. Peer review and testing should be performed as many times as necessary to ensure the issuance of a valid, usable SOP.

Once an essentially "finished" SOP document is produced, it should be reviewed by legal counsel, the health and safety officer, operational medical director, etc., to ensure compatibility with existing regulations, protocols, and department policies. A review by any member organizations not involved in the development process should also take place to allow for comments and to provide for an opportunity of "ownership."

Ratify and Approve the SOP

The individual or office approving the SOP should have expertise and clearly defined authority in the subject area. Usually, the Fire Chief or agency head performs this role. This person may have taken an active role throughout the development process or may limit involvement to this final phase. If authority derives from persons with no emergency response expertise (e.g., political appointees), a mechanism for a meaningful ratification process must be established. In any case, organizational leaders must fully understand the rationale for, and the implications of, adopting the SOP.

Depending on the complexity of the SOP, it may be necessary to give department decision-makers a detailed briefing on its contents. Team members should stand ready to explain the process used to identify and select the procedural alternative that forms the basis of the SOP. Members should also be prepared to quickly evaluate and provide feedback on recommendations or revisions requested by the Fire Chief and others.

The best way to prevent complications during ratification and approval is to have followed a comprehensive, systematic, and well-conceived process during development. Managers responsible for approving SOPs produced through such a process should carefully consider the negative impact of making last-minute unsupported changes to the work of the Development Team. Such changes might reduce the effectiveness of the team's work and lead to the adoption of less-than-optimal SOPs. In addition, team members and others may be less willing to participate or give their best effort in future development efforts.

Summary

Any official written document that sets forth an operational guideline is defined as a standard operating procedure. SOPs are not training materials; they build on training, providing an organizational blueprint for operational safety and efficiency. Too much or too little detail in SOPs limits their usefulness and effectiveness on the incident scene.

An organized, methodical development process is the best approach for preparing effective and valid SOPs. The process should be conceived as an integrated whole, and as such, its success is determined by the sum of its parts. The quality of SOPs will largely reflect the composition and leadership of the SOP Development Team, the level of support provided by the department, the team's ability to establish realistic goals and acceptable procedures, the nature of research and analysis performed by the team, and the team's ability to select appropriate alternatives and justify the results.

SOPs must be written clearly, concisely, and unambiguously. They should be organized and presented in a manner that is "user-friendly" and readily accessible during operations. All department personnel should understand that, with the exception of critical health and safety issues (identified by the term "shall"), SOPs can be modified to suit the exigencies of a particular situation, based on the judgment of the incident commander.

While certain elements are usually incorporated in all SOPs, a variety of different formats is possible, depending on the purpose and intended audience. Peer review and testing are vitally important for ensuring that potential problems or conflicts are identified prior to finalizing SOPs. Fire Chiefs and agency heads are ultimately responsible for SOPs, and must thoroughly understand them before final approval and distribution.

Sample SOP Formats

The following pages represent several formats used by various fire and EMS department for standard operating procedures. These SOPs are presented as examples of SOP format, not content. SOP content topic areas are discussed further in Appendix B.

VIRGINIA BEACH FIRE DEPARTMENT SOP O 14
Media Releases 05/01/91

MEDIA RELEASES

PURPOSE

To ensure an accurate information flow from the fireground to the news media. This should eliminate faulty, inappropriate information from being relayed to the press.

SCOPE

The following guidelines are to be utilized when releasing information to the news media. Furthermore, Company Officers are encouraged to assist the media at the company level.

POLICY

A public information worksheet has been developed to assist personnel when dealing with the press. All items on the worksheet are appropriate for release to the press. Be factual in your responses. Do not speculate or give "off the record" responses. Appropriate and factual information is a positive public relations tool.

The following guidelines define who is to deal with the press on fire incident related issues:

On The Fire Scene: Press personnel should be directed to the Incident Commander or the Public Information Officer if he/she is present.
After Calls: Requests for information should be directed to the Public Information Officer or his/her designee. If the Public Information Officer is not present, the Battalion Officer involved with the call should release information in accordance with departmental guidelines.

Only these people will deal with the press in the majority of cases. Utilize the worksheet to insure appropriate information is relayed to the press. This should eliminate faluty, inappropriate or legally incorrect information from being relayed to the press.

Dispatchers: If the press contacts the EOC for information, they are to be referred to the appropriate personnel as designated above.
Battalion Officers: Information concerning any "working" incident, or any incident which may be of interest to the media, should be sent to the department's Public Information Officer via the E-mail system. The information should be the basic data from the Public Information Worksheet.

All other news related matters should be referred to the Chief's Office. The only exception to this would be in the areas of internal issues of a volunteer company.

For additional clarification, contact the Deputy Chief of Operations.

PUBLIC INFORMATION OFFICER

The Fire Department Public Information Officer is responsible for the coordination and release of information regarding fires or other emergency related incidents in which the Fire Department is involved. He/she will assist the Incident Commander by obtaining and disseminating information concerning the incident to the news media.

It should be understood that a Public Information Officer will not be required on every incident. Those times when a PIO does not respond, an officer at the scene should gather information using the "public information worksheet" and provide this information to inquiring media.

VIRGINIA BEACH FIRE DEPARTMENT SOP O 14
Media Releases 05/01/91

The PIO will be notified of the following types of incidents:

- Working fires
- All technical rescue incidents
- Any accident involving injury or death to citizens or firefighters
- Hazardous materials incidents
- At the request of the Incident Commander

The PIO will use his/her discretion in responding based on the information provided by the dispatcher and/or the Incident Commander.

Lee's Summit Fire Department
STANDARD OPERATING PROCEDURE

SECTION XVII

SUBJECT MUTUAL AID

A. SCOPE

This standard operating procedures is designed to set forth the rendering and requesting of mutual aid involving other governmental fire departments and emergency medical services.

B. DEPARTMENTS WITH MUTUAL AID CONTRACTS

The following departments have mutual aid contracts with Lee's Summit Fire Department covering all types of emergencies including fire, emergency medical, rescue, and hazardous materials services:

1. City of Belton
2. Central Cass Fire Protection District
3. Central Jackson County Fire Protection District
4. Fort Osage Fire Protection District
5. City of Grandview
6. City of Harrisonville
7. City of Independence
8. Johnson City Fire Protection District
9. City of Kansas City, Missouri
10 City of Liberty
11. Lone Jack Fire Protection District
12. Lotawana Fire Protection District
13. N.E. Cass Fire Protection District
14. City of Pleasant Hill
15. Prarie Township Fire Protection District
16. Raytown Fire Protection District
17. Sni-Valley Fire Protection District
18. South Metropolitan Fire Protection District
19. City of Sugar Creek
20. City of Warrensburg
21. West Peculiar Fire Protection District

C. RESPONSE TO REQUESTS

1. The on-duty shift commander shall authorize all mutual aid responses. The shift commander shall provide all requested assistance as long as on-going Lee's Summit emergency operations are not adversely affected and minimum coverage standard operating procedures can be met with Lee's Summit or mutual aid units.

2. Our department may be requested for the Western Missouri Fire Chiefs Foam Bank from departments that we do not have a mutual aid contract with. Such aid with the foam bank will be provided if the calling department indicates that they are a Foam Bank member.

Lee's Summit Fire Department STANDARD OPERATING PROCEDURE	SECTION XVII
	SUBJECT MUTUAL AID

C. RESPONSE TO REQUESTS (Cont'd)

3. If a department requests mutual aid other than the Foam Bank and does not have a mutual aid contract with Lee's Summit, an inquiry will be made if they are requesting mutual aid through the State Mutual Aid Plan. If their response is in the affirmative, the mutual aid E-O-C will be activated and the regional coordinator will be notified and our department will attempt to provide the assistance that is requested.

D. REQUESTING MUTUAL AID

Requests for mutual aid may be made by the shift commander, the incident commander, the communications specialist, or the E-O-C officer.

1. The on-duty communications specialists are authorized to automatically utilize mutual aid to "fill out" alarm assignments or to provide minimum coverage.

2. The field requests to the Communications Center can be either specific by department and equipment or a general request by the number and type of units needed.

3. When the Communications Center receives general requests from the field, the pre-designated mutual aid departments for specific box numbers shall be utilized.

GENERAL ORDER 95-009

Dec. 1, 1995

SUBJECT: MANDATORY USE OF PERSONAL ALERT SAFETY SYSTEMS (PASS ALARMS)

I. PURPOSE

This order:

A. establishes the Chicago Fire Department's policy and procedures regarding the mandatory use of Personal Alert Safety Systems (PASS Alarms).

B. defines department and member responsibilities in the maintenance, repair and replacement of pass alarms.

C. becomes effective December 16, 1995.

II. POLICY

A. In the event a member or members become disabled or trapped at an incident, the use of the pass alarm shall enable the member or members who are so equipped, to be located more readily.

B. It is mandatory that all personnel – with the exception of engineers – engaged in suppression activities, responding to a fire (confirmed or unconfirmed), hazardous materials incident, and all other incidents of an unknown nature, wear and activate their pass alarm device upon arrival at the scene of the incident.

C. The pass alarm will be affixed to the department issued utility belt, or to the pass alarm device holder if the member's turnout coat is so equipped.

III. PROCEDURE

A. All members equipped with pass alarms shall wear and activate their devices on the fire ground or emergency scene. Possible exceptions would be at ambulance

assist incidents or T.O.C. inspections, etc, where pass alarm would be worn by the member but not activated.

B. The wearing and use of the pass alarm device is required on the fire ground, with the exception of those chief officers and other personnel operating at the command post, staging area or similar areas.

C. A pass alarm device that is damaged (unserviceable) not due to a member's negligence, shall be replaced at the department's expense. If negligence is determined the member shall replace the pass alarm, as per department policy, and may also result in appropriate discipline.

IV. TESTING OF PASS ALARM DEVICES

A. Immediately, upon completion of testing their sefl contained breathing apparatus each morning, all chiefs, company officers and firefighters shall test their pass alarm device that has been turned over to them by their relief.

B. The results of the pass alarm device shall be reported to the company officer, who shall record the results in the company journal. The information in the journal shall consist of the pass alarm unit identification number alongside the name of the member using the unit.

C. Pass alarms shall be retested after each use during the duty day.

D. Chief officers assigned to non-platoon duty shall test their pass alarms at least once each week and after each use.

E. Any need for a replacement battery, defects, or requests for service shall be immediately reported through channels to district headquarters by the company officer. District chiefs/deputy district chiefs shall be responsible for contacting Breathing Apparatus Service, and for issuing a spare pass alarm unit until the problem has been resolved.

F. The results of all testing, replacement of batteries, or exchange of units shall be logged on the individual record card for that pass alarm device, indicating who performed the activity and the name of the officer who supervised such activity.

V. RESPONSIBILITIES

A. Chief officers and company officers shall enter the receipt of all pass alarm devices into their company inventory records.

B. Chief officers and company officers shall have the joint responsibility to ensure all personnel are in compliance with this order.

Chapter 5

Implementing Standard Operating Procedures

Introduction

The act of developing or modifying a standard operating procedure, as discussed in Chapter 4, is not the end of the road. SOPs must be effectively implemented within the department to have the desired impact—improved safety and enhanced performance on the job. In fact, a new or modified SOP that is performed incorrectly or simply ignored by responsible personnel may be more dangerous than the old procedure it was designed to replace.

Implementation includes all the steps that departments take to introduce the SOP to potential users and make it an integral and accepted part of normal operations. The implementation process is designed to ensure that:

- Everyone is informed about the new or modified SOP and understands the significance of the change.
- Copies of the SOP are distributed as needed and readily accessible to all potential users.
- Personnel know their roles and have the knowledge and skills necessary to implement the SOP safely and effectively (including an understanding of consequences for failing to comply).
- A mechanism exists to monitor performance, identify potential problems, and provide support in the implementation process.

The best approach for implementing SOPs depends on many factors, including the nature of the required changes, the size and resources of the department, and management preferences. The first step is developing an implementation strategy and plan. Then, generic steps, which reflect the objectives defined above, include Notification, Distribution and Accessibility, Training, and Performance Monitoring.

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Implementation Planning

The development or modification of SOPs must be accompanied by a plan to implement the new procedure within the department. The implementation plan provides an opportunity to think through related tasks, assignments, schedules, and resource needs. The planning process may be formal or informal, depending on the requirement.

The first step is to decide on the purpose and scope of the task to be accomplished. Several important questions need to be considered:

- How many SOPs are being implemented? A whole new set of SOPs? A major portion of the SOPs? One or two SOPs?
- How significant are the changes to existing SOPs? What are the potential consequences if the SOPs are not implemented quickly or effectively?
- Who needs to know about the changes to the SOPs? Do different groups need different types of information?
- What are effective ways of disseminating information within the department? What methods have worked before and what methods have been unsuccessful?
- Is training necessary to ensure competence in the new SOPs? How will performance be monitored and enhanced?
- Would the SOPs be most effectively implemented by using a well publicized changeover date or a defined phase-in period?

The answers to these questions determine the strategy and methods in the implementation plan. The approach might vary from simple notification during member meetings to on-the-job training for selected members to formal classroom sessions for the entire department. For example, a small volunteer fire department creating its first set of SOPs will take a drastically different approach than a larger career department doing a minor update of one or two SOPs affecting only the hazardous materials team.

Notification

The first step is making sure that all personnel are aware of the upcoming change in procedures. In addition, outside groups that influence or coordinate with fire service emergency response operations should be notified as necessary, e.g., community officials, mutual aid organizations, insurance carriers, employee groups, local hospitals, legal counsel, and state or regional regulatory bodies. Management might even consider informing citizens and special interest groups,

thereby taking advantage of the public relations and public education opportunities that arise when fire service operations are improved.

Besides informing people, the notification process has other objectives, such as identifying potential SOP implementation problems and encouraging compliance and personal accountability. Therefore, when possible, managers should provide opportunities for members and outside group representatives to ask questions and give feedback. Departments may also wish to consider mechanisms that require personnel to acknowledge receipt of the notification and understanding of its content.

Notifications like this in career agencies are frequently covered during shift or division roll calls. Company officers are made responsible for disseminating information to their crews and documenting attendance/signoff at these sessions. This approach allows for "real time" questioning and opportunities for "customizing" the information, if necessary, for the personnel involved. In volunteer agencies, notifications may occur at monthly business meetings or training drills. Documentation of notification will be served in this case through attendance records or training rosters.

Because of the legal and operational implications of new SOPs, a formal written notification process is often best. Typically, a letter is sent to each person and organization on the list, sometimes with copies of the new SOPs attached (see *Distribution* in the following section). The letter should, at a minimum, describe the nature and purpose of the organizational change, the SOPs superceded or modified, personnel and/or positions affected, the implementation plan and schedule, and contacts for further information. In particular, the letter should highlight the effective date of the new SOP, making sure that adequate time is available after formal notification for all steps in the implementation process and for personnel to make any necessary transitions.

Other communications methods may be useful to support written notification—articles in department newsletters, mention during staff meetings, posting on bulletin boards, follow-up contact in person or by phone, and even stories in local print and broadcast media. Development of a notification plan and related checklists can be helpful for managing the process. The approach taken should reflect the nature of the SOP, as well as organizational preferences and resources. However, in all cases, departments should view notification as a "process" rather than an "event." The process should include opportunities to reinforce understanding and acceptance of the new SOP by responsible personnel, and mechanisms to document the results.

Distribution and Accessibility

Distribution is the next topic to consider in the implementation plan. Employees cannot implement SOPs if they don't know what they are. Copies of new SOPs must be available to all personnel who may be affected. If personnel do not have access to new or revised procedures, they cannot necessarily be held accountable for carrying them out. SOPs should always be accessible!

Whether the organization is developing its first set of SOPs, reissuing sections of the existing SOP manual, or initiating a single new policy, it's best to provide a copy to every individual with related responsibilities. Some departments may not be able to provide copies of SOPs to every member. In these cases, the department leadership should make every effort to find creative ways of making the information available.

Whether or not a department can make individual copies available, the department should provide all employees with easy access to a complete copy of the SOP Manual. This copy should be up-to-date and maintained in a location that is known and accessible to all. One method is to place a printed copy in a binder or cover that distinguishes it from other materials in a library or common access area. SOP Manuals should be in every fire station and administrative facility. Copies must be tamper-resistant and regularly checked against "master files" since mischief and sabotage in firehouses are possible. Responsibility for maintaining and updating these "official" copies should be given to a member of the leadership team.

If the technology is available, the agency may wish to place SOPs on a computer system. Methods for doing this can vary greatly with the resources available to the department. A sophisticated Intranet type of system is possible, or the SOPs could simply be placed in a folder on a computer or server that all department members can access. Care should be taken to protect the master SOP files so they are not accidentally or purposefully tampered with.

Some departments and agencies now maintain SOPs on their organization's web site. A good example for regional organizations is the Florida Fire Chiefs Association's State Disaster Plan, which contains SOPs for activating units during disaster situations. It can be viewed on their web site located at http://www.floridafire.org/pubs/DRP.htm. An example of a lengthy SOP for high rise fires in a large municipality can be found on the Los Angeles Fire Department web site, accessible at http://www.lafd.org/docfiles.htm.

Another information distribution method gaining favor is "fax on demand." In this system, users telephone a central data point, select a particular SOP, and have it faxed to them. Other departments provide SOPs on computer disks to be loaded in computers at each station.

Organization size, geography, resources, and preferences will influence the process by which the SOPs are distributed. A large organization, spread over several hundred square miles, may rely on computerized distribution systems. Small organizations with few stations and personnel may distribute paper copies. Volunteer organizations might disseminate information at meetings of the membership. Whatever the method selected, the goal is to have the SOPs readily available for personnel to learn from, train with, and reference as needed.

When distributing new or revised SOPs, the agency should maintain records listing the recipient, date, and place. Hand delivery assures that individuals have been given the opportunity to see the SOP. Another method may be to require recipients to sign a receipt, which is kept on file for the time the SOP is valid. Many agencies use their battalion chiefs, company officers and roving fire marshals to distribute information to the field personnel/members, and use a roster for each

person to initial that they received the new or revised SOP. In some agencies, unit, company or battalion/division officers may be required to acknowledge, by signature, that they have made the personnel or members under their command aware of the new or revised SOPs content and intent.

Training

Effective implementation of SOPs often requires that personnel be trained in the new procedure. Depending on the situation, instruction may be formal or informal, conducted in the classroom or on the job. As with any type of training, program design should follow accepted principles of adult education, taking into consideration four general components: motivation, transfer of information, opportunities to practice new skills, and demonstration of competence.

Training Needs Assessment

In Chapter 3, the use of a formal needs assessment was discussed as a tool for analyzing the department's existing SOPs. A needs assessment can also be helpful during the SOP implementation phase to identify training requirements. This type of study asks the following types of questions:

- Who needs to be trained in the new or revised SOP(s)?
- What instructional content should be covered? What training methods will be most effective?
- How will understanding and competence be evaluated?
- How long will the training sessions take? How will training be scheduled and administered?

Training Audience

The first step of the needs assessment process is identifying who needs training. The answer to this question depends on the nature of the SOP, the scope of recent changes, individual responsibilities within the department, and other factors. Suffice it to say that everyone who needs it should receive the appropriate training: skills-level training for those who actually carry out the SOP or evaluate job performance; knowledge-level training for personnel whose work requires them to interface with the first group; and awareness level training for everyone else. However, keep in mind that formal classroom sessions are not always required or the best way to transfer information!

In general, the needs assessment study identifies, at a minimum, the number of people who need training and broad categories of training needs. Other outputs might include a review of previous training and training delivery issues (audience preferences, availability, location, etc.). Methods

for conducting the analysis typically rely on the expertise of staff members and other experts, although more formal approaches—surveys, statistical analyses, performance evaluations, etc.—are possible.

Training Content and Methods

Training should clarify the content and intent of the SOP. Technical content will vary with the SOP and the audience's job assignments. Instruction should also include an explanation of the purpose and rationale behind the procedure. For example, a typical SOP to ensure the safety of personnel during a vehicle accident victim extrication might require two persons in full protective clothing and SCBA to stand by with a charged hose line. Trainees must understand not only how to comply with the SOP, but appreciate why it was created in the first place: for their own safety!

Remember that SOPs are agency guidelines for applying specific job skills and related theory. Training generally assumes that individuals already know how to properly perform the basic job functions: fire suppression, emergency medical care, hazardous materials response, technical rescue, or disaster operations. In other words, SOP training complements basic job skills training by focusing on related decision-making requirements—the "who, what, when, where, and sometimes how" of the procedure. Instruction in the proper manipulation of tools and equipment, treatment side effects, and precautions is addressed in other training and education.

Another important consideration in SOP training is the methods that will be used. Certain methods may be more suitable for specific training requirements. For example, classroom-training sessions, with ample opportunities for group discussion and interaction, may be useful for implementing a new SOP on personnel practices in the municipality. Conversely, a new SOP that covers response to high rise building fires might benefit by training that takes a more "hands-on" approach, perhaps involving personnel in practical evolutions or exercises, or doing walk-throughs in new construction.

Keep in mind that SOPs are important procedural guidelines, implying the application of critical physical and/or decision-making skills in a potentially dangerous and demanding environment. Whenever possible, training should incorporate opportunities to practice these skills in a safe and supportive setting. Instructional methods that are particularly useful for this purpose include role plays, simulations, drills, supervised on-the-job training, tabletop and functional exercises, and other types of classroom activities that require students to perform aspects of the task.

Ensuring Competence

SOPs are vital to the operation of the agency and the safety of fire service workers and the public. For this reason, the department must ensure that personnel thoroughly understand the SOP and are capable of performing the tasks they are assigned. This is particularly important when educating members and personnel on safety-related SOPs.

There are different ways of ensuring competence after training. In some cases, students can demonstrate competence to the instructor's satisfaction through discussions, question and answer sessions, classroom activities, and demonstrations of key skills. In other situations, formal testing mechanisms or performance evaluations may be more appropriate. The method chosen should reflect the nature of the SOP and the potential for adverse consequences, such as injury or death, if students are unable to perform satisfactorily back on the job.

Understanding of and competence in SOPs is critical both immediately after training, and throughout the life of the SOP. An agency's implementation plan should address more than just short-term training. How many members will be competent in the SOP in one year? How about in five years? Periodic reevaluation and refresher training should be considered to ensure that members and personnel not only understand the SOP after it is implemented, but for as long as the new procedure is in effect.

Training Scheduling and Administration

The identification of training requirements—audience members, technical content, instructional methodologies, and evaluation mechanisms—prepares the department for developing a training plan and schedule. The training plan answers the following types of questions:

- What training materials are needed? Who will prepare them?
- What qualifications do instructors need? Who has these qualifications? Who is available to serve as instructors?
- What facilities, special equipment, and supplies are needed? Are they available in house? Can they be procured from outside sources?
- What timeframe is appropriate for initial training and refresher training?
- Can training be integrated with other training or department activities?
- What records should be maintained? What reporting requirements are applicable?

Keep in mind when designing the plan that training is perhaps the most critical component of the SOP implementation process. The best SOP will be ineffective or even dangerous if personnel are not motivated to or are incapable of carrying it out. Poor performance can lead to unnecessary injuries, costs, and lawsuits. For these reasons, an adequate amount of time must be allowed in the training schedule. Some policies will not require extensive orientation and are self-defining; others will require more explanation and definition, depending on the complexity of the procedure/policy. Organizations with many employees may pose problems with scheduling and logistics to assure the intent and content of the SOP is communicated clearly to all who need it.

Performance Monitoring

As part of the implementation process, departments must establish a mechanism to monitor job performance and ensure that personnel carry out the new SOPs correctly. The process should be designed to 1) compare worker performance with expectations established by the new SOP, 2) identify potential problems, and 3) specify ways to improve implementation or provide additional support to personnel.

For SOPs to be effective, individuals must be accountable for their job performance. However, the purpose of performance monitoring as described here is not for enforcing a standard that may lead to disciplinary actions. Individual accountability in this context is related to the effectiveness of the implementation process—personnel cannot be held accountable if they haven't been properly notified about SOP changes, given access to the new SOP, adequately trained in its use, etc. The threat of discipline can sometimes detract from the greater purpose of the SOP, perhaps causing resentment and even resistance among employees. For these reasons, disciplinary processes, although important for departments to define and enforce, should be handled separately as part of personnel policies, not operational procedures.

Like all aspects of the implementation process, performance monitoring should be planned in advance. Planning should identify such factors as the methods to be used, the role of supervisors and other personnel, record keeping and reporting requirements, and processes for correcting deficiencies. The approach selected can be formal or informal, simple or complex, as dictated by the nature of the SOP and the potential consequences of unsatisfactory job performance.

Whenever possible, the methods chosen for performance monitoring should incorporate objective measures of job performance, i.e., ways to compare actual performance with pre-established criteria that reflect current expectations under the new SOP. Ideally, these indicators were identified during the SOP needs assessment; in effect, they are the measurable objectives of the SOP development process. This approach ties together SOP development and implementation, and promotes objectivity in the analysis.

More subjective methods should also be included in the plan. These approaches are often easier to implement and, when interpreted correctly, provide a wealth of information. Examples include:

- Supervisor observations
- Interviews with personnel
- Interviews with members of the public
- Team meetings and discussions
- Incident debriefings
- Drills and exercises—observations and critiques
- Surveys

Besides helping to ensure that SOPs are implemented correctly, the results of performance monitoring provide input for the next phase of the SOP process—evaluation. This subject is discussed in more detail in the next chapter.

Summary

The approach used to implement new or revised SOPs is critical to their success in helping agencies manage operational risks and enhance the actions of employees. Effective implementation generally involves preparation of a strategy and plan that is tailored to the requirement as necessary. Elements of the plan should address:

- Notification of members and others with a need to know
- Distribution of copies to potential users
- Placement and maintenance of reference copies
- Methods to identify and quantify training needs
- Training delivery and administration
- Competency testing and certification
- Ongoing performance monitoring and employee support

Without proper implementation, new SOPs may be ineffective, unused, or unsafe. Therefore, implementation planning should be a key component in any agency's approach when creating new SOPs or revising existing ones.

Chapter 6

Evaluating Standard Operating Procedures

Introduction

Standard operating procedures are not static documents. Once an agency implements new SOPs, they cannot be simply handed on to successive generations without revision. Operational and organizational standards change over time, and SOPs have to change with them.

Evaluation is the systematic analysis of operations and activities for the purpose of determining the overall effectiveness of SOPs. The focus is on 1) identifying changes that have occurred as a result of the SOP, and 2) assessing whether the purpose and objectives of the SOP have been accomplished. This information is then used to decide if the SOP or other department activities need to be modified.

Any fire service program is incomplete without a formal evaluation component. Evaluation is the "feedback loop" in the SOP development process, providing managers with a mechanism to continually refine and improve operations (see Figure 6-1). Although evaluation may seem like the "final step," it actually leads to a new beginning in the ongoing and cyclical SOP management process.

Evaluation is not the same as performance monitoring, which was discussed in the last chapter. Although some of the methods are the same, the purpose of performance monitoring is to make sure that personnel comply with the SOP and perform it correctly—in effect asking, "are we doing things right?" The goal is primarily to improve implementation of the SOP.

Evaluation, on the other hand, looks at the same employee actions, but asks, "are we doing the right thing?" In other words, does the SOP accomplish what was originally intended, and how can it be made more effective? The goal in this case is to assess and redesign the SOP, if needed. The analysis can also be used to justify program efforts and costs, motivate personnel, and improve the overall SOP management program.

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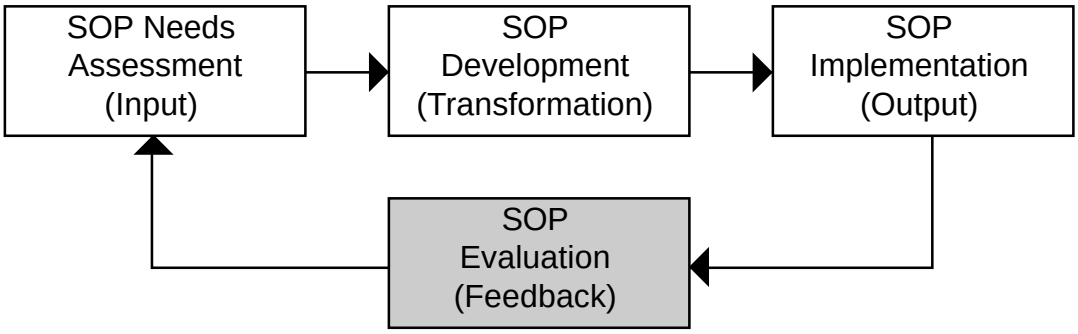
Figure 6-1

A Systems View of Evaluation



The Evaluation Process

Evaluation is a planned process with a distinct series of steps that provide specific types of information. The goal is to assess the results of the SOP, a task that requires asking the following types of questions:

- What were employee behaviors and actions before the SOP was implemented?
- What administrative or operational problem was the SOP designed to address?
- Was the new SOP fully implemented, or were there unexpected barriers to full implementation?
- How did employee behaviors and actions change after introduction of the SOP?
- Were the changes in behaviors and actions what were intended? Was the purpose of the SOP accomplished?
- Is the need for the SOP still current? Is the current SOP still the best solution?

The "purpose and intentions" of the SOP are defined in the form of evaluation criteria, measurable objectives that serve as benchmarks for assessing progress. For example, criteria might be established to help evaluate employee attitudes, technical knowledge, or competence in specific physical skills. Alternatively, managers can compare meaningful operational statistics (e.g., response times, injuries, exposures, inventory levels—virtually any type of response and program data) with accepted standards and practices, if known. This latter approach is particularly useful when technology or regulatory requirements change.

For our purposes, there are two general types of evaluations: periodic or standard reviews and special evaluations. Each is described in the following sections.

Periodic Review of SOPs

Organizations tend to get complacent without a built-in mechanism to ensure regular reviews of operational policies and practices. A periodic review of SOPs allows agencies to look at how they currently do things and determine whether it is the best (i.e., the most effective, efficient, and safe) way to conduct business.

Periodic evaluations are based on the assumption that things will not always go as planned, and fire service leaders need a structured approach to manage change in our fast-paced and complex society. One method to ensure that existing policies and procedures are up to date and effective is to plan regularly scheduled evaluations of SOPs. These wide-ranging reviews also help motivate employees by emphasizing the importance of the SOPs and demonstrating the department's commitment to keeping them current.

There are no hard and fast rules about the frequency and timing of periodic evaluations. For some agencies, a formal review every six months may be prudent. For others, an annual or biannual review might work. Agencies undergoing major organizational changes could decide to time evaluations after significant milestones in the process. Each agency must determine when and how often evaluations are necessary. The results should be institutionalized in management and operations plans.

Creative ways can often be found to get around administrative or technological obstacles. For example, a large department may want to conduct reviews of SOPs every six months, but supervisors are concerned about changing policies and procedures so frequently. The solution might be to review 25% of the SOPs every six months, which would mean evaluating the complete set of SOPs once every two years. Other agencies have found ways to streamline planning processes by incorporating reviews of SOPs into other planning efforts. For example, a small department that conducts reviews of programs and services while putting together the annual budget may find that this is also a perfect opportunity to review SOPs.

Since evaluating and revising SOPs can be complex and time-consuming, the process must be well planned. Evaluations should be undertaken only in response to a compelling need, not simply to "wordsmith" guidelines or to create "busywork." Furthermore, the process should be completed as expeditiously as possible, avoiding situations where SOPs seem to remain in constant flux, with endless drafts floating around for comment.

Special Evaluations

Occasions may arise when agencies need to conduct an unscheduled evaluation of one or more procedures. These reviews fall outside the standard mechanism set up by the agency for periodic reviews of SOPs. Special evaluations are stand-alone, limited studies designed to solve specific challenges and deficiencies. They usually involve only a portion of the SOP set, perhaps focusing on a specific operational function or program element. The methods and techniques used will reflect the targeted nature of the study, as well as departmental preferences and resources.

Special evaluations may be conducted for any number of reasons, including:

- An incident that resulted in a bad outcome for the community or department.
- New construction in the community.
- Special construction buildings.
- A change in federal, state, or local laws and regulations.
- A revision to NFPA or other consensus standards.
- A change in internal policies or labor contracts.
- A leadership turnover resulting in new management priorities.
- Economic and demographic changes in the community.
- Organizational mission changes.
- Legal decisions establishing important new precedents.
- Identified operational performance problems.
- Changes in staffing or equipment.
- Changes in mutual or automatic aid agreements or arrangements.

For example, what would happen if a new stadium is built in the community? Fire and emergency services agencies that will respond to incidents at the stadium may need to develop new SOPs to guide firefighters and emergency medical providers upon arrival. The addition of a gated community or a new high rise building may pose similar challenges.

There are many other situations that could cause the agency to re-think SOPs. Examples might include increased violence towards personnel; a new mutual aid agreement with a neighboring jurisdiction; major organizational or staffing changes; the addition of emergency medical response or a hazmat team; promulgation of new OSHA regulations; purchase of a new fire truck; or an unexplained increase in injuries or response times.

A second category of special evaluations focuses on the SOP development process itself. Every time a new or modified SOP is introduced, agency planners should design a complementary evaluation component to assess its impact and effectiveness. The approach used is similar to other special evaluations, but the study is limited to the new SOP. In addition, planning for the analysis began (or should have begun) during the SOP needs assessment and development phases.

This advantage gives planners a better opportunity to choose methodologies, control variables, and gather data than might otherwise be possible. Often, two or more studies are planned: a short-term evaluation to get rapid feedback, and longer-term studies to assess changes over a specified period of time.

Conducting Evaluations

Theoretically, the evaluation process can be divided into four general steps: 1) establish standards, 2) measure performance, 3) compare measured performance with standards, and 4) analyze and act. Analytical methods can be complex, but more subjective measures (e.g., surveys, simple rating systems) can be used. Ideally, the end product is a quantifiable analysis of the SOP's effectiveness, and specific recommendations for improving it.

Each agency must determine for itself the best method for conducting evaluations. The method chosen should reflect the requirements of the study—the purpose of the analysis, the number and type of SOPs affected, the legal and safety consequences of unacceptable performance, etc. Of course, costs, available resources, time requirements, management preferences, and other administrative factors must also be taken into consideration.

Several major evaluation concepts—such as identifying the operational environment, determining the standard of care, and researching local needs—have already been discussed in Chapter 3. Related laws, regulations, standards, and external resources are described in the appendices. This section looks at some other planning and administrative considerations.

Review Teams

After deciding to conduct either a periodic or a special evaluation, the first step is to establish an evaluation review team or committee. Ideally, all affected viewpoints will be represented. Thus, the team should include many of the same types of personnel that participated in the Needs Assessment and the SOP Development phases. In fact, evaluation studies are often assigned as a separate step to the same standing or specifically appointed SOP team. In addition, the "customers" or "clients" of the fire service agency—local government officials, community group members, and individual citizens—might be included.

As always, the structure and leadership of the committee is important. Personnel appointed as committee leaders must have the requisite technical expertise, as well as good interpersonal and group facilitation skills. Top-level management representation on the committee adds credibility to the process and shows commitment; it can also instill additional motivation in members.

Gathering Input

The first task of the committee is to get as much input as possible from all groups affected by the SOPs. Feedback can be gathered in many creative ways. An all-career fire department may choose to substitute discussions on SOPs for in-service training sessions. Leaders of a volunteer agency might set up special feedback sessions for members, or devote a company meeting to the topic. Input can also be gathered thorough written surveys, comment cards, or other standardized feedback forms. A disadvantage of this method is the lack of "two-way" discussion that occurs with face-to-face meetings, although follow-up sessions are possible.

Input from fire service customers can also prove invaluable in assessing SOPs. Many private companies spend millions of dollars annually contacting end users about their products and services. Think about the last time that you bought a new car or a major appliance. Did you receive surveys from the manufacturer, dealer, and loan company, all interested in your opinion about their products and services? Fire and emergency service agencies are in the same position, trying to provide the best services possible. That means getting input from local officials, community groups, mutual aid partners, individual citizens—anyone that is affected by or can influence fire service operations.

Methodology and Process

Every process needs a plan, and a study potentially as complex as the evaluation of SOPs is certainly no exception. Team members must decide on the methodology, the schedule of activities, and individual assignments. A range of data gathering, analytical, and group decision-making techniques—or combinations of techniques—can then be applied, as long as the process is implemented properly and consistently. Examples include direct observation, drills, exercises, surveys, brainstorming, cause-and-effect diagrams, event tree analysis, decision-making software, and many others.

The precise methodology will be determined by the requirements of the study. The key is to set measurable standards for operational performance, and then to gather data to determine if the standards are being met. If not, the SOPs that control operations may need to be revised, although other variables—notification, training, equipment, etc.—may be the real problem.

Conducting the evaluation study will involve many of the same techniques and considerations discussed in previous chapters. A special emphasis should be placed on quality control measures to ensure that data collection methods are consistent and reliable. Group decision-making techniques help ensure that all team members have an opportunity to influence the end product. The final report should provide enough information to complete the "feedback loop" and facilitate the preparation of new or revised SOPs, if necessary.

Summary

Evaluation, the feedback loop in the SOP management process, is designed to help fire service managers assess the adequacy of new or existing SOPs. The basic methodology is a comparison of operational actions and results with accepted standards or other measurable performance criteria and program objectives. Periodic evaluations provide a structured and ongoing mechanism to manage change in the fire service and community at large. Special evaluations, on the other hand, are studies intended to address a specific change, trend, operational deficiency, or opportunity identified by management.

SOP evaluation teams should represent the viewpoints of all affected groups, including individual members and emergency service customers. In addition, mechanisms should be established to gather input from other members of these groups as part of background research. Many different analytical and group decision-making techniques can be used, depending on the requirements of the study.

Poorly defined committee processes are almost always frustrating and rarely successful. However, a well-designed team strategy can harness the diverse talents of many individuals in a unified and creative effort that is greater than the sum of its parts. Management and team members must continually work together to establish this type of framework for SOP evaluations.

APPENDIX A

SELECTED LAWS, REGULATIONS, AND STANDARDS

Laws, regulations, and standards establish the legal framework for fire service operations. The potential impact of these various types of legal authorities depends on several factors. For example, the applicability of federal Occupational Safety and Health Administration (OSHA) regulations is determined by the character of the employer/employee relationship, the nature of the state occupational safety and health agency, and legal precedent. Since the content and interpretation of statutes and codes can change, the information provided here is intended solely as an introduction to a complex topic. Fire and EMS department managers need to review and understand applicable laws, regulations, and standards in their entirety before making decisions about SOPs.

Laws

Under our constitutional system of governance, no federal laws exist that specifically define the duties and powers of local fire and EMS departments. States may have different laws regarding the organization, duties, and powers of fire and EMS agencies within that state. In addition, cities and counties may have statutory provisions that further define emergency services operations within their jurisdictions. Fire and EMS department officers should understand and be able to cite all statutes that define their authority.

Important federal laws that apply to all fire and EMS departments within the United States are summarized in the following sections.

Americans with Disabilities Act

Title II of the Americans with Disabilities Act (ADA) covers all activities of state and local governments regardless of the entity's size and amount of federal funding it receives. The United States Department of Justice (DOJ) promulgates and enforces regulations under ADA. Title II requires that state and local governments give people with disabilities an equal opportunity to benefit from their programs, services, and activities. Considerations include access to jobs and "reasonable" accommodations, important factors in planning how operations will be conducted (i.e., writing SOPs). Fire and EMS departments incorporated as not-for-profit entities may be covered under either Title II or Title III of ADA; functional requirements are essentially the same.

People with disabilities, including HIV/AIDS, are entitled to receive the same level of medical care as other citizens. There have been several notable instances where medical providers, including EMS personnel, were sued for failing to provide the appropriate level of care to people with HIV/AIDS or other disabilities.

All fire and EMS department dispatch centers or Public Safety Answering Points (PSAPs) are required to equip every dispatcher console with teletypewriters (TTYs). People with disabilities use these devices to communicate via telephone. Call-takers are required to query "silent calls" with the TTYs to ensure that they are not actually calls from a disabled person.

ADA Title III, *Public Accommodations*, contains architectural requirements for new and altered buildings that can influence the conduct of fire and EMS department emergency operations. For example, Title III mandates changes in elevator function and stairwell pressurization during fire alarm activations in multi-story buildings. Fire and EMS personnel must understand how building alterations can affect evacuation and rescue procedures for people with disabilities.

Title II may impact fire and EMS department SOPs in a variety of ways. A great deal of useful information regarding ADA can be found on the DOJ website, including hotline numbers for questions (see Appendix C).

Ryan White Comprehensive AIDS Resources Emergency Act of 1990

The Ryan White Act requires that hospitals notify personnel that may have been exposed to an infectious disease during emergency response. The law further requires that each fire and EMS department appoint a designated officer, typically called an Infection Control Officer (ICO) to facilitate communications between medical facilities and emergency responders. With airborne pathogens like tuberculosis, the law requires medical facilities to contact the ICO within 48 hours after determining that a patient treated by responders is infected. When a bloodborne pathogen is involved, the medical facility must notify the emergency responder after a written request from the ICO.

In 1994, the Centers for Disease Control (CDC) published *CDC Guidelines on Implementation of Provisions of the Ryan White Comprehensive AIDS Resources Emergency Act Regarding Emergency Response Employees*. This supplementary material, which focuses primarily on infectious disease education and planning for emergency responders, may be helpful for developing departmental SOPs. While the CDC guidelines are neither regulations nor standards, many of the recommendations were incorporated into OSHA regulations and industry standards regarding bloodborne pathogens (described later).

OSHA General Duty Clause (29 USC 654(a)(1))

The intent of this statute is to protect employees from workplace accidents and exposures by requiring employers to recognize and correct hazards. In the absence of a specific OSHA regulation addressing a workplace hazard, OSHA may use national consensus standards like those developed by the NFPA to determine whether the existence of a workplace hazard violates the General Duty Clause. Fire and EMS departments can meet the requirements of 29 USC

654(a)(1) by removing workplace hazards and providing emergency responders with the appropriate training, equipment, and procedures to safely operate in hazardous environments (e.g., emergency scenes).

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) mandates certain critical aspects of hazardous materials preparation and response, including training for emergency responders, the creation of State Emergency Response Commissions (SERCs) and Local Emergency Planning Committees (LEPCs), state and local government planning activities, and hazardous waste reporting. SARA also mandated that OSHA and EPA promulgate regulations governing hazardous materials training, operations, and emergency response. (More information on these regulations is presented later.)

Supreme Court Precedents

The legal community recognizes the outcome of specific court cases, called precedents, as an authority for deciding future cases. Courts at every level use precedents to help interpret laws and decide cases. The United States Supreme Court is the ultimate authority on the constitutionality of laws. For example, two precedent-setting cases decided by the Supreme Court concern fire-cause determination and arson investigation. *Michigan v. Tyler*[1] and *Michigan v. Clifford*[2] upheld that fire department personnel may remain in a building and seize evidence of arson without a warrant for a reasonable amount of time after a fire has been extinguished. However, any investigation activities after a property is released back to the owner by the fire department must be conducted with a valid search warrant. Failure to obtain a warrant violates the citizens' rights under the Fourth Amendment to the Constitution.

Regulations

Regulations are rules established by government agencies to implement statutory laws. The applicability of federal regulations to fire and EMS department operations varies according to several factors that were discussed previously (see Chapter 3). State and local regulations also influence the SOP development process. The federal regulations described here represent a small sample of those that may be pertinent to fire and EMS departments.

Occupational Noise Exposure (OSHA 29 CFR § 1910.95)

Requires employers to measure sound levels in the workplace, provide protective hearing equipment, develop a hearing conservation program whenever employee noise exposures exceed permissible levels, and maintain records on employee noise exposure levels.

Hazardous Waste Operations and Emergency Response (HAZWOPER) (OSHA 29 CFR § 1910.120)

Applies to all personnel involved in hazardous materials response, whether volunteer or career, in every state where OSHA standards apply. The regulation requires employers to develop a comprehensive program for hazmat response, and establishes minimum safety standards. (EPA 40 CFR § 311 is functionally similar to 29 CFR 1910.120 and covers emergency responders in all states, regardless of their status under OSHA.)

Fire Brigades (OSHA 29 CFR § 1910.156)

Refers to a wide variety of firefighting issues such as agency mission statements, training requirements, and personal protective equipment. Principally directed at industrial fire and EMS departments, the regulation can apply to state, county, and municipal fire and EMS departments in some jurisdictions.

Personal Protective Equipment (OSHA 29 CFR § 1910.132 - § 1910.140)

Establishes general requirements for employers to provide, test, inspect, and maintain personal protective equipment (PPE) for employees exposed to workplace hazards. Employees must be trained on the proper use of such equipment, to include eye protection, face protection, head and extremity protection, protective clothing, respiratory protection, and protective shields and barriers. In addition, 29 CFR § 1910.134 requires that, when employees enter a hazardous area using respiratory protection, one or more similarly equipped employees must be standing by to provide accountability and assist in rescue if needed. Specific requirements are listed for regular maintenance and testing of respiratory equipment, fit testing, and other requirements. (All of the basic requirements applicable to private sector employees apply to firefighters and EMS personnel. Additional requirements apply specifically to fire suppression and rescue operations.)

Sanitation Requirements (OSHA 29 CFR § 1910.141)

Ensures that fire stations and other fire/EMS department facilities provide clean and sanitary work environments free from health hazards. The regulation addresses fixed facility requirements including general housekeeping, waste disposal, pest control, water supplies, toilet facilities, showers, change rooms, clothes-drying facilities, eating and drinking areas, waste disposal containers, sanitary storage, and food handling.

Permit-Required Confined Spaces (OSHA 29 CFR § 1910.146)

Intended to protect personnel who enter "permit-required confined spaces," as these terms are specifically defined in the regulation. An employer is required to issue a written permit to employees before they are allowed to enter a permit-required space. The portion of this regulation most applicable to emergency services personnel is paragraph K, *Rescue and Emergency Services.*

Under paragraph K, fire and EMS departments that may respond to a confined-space incident are required to provide personnel with the appropriate PPE, rescue equipment, and training to perform rescues from permit-required spaces. Paragraph K does not require emergency services personnel to complete a permit before entry is made into a confined space for rescue purposes; however, a permit would be required to enter the space for training purposes. Rescuers must have atmospheric monitoring and ventilation equipment, lifelines and harnesses, a mechanical hoist system, communications equipment, and lighting equipment.

Lock-out/Tag-out Requirements (OSHA 29 CFR § 1910.147)

Intended to prevent injury to employees caused by the unexpected start up of machines or equipment or the release of stored energy. The rule mandates that emergency services personnel use certain safety measures to prevent the unexpected release of energy or start up of equipment. Lock-out/tag-out procedures may be necessary when performing rescues involving heavy industrial equipment, elevators, or electrical rooms. Electricity must be shut down and protected so that re-energizing does not occur while the rescue is being performed. This standard also requires employers to create an employee protection program that defines lock-out and tag-out procedures.

Occupational Exposure to Bloodborne Pathogens (OSHA 29 CFR § 1910.1030)

Provides for employee protection from exposure to bloodborne pathogens or other potentially infectious materials. The regulation requires that fire and EMS departments establish a comprehensive education and control program for personnel who may be exposed to bloodborne pathogens or infectious materials. The program must cover the following topics: training for emergency services personnel about the dangers of bloodborne pathogens; methods to dispose of contaminated materials; disposal processes for "sharps," contaminated instruments, and infectious materials; documentation of rescue worker exposures to infectious materials; and post-exposure medical evaluations. The department is also required to provide all protective equipment necessary to protect employees from bloodborne pathogens. Hepatitis B vaccinations must be offered at no cost to personnel.

Hazard Communication (OSHA 29 CFR § 1910.1200)

Requires that all employers 1) evaluate hazardous materials imported into, produced by, or used in a workplace, and 2) communicate the resulting information to employees through labels, Material Safety Data Sheets (MSDS), and specialized training. In addition, employers must notify and educate employees about hazardous materials locations to which they may have to respond. All employers must develop a hazard communication plan and share copies of the plan and their MSDSs with local emergency responders. OSHA's definition of hazardous chemicals and specified threshold amounts determine which chemicals must be reported in these plans.

Trench/Collapse Rescue Operations (OSHA 29 CFR § 1926.650 - § 1926.652)

Establishes operational and safety practices for rescue incidents involving trenches. This rule prohibits entry into trenches which are not properly shored, specifies that emergency services personnel wear a lifeline into trenches, and requires that fire/EMS departments provide training to emergency services personnel about the hazards of trench operations.

Discrimination Against Employees Under OSHA Act of 1970 (OSHA 29 CFR § 1977)

Prevents employers from discriminating against employees who exercise the right to file OSHA-related complaints or testify against an employer during an investigation. The rule creates a procedure for employees to file grievances if they feel they are victims of retaliation. Employees who refuse to comply with occupational safety and health procedures implemented by an employer in accordance with OSHA rules are not entitled to protections afforded by this Act.

Compressed Gas Cylinder Guidelines (DOT 49 CFR § 178, Subpart C)

Regulates the construction, testing, and maintenance of compressed gas cylinders including those for self-contained breathing apparatus and medical oxygen. While this is a Department of Transportation (DOT) regulation, it incorporates consensus guidelines from the Compressed Gas Association (CGA) for inspecting and testing compressed gas cylinders. SOPs developed as part of a department's SCBA preventive maintenance and inspection program must ensure that compressed gas cylinders are hydrostatically tested at prescribed intervals.

Consensus Standards

Consensus standards created by the National Fire Protection Association (NFPA) and other professional organizations are extremely important to the development of effective SOPs. A detailed discussion of standards can be found in Chapter 3. The standards excerpted below represent a small sample of those applicable to fire and EMS departments. Managers and team members should become familiar with the most current editions of these standards, in their entirety, during the SOP development process.

NFPA 471, Recommended Practice for Responding to Hazardous Materials Incidents

NFPA 471 outlines minimum requirements and operating guidelines for all organizations that have responsibilities when responding to hazardous materials incidents. The recommended practice specifically covers planning methods, polices, and procedures for determining incident levels, using personal protective equipment, decontamination, incident safety, and communications. Other topics include the use of control zones, monitoring equipment, incident mitigation measures, and medical monitoring.

NFPA 1403, Standard on Live Fire Training Evolutions

This standard sets forth a systematic method to prepare for and conduct training evolutions involving live fire. The standard applies to live fire training in specially constructed "burn buildings," as well as acquired structures. Requirements are organized into five categories: Acquired Structures, Gas-Fired Training Center Buildings, Non-Gas-Fired Training Center Buildings, Exterior Props, and Exterior Class B Fires. Within each category, guidelines are specified for student prerequisites, structures and facilities, fuel materials, safety, and instructors. Requirements for record keeping and reporting are also identified.

NFPA 1404, Standard for a Fire Department Self Contained Breathing Apparatus Program

NFPA 1404 establishes fire/EMS department guidelines for developing a preventive maintenance and training program for self-contained breathing apparatus (SCBA). The standard is designed to meet or exceed federal requirements for worker respiratory protection programs. It identifies minimum program requirements and safety procedures for addressing provision of SCBA, emergency scene use, SCBA training certification, safe operation, in-service inspection, equipment maintenance, breathing air quality control, and program evaluation.

NFPA 1410, Standard on Training for Initial Fire Attack

This standard contains minimum requirements for the evaluation of training in initial fire flow delivery procedures by fire department personnel engaged in structural firefighting. It serves as a standard mechanism for evaluating minimum acceptable performance for hose line and water supply activities during training for initial fire attack. The standard describes methods of evaluation and logistical considerations for basic evolutions that can be adapted to local conditions. Required performance guidelines are represented for handlines, master streams, and automatic sprinkler system support.

NFPA 1470, Standard on Search and Rescue Training for Structural Collapse Incidents

This standard identifies and establishes levels of training for safely and effectively conducting operations at structural collapse incidents. It is designed to help organizations assess the level of operational capability needed, and to establish training and safety criteria. Specific training requirements are defined for personnel at three levels: Basic Operations, Medium Operations, and Heavy Operations. In addition, general safety requirements are identified, including appointment of a Safety Officer, use of personal protective equipment, use of other safety equipment, incident management, and physical fitness of personnel.

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program

NFPA 1500 establishes minimum standards for fire service occupational safety and health programs. It applies to all aspects of the workplace, including incident scene and non-emergency operations. This broad standard requires departments to develop a comprehensive written risk management plan and an occupational safety and health program; designate a safety and health officer; appoint a safety and health committee; use incident command, personnel accountability, and safety systems at incidents; establish written SOPs; and maintain a data collection system and permanent record of job-related accidents, injuries, illnesses, exposures. It also requires that responders maintain minimum levels of health and fitness and use personal protective equipment.

NFPA 1521– Standard for Fire Department Safety Officer

This standard contains minimum requirements for the assignment, duties, and responsibilities of fire/EMS department Health and Safety Officers and Incident Safety Officers. Related organizational requirements are defined, including personnel assignments and backup capabilities. The qualifications and authority of both positions are also described. Functions of the Health and Safety Officer are defined in relation to risk management, safety program rules and SOPs, training and education, accident prevention and investigation, records management and data analysis, apparatus and equipment, facility inspection, health maintenance, infection control, critical incident stress management, and post-incident analysis. Functions of the Incident Safety Officer are also described, to include participation in the incident management system, incident scene safety, fire suppression, emergency medical services operations, hazardous materials operations, and special operations.

NFPA 1561, Standard on Fire Department Incident Management System

This standard establishes a generic structure for the coordination and management of emergency incidents to help ensure the health and safety of emergency responders. It requires the adoption of an incident management system for command and control of all emergency incidents and training exercises. Written plans should be created to anticipate incidents that require standardized procedures and mutual aid with other agencies involved in emergency incidents. Departments should create a command structure and standard supervisory assignments, including incident command, command staff, planning, logistics, operations, communications, staging, and finance functions. Departments are also required to implement a personnel accountability system and address rehabilitation for all members operating at an incident.

NFPA 1581, Standard on Fire Department Infection Control Program

This standard contains minimum requirements for programs to control infectious and communicable disease hazards in the fire department work environment. It is applicable to organizations that provide fire suppression, rescue, emergency medical care, and other emergency services, including public, military, private, and industrial fire departments. The standard identifies minimum criteria for infection control in the fire station, at an incident scene, and at any other area where fire department members are involved in routine or emergency operations. Departments are directed to develop a written infection control policy and risk management plan, to conduct annual training and education programs for all members, and to designate an Infection Control Officer. Other topics include vaccination programs, exposure control techniques, facility/station safety, cleaning and disinfecting, disposal methods, emergency medical operations and equipment, housekeeping, and labeling.

NFPA 1670, Standard on Operations and Training for Technical Rescue Incidents

This standard identifies and establishes levels of functional capability for safely and effectively conducting operations at technical rescue incidents. It applies to organizations and departments who provide technical rescue response. The standard states that the authority having jurisdiction must have standard operating procedures at the awareness, operations or technician level, and must have operational procedures in place to perform safely at technical rescue incidents. Additionally, the standard calls for incident response planning and the provision of appropriate rescue equipment and personal protective equipment.The standard also covers specific types of technical rescue incidents.

Endnotes

[1] 436 U.S. 499 (1978)

[2] 464 U.S. 287, 294, 104 S.Ct. 641 (1984)

Appendix B

SOP TOPIC AREAS

This Appendix presents, in outline format, a detailed categorization system and content descriptions for topic areas of fire service standard operating procedures. The list expands on the SOP topic areas shown in Exhibit 2-2 (see Chapter 2, *The Role and Function of SOPs*). It is intended to serve as a starting point for fire departments and other emergency services organizations that are developing or reviewing SOPs. However, different categorization systems are possible, so departments should tailor the information to their own unique operational needs, organizational structure, and management preferences.

The SOP framework presented here is organized into three broad areas: *Management and Administration, Prevention and Special Programs,* and *Emergency Operations*. *Emergency Operations* is, in turn, subdivided into *General Emergency Operations* and five common fire service operational missions: *Fire Suppression, Emergency Medical Response, Hazardous Materials Response, Technical Rescue,* and *Disaster Operations*. The intention is to describe SOP requirements that are similar for all operational missions under *General Emergency Operations,* and mission-specific requirements in the appropriate category. This approach minimizes redundancy and reflects common organizational and administrative patterns. However, some duplication is necessary when SOP categories are appropriate for two or more functional areas (e.g., Personal Protective Equipment), but the content of the categories differs (e.g., firefighting turnout gear versus PPE used in emergency medical care).

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MANAGEMENT AND ADMINISTRATION

GENERAL ADMINISTRATION—Procedures related to activities that maintain and support the organization, including financial management, resource management, information processing, and maintenance and development of the organizational infrastructure.

- Organization—Establishment of the organization, mission statement, policy on SOPs, chain of command, code of ethics, drug-free workplace, inter-department communications.
- Facilities—Non-smoking areas, telephones and usage, sleeping facilities, apparatus bay doors, portable fire extinguishers, smoke and carbon monoxide detectors, storage and use of fuels, facility maintenance and repairs, facility security, public access policy, workplace violence.
- Emergency Vehicles and Special Apparatus—Fueling of vehicles, inspections of vehicles, out-of-service vehicles, non-departmental riders, care and maintenance of vehicles and special apparatus, repair of vehicles and special apparatus.
- Equipment and Supplies—Personal protective equipment, small tools and equipment, power tools and equipment, SCBA maintenance, hose testing and maintenance, inventory control procedures, ropes and harnesses, communications equipment, public use requests.
- Finance—Budgeting, procurement and purchasing, out-of-town travel, expense reimbursement.
- Fundraising—Income-producing activities, public solicitations, grant applications, special requirements and activities, managing donations.
- Training, Education, and Exercises—In service training (initial and refresher), live fire training exercises, training evaluation, certification, requests for training, training records, interorganizational/community exercises.
- Information Management—Incident reporting system, record-keeping systems, confidentiality and access to information, use of computer equipment, archiving information.

MEMBER HEALTH AND ASSISTANCE PROGRAMS—Procedures affecting member health, fitness, and performance, to include assessment, enhancement, and enforcement activities.

- Medical Screening/Health Assessment—Fire department physician, baseline/entry and annual examinations, post-injury/exposure examinations, exercise screening/stress tests, vaccinations, medical/exposure records.
- Health and Wellness Promotion—Fitness assessment, fitness conditioning programs, healthy lifestyles.
- Performance Evaluation Process—Work performance assessment, appeal process.

- Post-Injury Rehabilitation—Post-traumatic incident debriefing, occupational therapy, work hardening programs, disability/job assessment, ergonomics/job engineering, reassignment options.

- Employee/Member Assistance—Substance abuse cessation, critical incident stress management, professional development, family relations, legal and financial services, mental health services.

- Facility Safety—Code requirements, basic safety standards, personal behavior and hygiene, food preparation safety, infection control in stations (cleaning, disinfecting, storage, etc.), facility maintenance and repairs, station safety and health inspections and enforcement.

- Hazard Communication—Employee right-to-know requirements, employee participation, maintenance and access to safety information, employee notification and training.

ORGANIZATIONAL PLANNING AND PREPAREDNESS—Procedures affecting organizational analysis and planning systems for management, administration, and emergency operations.

- Strategic/Master Planning—Interorganizational coordination and planning, organizational planning (long-term and short-term), administrative systems, organizational evaluation.

- SOP Development—Committee organization, schedule, needs assessment process, development process, approval, distribution, implementation, evaluation.

- Risk Management—Identification of workplace hazards, vulnerability and risk assessment, risk control techniques, safety systems, risk management monitoring.

- Emergency Operations Planning—Community right to know, general operations planning, facility and operational preplanning (fire suppression, emergency medical response, hazardous materials response, technical rescue, disaster operations), resource classification.

- Mutual/Automatic Aid—Requirements for outside aid, resource lists, inter-jurisdictional unified command, evaluating aid agreements.

PREVENTION AND SPECIAL PROGRAMS

PUBLIC INFORMATION AND EDUCATION—Procedures to promote awareness of hazards, provide emergency information, encourage prevention, and foster good will and support in the community.

- Working with the Public—Special populations, use of information technology, distribution and dissemination channels, personal and professional behavior.
- Working with the Media—Media rights and responsibilities, personal and professional behavior, using print and broadcast media (interviews, briefings, news releases, media events, advertising, etc.).
- Emergency Public Information—Rights of privacy and public safety, media access to incident scenes/entry zones, media staging or information center, incident information flow, legal issues.
- Public Education—Program goals and objectives, use of department and community resources, conducting programs and activities, evaluating program accomplishments.
- Public Relations—Customer service strategies, building/maintaining departmental image, dealing with citizen complaints, member contacts with municipal/elected officials and media representatives.

BUILDING INSPECTIONS AND CODE ENFORCEMENT—Procedures for evaluating and enforcing safety in buildings and commercial operations.

- Authorities and Codes—References to applicable government regulations and policies, community plans and zoning ordinances, codes and standards in force locally (buildings, construction, fire prevention, employee safety and accident prevention, hazardous materials, health, etc.).
- Design and Plans Review—Working with business/facility owners and managers, review teams, review processes, approval processes, notification procedures, documentation and reporting.
- Residential Inspections—Working with homeowners, scheduling inspections, conducting inspections, documentation and reporting.
- Commercial Inspections—Working with business owners, scheduling inspections, conducting inspections, documentation and reporting, coordinating company and prevention division inspections.
- Industrial Inspections—Working with industry, scheduling inspections, conducting inspections, documentation and reporting, coordinating company/hazmat and prevention division inspections.
- Code Enforcement—Project monitoring, inspection follow up, negotiations, sanctions.
- Record Keeping—Documentation and reporting systems, information dissemination, archiving.

SPECIAL PROGRAMS

- Fire Cause and Arson Investigation—Procedures for investigating fires, which may include arson detection, cause and origin detection, and evidence collection and preservation.

- Hydrant Maintenance—Programs and procedures for inspecting and maintaining hydrants.

- Other Special Programs—Guidelines for other special programs conducted by the department to support management, administration, or emergency operations.

EMERGENCY OPERATIONS

General Emergency Operations

OPERATING EMERGENCY VEHICLES—Procedures for the safe and effective operation of emergency vehicles and special apparatus, including fire engines, ambulances, trucks, tankers and other fleet vehicles.

- Driving Emergency Vehicles—Driver qualifications, skills maintenance, driver behavior, use of warning devices, roadway operations (traffic laws, intersections, speed, passing, following other vehicles), backing up, parking, operation in high risk areas.

- Riding Emergency Vehicles—Permitted vehicle occupants, passenger behavior, safety in emergency vehicles, reporting safety problems and violations.

- Operating Special Apparatus—Operator qualifications, operator behavior, placement and operation of special apparatus, safety in special apparatus operations, operation in high-risk areas.

- Vehicle Accident Reporting and Investigation—Accident scene procedures (information gathering, injury assessment, notification, etc.), reporting forms and documentation requirements, post-accident investigation (examination of scene, interviews with participants and witnesses, etc.), report preparation and dissemination.

- Use of Personal Vehicles—Driver behavior, roadway operations, permitted vehicle occupants, reporting safety problems and violations.

SAFETY AT EMERGENCY INCIDENTS—General procedures outlining safety considerations for agency personnel at various types of emergency incidents.

- Applicable Standards—Authorities recognized by the department as defining safe work practices in emergency response (e.g., OSHA/EPA regulations, state and local regulations, NFPA 1500, and other professional association or consensus safety standards).

- Risk Management Guidelines—General guidelines for identifying hazards and minimizing risk in emergency response, including, for example, emergency responder qualifications, standard safety guidelines, use of pre-plans, initial evaluation of risk, development of site safety plans, assignment of safety personnel, control of scene access, regular reevaluation of conditions, etc.

- Safety Officer—Authority and responsibilities of the Incident Safety Officer and the Health and Safety Officer, incident scene safety management procedures, post-incident follow up, reporting and documentation.

- Protective Clothing and Equipment—General procedures for selecting, using, maintaining, inspecting, fit testing, decontaminating, and disposing of personal protective clothing and equipment, such as PASS Devices, SCBA, HEPA Mask Respiratory Protection, etc.

- Personnel Accountability System—Supervisor responsibilities, member responsibilities, incident arrival procedures, personnel tracking and inventory procedures, maintenance of supplies.

- Responder Exposure Control—Personal hygiene, use of PPE/barrier protection, incident operations, incident recovery (disposal, cleaning, decontamination, storage, etc.), post-exposure procedures.

- Hearing Conservation—Standards for noise exposure, hearing protection, noise reduction, monitoring incident noise, assessment of hearing problems, documentation and reporting.

- Operating in a Hostile Environment—Assessing hostile environments, dealing with potentially violent persons, identifying civil disturbance situations and terrorism incidents, interaction with law enforcement, delaying or suspending operations, modifying operations, resuming normal operations.

- Operating on Roadways—Operations near moving traffic, traffic control, use of warning devices, vehicle/scene stabilization, coordination with law enforcement personnel, standard procedures and precautions, special situations (e.g., downed power lines).

- Incident Scene Rehabilitation—Rehab officer functions, monitoring responders' emotional and physical condition, rotation of personnel, requesting relief, rehabilitation area and supplies, food and fluid replenishment.

- Medical Support—Systems to provide medical care for injured responders: supplies, treatment area, medical evaluation and treatment, post-incident follow up.

- Incident Termination—Operational debriefing/defusing, release of information, releasing the scene to another party (owner, police, hazmat cleanup crew, etc.).

COMMUNICATIONS—General procedures governing communications during emergency incidents.

- System Access—Activities that provide the community access to the emergency response system, including call receipt, call routing, call processing, and instructions given over the telephone to callers.

- Definition of Alarms/Dispatch Protocols—Procedures and protocols for assigning and dispatching units to specific types of emergencies or to escalating emergencies.

- General Procedures—General procedures and protocols for communications among dispatch and field personnel in emergency and non-emergency incidents.

- Emergency Signals—Initiation of emergency signals, radio signals, other warning signals, personnel actions.

- Alternate Radio Frequencies—The use of alternate radio frequencies on major incidents or incidents where the Incident Command/Incident Management System has been activated.

- Mobile Data Terminals (MDTs)—Procedures outlining the use of Mobile Data Terminals (MDTs) on fire and emergency apparatus, as well as in-station dispatch terminals.

- Mutual Aid Communication—Procedures for communicating with units and personnel from other jurisdictions on mutual aid responses.

- Situation/Status Reports—Procedures describing when and how to complete situation/status reports for major emergency and non-emergency incidents.

COMMAND AND CONTROL—General procedures directing use of the Incident Command/ Incident Management System and controlling inter-agency coordination.

- Incident Command/Incident Management System—General description of the Incident Command/ Incident Management System, including organizational structure, assignments, activation, general procedures, etc.

- Mutual/Automatic Aid—Resources available for different types of emergencies, requesting or responding to requests for aid, interacting with mutual/automatic aid agencies, documentation and reporting, cost/ resource recovery.

- Incident Scene Management—General procedures for activating the Incident Command/Incident Management System, ICS/EOC interface, designating an Incident Safety Officer, organizing the scene, use of control zones, placing resources, supervising personnel, controlling access, controlling bystanders and crowds, coordinating with other agencies, etc.

- Staging—Procedures for staging units and apparatus at emergency scenes, which may include specific procedures for staging and the designation and use of staging officers.

- Transferring Command—Process for transferring command once established on an emergency scene.

- Public Information—Duties and procedures of the Public Information Officer and other personnel at emergency incidents, dealing with relatives/family liaison.

- Record Keeping—Records and information that must be maintained when activating or terminating the Incident Command/Incident Management System.

SPECIAL OPERATIONS—Procedures for special emergency response operations and situations.

- Aircraft Operations—Procedures for using department-owned aircraft in emergency operations: qualifications of personnel, care and maintenance of aircraft, requests for air support, operating aircraft, use of special equipment.

- Boat and Watercraft Operations—Procedures detailing operation of agency boats and watercraft: qualifications of personnel, care and maintenance of watercraft, requests for watercraft support, operating watercraft, use of special equipment.

- Special Unit Operations—Procedures explaining operation of any specialty unit within an agency, such as bicycle teams, all-terrain vehicles, snowmobiles, etc.

- Bomb/Hazardous Device Threats or Confirmed Incidents—Procedures for bomb threat incidents: agency responsibilities, mutual aid assistance, points of contact, bomb squad response protocols, evacuation of civilians, hoax procedures (phone threats), communication policy, preservation of evidence.

- Terrorism Incidents—Procedures for terrorism incidents: agency responsibilities, mutual aid assistance, points of contact, general response protocols, task force operations, secondary devices, mass decontamination of casualties and emergency responders, mass evacuations, preservation of evidence.

- Civil Disturbances—Procedures for operations during civil disturbances: protection of responders, initiating and suspending operations, use of staging areas, task force operations, police escort procedures, interaction with law enforcement and emergency management agencies.

POST-INCIDENT OPERATIONS—Procedures for activities after incidents designed to assess and document actions, restore capabilities, address problems, and improve future results.

- Post-Incident Analysis—Methods for identifying lessons learned and potential corrective actions following response to an emergency incident: incidents to be reviewed/analyzed, participants and roles, format for gathering information, format for conducting analyses, standardized action plan, mechanism for reporting results.

- Post-Incident Recovery—Activities designed to restore the department's response capability after an incident, including consideration of staffing assignments, equipment replacement, and cost recovery.

- Incident Record Keeping and Reporting—Completion of standard incident documentation, preparation and submission of special incident reports, incident review process, incident follow-up procedures.

- Injury/Exposure Reporting and Investigation—Accident and injury reports, exposure reports, death reports, maintenance of the health data base system, identification of injury/exposure trends and problems, liaison with the community's health care system, member notification and testing, confidentiality of personal health records, exposure/injury follow up.

- Critical Incident Stress Debriefing/Defusing—Situations that indicate a need for CISM, identifying individuals needing CISM, procedures for notifying a qualified debriefing team, conducting a defusing, post-incident follow up.

EMERGENCY OPERATIONS

FIRE SUPPRESSION

FIRE SUPPRESSION RISK MANAGEMENT—Procedures designed to minimize risk to responders and implement aspects of the department's health and safety program at fire suppression incidents.

- Required Use of Personal Protective Equipment (PPE)—Use of turnout gear, SCBA, PASS devices/alarms, and other equipment at fire suppression incidents.
- Rapid Intervention Teams—Procedures for deploying intervention teams during incidents: availability, proper uses, activation, proper uses, standard practices, special situations.
- Evacuation (Firefighters)—Evacuating responders from dangerous structures or areas: determining dangerous conditions, activation signal, procedures for evacuation, accounting for personnel, return to normal operations.
- Air Monitoring—Monitoring carbon monoxide (CO) levels during overhaul, equipment and uses, removal of SCBA.

COMPANY OPERATIONS—Procedures covering activities related to specific company operations.

- Incident Staffing—Number and types of personnel, capability, personal protective equipment, etc. for different types of fire suppression incidents.
- Water Supply—Acquiring and maintaining water supply at fire operations.
- Tanker/Tender Operations—Use of tankers/tenders at fire scenes.
- First-In Engine Operations—Duties and functions of the first-in engine company at a fire scene.
- Second-In Engine Operations—Duties and functions of the second-in engine company at a fire scene.
- Truck Company Operations—Duties and responsibilities of the truck company at a fire or other emergency scene.
- Special Units—Duties and responsibilities of units needed to perform special functions, such as rescue units, cascade systems, lighting units, and grass-fire units.

TACTICAL/STRATEGIC GUIDELINES—Procedures that guide fire and emergency personnel in remediation of fire suppression incidents.

- Incident Size-Up—Conducting incident size-up upon arrival on the emergency scene.
- Automatic Alarms—Responding to and dealing with automatic alarms.
- Offensive and Defensive Operations—Agency operations at emergency scenes, including offensive fire attacks, defensive operations, and how to determine which approach will be taken.
- Apparatus Placement—Placement of apparatus on an emergency scene to ensure safety and effective emergency operations.
- Forcible Entry/Gaining Access—Forcible entry activities, to include lockouts of residences and automobiles and use of lock and/or knox boxes in emergency and non-emergency situations.
- Foam Operations—Use of foam on emergency incidents, including when and how to apply foam.
- Ventilation—Conducting safe and effective ventilation operations.
- Hot/Cold Weather Operations—Operating in hot and cold weather or winter environments.
- Sprinkler/Standpipe Operations—Using standpipes and operating in buildings and residences with sprinkler systems.
- Apartment/Condominium Operations—Operations in apartment buildings or condominiums.
- Commercial Building Operations—Operations in commercial buildings.
- Salvage—Conducting salvage operations at a fire scene.
- Overhaul—Conducting overhaul operations at a fire scene, which may include procedures for evidence and crime scene protection.
- Exposures—Checking and protecting exposures and minimizing exposure risk.

SPECIAL FACILITIES/TARGET HAZARDS—Procedures for response to and operations at special structures or hazards.

- High Rise Operations—Responding to and operating at emergency incidents in high rise buildings.
- Clandestine Drug Labs—Responding to an emergency involving a known or suspected clandestine drug lab, which may include safety factors, law enforcement coordination and evidence preservation.
- Correction Facility Operations—Operating at emergency incidents in correctional facilities which may involve safety for personnel, law enforcement coordination and escorts for personnel.

- Industrial Facilities—Operations at industrial facilities that may involve hazardous materials, large buildings, warehouses, and dangerous machines; includes interfacing with industrial fire brigades or fire departments.

- Other Special Structures—Fire suppression operations at any other special structures (arenas, stadiums, historically relevant structures, airports, schools, market places, etc.).

SPECIAL FIRE SUPPRESSION OPERATIONS—Procedures covering special fire suppression response situations and operations.

- Aircraft Firefighting Operations—Responding to and operating at fire suppression incidents involving aircraft.

- Special Unit Operations—Deployment of special units in fire suppression operations.

- Wildfire Operations—Response to wildfire emergencies.

EMERGENCY OPERATIONS

EMERGENCY MEDICAL RESPONSE

EMERGENCY MEDICAL RESPONSE RISK MANAGEMENT—Procedures designed to minimize risk to responders and implement aspects of the department's health and safety program at emergency medical incidents.

- Incident Infection Control—Applicable regulations and standards, rights of patients and responders, personal hygiene and behavior, responder health issues, preparation for response, standard protective measures, special situations, compliance monitoring.

- Protective Clothing and Equipment—Selection, use, and disposal of specialized emergency medical protective clothing and equipment (gloves, masks, protective eyewear, gowns, resuscitation equipment, etc.) based upon specific situations.

- Lifting/Moving Patients—Proper lifting dynamics, proper use of stretchers, special situations (stairways, elevators, etc).

- Hostile Situations—Approaching emergency incidents, use of body armor, cover and concealment, response to crime scenes, suicidal persons, people with weapons, patient restraints, special situations (snipers, hostages, extremist groups, bombing incidents, etc.).

PRE-HOSPITAL EMS FIRST RESPONSE—Procedures directed at the personnel delivering the first pre-hospital EMS resources to the incident scene.

- Delivery Model—The specific configuration of the first response component: type of vehicle, number of vehicles, staffing of the unit (number and care capability).

- Patient care—General procedures addressing patient care delivered in the pre-hospital setting.

- Treatment Protocols—Medically approved protocols for pre-hospital EMS personnel that ensure consistent and appropriate treatment of patients (includes interaction with Medical Director).

- Medical Devices and Equipment—Selection of types of medical devices and equipment appropriate for field use in the defined scope of practice and treatment protocols.

- Biohazard and General Waste Disposal—Types of hazards and disposal methods, disposal area/facility, segregation of waste products, packaging, labeling, storage, treatment, disposal.

- Clothing/Equipment Decontamination—Methods and appropriate applications, decontamination area/facility, use of chemical agents, cleaning clothes, disinfecting.

PATIENT DISPOSITION AND TRANSPORTATION—Procedures directed at how the Fire/EMS Organization assures the safe and effective delivery of the patient to the appropriate facility.

- Destination Guidelines—Criteria for triage of pre-hospital EMS patients to specific destinations.
- Method/Mode of Transportation—Methods to determine how pre-hospital EMS patients are transported (i.e., ambulance vs. helicopter).
- Ambulance Operations—Behavior in the patient compartment, securing the patient, situating and securing equipment, standard safety devices and techniques, use of hazardous equipment during transport (starting and IV, defibrillation, etc.)
- Helicopter Operations—Choosing and marking a landing zone, arm signals, crowd control, protective gear, approaching a helicopter, behavior and etiquette during transport, standard safety devices and techniques, use of hazardous equipment during transport.

MANAGEMENT OF EMS OPERATIONS—Procedures directed maintaining organizational readiness to provide emergency medical services in compliance with applicable laws, regulations, and standards.

- Re-supply/Procurement of Supplies—Pre-hospital EMS provider supply and re-supply of expendable medical supplies and medications.
- System Inventory—Determining and accounting for appropriate amounts of medical supplies and medications carried/stored by pre-hospital EMS providers.
- Designation of Treatment Facilities—Coordination with facilities to receive patients.
- Data Collecting and Reporting—Collecting and analyzing pre-hospital EMS system data.
- Quality Improvement System—Using pre-hospital EMS data to evaluate the system and provider performance, to include customer satisfaction and patient care.
- Research and Reporting—Research conducted and reported as the result of a collaborative involvement of the EMS community.
- Standard of Care—Methods to define the minimum level of care based on available resources, accepted performance standards, and local community needs.
- Patient Care Reporting—Minimum data sets for patient care reporting and times when reporting is necessary.
- Patient Documentation and Billing —Minimum data required for patient billing activities, procedures for billing activities and times when data collection is necessary.

SPECIAL EMS OPERATIONS—Procedures covering special emergency medical response situations and operations.

- Mass Gatherings—Event types, planning practices, first aid/EMS services, alternate patient access methods, pre-positioning/staging emergency apparatus and resources, expanding response in an emergency.

- Hazardous Materials Team Medical Monitoring—Use of medical monitoring equipment, pre-and post-entry monitoring, criteria for excluding personnel from operations.

- EMS Operations at Hazmat Incidents—Emergency decontamination of victims and team members, patient care and treatment, transport considerations, personal protective equipment.

- EMS Operations at Technical Rescue Incidents—Pre- and post-entry monitoring for team members, patient care and treatment, transport considerations, personal protective equipment.

- EMS Operations During Disasters—Triage methods, alternate treatment procedures, alternate transport procedures, evacuation of hospitals and medical facilities, mass casualty procedures, interfacing outside medical response teams (Disaster Medical Assistance Teams, medical strike teams, community emergency response teams, etc.), shelter medical procedures, “special needs patient” care, patient decontamination.

- EMS Operations in the Rehabilitation Area/Sector—Criteria for excluding personnel from operations, treatment for emergency service personnel, rehabilitation for emergency service personnel.

EMERGENCY OPERATIONS

HAZARDOUS MATERIALS RESPONSE

Standard operating procedures for hazardous materials response are not just for hazardous materials response teams. Fire and EMS departments that respond, or are subject to respond, to any type of incident involving hazardous materials must develop written SOPs. This is a mandatory federal requirement under the Superfund Amendments and Reauthorization Act (SARA) passed in 1986.

Both the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) promulgate regulations under SARA Title I, Section 126. OSHA 29 CFR § 1910.120, *Hazardous Waste Operations and Emergency Response* (commonly known as HAZWOPER) and EPA 40 CFR § 311 are essentially identical regulations applicable to all emergency responders within the United States regardless of their location or status (i.e., as a paid or volunteer employee). These regulations define five training levels for emergency responders based on the functions they may be expected to perform at a hazardous materials incident:

- First Responder Awareness–Individuals likely to witness or discover the release of a hazardous material. Trained to initiate the appropriate response and take no further action.

- First Responder Operations–Respond to releases or potential releases of hazardous substances as part of the initial response. Expected to take defensive actions without trying to stop the release, for the purpose of protecting persons, property, and the environment. (This is generally considered the minimum acceptable level of training for members of fire and EMS departments.)

- Hazardous Materials Technician–Respond to a hazardous materials incident for the purpose of stopping the release. These individuals are often members of a Hazmat team.

- Hazardous Materials Specialist–Respond with and support hazardous materials technicians. Possess specialized knowledge of chemical hazards or container characteristics.

- On-scene Incident Commander–Assume control of the incident beyond the first responder awareness level. This individual must possess minimum training at the first responder operations level with additional knowledge of state, local, and federal response plans.

This appendix identifies SOP topic areas suitable for use by emergency responders trained at the First Responder Operations level. Obviously, a fire or EMS department with members trained and expected to function in an offensive mode (e.g., hazmat technicians or specialists) will require additional SOPs beyond those discussed here.

HAZARDOUS MATERIALS RESPONSE RISK MANAGEMENT—Procedures designed to minimize risk to responders and implement aspects of the department's health and safety program at hazardous materials incidents.

- Personal Protective Equipment—Use of turnout gear, SCBA, PASS devices/alarms, and other equipment at hazardous materials incidents.

- Hazardous Materials Personal Safety—Identifying chemical emergencies, incident levels, chemical safety, general precautions for hazardous materials incidents, roadway operations.

- Air Monitoring—Procedures for conducting air monitoring at incidents, addressing such factors as methods and action levels for air monitoring.

FIRST RESPONDER OPERATIONS—Procedures defining recommended work practices and response techniques for First Responder Operations personnel.

- Roles and Actions—Definition and role of First Responder Operations personnel, explanation of appropriate (defensive) actions during hazardous materials incidents.

- General Response Procedures/Emergency Response Plan—Standard hazardous materials response procedures: types of incidents, dispatch criteria, techniques for approaching incidents, isolation of hazard, denial of entry, etc.

- Recognition and Identification—Information gathering (container characteristics, shipping papers, markings, labels, etc.), use of reference materials and contacts (e.g., Emergency Response Guide, CHEMTREC), hazard categorization and assessment.

- Notification—Reporting requirements, reporting protocols, requesting assistance (hazmat teams, mutual-aid resources, other agencies), incident updates, documentation.

- Site Management and Scene Setup—Identification of hazmat incident levels, use of hazard zones and perimeters, location of decontamination area, placement of vehicles and supplies, etc.

- Emergency Decontamination—Emergency decontamination of personnel and equipment exposed to hazardous substances: methods of decontamination, decontamination procedures, handling and transporting victims.

- Defensive Actions—Procedures for specific First Responder defensive actions (e.g., damming, diking, diversion, using sorbents, application of firefighting foam).

SPECIAL HAZMAT OPERATIONS—Procedures covering special hazardous materials response situations and operations.

- Operating with Hazmat Teams—Pre-designated procedures for working with a hazmat team.

- Public Protection Options—Procedures for public evacuation or sheltering in-place: decision making, alerting the public, coordinating with law enforcement and community services agencies, initial and secondary evacuation, sheltering in-place, incident termination and re-entry.

- Environmental Restoration—Procedures for supporting and monitoring the activities of private remediation or clean-up contractors (may be the responsibility of another agency).

EMERGENCY OPERATIONS

TECHNICAL RESCUE

As defined here, *Technical Rescue* includes emergency response activities designed to locate endangered persons (and sometimes animals), extricate them from entanglements, and remove them from potentially hazardous conditions. Standard operating procedures for emergency patient treatment and transport, often considered part of rescue operations, are covered under *Emergency Medical Response*. Personnel who perform both roles would be subject to both sets of SOPs.

TECHNICAL RESCUE RISK MANAGEMENT—Procedures designed to minimize risk to responders and implement aspects of the department's health and safety program at technical rescue incidents.

- Personal Protective Equipment—Use of specialized technical rescue personal protective clothing and equipment at incidents.
- Lock Out/Tag Out—Procedures ensuring that all electrical and mechanical equipment at or near the rescue site is turned off and physically prevented from being inadvertently turned on.
- Air Monitoring—Procedures for conducting air monitoring at rescue incidents, addressing such factors as methods and action levels for air monitoring.

RESCUE OPERATIONS—Procedures that direct activities related to search and rescue operations, including vehicle rescue, agricultural rescue, and extrication from industrial equipment.

- Scene Stabilization—Assessment and control of hazards, stabilization of vehicles involved in motor vehicle accidents, crowd/bystander control.
- Rescue Equipment—Types, use, and protection of specialized rescue equipment.
- General Rescue Operations—Basic procedures for coordinating with other response agencies, locating endangered persons, setting rescue priorities, patient stabilization and protection, performing technical rescue, dealing with relatives/family liaison, etc.
- Rescue Teams—Procedures describing the use, structure, equipment, and operations of special rescue teams (may be a separate document/section from the general standard operating procedures).

SPECIAL RESCUE OPERATIONS—Procedures covering special rescue activities or programs.

- Ice Rescue—Response to and operations during ice rescues; may include specific information about equipment use and maintenance.

- Water Rescue—Response to and operations during surface, swift water, or dive rescues; may include specific information about equipment use and maintenance.

- Confined Space Rescue—Response to and operations during confined space rescue situations; may also include information on equipment use and maintenance.

- Structural Collapse Rescue—Response to and operations during a structural collapse; may also include information on equipment use and maintenance.

- Rope Rescue—Response to and operations during a rope, vertical, or high-angle rescue situation; may include information on equipment use and maintenance.

- Trench and Excavation Collapse—Response to and operations during a trench or excavation collapse incident; may include information on equipment use and maintenance.

- Aircraft Extrication—Extrication of patients from aircraft; may include information on equipment use and maintenance.

EMERGENCY OPERATIONS

DISASTER OPERATIONS

Modern society is increasingly vulnerable to man-made and natural hazards. As a result, fire departments over the past decade have become increasingly involved in disaster preparedness and response, also known as Emergency Management.

Disaster operations involve responses to incidents that exceed the community's standard emergency service response capabilities. In addition to physically preparing department facilities, apparatus, and personnel for disasters, fire departments typically must undertake non-routine missions and tasks, often under dangerous and demanding conditions. Resource and coordination requirements change and expand. To fulfill their new responsibilities, fire departments must develop SOPs that clarify procedures before such emergencies occur. This section outlines some of those special requirements.

ORGANIZING FOR DISASTER SITUATIONS—Procedures that address modified organizational missions and personnel assignments during disaster operations.

- Disaster Management—Activation of the department's disaster operations plans and systems: emergency finance and procurement, resource management, personnel, information management, public information, etc.

- EOC Organization—Functional structure of disaster operations to facilitate coordination with other community agencies and federal/state resources, including EOC functions (e.g., use of Emergency Support Function categories), staffing, and operational procedures.

- ICS/EOC Interface—Local response agency coordination, mutual aid organization coordination, EOC/field communications and documentation.

- Activation Levels—Categories that define organizational mobilization requirements and actions depending on the nature of the emergency.

- Personnel Assignments and Responsibilities—Changes in normal operating assignments and responsibilities to accommodate new disaster missions and responsibilities (family issues, temporary roles, teams, task forces, etc.).

- Personnel Notification Procedures—Steps to locate and assign personnel, both during and after normal work hours in a disaster: communication methods, information conveyed, and procedures for tracking the process and resolving problems.

- Disaster Training—Special systems and procedures to brief and train personnel on new roles, assignments, and work requirements.

- Disaster Preparation—Procedures for securing department facilities and verifying the identity of personnel under disaster conditions; may include procedure for securing responders' personal residences and families.

DISASTER OPERATIONS RISK MANAGEMENT—Procedures designed to minimize risk to responders and implement aspects of the department's health and safety program in disaster operations.

- Personal Protective Equipment—Use of turnout gear, SCBA, PASS devices/alarms, and other equipment in disaster operations.
- Disaster Operations Personal Safety—General precautions and procedures for department and responder actions to reduce risk during disaster operations.
- Protection of Facilities and Equipment—Methods to protect fire department facilities, apparatus, and equipment from hazard impacts before and during disaster response.
- Accountability of Personnel—Procedures for monitoring disaster operations and personnel to ensure that tasks are completed safely and effectively.
- Suspending Operations—Designation of conditions in which personnel and apparatus are to remain in/return to quarters or other safe location; may include notification of the EOC and the pubic of operational status.
- Member Injuries and Fatalities—Procedures to evaluate and treat member injuries and to document and report injuries and fatalities that occur during disaster operations.

DISASTER OPERATIONS—Procedures providing general guidance for disaster operations, including methods and actions that differ from routine alarm response and coordination with other local, state, and federal disaster agencies and community groups.

- Disaster Operations Center—Implementing and staffing "area commands" or "fire operations centers," and integrating field activities with the EOC and other response agencies.
- Adjusted Levels of Response—Changes in standard response strategies and resource levels, including the use of task forces and strike teams.
- Disaster Communications—Changes in standard communication roles, protocols, and procedures to facilitate coordination with outside agencies and groups.
- Response Unit Routing and Placement—Routing and placing equipment and personnel on the disaster scene to reflect the nature and requirements of the emergency situation.
- Damage Assessment—Procedures for rapid damage assessment of response areas immediately following a disaster; may include a more thorough assessment of damage at fire department facilities.
- Specialized Equipment—Identifying, accessing, and operating specialized equipment during disaster situations, including equipment controlled by outside agencies, private sector companies, and members of the public.

- Building Safety Evaluations—Inspection priorities, initial rapid evaluation of damage to individual residential and commercial buildings, building posting classifications, working with building owners.

- Community Emergency Response Teams—Integrating and working with CERTs and other emergent volunteer groups during disasters.

- Mitigation Activities—Actions taken during disaster operations that reduce or eliminate the risk of future incidents: identifying opportunities, assessing options, establishing partnerships and collaborative activities, setting priorities, financing and accounting procedures, implementation and evaluation of activities.

- Curtailing Disaster Operations—Steps for monitoring the disaster situation, evaluating hazards and response requirements, terminating disaster operations, and making the transition to normal operations.

DISASTER-SPECIFIC GUIDELINES - Procedures to address disaster missions and response requirements that are specific to different types of hazards. The need to develop SOPs in this category will vary significantly from community to community depending on potential hazard vulnerability and local comprehensive emergency management plans. Potential hazards that might be addressed include the following:

- Flood/dam break
- Hurricane
- Tornado
- Earthquake/tsunami
- Volcano eruption
- Snow/ice storm
- Drought
- Civil Disturbance
- Mass casualty
- Aircraft crash
- Train accident
- Ship fire/accident
- Terrorism incident
- Explosion
- Gas pipeline incident
- Severe storm
- Building collapse
- Cave-in
- Radioactive material emergency
- Special events (Olympics, dignitary visit, etc.)
- Disease epidemic

APPENDIX C

RESOURCES

American College of Emergency Physicians
PO Box 619911
Dallas, TX 75261-9911
(800) 798-1822
(972) 580-2816 fax
www.acep.org

Associated Public-Safety Communications Officers International, Inc. (APCO)
2040 S. Ridgewood Avenue
South Daytona, FL 32119
(888) 272-6911
(904) 322-2501 fax
www.apcointl.org

Bureau of Alcohol, Tobacco and Firearms
Department of Treasury
650 Massachusetts Avenue, NW
Washington, DC 20226
www.atf.treas.gov

Bureau of Justice Assistance
United States Department of Justice
810 Seventh Street, NW
Washington, DC 20531
(202) 616-6500
www.ojp.usdoj.gov/BJA

Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
(404) 639-3311
www.cdc.gov

Congressional Fire Service Institute (CFSI)
900 Second Street, NE, Suite 303
Washington, DC 20002
(202) 371-1277
(202) 682-3473 fax
www.cfsi.org

Department of Justice – Disability Rights Section
Civil Rights Division
PO Box 66738
Washington, DC 20035-6738
ADA Information Line: (800) 514-0301
ADA Information Line (TDD): (800) 514-0383
www.usdoj.gov/crt/ada/adahom1.htm

Department of Justice – Drug Enforcement Agency
Information Services Section (CPI)
700 Army-Navy Drive
Arlington, VA 22202
www.usdoj.gov/dea/

Department of Health and Human Services
HFE-88
5600 Fishers Lane
Rockville, MD 20857
(800) 532-4440
www.fda.gov

Disaster Research Center
University of Delaware
77 East Main Street
Newark, DE 19716
(302) 831-6618
(302) 831-2091 fax
www.udel.edu/drc

Emergency Management Institute
Federal Emergency Management Agency
National Emergency Training Center
16825 South Seton Avenue
Emmitsburg, MD 21727
(800) 238-3358
(301) 447-1497 fax
www.fema.gov

Federal Bureau of Investigation
935 Pennsylvania Avenue, NW
Washington, DC 20535-0001
(202) 324-3000
www.fbi.gov

Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472
(202) 646-4600
www.fema.gov

Fire Department Safety Officers' Association
PO Box 149
Ashland, MA 01721-0149
(508) 881-3114
(508) 881-1128 fax
www.fdsoa.org

Food and Drug Administration
Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857
(800) 532-4440
www.fda.gov

Health Care Financing Administration
Department of Health and Human Services
7500 Security Boulevard
Baltimore, Maryland 21244
Phone (410) 786-3000
www.hcfa.gov

International Association of Arson Investigators
300 S. Broadway, Suite 100
St. Louis, MO 63102
(314) 621-1966
(314) 621-5125 fax
www.fire-investigators.org

International Association of Emergency Managers
111 Park Place
Falls Church, VA 22046-4513
(703) 538-1795
(703) 241-5603 fax
www.emassociation.org

International Association of Fire Chiefs
4025 Fair Ridge Dr.
Fairfax, VA 22033-2868
(703) 273-0911
(703) 273-9363 fax
www.iafc.org

International Association of Fire Fighters
1750 New York Avenue
Washington, D.C. 20006
(202) 737-8484
(202) 783-4570 fax
www.iaff.org

International Society of Fire Service Instructors
PO Box 2320
Stafford, VA 22555
(800) 435-0005
(540) 657-0154 fax
www.isfsi.org

International Association of Wildland Fire
PO Box 328
Fairfield, WA 99012
(509) 283-2397

International City/County Management Association
777 North Capitol Street, NE, Suite 500
Washington, DC 20002-4201
(202) 289-4262
(202) 962-3500 fax
www.icma.org

International Personnel Management Association (IPMA)
1617 Duke Street
Alexandria, VA 22314
(703) 549-7100
(703) 684-0948 fax
www.ipma-hr.org

National Association of Emergency Medical Service Physicians
PO Box 15945-281
Lenexa, KS 66285-5945
(800) 228-3677
(913) 541-0156 fax
www.naemsp.org

National Association of Emergency Medical Technicians
408 Monroe Street
Clinton, MS 39056-4210
(800) 34-NAEMT
www.naemt.org

National Association of Search and Rescue
4500 Southgate Place
Suite 100
Chantilly, VA 20151-1714
(703) 222-6277
(703) 222-6283 fax
www.nasar.org

National Association of State EMS Directors
111 Park Place
Falls Church, VA 22046
(703) 538-1799
(703) 241-5603 fax

National Emergency Management Association
Council of State Governments
PO Box 11910
Lexington, KY 40578
(606) 244-8000
(606) 244-8239 fax
www.nemaweb.org

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269
(617) 770-3000
(617) 770-0700 fax
www.nfpa.org

National Highway Transportation Safety Administration (NHTSA)
Emergency Medical Services Division
400 Seventh Street, SW, NTS-14
Washington, D.C. 20590
(202) 366-5440
(202) 366-7731 fax
www.nhtsa.dot.gov/people/injury/ems/

National Institute of Occupational Safety and Health
200 Independence Avenue
Washington, DC 20201
(800) 35-NIOSH
www.cdc.gov/niosh

National Institute of Standards and Technology
Fire Research Information Services
Building and Fire Research Laboratory
Gaithersburg, MD 20899
(301) 975-NIST
www.bfrl.nist.gov

National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
(630) 285-1121
(630) 285-1315 fax
www.nsc.org

National Volunteer Fire Council
1050 17th Street, NW
Suite 1212
Washington, DC 20036
(888) ASK-NVFC
(202) 887-5291 fax
www.nvfc.org

Occupational Safety and Health Administration
United States Department of Labor
200 Constitution Avenue
Washington, DC 20210
(202) 693-1999
www.osha.gov/index.html

United States Fire Administration
Federal Emergency Management Agency
National Emergency Training Center
16825 South Seton Avenue
Emmitsburg, MD 21727
(800) 238-3358
(301) 447-1270 fax
www.usfa.fema.gov

Women in the Fire Service
PO Box 5446
Madison, WI 53705
(608) 233-4768
(608) 233-4879 fax