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ORGANIZATION FOR FIRE SERVICES 1977



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NATIONAL FIRE PROTECTION ASSOCIATION

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Recommendations for the Organization for Fire Services

NFPA 1201 — 1977

1977 Edition of NFPA 1201

This 1977 edition supersedes the material previously printed in NFPA 4 and is a complete revision. It was prepared by the NFPA Technical Committee on Fire Department Organization and was approved by the NFPA Membership at the NFPA Fall Meeting held in Atlanta, Georgia on November 14-17, 1977.

Origin and Development of NFPA 1201

NFPA 4, *Organization for Fire Services*, was tentatively adopted by Sections at Annual Meetings of the Association, Sections 10-60 and Appendix I in 1963, Sections 70-80 in 1964, Sections 90 and 110 in 1965, Section 130 in 1966, Sections 100 and 140 in 1967, and Section 120 in 1968. In 1971 a revision was made and the document retitled to make it a basic document for organization for fire services. Due to a renumbering of fire service standards, the new Organization for Fire Services has been indicated as NFPA 1201.

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Organization for Fire Services

Preface

These recommendations are for all fire chiefs, and individuals having responsibility for the organization for fire services. These recommendations outline what is involved in such organization and why certain procedures should be followed. However, these recommendations are not intended to show in detail how a fire department should be operated. It must be recognized that local, state and federal legislation and items of a negotiated contract may take precedence over recommendations herein contained.

In preparation of this edition, the Committee recognized the possible value of developing a standard. At this time, the Committee acknowledges the absence of any definitive work establishing minimum standards and does not reject such a concept. Rather, it holds in abeyance its judgement for further evaluation of the need/value of a standard and exploration of the proper mechanism for its development. As to the latter point, the Committee is cognizant that its position could initiate action by others and intends continuing attention in this area to assure the proper development of any such future standard.

Organization for Fire Services

NFPA 1201 — 1977

Chapter 1 Purpose of a Fire Department

1-1 Control of Combustibles and Fire Prevention.

1-1.1 Control of the Community Complex of Combustibles.

1-1.1.1 Purpose. The fundamental purpose of an "Organization for Fire Service" is the protecting of life and property from fire. The fire department program should be aimed at controlling the community complex of combustibles with which man surrounds himself.

While many fire departments were first established as fire-fighting organizations, it was early recognized that one of their prime functions was regulation of combustibles. One school of thought traces the earliest American fire department to municipal fire wardens appointed in the then Dutch colonial city of New Amsterdam (New York) in 1648. These men were not fire fighters but were building surveyors whose function was to see that the worst features of the combustible buildings of a New World city were modified or surrounded by safeguards.

Combustibility as a fundamental characteristic of materials must be recognized by all if the purpose of a fire department is to be understood. What man has in his dwelling space is composed mostly of things which will burn. The longer he lives in one place the more of these things he accumulates. If his dwelling is of wood, the total amount of combustible material associated with his family is of the order of five to ten times by weight that of the contents of the dwelling. Furthermore, his dwelling may be surrounded with combustible plants and shrubbery or it may be in a forested area. For the most part, man's other possessions are things that will burn. Forest and farm products are inherently combustible and synthetic materials mostly so. Products of the earth would seem to be generally noncombustible, and it will be realized they include man's principal fuels; oil and gas.

1-1.1.2 Inspection Program. Every fire department should have a program under which its personnel should be constantly examining every part of the community where a fire problem may develop. The personnel should regularly inspect all property in the community with emphasis on identified high hazard occupancies.

1-1.1.3 Pre-fire Planning. One purpose of an inspection program should be the evaluation of the potential fire conditions it finds and planning how the fire department is to deal with these conditions. Plans should be developed as to how fires are to be fought. Decisions should be made on the potential severity of the fire emergency, response to be provided, positions the fire companies may take, and on phases of personnel operations at fires. Such activities are necessary components for tactical training.

Operations of this kind involve much more than sending a small force to see what the trouble may be. Effective fulfillment of operations as preplanned, requires serious and comprehensive training of all personnel concerned in the operations and frequent practice under critical direction. Fire emergencies are usually escalating situations.

1-1.1.4 Enforcement. Another purpose of the inspection program should be the enforcement of ordinances for the prevention and control of fire and the preparation of recommendations on situations which the ordinances do not cover.

The regulation of combustibles in modern life has become very complicated. The great complex of fuels, explosives, hazardous materials and gases universally used in industry, and delivered through our air, rail, marine and highway transportation systems, have brought fire department and fire protection engineers into the picture. Fire oriented technical specialists have the greater incentive in, intimate knowledge of, and experience with, great fires which can threaten public safety. Building officials are frequently limited to consideration of matters which are purely structural, being required by law in some cases, but more usually by the realities of the situation, to defer to the fire departments judgment in the broader area of public safety from fire. Irrespective of the agency designated as an enforcing authority for laws and ordinances, cooperation between the fire department and such an agency is essential to effective fire prevention and control.

1-1.2 Consultation and Education.

1-1.2.1 Fire Department Consultation Service. A service of the fire department should be to consult with local individuals and organizations who have fire problems and assist in their solution. The availability of a fire protection engineer, fire service specialist or others available to the fire department would greatly assist in consultations with developers, architects, contractors and other engineers. In addition, such availability of expertise would enhance the on-going program of continued improvement of the fire defense system within the community.

The only fundamental way man has to prevent large fires is to keep at one location only as much of the materials as he can control if they catch fire. Should he concentrate too much combustible material at one

location, control of fire in these things may become exceedingly difficult. Warehousing of food, clothing and other necessities must recognize practical limits in the volume and size of a stock of commodities. Liquid and gas fuels have to be kept under control by employing suitable containers and piping. Flammable liquids and gases may present fires beyond fire department control when the containers and piping are ruptured. It can be seen that many of these matters involve more than simple law enforcement and must be solved by a process of consultation among the representatives, agencies and individuals involved.

1-1.2.2 Education. The fire department program should include education of the public so that individuals can achieve a greater degree of safety from fire in their homes and businesses, thereby contributing a needed element in the community fire protection system.

1-2 Fire Suppression and Other Emergency Services.

1-2.1 Scope of Services.

1-2.1.1 Purpose. The fire department should be organized to perform fire prevention and control and related emergency services to protect life and property. Other services demanded of the fire department, because the fire department force is available and has specialized training, should be undertaken only to the extent that they do not interfere with the department's basic purpose and that they are activities justifiably related to it.

1-2.2 Fire Suppression Capability. The fire department goal should be to prevent the small fire from becoming large and to control the large fire.

Except for fires in buildings, vehicles, aircraft, trains, ships and boats, the individual losses involved in calls answered by the fire department are often negligible. Of the fires in buildings, the majority are held to small losses without requiring much more than first-aid fire fighting service, because of early discovery and prompt response. A few large fires cause most of the total loss. The very fact that the fire department response keeps most losses low illustrates the difficulty of indicating by statistics what level of fire department performance should be required.

1-2.3 Emergency Services.

1-2.3.1 Potentially Dangerous Situations. A fire department should provide immediate emergency services to alleviate situations with a potential for fire or explosion, and to safeguard life in a great variety of situations where prompt action is needed. When the immediate urgency has been met, such situations should be turned over to the appropriate utility, commercial service agency or to another city department.

1-2.4 Rescue Work.

1-2.4.1 Fire and Emergency Rescue. Rescue work should be a primary responsibility of the fire department in connection with fires and emergencies. Departments should also be prepared to do rescue work and to care for the injured in connection with traffic accidents, train wrecks, aircraft crashes, floods, windstorms and earthquakes. The fire department should handle the emergency phases of such situations, turning the injured over to doctors and hospitals as promptly as possible.

All personnel in any fire department should complete an approved course in emergency care and transportation. Because of this and because of additional special training in the use of rescue equipment, the fire department becomes the logical agency to call for drownings, suffocations, electrical shock and a variety of other situations.

1-2.4.2 Ambulance Service. Many fire departments consider rescue and first aid service, in connection with emergency calls, a proper service for fire departments. Fire departments should avoid ambulance transportation service if adequate and reliable ambulance service is already established.

1-3 Governmental Purpose.

1-3.1 Municipal Government.

1-3.1.1 Municipality. The term "municipality" is here and elsewhere used as a general term for units performing local government functions. It includes cities, towns, incorporated villages, and other terms which are defined by statute law of the various states and provinces. (*See NFPA 1202, Organization of a Fire Department.*)

1-3.1.2 Fire Department Should Perform a Municipal Function. In North America, historically the fire department has been intimately associated with municipal government, except in cases where special districts have been set up solely to operate a fire department.

1-3.1.3 Fire Department Should Use Other Municipal Services Available. The fire department should draw on the available services of any governmental function with which it is associated, in connection with financial and personnel management, purchasing and similar matters.

The fire department cannot be a unit standing by itself. It is dependent on other municipal services such as water supply, building supervision, finance, police and city planning.

1-3.2 State-Municipal Relationships. Municipal charters, and also charters of townships, fire districts or counties which may perform the functions of a municipality in operating a fire department, are either

special or general state laws. These furnish the legal authority for operation of the fire department. Even independent volunteer fire departments and fire associations which are not under local governmental operation are subject to state laws defining the operations of such departments or associations. State laws also commonly provide authority to a fire department to operate outside of the municipal territory to which it is assigned and define the terms of such operation.

Fire investigation and fire prevention work are fire department functions authorized by state and local law. In most states in the United States and provinces in Canada, authority for these functions is vested in a state official (the state or provincial fire marshal) with the general provision that the local fire chief may act in a similar capacity within his particular municipal jurisdiction in accordance with state or provincial law.

There is also a class of legislation which imposes limits on the municipal officials. Example of this would be laws which specify the pay and working hours and other conditions of work for the members of fire departments. This type of legislation imposes serious limits on financial and operational management of a fire department by the municipalities.

One of the most important of state service functions performed for fire departments is the operation of a fire-service-oriented educational and training program. This is often administered by a state educational agency or institution cooperating with the individual fire departments and other organization in operating schools and training facilities.

1-4 Fire Departments and Police Departments.

1-4.1 Personnel, Examination of Duties. Municipalities should carefully examine the duties for which members of fire departments are paid. This is the only way that proper decisions can be made as to whether or not the time purchased by the city for the fire service is productive.

1-4.2 Management.

1-4.2.1 Combining Fire and Police Departments. Municipal governments are being faced with rising costs and at the same time with increased demands for new and expanded municipal services. Sources of revenue to meet these costs are being taxed at or near capacity in many cities. This has prompted increased efforts to find means of keeping costs within the funds available. One method proposed has been the combining of fire and police departments. Combining these departments does not solve the fundamental problem of effective use of personnel paid for by the municipality.

The problem of using police for fire duty most commonly comes up in the community which is too small to have either an adequate fire department or police department. One approach gaining acceptance is

the formation of a fire district covering numerous small communities into a metropolitan area. For scattered suburban and rural areas such a district might be organized on the basis of an entire county, or part thereof. In such larger territorial areas, the cost of the fire fighting capability would be spread over a sufficiently large base so that the cost to any one community would be no more than that of their weak local fire organizations.

There should be no objection in many small communities for members of the police force to serve as volunteer or call personnel, provided service is limited to periods when they were definitely off duty as police and not subject to call-up for police emergency duty such as a fire might necessitate. Other municipal employees might also be utilized as volunteer or call personnel.

1-4.2.2 Cooperation. Police and fire departments should coordinate their efforts in locating fire hazards, communications, crowd and traffic control at fires and investigation of cases of false alarms and arson. Consideration of the effective utilization of personnel should not mar the fact that these two departments must cooperate to provide adequate community emergency service.

1-5 “Industrial” and “Private” Fire Departments.

1-5.1 “Private” Protection.

1-5.1.1 A Management Responsibility. In any property, its management should evaluate its fire possibilities, institute a fire prevention program and provide various kinds of protection which are “private” as compared to the protection provided by a public fire department.

1-5.1.2 “Private” Fire Department. When fire protection for a specific piece of property includes a fire department, it should be described as “industrial” or “private” to distinguish it from one provided by a city or town or other governmental district.

Organization of employees for first-aid fire fighting is one form of private protection. In some cases, the property management will also provide a fire department for its own service within the property. Such a property is sometimes large enough so that the form of its fire department is similar to that of a fire department organized for the protection of a city or town.

The terms “public” and “private” do not quite accurately differentiate between the two types of fire departments under consideration. Many state and federal agencies maintain fire departments which are “public” in the sense that they are associated with a governmental agency but are “private” or “industrial” in character because of the area assigned to

them. The fire protection organization for such properties, as in an industrial plant, is specialized. It may or may not conform in some details to the organization provided by a fire department for general community service. Management decisions for fire departments in such properties are made with the property and its personnel first in mind.

"Industrial" or "private" fire departments are discussed in other National Fire Protection Association publications. (*See Appendix B.*)

There are also "private" or independently owned and operated fire departments providing fire department services. In many areas of the United States, these departments generally contract with individual property owners to provide services in areas where there are no fire departments operating as a function of local government. In some areas fire districts and municipalities contract with "private" fire departments for services.

Chapter 2 Management Organization

2-1 The Top Management Components. The management organization of a fire department should be much the same as is provided by a well-run commercial or industrial business. It would have the same components. There would be a governing body corresponding to the board of directors in any enterprise. It would appoint a general manager who would be expected to manage the operations of the enterprise on a day-to-day basis.

2-1.1 The Governing Body.

2-1.1.1 Responsibility. The governing body has three primary responsibilities: establishing the scope and level of service provided by the fire department, providing the necessary funding, and providing for the necessary personnel and facilities.

The governing body should also be responsible for monitoring the completion of the management functions of the department. They include fire prevention, fire suppression, training, communications, maintenance and department administration.

2-1.1.2 Powers. There should be a governing body to set the management policies of the fire department. The powers necessary are either the powers conveyed by law to a municipality, or their equivalent, in that the governing body must have the power to levy taxes or solicit funding for the support of the service, to own property necessary to provide the service and to pay career personnel who perform the service.

2-1.1.3 Not an Administrative Agency. The governing body should be responsible for policy making only; it should not act as an administrative agency nor interfere in day-to-day management of the department.

2-1.2 The Fire Chief. Separate from the activities of the governing body are the management activities of the department: The manager of the fire department is commonly designated as the fire chief and references to that title are intended to apply to the manager of the department even though he may be known by some other title.

2-1.2.1 Tenure. The fire chief should be appointed on a basis of merit and ability for an indefinite term, removable only for cause. (See *NFPA 1021, Fire Officer Professional Qualifications*.)

2-1.2.2 Appointment by Governing Body. In a fire department service area organized exclusively for fire department purposes, the fire chief should be selected and appointed by the governing body.

2-1.2.3 Appointment by Chief Executive of Municipality. In a municipal government, where there is a chief executive known as mayor, or city manager, etc., the chief executive should appoint the fire chief.

2-1.2.4 Relations of Fire Chief and the Municipal Chief Executive. The fire chief should coordinate and communicate closely with the municipal chief executive. This coordination and communication should be utilized for budget preparation and control, purchasing, planning, and for support of other activities undertaken by the department. The municipal chief executive should be kept abreast of department performance and needs through timely reports submitted by the fire chief.

All contact between the fire department and the governing body of the municipality should be through the municipal chief executive.

2-2 Operational Components.

2-2.1 Operating Units.

2-2.1.1 Organization of Operating Units. While the governing body of the fire department, by its authorization of activities and appropriations, determines the total equipment and personnel at his disposal, the fire chief should determine how operating units of the department should be organized into fire companies or response teams together with the number and distribution of such units. Where the term "fire companies" is hereinafter used, it will mean the principal response units of the department.

In practice followed in the United States and Canada, the basic unit of a fire department is traditionally the fire company. It is provided with at least one piece of fire apparatus and consists of personnel necessary to put the apparatus into service around the clock.

Companies equipped with apparatus with a pump are called pumper companies. One such company can do useful fire fighting, but even in an area of detached dwellings a minimum of two pumpers is desirable. There are other types of companies equipped with a vehicle to carry a great variety of special tools to assist pumper companies or perform other duties. One type of company is known as a truck or ladder company, the latter term derived from mobile and fixed ladders carried on this vehicle. The truck company is not limited to ladder work, but performs forcible entry, rescue and salvage work and provides illumination at night fires. The duties of truck company operations must be

performed at fires even where there are no truck or ladder vehicles. Some departments provide companies for special purposes such as salvage or rescue service. Special companies for pumping service, such as marine or aircraft fire fighting, can be considered special pumper companies. (*For further discussion, see Chapter 9, Operating Procedures.*)

2-2.1.2 Total Personnel Requirements. The fire department should keep accurate records of emergency response with the apparatus in order to know what the ratio of total personnel should be to emergency response personnel. The necessary total personnel should then be provided.

The work force with which management organization of the fire department is concerned is the total fire fighting roster needed in order to make possible appropriate response personnel of each company. Unfortunately, many fire departments identify more units as fire companies than can be adequately manned with the personnel provided. This results in weak companies which cannot make fully effective use of the apparatus and equipment provided.

The total number of personnel on a "fully-employed" basis needed to produce proper response manning of companies depends on the number of hours in the work week for which the personnel are paid and the absence record of the department.

Most fire departments have available a certain number of personnel who can be depended on to come to the fire station when an alarm is sounded to respond with the apparatus. The personnel in such departments may be volunteers who receive no pay, or personnel paid for call duty. In either case, the total roster must include a number sufficient to produce the needed response personnel at all times. Just what this total number may be depends on local availability of personnel. This kind of "call" personnel is quite possible in many communities, especially the smaller ones where personnel work near the center of town by day and live relatively nearby so as also to be available at night. Some suburban communities have had to utilize a "fully-employed" force for response manning by day because volunteers and call personnel are principally available only at night.

2-2.1.3 Fire Company Personnel. The response personnel of a fire company should be comprised of the number necessary for safe fire fighter performance related to the expected life hazard, the characteristics of the service area (including, but not limited to, water supplies, built-in fire protection, building size, occupancy, condition, construction and accessibility, etc.), the type of tactics employed as standard procedure, the type of apparatus in use, and the accomplishment objective of the first due company as it relates to the total first alarm assignment.

Fire fighting personnel are of two categories. One consists of personnel on duty with their apparatus available for immediate response to

fires. The other consists of personnel available for response to fire on call but who are not required to be on duty with apparatus for such response. The former are referred to as "full time fire fighters," the latter are "call fire fighters" and "volunteers." "Paid On Call" may be off-duty full-time employees of the fire department and other city departments, or other individuals. Response personnel refers to the number of physically able, competent and well-trained personnel always available to respond. In a volunteer department, personnel promptly available on the fire ground may be counted in the response manning.

2-2.1.4 Scheduling Response of Volunteer or Call Personnel. In departments which are principally composed of volunteers or call personnel, the response manning should be assured by designating personnel for scheduled response manning. This relatively simple management procedure has been applied in enough fire departments to demonstrate that response manning does not have to be left to chance.

2-2.1.5 Company Officers. Each company should have enough officers to provide a leader to command the company at time of response. Company officers should be included in the total personnel of companies.

2-2.1.6 Ranking of Company Officers and Personnel. A ranking company officer should be designated so the chief is able to hold one officer responsible for the management and operations functions a company must perform. Respective ranking of all personnel for management purposes should be assigned by the fire chief.

This is to make it perfectly clear who is responsible for the management and operations of the company in the absence or incapacity of the usual officers.

2-2.2 Chief Officers.

2-2.2.1 Line Organization. The officers described for fire companies and for response to command at fires should make up a "line" organization, the components of which are shown in a diagram herewith. Line officers may be assigned to staff assignments in accordance with the "Rank in the Man" concept. The management of a fire department should be handled by the chief of department and one or more assistants.

LINE ORGANIZATION OF A FIRE DEPARTMENT

Chief
Deputy or Assistant Chiefs
Divisional Chiefs
District or Battalion Chiefs
Company Officers (Captains, Lieutenants)
Fire Fighters

2-2.2.2 Number of Chief Officers. Every fire department, even if there is only one company, should have a chief officer to provide a person in a managerial capacity for the department. He should also designate a second in command.

The number of chief officers required (as distinct from company officers) depends on the fire potential, emergencies the fire department must handle, and staff duties.

In departments of certain sizes the functions of chief officers below the rank of chief of department may be combined. In a department of one or two companies, a ranking company officer can be designated second in command. (*See also 2-2.3, Staff Functions.*)

2-2.2.3 District or Battalion Chiefs. The management objective should be to provide a chief in command of the companies working at each fire or emergency. District or battalion chiefs should be provided as necessary considering geographical distribution and work load. Companies added to the department should be a reminder that additional district or battalion chiefs on a response basis may be necessary. At that time, the geography affecting the response distance of all the chief officers provided should be reviewed. This work load study will indicate the number of district chiefs needed in the particular department and the time at which they should be added.

A fire department which has four pumper companies and two ladder companies should be able to handle response to two separate fires in residential districts. Whenever there are as many as six companies working at a single fire, fire ground direction should be divided between two chief officers, with one designated as being in overall command. In most departments, the chief of department or an assistant chief provides the second chief officer needed at an important fire. In larger departments, an alternate procedure is to schedule the response of a chief from an adjoining district to any response involving as many as six companies.

2-2.3 Staff Functions. Staff functions should be covered by policies or regulations of the department.

Functions for which "staff" may be provided include financial management, personnel management, fire protection engineering, research and planning, maintenance, training, community relations, communications and other activities. Personnel from any level of the organization may be provided to make it possible for the staff personnel to perform their duties effectively and efficiently.

Battalion chiefs and other chief officers who have primary responsibility for directing companies at fires are often provided with aides. One obvious purpose of such aides is to enable the chief officer to communicate with companies at two sides of the fire. Such an aide does not have authority in the sense that a line officer has authority and direct responsibility. If he communicates orders, he does so in the name of and for the line officer to whom he is an aide. This is one example of a staff function.

The chief of department has managerial functions to perform in connection with all the subjects covered in these recommendations. As soon as the chief of department begins to assign any of the functional areas to other officers or personnel for attention, he begins to have a "staff". These staff officers and personnel do not have "line" authority when performing "staff" functions. In dealing with line officers the position of a staff man is that he is acting in the name of, and speaking for the chief of department or for the line officer to whom he may be assigned. Especially in small departments, line officers may also have additional staff functions or assignments.

2-3 Intercommunity Organization. Only a few fire departments have reserves of personnel and apparatus enabling them to deal with a very large fire or to deal with more than one fire at a time. It is to be noted that only the larger departments have reserves enabling them to respond to two fairly large fires at once and still have some companies in service to protect the community from additional fires or incidents. To offset the inherent limitations of small fire departments it is necessary to provide mutual assistance to one another in fighting fires when any one of them does not have reserves to handle two fires at once or a very large fire. Unfortunately, many of these aid arrangements are on a casual, unprepared basis. Many departments have developed automatic aid plans and operations. This concept contemplates joint response of designated apparatus and personnel on a predetermined running assignment basis.

2-3.1 Joint or Regional Fire Departments. Whenever geography permits, the smaller departments should be combined with others to make a fire department of such total size that it is able to give the kind of protection which a fire department gives to the larger communities. This can be done by the creation of joint fire department districts by the municipalities concerned, or by transferring management of the fire department function to a regional government unit. If not politically acceptable, intergovernment cooperation should be considered in areas of communication, automatic aid, central purchasing, maintenance and training. There are enough examples of this sort of solution to the problem of the small fire department to demonstrate that it is both possible and practical.

2-3.2 Requirements for Mutual Assistance.

2-3.2.1 Personnel and Apparatus Available. In an effective "mutual aid" arrangement, each fire department should retain reserves of personnel and apparatus.

Frequently, the participating fire departments have no reserves at all, and can only receive aid. Mutual aid concepts should be considered on a regional basis.

2-3.2.2 Firm Plans. In effective "mutual aid" it should be possible to make firm plans for the response of fire fighting units.

One problem is to prevent haphazard and unauthorized response of fire companies to fires. Some areas have met it by using a common or coordinated dispatching and by an agreement that no fire companies shall move to assist an outside fire department except on direction of such an office. Management of response to assure firm and dependable fire fighting plans is difficult, but is made easier by development of a system of "running cards," and other advanced planning.

2-3.2.3 Officers. Officers of technical skill and experience and in sufficient numbers should be provided if "mutual aid" is to be effective.

2-3.2.4 Clear Line of Command. A clear line of command should be provided if "mutual aid" is to be effective. Traditionally and legally, overall command of the incident is vested with the senior officer of the jurisdiction having the emergency.

A number of chief officers from numerous small fire departments working independently at a fire cannot take the place of officers in a single line organization. The exact relationship of one chief officer to another should be known and recognized in advance. The authority of all officers should be known to all fire fighters.

2-3.2.5 Training and Methods. Mutual aid training of the personnel of all fire departments should be comprehensive enough and standardized enough to produce an effective fire force if "mutual aid" is to be effective. All personnel should have received sufficient training to assure uniform operations. Operational methods should be as uniform as practicable.

Chapter 3 Management Reports and Records

3-1 Types of Reports and Records.

3-1.1 Management Requirements.

3-1.1.1 Administration. A records system should provide the fire chief and other administrative officers with data which indicates the effectiveness of the department in preventing, fighting and investigating fires to facilitate their management of the fire department.

3-1.1.2 Reporting. A records system should provide data for reports on department activities, accomplishments and long range needs, which the fire chief should make to the city officials or members of a fire department governing board, and to the public.

3-1.2 Records System.

3-1.2.1 Records to Be Kept. The fire chief should specify the records to be kept and methods of gathering data. All records should be examined in the light of their usefulness in management. None should be made or kept except for a valid management purpose. A records retention and disposal system should be instituted.

The extensiveness of the record system will depend upon the size of the fire department, the type of organizational structure, and the expertise of personnel assigned to maintain it. Although the basic data which should be recorded is essentially the same for all sizes of fire departments, the method of gathering and recording the data may become complex in large departments. The fact that certain data may be collected for special purposes does not mean that such data should be collected indefinitely. However, a study of operations or information for long-range plans may suggest compiling certain information on a regular basis. Appropriate information can be added to a record system when a need for it has been demonstrated.

3-1.2.2 Frequency of Reports. The fire chief should specify the kind of reports to be made and their frequency.

3-1.2.3 Principal Reports and Records. The fire department should use the management reports and records which are listed in the Appendix tabulation.

Practically all of the reports and records enumerated should be kept even in the smallest departments.

The subjects under which reports and records are listed are covered further under the various topical headings of these recommendations.

3-2 Incident Reporting.

3-2.1 Reports on Emergencies. Reports on emergencies are essential to providing an accurate record of a department's activities. Reports should outline conditions encountered at an emergency and all actions taken by the department to control the condition. They should serve as a basis for determining incident responsibility.

Reports also serve as a basis for determining local, state and national fire trends and establishing the needs of a fire department. (*See NFPA 901, Uniform Coding for Fire Protection.*)

3-2.1.1 Basic Record of Response. Each fire company should make a report on each response. The chief officer in charge of each alarm should collect these Company Response Reports and consolidate the data in them which applies to a particular alarm or fire. This should be the basic record summarizing the operations of the department. From these reports, information should be available for daily, monthly and annual reports of the work of the department. In large departments, the district or battalion chief in whose district the fire or alarm occurs is generally held responsible for this report.

3-2.1.2 Report for a Fire in a Building. In a report for a fire in a building the report of the chief officer in charge should cover operations of the department, investigation of the fire and details on the losses incurred. If subsequent data is collected as a result of additional investigations by members of the department, it should be added to the report in appropriate spaces provided on a report form, or the information should be filed with the report.

3-2.1.3 Report of Fire Loss. It is recommended that a system be developed to provide accurate fire loss data, such as providing field officers with training in loss determination or through follow-up loss determination sometime after the fire occurrence.

3-2.2 Fire Record Journal.

3-2.2.1 Chronological Record. A fire record journal should be kept in all departments to provide a chronological record for convenient and permanent filing of data on all fires and alarms.

3-2.2.2 Information Summarized. In the fire record journal for each alarm, the date, time and location from which the alarm came should be recorded. The names of persons sustaining a loss should be recorded, together with a brief description of the building and its occupancy. The journal should have columns for recording losses to the buildings and its contents and any loss of life.

3-3 Consolidated Reports.

3-3.1 Daily Report.

3-3.1.1 Use of Daily Report in Management. A consolidated daily report should be used where the fire chief needs to review department activities daily. The daily report should be on the chief's desk before noon on the day following the period covered. It should also be circulated to staff bureaus and other chief officers such as district chiefs. It enables the chief or other administrative officers to take prompt action on any matter needing attention. It shows what alarms need further investigation and it provides a check on additional reports which are due from companies and from district chiefs.

3-3.1.2 Preparation of Daily Report. Where there are fire alarm operators on duty, the consolidated daily report should originate in the fire alarm office. That office should provide a list of the alarms and fires at which the fire department worked in the last 24 hours. In cities with no fire alarm staff, the chief officer in charge of the activities for the day should make the list of alarms. In any case, he should supplement the list by adding locations and occupancies and estimated losses, and enter data regarding personnel who were on duty or absent during the 24-hour period covered. This data should be obtained by telephone to fire stations or, in large departments, from district chiefs and bureau chiefs. This information should be assembled as early as possible on the morning following the period it covers.

3-3.2 Monthly Report.

3-3.2.1 Use of Monthly Report in Management. The status of fire department operations should be periodically summarized. For most departments, a consolidated monthly report should be prepared summarizing the department's work for the period. It should be arranged to present information for convenient review by the chief and other administrative officers, by staff bureaus and by any municipal executive or fire governing board.

3-3.2.2 Preparation of Monthly Report. The fire chief should see that the consolidated monthly report is prepared. In it, alarms should be classified and total losses shown, using the best figures available. Fires and inspections should be tabulated according to standard occupancy classes so results can be compared with the current year to date and the same period of the previous year. Similar comparisons should be presented on the work of the various staff bureaus. The monthly report should summarize the work of each fire company and show personnel information, particularly on absences and details.

The latter is important to a management objective of keeping companies properly manned.

3-4 Annual Reports.

3-4.1 Administrative Report.

3-4.1.1 Report to Appointing Official. Every fire chief should submit an annual report to the mayor, city manager or other official appointing him.

3-4.1.2 Information Presented. In addition to a complete summary of the information in consolidated monthly reports, the annual report should include a discussion of department policies, important changes during the year and recommendations for the coming year.

3-4.2 Public Report.

3-4.2.1 Report for General Circulation. An annual report for general circulation to the citizens and others concerned should be prepared.

3-4.2.2 Information Presented. This annual report should be prepared for public information purposes and should present an accurate picture of the community's fire protection in a concise manner.

Chapter 4 Planning and Research

4-1 General. Fire prevention and suppression are no longer considered the sole mission of a community's fire department. The complexities of special hazards, the ever-increasing congestion of urban areas, the growing awareness of needless life loss, and economic escalation in the costs of public services will not tolerate the perpetual enlarging of the department as changes in community character place greater demands upon the departments' suppression forces. Communities must recognize the need for creation and implementation of a total concept master plan for a community-wide balanced fire control strategy, including extensive utilization of built-in early smoke and fire warning detection and suppression systems.

4-1.1 Approach. The fire chief must be concerned with both short-range planning of department internal operations and a planning involvement with all other community departments in anticipation of overall community growth. The community governing body should be encouraged by the fire chief to adopt procedures enabling the maintenance of an on-going, long-range community plan dedicated to the reduction of life and property loss from fire. (*See "America Burning," the report of the National Commission on Fire Prevention and Control.*)

4-2 Department Staff and Procedures.

4-2.1 Planning and Research. The fire chief should provide procedures and staff for this purpose. He should initiate studies to assemble data for planning and for research of both a general and specific character, not leave this initiative to public planning agencies.

Research has the strict connotation of the creating of new knowledge. The collection of information for planning is not research in this strict sense, but is often referred to as such. Planning and research may embrace studies of everything the fire department has and everything it does. General planning is just as important as specific planning. It is a management requirement for efficiency so that things are done at the most opportune time. Research is something more than noting the obvious. The department sets up a system of records and reports for the control of day-to-day operations and periodic budgeting. These reports are to furnish information which experience has found to be useful and necessary. Research goes beyond day-to-day recordkeeping to get additional information on subjects which may be lacking in the routine

reports. In some departments, planning studies and research may have to be done by volunteers, committees, consultants, or by working parties set up by a municipal fire prevention committee or by the governing board responsible for the fire department.

4-2.2 Relation to Other Planning. The fire chief should be concerned with operations of the fire department itself, the relationship of the department with other government entities, and the overall community growth. The chief should be intimately aware of the overall planning for community development. The fire chief in a city which has a municipal research department systematically gathering and analyzing data applying to community growth should make use of the services of that department in connection with long-range planning. The details of things for which the fire department must spend money are for the most part known only to the fire department itself. However, urban renewal, street development, water department problems, school and civic building location and traffic control are all areas of concern.

4-2.3 Cost Studies.

4-2.3.1 How Much to Spend on the Fire Department. The planning procedures should enable the fire chief to justify a recommended amount of money to be allocated annually for the fire department operation; after cost/benefit studies.

Some communities support a quality of fire department service which other communities have never had and therefore do not miss. Many fire departments do not receive good support simply because taxpayers have never been given a taste of valuable service which a good fire department can provide. Expenditure standards involve both technical questions and value judgments. There is usually no question as to whether fire department protection is to be provided. The annual operating cost of the fire department is largely established when the number of pumper and ladder companies it will maintain and the personnel required for these companies has been determined by an analysis of the degree of desired protection and the ability to provide financial support.

4-2.3.2 Private Fire Protection. The community should be informed that the money which must be annually appropriated for the fire department is closely related to how well property owners accept responsibility for better protection of their individual properties from fire. Water utility managers should be instructed by mayors and city managers to study the benefits of automatic sprinkler systems and other forms of private fire protection. They should be further instructed to apply no unnecessary requirements to connections for automatic sprinkler systems.

One of the most important ways private fire protection is accomplished is through the use of automatic sprinkler systems. The terms on which

the water utility serving the community furnishes connections to such systems is a factor in how actively property owners will consider this self-protection. Local requirements often include flow detection devices, meters and exorbitant annual charges. Unnecessary requirements for sprinkler connections can bring relatively trivial income to the water utility and trivial savings from loss of water. In comparison, lack of private fire protection can result in large fire losses. These losses would cause citizens' demand for an order of fire department expenditure over a period of years far in excess of the water utility income or savings.

4-2.3.3 Disabled Work Force. Work curtailment by public service employees, long a rare occurrence, may now be anticipated. The result of such activities may range from slight inconvenience to total elimination of usual services. The fire department, unlike many community departments, provides an emergency service upon which may depend the saving of lives and control of major property destruction. The fire chief, in concert with community administration, should be prepared with practical contingency plans that may be implemented depending on the nature and degree of service curtailment. Local, state and federal regulations and agreements should be guiding factors when planning for any work curtailment.

4-3 Long-Range Plans.

4-3.1 Plans for Five and Ten Years.

4-3.1.1 Plan for Five Years. A statement should be prepared describing what the fire department hopes to accomplish during a minimum future period of five years. It should indicate budget requests planned for men, equipment, facilities and suggest how capital items should be taken care of, all based on management by objectives.

Over a period of several years, capital items may be spread out, by use of reserve funds or borrowing, if necessary. A five-year plan enables something to be done on an extended basis, but it usually is just a start.

4-3.1.2 Plan for Ten Years. A statement should be prepared describing potential master plan accomplishments during a future period of ten years. It should indicate how long-range programs of the department and the community may begin to reduce losses. It should suggest how capital items, particularly for equipment, should be taken care of.

On a ten-year basis, it is possible to provide, where necessary, for adequate and up-to-date equipment at the lowest possible cost per year. Something can also be done on a fire station program.

4-3.2 General Long-Range Programs.

4-3.2.1 Fire Prevention and Cleanup. Fire prevention and community cleanup programs are a general approach to the reduction of unnecessary fire department calls. On a short-term basis, they offer limited chance to affect fire department operating costs. However, they can be somewhat productive when programmed on a long-term basis.

4-3.2.2 Master Planning. A program of community improvement by proper enforcement of effective building and fire prevention codes together with public education should be undertaken to reduce fire situations to a reasonably manageable level.

A program of this nature will determine what kind of community, ten or twenty years hence, the fire department will have to protect. The costs of the fire department can only be kept reasonable by reducing both potential life hazards and the combustible features of the community. If, in the area reserved by the fire department, excessive area buildings without automatic sprinkler or other private fire protection are tolerated, the taxpayers must also accept a high level of fire department expense. The same is true of tolerance of other defects which set up a high conflagration hazard or present unreasonably difficult fires to fight.

Chapter 5 Financial Management

5-1 Accounting and Budgeting.

5-1.1 Accounting.

5-1.1.1 System of Accounts. The fire chief should set up a system of accounts for financial administration. The system should keep a record of funds received by the department and funds expended. Furthermore, the system should enable the fire chief to constantly analyze how the money is spent to show how, if necessary, to change the department's operations to get better results for the money.

Traditional finance practices in government have been simply a few checks and balances to prevent illegal spending of public funds. Many fire departments still operate under such an obsolete financial system. The exact accounting records to be kept depend on whether the department keeps all the financial records or whether some of them are kept on a general basis by a municipality or a county of which the fire department is a part.

Two financial functions are performed by the department itself only when it operates in a fire department area not affiliated with any other unit of local government. This would be the case in a few jurisdictions where a local government is set up primarily to operate a fire department. These functions are those of "assessment" and "treasury." Assessment includes the business of obtaining the money to finance the department through taxes and other levies. Treasury is simply the custody and orderly disbursement of funds. Most fire departments are associated with a municipality or county, and the assessment and treasury functions are performed by the municipality or county.

5-1.1.2 Bookkeeping. The system of accounts should include books of original entry and ledgers. Books of original entry should include a general journal and register for cash receipts, purchase vouchers, contracts, material issued, and payroll. There should be a general ledger, and subsidiary ledgers for revenue, appropriation expenditures, stores, bank funds, and property. If, as an independent fire district, the fire department performs municipal functions, it should have additional books of original entry for bonds and interest, for investments, and for insurance. It should have additional ledgers for tax rolls, individual unit taxes, special assessments, bonded debt interest payable, and investments.

5-1.2 Budgeting.

5-1.2.1 Budget Preparation. The fire chief should prepare the preliminary figures for the department program in a performance budget format.

A budget is the work program of the fire department expressed in dollars and cents. One part lists the services, activities, and projects with the expense of each. The other lists the income to be used to meet the total expenses. Budgets are commonly for a fiscal year. A final budget is adjusted when the appropriation items are known. In a municipality, the final fire department budget requires approval of a mayor or city manager and the city council. In an independent fire department area, the chief would usually be required to submit the budget to a governing board.

Wages and hours will be a principal factor in determining cost of the service and the amount of money which must be appropriated and administered. The authority responsible for fiscal administration (city council, mayor or manager) should consult with the fire chief on wages and hours because they will hold the chief responsible for performance. There should be an established policy of periodic review of hours of work and wages to make sure that these keep in line with those of other fire departments regarding the quality of service provided to the community and the career opportunities of employees.

5-1.2.2 Relation to Planning. A good budget procedure should call for the analysis of conditions and operations between budgets. What is learned from this analysis should be reflected in the program on which the next budget is based. Since annual budgets will inevitably be affected by the financial arrangements which will be made over a period of years, an annual budget would be supplemented by a budget for longer periods. Fire department long-range budgets for five and ten years should be considered. Budgets for long periods should show the approximate order of the financial needs and resources.

A budget for any current cycle is inevitably influenced by past commitments, established standards of service, existing organization structure, current methods of operating and future needs. The budget making process, being annual as a rule, provides a chance to appraise the importance of the established practices at intervals. (*See Chapter 4, Planning and Research.*)

5-1.2.3 Recurring Items. One of the most serious problems in a fire department is manning for effective fire fighting companies. In manning the fire fighting companies, the fire chief should allow for the absences (sick leave and vacations) so as not to run short of personnel. He should keep attendance records of individuals and analyze these to provide figures for the specific conditions in his department. To fill vacancies due to sickness, vacations and absences other than those taken

care of by relief personnel or other arrangements, the fire chief should be authorized to employ available off-duty members and an item to pay for such duty of off-duty members should be included in the department budget.

The number of personnel required to fill a position may be determined by dividing 168 by the number of hours in the duty work week. Due allowance should be provided for anticipated sick-leave, absences, and vacations for personnel.

5-1.2.4 Capital Items. A list of capital projects should be made and studies and surveys undertaken to establish the priority of these projects.

In long-range budgets, a distinction has to be made between expenditures for normal continuing operations and those for capital improvements. The latter are long-term assets of enduring value. Once these two factors are identified, a fire department can set up a long-term operating budget which will keep the two types of cost coming along at a rate that can be met by a reasonable, uniform tax rate. The capital improvement program is the most difficult for most fire departments to work out. It is sometimes never achieved simply because no one takes the trouble to list the capital improvements likely to be needed in five or ten years, respectively. Various considerations affect the priority of capital projects. Some projects may be affected by what can be negotiated with neighboring or overlapping political units, or revision of state legislation. However, with judgment, the projects can be allocated to fit into budgets for five or ten years.

5-1.2.5 Revenue Programs. Revenue programs, pay-as-you-go, leasing, setting up of reserve funds, and the borrowing of funds, should be adapted to what is best for the individual department. The financing of physical facilities should be coordinated with the overall financial policies and capital improvement financing of the city. Large cities should handle all of their fire department financial programs on a planned, pay-as-you-go basis. In place of borrowing, communities should establish reserve funds. These funds could be set up by paying into them an agreed upon portion of the annual income assigned to the fire department. The funds should then be drawn on for the intended purchases.

Borrowing obviously adds to the cost of expenditures for fire stations, equipment and other physical facilities. If necessary, certain communities may finance the purchase of major equipment items by the issuance of short-term notes, renewable up to a maximum period of five years. Another possibility is the leasing of equipment (or purchasing it under a lease which eventually transfers the title to the city). Leasing or lease-purchasing may be the most expensive of the methods of financing capital improvements, but it may make facilities immediately available. Otherwise the community might not be able to have these facilities until money can be raised by borrowing or by building up a reserve fund.

5-1.2.6 Budget Control. The financial functions of budget control should be kept under the responsible direction of the chief in all departments, even the largest. Within a city's budget control operation, the fire chief should work closely with the municipal chief administrative officer and department of finance on budget matters affecting the department. For assistance, the fire chief should have clerical and other technical support in proportion to the department's operations.

5-2 Purchasing and Storing.

5-2.1 Purchasing.

5-2.1.1 Records. The fire departments' record on purchases should be sufficiently detailed to permit the chief to have data available for actual cost estimates needed for planning and budget purposes. Records should be maintained on requisitions, quotations received from bidders, purchase orders and general correspondence. Requisitions and purchase orders should be numbered and filed by number. A commodity price card file and a vendors' catalog file should be maintained.

The records that the fire department must keep on its purchasing operations will vary somewhat with the size of the department. In those jurisdictions where central purchasing is in effect, certain information may be available in central files. A commodity price card record file is particularly useful on fire department items. It tells how many of a given item are used, price experience with each item, and has a list of vendors from whom it would be useful to solicit bids at the time of a new purchase.

5-2.1.2 Specifications. Standard specifications should be used for the purchase of major items. The fire department should have a file of specifications which have been prepared by technical associations and testing laboratories to which reference can be made. (*See Chapter 13, Apparatus and Buildings.*)

It is a waste of time to attempt to standardize all articles purchased, particularly small items. However, specifications for major items help the fire department to define specific requirements and to enable it to tell whether it is getting what it paid for. On motorized fire equipment, hose and other items, the fire department expects to make, or have made, certain tests before acceptance. The seller knows exactly what is required if standard specifications covering these and other requirements are used.

5-2.1.3 Bids and Quotations. A standard form should be prepared to be used in invitations to bid or requests for quotations on items to be purchased. Such a form should contain all of the general conditions applying to the purchase. To it should be attached descriptions and specifications applying to each item. If it is required that the lowest or

best value bids be accepted, the fire chief should be permitted to use judgment, within established guidelines, in deciding which bid be accepted. Considerations within such judgment decisions should include long-range cost of operations, maintenance, dependability of equipment, and reliability of supplier.

5-2.1.4 Acceptance. The chief should require a written report on goods received to show that they have been inspected and comply with the purchase order as to specifications and quantity and that they have complied with any test procedures specified.

5-2.2 Stores.

5-2.2.1 Custody. The storing routine should make it possible to know in whose custody major items are held. Items for consumption should be released from stores only on the basis of properly signed requisitions to assure authorized use. Departments with a maintenance shop should require the shop to keep inventory records on major equipment. Companies should be charged with equipment issued to them. Equipment purchases for, or issued to a training school, a communications office or other bureau should be charged to those bureaus.

5-2.2.2 Records of Property and Stores. There should be a record card or file on each parcel of land the fire department uses or has in custody, on each building, on major pieces of motor fire equipment, on small items of equipment and individual items of supplies. With each of these should be kept purchase records of vendors and prices. A physical inventory taken at least once each year should be checked against these basic records.

The function of storing in financial management is not limited in application to small items in a storeroom, but is the business of keeping track of all of the property of the fire department.

Chapter 6 Personnel Management

6-1 Personnel Standards.

6-1.1 Objective. The personnel standards of a fire department should establish and maintain a competent and well-trained force by attracting qualified personnel and providing an interesting and useful career from recruitment to retirement.

To accomplish this objective, hours of work, wages and working conditions for fire department personnel should be at least equal to skilled personnel in the community or other skilled employees of a municipality.

6-1.1.1 Chief's Function. The fire chief should execute the personnel standards of the department and issue the orders necessary for administering personnel procedures.

The fire chief may delegate authority to provide specific direction and control over members of the department and these delegations take care of most of the mechanics of personnel administration. The chief may assign an assistant or deputy chief to specialize in personnel administration in order to be a department personnel officer. The specific personnel activities which might be conducted by the fire department depend to some extent on the character and extent of personnel services provided by municipal, state or federal personnel agencies. State and provincial legislation and the activities of independent municipal civil service commissions frequently affect the personnel policies of municipalities and fire departments.

Such legislation may set standards of pay, hours, working conditions and other features of personnel policy so as to limit the authority of the municipality and fire department. Final decisions affecting the personnel program for a fire department are properly made by the city council or other governing authority. The council or governing board defines the general policies of the department relative to salaries, methods of recruitment, conditions of employment, retirement and other separations from the service, within the scope of its responsibility. The council's power to make financial appropriations gives it continuous control over the number and quality of department members.

The magnitude of the personnel problem in certain cities has made it desirable to handle the administration of certain personnel functions on a central basis for all departments. A competent central personnel agency can perform valuable services of a technical nature for the chief of the fire department.

6-1.1.2 Personnel Relations. In the formulation of personnel standards, the fire chief should include the opinion of members of the fire department as individuals or as supplied by an employee organization where such exists. There should be procedures by which members may submit constructive suggestions and report grievances on working conditions. Members should also be consulted in the department's policies toward programs for the welfare of members such as group insurance, group medical and nursing care, credit unions, members' social and athletic clubs and recreational facilities. The practical reason for such consultation is that it helps in providing understanding and support for personnel standards and policies.

6-1.1.3 Fire Chief's Authority for Assignments. The fire chief should have authority to decide station and platoon or work group assignment for each member of the department. The city council (or other governing board of the fire department), or the mayor, city manager or other executive officer of the municipality, should not limit the fire chief's authority for this function. This management authority is essential to the proper utilization of working forces: (1) to place the member in a position which will make the greatest use of his skill and knowledge, (2) to train members in different kinds of work by assigning them to a variety of positions so that they may later be advanced to more responsible work, (3) to bring about maximum productivity of the working forces by moving members about to take care of peak loads as they occur in various parts of the organization, and (4) to alleviate situations where there is a fundamental personality clash between a member and his supervisor which could be corrected by assignment to another supervisor. Great care must be taken not to make transfers punitive because this could adversely affect the morale of the entire department.

The company officers will make the actual work assignments within this general authority. There should be distinction between the permanent assignment to regular stations and work groups and "details" which are made by the appropriate assistant or district chiefs to take care of temporary situations such as absences. There is always a danger that a "permanent detail" will be made in cases where there is no budgetary provision for an essential position.

6-1.2 Standards Applying to All Members.

6-1.2.1 Attendance and Duties. Each member of the department should be kept informed of what is expected of him in the way of attendance and other duties. Each member should be provided with a personnel manual or set of departmental regulations in which are explained working hours, leaves, vacations, and the responsibility of the member toward personal protective equipment issued by the department, such as helmets, coats and boots. The information on personal equipment may cover uniforms or uniform allowances, bedding, linen and laundry, depending on how the department handles these matters.

6-1.2.2 Annual Physical Examination. All members of the department should be furnished with an annual medical and physical examination. This should be performed by the same medical facility which gives such examinations to candidates for the department. The medical reports should establish the ability of each member of the department to perform the duties of his position. Physical defects uncovered should be corrected.

6-1.2.3 Health Maintenance. There is a need to develop formal on-going physical maintenance programs that include medical standards by age and fire department activity. Personnel should be assisted in meeting the standards of such programs.

6-1.2.4 Safety. Members of the department should work safely. Safe work procedures should be stressed and emphasized throughout a person's career. Accidents and injuries should be investigated and the findings should be included in the member's personnel record and appropriate actions taken. (*See NFPA 1501, Standard for Fire Department Safety Officer.*)

6-1.2.5 Ranks. A system of ranks should be established to provide officers for the department and budgetary provisions made for them. (The usual ranks for which provision should be made are Chief, Assistant or Deputy Chiefs, District or Battalion Chiefs, Captain, Lieutenant and Fire Fighter.) If a position classification system is used, it should be correlated to these ranks. Pay scales for special assignments in a given rank should be established as appropriate for the qualifications required for the assignment and the work to be performed.

Officer ranks are necessary to establish command responsibilities. A proliferation of special ranks for special assignments is undesirable as it tends to require too many "civil service" examinations and procedures and to freeze personnel in specific jobs. The procedures most desirable are those where the chief can make special assignments with considerable freedom without prejudicing a member's opportunity for promotion. Ranks should reflect the level of responsibility and not specific detailed duties. The personnel concept of "Rank in the Man" should be used instead of "Rank in the Position." (*See NFPA 1021, Fire Officer Professional Qualifications.*)

6-1.2.6 Disciplinary Action. Disciplinary action should be administered by the fire chief and fire department officers rather than by outside agencies. Departmental regulations should describe the procedures to be followed in cases where disciplinary action is necessary. These should require officers of the department to take the initiative in disciplinary action for the successful administration of the department. There should become relatively informal procedures for dealing with such matters as tardiness in attendance or in completion of routine duties or reports.

For serious violation of departmental regulations, such as willful violation of departmental regulations, formal disciplinary procedures should be adopted. An important objective of discipline is to maintain an effective level of performance by the members of the department. Good leadership and management involves positive discipline and a minimum of punitive action. Outside boards of discipline sometimes exist because there has been a history of inept administration of disciplinary procedures. These are often cumbersome agencies which interfere with efficient management. If the department has its own well-considered procedures, including provision for appeal, most cases can be satisfactorily handled. Recourse to court procedures is available both to the department administrators and to any member of the department who may feel the disciplinary action is unreasonable. Performance rating systems are sometimes employed, but they should not be a substitute for directed leadership and positive discipline.

6-1.3 Personnel Records.

6-1.3.1 Personnel Record File. As soon as a new member is added to the department, a file should be set up for their personnel records. This file should include all papers with information about the individual person, including commendations and discipline records.

6-1.3.2 Ready Reference Record. The master file on each member of the department should be supplemented by a single sheet or card on which data is kept for ready reference. This data should include name, date of birth, height and weight, previous occupations, special aptitudes, work assignments, service records and records of performance at fire department training courses.

6-1.3.3 Attendance Record. Attendance records should be reported as a part of the procedures for preparing the payroll.

6-2 Selection, Promotion, Retirement.

6-2.1 Selection of Personnel.

6-2.1.1 Recruitment. The fire department should establish a recruitment program. It should be coordinated with procedures of municipal or other personnel or civil service agencies having jurisdiction. It shall be in accordance with Federal and State requirements. It shall be recognized that State regulations may vary and may be more restrictive than those of the Federal Government. It should consist of the following steps:

(a) Conducting an active search for the best qualified persons available for membership in the department and encouraging them to

apply for appointment. The recruitment process should include lateral entry of candidates meeting the respective qualification level as outlined in the Standards of the National Professional Qualifications System.

(b) Rejecting without examination candidates who show on their application form that they clearly fail to meet department standards for entrance.

(c) Interviewing each candidate and giving tests measuring aptitudes, physical agility and achievement motivation characteristics.

(d) Subjecting candidates to a thorough physical and medical examination which they should pass in order to fully perform fire department work.

(e) Investigating the character of candidates by interviewing former employers, personal references, neighbors, and others familiar with their record, taking fingerprints for police record checkings.

(f) Requiring applicants to complete an intensive program of work and training in the department's operations with a satisfactory rating. The rating should be based on reports from supervisors to whom they have been assigned and from the fire department training officer. A satisfactory rating should include passing an examination to discover the extent to which they have assimilated information on fire department practices and the extent to which they have responded to training and supervision. Any candidate failing to meet the qualifications should be discharged at this point.

6-2.1.2 Age. A maximum age limit should be specified for acceptance to membership on the fire department suppression force. This will provide personnel with acceptable physical qualities and mental flexibility. A maximum age limit should not be used for lateral entry candidates. A minimum age limit should also be specified to assure members who are mature physically and mentally.

NOTE: A maximum age limit may not be necessary if entry examinations are adequate.

6-2.1.3 Education. A high school education, or state recognized equivalent, should be required as a minimum. The wide variety of activities in which fire fighters now participate have made it desirable that recruits have higher levels of training and preparation than that which can be secured in elementary schools. It would be desirable that the high school requirement include technical courses in physics, chemistry, algebra, plane and solid geometry and trigonometry. It is not practical to recognize experience in lieu of education, because entry personnel for the fire service should be recruited at an early age, which may limit their experience. Lateral entry personnel will bring higher levels of experience and training to the department.

6-2.1.4 Character. The candidate's application should be required to give a full employment history and personal references. When candidates report for an interview or tests, fingerprints should be taken for identification purposes. The applicant's credit rating should be checked to eliminate irresponsibles. Police and motor vehicle records should be obtained to eliminate anti-social behavior persons. Emphasis should be to delete poor candidates and to retain better candidates. Past personal history is a strong prediction of future performance.

6-2.1.5 Physical Requirements. Job related physical requirements should be stated in applications to eliminate candidates who are physically unqualified. A series of tests should be given after the medical examination to determine the applicant's strength, coordination, agility, dexterity and endurance.

6-2.1.6 Medical Examination. The fire department should adopt job related medical standards unless those of a personnel agency serving it are adequate. It should require all applicants to pass an examination to reveal any physical handicaps, deformities, disease or organic deficiencies which would prevent full performance of the duties of the position. It should designate the physical or medical facility which is to be responsible for the examination. (*See NFPA 1001, Fire Fighter Professional Qualifications.*)

6-2.1.7 Testing. Job related written, oral and performance tests for aptitudes and intelligence should be given when such tests are available to the fire department. In most departments, aptitudes should be determined in a preliminary way at the time the candidate is interviewed, and from reports of supervisors and the training officer during a period of pre-entry or probationary training. Intelligence testing and measures of reading, thinking and deciding should be validated for job relatedness and freedom from illegal discrimination.

6-2.1.8 Adaptability. For a period of at least 12 months before permanent appointment to the department, applicants should be assigned to probationary training and supervision. Completion of Fire-fighter Levels I and II should be achieved before permanent appointment. Part of this same period should be assignment to a fire company for a test of how they fit into fire department activities and routine. Reports from their supervisors during this period and from the department training officer should be used to evaluate the cooperation and ability of the individual to be a successful member of the department.

Fire fighting is primarily a team function, especially in the case of a very large fire or emergency. Furthermore, the everyday life of a fire fighter is a group life and members must have a high degree of ability to get along with others. It is desirable that the candidate work under at least three supervisors during probation and receive a satisfactory writ-

ten rating from each supervisor before permanent appointment. Prior to permanent appointment, a review board, comprised of the Employee's Supervisors, should make recommendations as to the person's performance.

6-2.1.9 Appointment. Applicants should be kept in probationary status until all parts of the selection process are completed including the twelve month period of probationary training. The chief should dismiss any candidate at any point in the period of probation for unsatisfactory performance after reasonable written warning and notice.

The chief's authority may be limited to recommend action where a personnel agency outside the fire department has jurisdiction over probationers or where another agency makes the actual appointments. Where a pre-employment training procedure is not used, it often turns out that those who can meet physical and written tests for candidates cannot meet the actual performance requirements of department work. Many candidates voluntarily drop out when they find that they cannot handle the work during the probationary period. It is preferable to take advantage of pre-employment fire science courses and basic training academics before probationary employment is offered to a candidate. This is more equitable to the candidate and to the taxpayers.

6-2.2 Promotion.

6-2.2.1 Promotion Program. The fire department should establish a documented job related personnel evaluation program for internal and lateral entry promotion to the various ranks. It should be coordinated with procedures of municipal or other personnel or civil service agencies having jurisdiction and should consist of the following steps:

(a) Preparing lists of members for in-service training for promotion to company officers, chief officers and to positions requiring special qualification.

(b) Arranging assignments so that officer candidates may have a variety of duties (in several companies or districts) and experience in various staff work such as fire prevention, training, maintenance and communications.

(c) Requiring a formal procedure whereby supervisors report on candidate's aptitudes, participation and ability to function as part of a company for the purpose of evaluating the candidates' qualifications for promotion. Evaluate lateral entry candidates for inclusion or rejection on merit.

(d) Requiring candidates to complete an in-service training program, based on a job analysis for each position, and the passing of an

examination on such training. Lateral entry candidates may have already completed the required levels of preparation.

(e) Arranging assignments so that interested members may pursue courses for academic credit or college degrees at accredited schools.

(f) Appointing candidates to positions after procedures of the fire department as well as those of personnel jurisdictions have been met.

6-2.2.2 Seniority. Seniority should never be the sole basis, nor a decisive factor, in promotion.

Some fire departments rely heavily on seniority as the determining factor in promotion. It is obvious that this has an adverse effect on members who have a capacity for more rapid advancement than their seniority would warrant or permit. At the same time, seniority may tend to push some members into positions beyond their ability with adverse effect to themselves, to the department and to the public. Seniority is recognized adequately if the fire department provides step raises of pay in grade. Older members do not need promotional credit as their exposure to more training and their experience can give them advantages over the younger members in promotional examinations. Where seniority is a major factor in promotion, ambitious individuals cannot consider fire department service as a career.

6-2.2.3 Promotion to Company Officer. Internal and lateral entry candidates for company officer should demonstrate proficiency in the respective officer level to which they aspire as outlined in *Fire Officer Professional Qualifications*, NFPA 1021. In addition to service as a fire fighter, such candidates should have completed a significant tour of duty in at least one phase of staff work covering fire prevention, training, maintenance or communications. Questions in an examination for promotion, whether given by the fire department or a personnel agency, should be related to the principal duties of a company officer which are:

- (a) to act as leader and instructor of a small crew of individuals;
- (b) to respond to alarms to which the unit is assigned and to direct the operation of the unit;
- (c) to have sufficient knowledge of fire strategy to be able, in the absence of a chief officer, to make a proper "size-up" or appraisal of a large emergency and assume initial command;
- (d) to be familiar with the district to which assigned and to conduct and supervise inspections for fire hazards;
- (e) to manage a fire station, supervising station maintenance, care of apparatus, and stores.

6-2.2.4 Promotion to Chief Officer. Internal or lateral entry candidates for chief officer should meet the respective designated officer level as outlined within *Fire Officer Professional Qualifications*, NFPA 1021.

6-2.2.5 Promotion to Positions Requiring Special Qualifications. Internal and lateral entry candidates for promotion to positions requiring special qualifications should show education satisfactory to the fire department for the duties of the position. They should meet the requirements necessary for the effective performance of duties required of them. See the NFPA published qualifications standards of the National Professional Qualifications Systems.

6-2.3 Personnel Benefit Programs and Retirement.

6-2.3.1 Personnel Benefits. It is expected that personnel benefits programs normally available to the employees of the community will be extended to the fire service personnel.

6-2.3.2 Retirement Program. A retirement plan should be designed to aid recruitment by making the fire service more attractive to persons who might otherwise seek employment in private industry or in other governmental agencies providing retirement protection.

6-2.3.3 Compulsory Retirement Age. A job related compulsory retirement age should be considered.

It is important to recognize that age and ability, rather than length of service, are the important factors to be considered in fixing the time of retirement. A sound retirement system should provide for retirement on the basis of age, years of service, and physical and mental condition of members as related to the members' duties.

The annual medical examination furnished by the department can provide the basis for appropriate personnel decisions and actions.

Chapter 7 Community Relations

7-1 Promoting Community Understanding of the Fire Department.

7-1.1 The Fire Department's Program to Earn Community Understanding and Cooperation.

7-1.1.1 Community Awareness. The fire department should apply special effort to earn a correct share of community attention through a positive community relations program. Such a program should be a continuing effort and should be a persistent, well-planned and well-organized activity to promote community understanding and appreciation of fire department services.

Community relations is a management function which identifies fire department activities with the various interests of the public. The fire department must justify their programs and resource needs with respect to other municipal departments equally deserving attention of the public.

7-1.1.2 Management of Community Relations. The chief officer of every department should establish and maintain the program of community relations. Because of the nature of community relations, the chief should personally oversee the program, providing such staff assistance as is possible. The overall effectiveness of the program is generally a direct reflection of the administrator's participation in the program.

7-1.1.3 Participation of Fire Department Personnel. There should be a full understanding of the department's organization and functions by department personnel and of what each is expected to contribute to the department's program. The department should be administered with community awareness in mind, and the community relations program should be one in which all members of the department participate. Community relations begins with the conduct and appearance of individual department members. A vital part of a good program is the manner in which the personnel appear to the public both on duty and off duty, its attitude towards all citizens of the community generally, but especially during home fire prevention inspections and fire fighting operations.

7-1.2 Relations with the Community.

7-1.2.1 Service Needs. The department should attempt to identify the service needs of all segments of the community and perform these services for all citizens without discrimination.

7-1.2.2 Socio-Economic Makeup. In an effort to reflect the socio-economic makeup of the community, the department should actively recruit department candidates from within the community and all of its political subgroups.

7-1.2.3 Understanding. The department should promote public understanding through active liaison with its various citizens groups. Examples of which are: the Chamber of Commerce, service clubs, Parent Teachers Associations, senior citizens organizations and youth groups.

7-1.3 Relations Within the Municipal Government.

7-1.3.1 Governing Boards. The fire department's program should make sure that the members of the municipal council, board or commission (or governing body of its fire district) are kept fully informed of the department's achievements, operations and problems.

It is important that governing bodies provide the fire department with an organizational setup which makes possible good public relations, and the financial support for these activities. It is first a matter of placing the administration in the hands of an officer who is free to apply such techniques. This requires selection of the best qualified persons, not only for the chief officer's position, but for all the other positions in the department as well.

7-1.3.2 Municipal Executives and Employees. The fire department should carry out its public relations and educational programs in such a way as to strengthen the position of all departments of the municipality with which it may be associated. The chief municipal executive (mayor or city manager), heads of principal municipal departments and municipal employees generally, should be kept informed of the fire department's operations and programs. Municipal department heads should be consulted in all programs which may affect their departments or where support of their departments may be helpful. The various planning agencies, water and building departments should receive particular attention.

A fire department is most commonly only one department in a municipal organization.

7-1.3.3 Intermunicipal Relations. Fire department public relations programs should be coordinated with those of neighboring communities especially as to the timing and scope of effort of education campaigns. They should also be tied in with area, county and state-wide fire protection activities and fire prevention programs.

Public relations work has intermunicipal aspects, since the work of each fire department tends to support the others.

7-2 Promoting Community Understanding of the Danger of Fire and its Potential for Injury.

7-2.1 Securing Community Cooperation.

7-2.1.1 Information Services. The fire department should provide for a flow of information to the citizens of a community to help them guard their own safety from fire. All outlets for dissemination of information including neighborhood, ethnic, social and youth groups should be used.

Active concern for and understanding of the hazards of fire by the public is necessary for the best efforts of fire departments. The great body of reports of individual fire departments confirms this. In a majority of cases, a significant factor contributing to the cause or spread of fire is human failure — failure to recognize hazards and take adequate preventive measures, failure to act intelligently at the outbreak of fire and failure to take action which would limit danger. The problem of personal fire safety is particularly acute. In an emergency, inspiration is seldom a substitute for forethought.

7-2.1.2 Consulting and Inspection Services. The fire department should offer consulting and inspection services tailored to best fit the needs of the various properties making up the community. The department should analyze the problem of reaching people in the homes, stores, institutions, industry and other groups in a community to determine how best to inform each group about the fire department services performed for them. Its community relations program should lay the foundation for citizens cooperation in the cases where the fire department must enter property for inspections by making sure that the purpose of the inspection is understood.

7-2.2 Educational Programs — Non-Department.

7-2.2.1 General Purpose of Programs. Educational programs should be aimed at increasing the fire consciousness on the part of the general public. To this end, life and fire loss reduction campaigns should be implemented on a year round basis.

7-2.2.2 School Programs. The fire department should request school authorities to undertake a program of fire prevention education in the schools appropriately graded to the ages of the children and should assist the schools in developing the subject and lesson plans for this instruction.

7-2.2.3 Adult Education. The fire department should develop programs for adult education in addition to programs for children. Programs should be provided for all organized groups of adults before which fire department representatives can arrange to appear. These programs should be presented in such fashion that adults will feel that fire prevention is worthy of adult attention. The challenge to adults should not stop with presentation of the causes of fire, but also should emphasize the danger from rapid fire spread resulting from certain known structural features of buildings, of which open stairways, highly combustible finishes and lack of partitions are examples. The effect of these structural factors in the outcome of fires with large loss and heavy loss of life should be visually explained from typical examples to adult audiences, including architects, builders and industrial and commercial operators.

7-3 Educational Programs for Department Personnel.

7-3.1 Scope. Educational programs for department personnel should be directed to all members of the department. They should be of a continuous, on-going nature capable of responding to changes in the community's perception of the department.

7-3.2 Objective. Educational programs should inform personnel of methods to communicate to the community served and to respond to their existing needs consistent with the objectives of the department.

Chapter 8 Management of Water for Fire Protection

8-1 Water Organization and Operations.

8-1.1 Water Organization.

8-1.1.1 Fire Flow Requirements. The fire department should establish minimum fire flow requirements for representative locations in the municipality or fire district.

The fire flow requirements are based on estimates of the number of hose streams required at a given location. Technical assistance in the analysis of requirements is available from water utility engineers and engineers of the fire insurance rating office having jurisdiction.

In addition, the fire department should predetermine fire flow requirements for proposed construction involving structures or complexes of structures. In cooperation with the building inspection department, satisfactory plans for provision of such flows should be a condition of authorization to issue a building permit.

8-1.1.2 Water Officer. The fire chief should assign a water officer to maintain regular contact with the managers of public and private water systems and to keep the department informed about all sources of water available for fighting fires. Other duties in which the water officer should assist the fire chief include:

(a) Preparing the information on the basis of which fire department determinations of fire flow are made.

(b) Handling details of joint planning with the water department or water utility for extension of the distribution system with proper location of an adequate number of fire hydrants.

(c) Supervising the department's work in inspection and tests of hydrants, private fire connections and other details of water facilities.

(d) Verifying that maintenance work is completed on auxiliary and other water supply facilities which may be a responsibility of the fire department.

(e) Pre-fire planning for water supplies at fires.

(f) Keeping the officer in charge at a major fire informed of any water supply problems and assisting in maintaining adequate flows and pressures.

(g) Defining and, where appropriate, conducting the training of chief officers and other members of the department in water supply matters.

8-1.1.3 Water Resources Maps. Each company in the fire department should maintain a water resources map of its first due area. The map should indicate location and size of mains in public or private water systems, and indications of any sections where insufficient flows or pressures will require special operations. The map should show locations and capacities of hydrants on such systems and data on location, accessibility and capacity of auxiliary water supplies. Chiefs and battalion chiefs should have similar maps in their cars. The companies should keep the maps and file data in a form prescribed by the fire chief. It should be made the responsibility of the individual fire company to make inspections of the water facilities assigned to it and to discover any changes in these water facilities. Changes should be reported to the water officer or fire chief.

8-1.1.4 Training. The training program of the department should include information and instructions with regard to water supplies available and their use. All members of the department should have a good knowledge of the subject. In addition, periodic field exercises should be conducted to give all members a better working knowledge of the public water utility system and other water supplies available.

Training is particularly important for pump operators and officers.

8-1.2 Water Operations.

8-1.2.1 Operations at Fires. The fire department should have standard operating procedures at fires. These should be established for at least two categories of water supply situations: one, where the supply is strong and where access to property is relatively good; two, where the supply is basically weak or weak due to local problems of access.

8-1.2.2 Mobile Water Supply Apparatus. For operations outside the service area of any water facility, the fire department should provide portable pumps and mobile water supply apparatus with large water tanks. It should also develop the necessary operating practices to effectively utilize water supplied by such equipment.

Many fire departments have large areas to protect where the water supply may be limited to domestic wells or some comparatively simple system for each dwelling. There are also numerous properties where water facilities are not close to the property or where there are problems of access to the property or to an auxiliary water supply. (*See NFPA 1901, Automotive Fire Apparatus.*)

8-1.2.3 Fire Department Inspections and Tests. The fire department should set up a program of investigations, inspections, and tests to provide current information on the availability of public or private water for fire protection. It should decide what investigations, inspections, and tests are to be made and when they are to be made and by whom. This work should be assigned to appropriate members of the department.

8-2 Water Supply Facilities.

8-2.1 Public Utilities.

8-2.1.1 Fire Department Initiative. The fire department should constantly study all water sources and maintain liaison or initiate negotiations with any water authority on matters of importance to the fire department. When the department does not have authority to make determinations on what is provided in water supplies for fire protection, particularly in the case of new residential and commercial developments, the fire chief should request it. The fire chief should take such initiative through appropriate administrative channels: his commissioner or board or the chief administrator of the city. The fire chief should make periodic reports in writing to the head of any water department or water company affected outlining recommendations that he may have for forthcoming developments in various parts of the fire district. He should also discover the weaknesses in the water supply in existing portions of the district and make recommendations for their improvement.

In general, the fire department does not have responsibility for the design, installation, maintenance or operation of the water systems from which it must get water for its fire-fighting operations. In most protected municipalities, water supply for domestic and fire protection purposes is provided by a public water works system owned and operated by a municipal water department, or a privately owned water company. In some instances, water for domestic service only or fire protection purposes only, is supplied under public or private ownership through independent systems which are not necessarily under the same ownership. Public utility water supplies may consist of any combination of the above described facilities. While most fire departments have only one utility with which to maintain liaison, some departments have several.

The liaison relationship that is developed between the water utility and fire departments is affected by who operates the water utility. However, there are four simple rules helpful in such a relationship under any circumstances.

First, members of the fire department should not consider themselves experts in the problems of water supply. They should establish the criteria for fire service water supply but look to the water works engineers for system design and operation.

Second, water utility officials should accept their responsibility as an important element of the community fire protection system and look to the fire department for advice on supply needs, the location of hydrants, and the type of hydrants.

Third, both the fire department and the water utility should each appoint a liaison officer who is primarily concerned with carrying out the responsibilities of public fire protection service. In small departments, the fire chief and the water works superintendent may well perform this

function. In larger departments, a fire department staff officer and a water works engineer would be appointed to carry out any and all agreements.

Fourth, the most important aspect of the relationship is to insure that necessary information is supplied when needed by each agency. This is one of the advantages of appointing a liaison officer who will make it his business to make sure that all changes affecting operation of either the fire department or water utility are reported. The fire department should report any immediate problems that come to its attention affecting the water supply.

The water utility is usually an operating entity separate from the fire department. The fire department has no jurisdiction over the water utility and it is therefore limited to advisory activities and cooperation in order to maintain a harmonious relationship with the water utility. The fire chief and the manager of the water utility should maintain close liaison or assign specific individuals to such work.

The easiest liaison is where the utility is owned by the city and both the fire chief and the manager of the water works report to the chief administrative officer of the city. The respective responsibilities of the two departments should be clearly delineated and liaison personnel should be provided. The chief administrator should resolve conflicts making recommendations to the city's council or governing board where needed.

Relationships are more complicated where the city owns the utility but an independent administrator or board is established to govern its operation. One way to improve the relationship of this type of organization is to make the fire chief, ex officio, a member of the water authority board.

8-2.1.2 Contracted Water Utility Service. The fire department should be familiar with franchise and contract provisions of utilities which affect its operations. The fire department should act through appropriate administrative channels to see that any needed revisions of franchise or contracts are made whenever such franchises or contracts are renewed.

In the cases where the utility is privately owned, or in the cases where the utility is owned by a public authority serving an area larger or smaller than the fire department area, the utility may have a franchise or contract with the city or fire department area authority. These franchises or contracts give the utility certain basic rights. It is particularly important to the fire department that the contract should include terms adequately reimbursing the utility for the fire protection service it furnishes. A utility not properly paid for fire protection can be expected to skimp such service as a result of which the fire department may be inadequately served.

8-2.2 Hydrant Service.

8-2.2.1 Approval of Hydrant Installations. Where the fire department does not already have authority for the approval of hydrant installations, it should request such authority. The request should be directed through appropriate administrative channels to the fire district or municipality which may operate or contract for the public utility water service. The fire department should approve not only the size and type of hydrants, number and size of outlets, and the threads used, but it should approve each specific hydrant location and installation. Hydrants should be placed with consideration of their possible use as reflected in the hazards of the locality.

For example, a rough rule often followed is to place one hydrant near each street intersection and to set intermediate hydrants where the distance between hydrants exceeds 350 to 400 feet. However, for commercial and industrial property, additional hydrants may be needed to deliver fire flows required by additional hazards and increased areas of construction. The fire department is in the best position to decide when conditions require this or a similar rule to be modified.

8-2.2.2 Marking Hydrants. The water officer should see that hydrants are marked to provide pumper operations with some idea of the flow available.

One method used is to stencil on the hydrant barrel the size of the water main on which the hydrant is located. Another method involves painting the tops and caps of hydrants green for flows of 1,000 U.S. gallons per minute or more, orange for flows of 500 to 1,000 gallons, and red for small flows less than 500 gallons. Flow data on individual hydrants is principally of value in weak areas of a distribution system and on dead-end mains to alert officers and pumper operators regarding very limited flows.

8-2.2.3 Inspection of Hydrants. If not inspected and tested by the water utility, the fire department should inspect and test all hydrants at least once per year, preferably twice per year, and after use at fires. On the basis of this inspection, the fire department should file a report with the water utility asking for specific relocation, repairs, or other adjustments needed in the case of each hydrant.

8-2.3 Private Fire Connections.

8-2.3.1 Approval and Supervision of Private Fire Connections. Private fire connections are the connections from the public utility street mains which are made in individual properties to furnish water for fighting fires. The simplest connections serve sprinkler or standpipe systems. More complicated situations are where the connections feed private underground yard systems and hydrants or storage tanks such as those providing a private fire pump supply.

The fire department should know how water systems in individual properties supplied by private fire connections may be employed most effectively in fighting fires. Where it does not already have the authority for approval and general supervision of private fire connections it should request such authority. The request should be directed through appropriate administrative channels to the fire district or municipality which may operate or contract for the public water utility service. The water utility should be required to inform the fire department whenever a connection is made to supply fire protection piping in a specific property and to furnish detailed plans of the connection when requested by the fire department. The fire department should approve any fire department connections provided in private piping.

8-2.3.2 Records and Inspections. The fire department should maintain a file of records or plans of the piping and valves in all connections to water utility systems for fire protection of specific properties. It should inspect such connections at the time of installation, when changes are made, when pre-fire plans are being made and at other times as necessary or at least annually.

Particular attention should be given to pumps supplying standpipe systems.

8-2.3.3 Encouragement of Private Fire Protection. The fire department should do everything it can to encourage individual property owners to provide automatic sprinklers and other private fire protection to make fires more readily manageable by the fire department. It should recommend that the fire district or municipality authorize, for private fire connections, no unnecessary meter requirements or any charge not representing a real cost to the utility.

Some occupancies, such as large supermarkets, warehouses and manufacturing plants, present fire situations unmanageable if not protected by automatic sprinklers. Some occupancies, such as nursing homes, convalescent centers and hospitals, involve a serious life hazard without sprinkler protection. Fires in tall buildings are extremely difficult to fight if the buildings are not provided sprinklers, or at least with standpipes to feed fire hose outlets.

Signaling supervision of built-in detection and suppression systems provides early warning and enables more prompt fire department response. The installation of such systems should be encouraged where alarm transmission and receiving facilities are available or may be provided.

Fire line meters, "detector-check" meters, together with pit requirements, are heavy expenses which tend to discourage private fire protection. Meters are generally unnecessary on connections to systems which consist only of automatic sprinkler piping. Annual charges which go beyond actual cost also tend to limit use of private fire protection.

8-2.4 Auxiliary Water Supplies.

8-2.4.1 Sources Alternate to Public Utilities. The fire department should study alternate sources of water, as no community can completely avoid interruptions of its normal supply.

Water which a fire department can use is available in many communities from natural lakes and ponds, streams and the ocean. To make them available for pumper suction, these sources usually require that dry hydrants and piping be installed or that driveways, ramps, platforms or floats be provided. There is also water which could be made available for fire protection but which is not provided for that purpose. Examples are swimming pools, decorative pools and the like, stock tanks (as on farms) and even water in storm sewer systems.

8-2.4.2 Contracts for Auxiliary Water Use. Where auxiliary water sources are privately owned, or under the control of a public authority, the fire department should consult with the parties concerned. Written agreements to avoid questions regarding the fire department's use of the particular supply and to settle questions of liability and responsibility for maintenance should be recommended by the fire department to the municipality or fire district.

8-2.5 Private Water Systems. **Supervision of Valves.** The fire department should encourage managers of properties with private fire protection systems to notify it when any of the valves controlling private water supplies have to be closed for repairs, extensions, or for other reasons. Plants, particularly those without an official assigned to fire loss prevention, should be asked to require maintenance personnel to notify both plant management and the fire department of system impairments.

Managers of industrial and other properties with extensive yard systems of private piping for fire protection usually require employees to notify the officer in charge of loss prevention in such cases. In such plants, notification of the fire department would not involve any prohibitive additional work and this would be a valuable supporting service to plant protection.

Chapter 9 Operating Procedures

9-1 Organization.

9-1.1 Organizational and Operational Orders.

9-1.1.1 Principal Subjects of Orders. The fire chief should establish the organizational and operational procedures of the department by issuance of regulations and orders. These should be published and circulated to all department members.

9-1.1.2 Laws and Ordinances Which are Basis for Orders. The fire chief should be governed in the formulation of regulations and orders by provisions of all laws or ordinances which apply. He should maintain a file of such documents.

Statutory law provisions by which fire departments may be organized include statutes such as the city charter or a special act under which the fire department area is created. In addition, there are provisions of the city or fire district which are expressed in ordinances, some of which apply to the fire department organization and operations. In some states and provinces, they include civil service provisions and provisions relating to working hours of members of the fire department.

9-1.1.3 Orders and Regulations. Departmental regulations and orders should be developed for the purpose of assuring uniformity of department actions and operations. Material circulated to members of the fire department for information should not be included in documents or communications identified as regulations or orders.

9-1.1.4 Departmental Regulations. Orders with which all members of the department are concerned should be identified by general subject (codified) and published in a form appropriate for distribution. Such regulations should cover matters not requiring frequent changes and should be reviewed at least annually by a committee representing all department interests.

9-1.1.5 Special Orders. Orders which are special, in the sense that they apply only to specific individuals or situations, should be in written form or otherwise appropriately recorded. The time they should be preserved, for record purposes, should be included in such orders.

9-1.1.6 Channels for Orders. The departmental regulations should specify the channels through which orders are to be transmitted to maintain the effectiveness of officers directing operating units or companies, station, district and division jurisdictions. Officers having jurisdiction should not be by-passed in issuing orders, either for administrative purposes or at the fireground. Written orders should go through the established chain of command and it should be required that they be acknowledged in most cases. In reverse order, the chain of command should also be used for reports and other official communications from units to headquarters.

9-1.1.7 Handling of Orders by Companies and Other Units. The departmental regulations should require that all special orders issued in writing be read to members and that a roll call for this purpose be held when each working shift is coming on duty. The company or unit officer should maintain a file with such orders preserved consecutively. No order should be removed from this file unless it is updated or rescinded. All members should have access to the official order file of their unit. Orders should be periodically reviewed by the officers with the members of their units, company classes or meetings being held for that purpose.

9-1.1.8 Succession. Departmental regulations should state clearly the sequence in which all members succeed to command responsibility.

This is necessary to assure continuity of operations due to death, injury, disability or absence of individuals. Succession may include the designation "acting" in a different position or rank, but does not imply automatic reassignment or promotion.

9-1.2 Companies.

9-1.2.1 Identification of Companies. Personnel to respond to fires and emergencies should be organized in company units and appropriate related equipment assigned to such companies. The fire chief should determine what fire company units should be provided. All personnel, except those assigned to staff units or those serving as chief officers should be identified with a company unit.

The apparatus and responding personnel need to be designated so that they can be identified in orders for response. Such identification is necessary for the use of dispatchers. Good organization requires no more company units than actually are necessary. Too many small company units are produced if a company is organized for each of the pieces of special purpose apparatus a department is likely to have. It is the fire chief's responsibility to see that the best use is made of personnel and equipment and that the company organization provide as much as

possible with respect to capability to respond to fire alarms and emergency calls in the community. The apparatus and related equipment assigned to an individual company may include equipment for use of company personnel responding from the station on first alarm, pieces to be manned by off-duty personnel recalled and pieces provided as a reserve in case of breakdown of first-line equipment.

9-1.2.2 Responsibility for Equipment. Departmental regulations should specify the fire company officer responsible for all apparatus and equipment assigned to the unit including the care and specific maintenance of all such equipment. These should cover equipment both active and reserve, records of use, tools and appliances assigned to it. The regulations should specify the regular inventory controls which should be exercised by the company officers.

9-1.2.3 Working Positions of Company Members. Departmental regulations should specify company officers as responsible for assigning individual members to the various working positions on the apparatus. They should require company officers to see that drivers, operators and other members have properly qualified under the department's training procedure for their assigned duties.

9-1.2.4 Training. Departmental regulations should specify fire company officers as responsible for training of members of their companies in use of all equipment and familiarity with hazards of serious importance apt to be encountered in their area. The operating methods and training routines covered in company instruction should be those issued by the department training officer.

9-1.2.5 Inspection Responsibilities. Departmental regulations should assign each company a district in which it is to be responsible for the programs of the department, including inspections. In such districts, the company officer should be responsible for familiarization with properties protected and its part in pre-fire planning operations. (See Section 8-1.1.4.)

9-1.2.6 Orders to Individuals. Orders addressed to individual members of companies, particularly verbal orders or orders at fires or emergencies, should be transmitted through the company officers whenever possible. The company officer should transmit orders assigning personnel to assist another company, regularly or for a definite period. The officer to whom such personnel are assigned thereafter should issue orders to them for their return to original assignments.

Such measures are essential to keep the chain of command functional, so that at any time each person knows to whom he is responsible and each company officer knows which personnel are at his direction. Responsible company administration is thus maintained.

as public education, fire prevention inspections, inspections of public hydrants and fire protection facilities, inspection of fire protection equipment in individual properties in the company inspection districts, training and pre-fire planning.

9-1.5 Chief Officers.

9-1.5.1 Designation of Chief Officer. A suitable number of chief officers should be designated and departmental regulations should provide that at least one of these is available to respond to direct operations at a fire or emergency. Such chief officers should be identified with company manning.

9-1.5.2 Battalion or District Chiefs. The assignment of the chief officers to specific districts should be considered whenever the number of companies makes it desirable or whenever geography makes long response distances. Department administrative regulations should indicate clearly the jurisdiction of district chiefs so that they know at any time what stations are under their direction.

9-2 Duty Requirements.

9-2.1 Working Shifts.

9-2.1.1 Duty Periods. Departmental regulations should establish working groups or shifts so that a known proportion of the available force will have an on-duty status. This would include personnel assigned and present at a particular duty period. In departments where all or part of the force is volunteer or paid-on-call, a list of personnel required to be available for response for similarly defined duty periods should be provided.

9-2.1.2 Recall Status. Departmental regulations should define the recall procedure of all members. Procedures contemplated by the regulations should be periodically tested.

9-2.1.3 Defining When Duty Status Actually Changes. Departmental regulations should provide that individuals in on-duty status remain on duty until the individuals on the next duty shift are declared on-duty by the appropriate officer.

In general, these same arrangements may apply in departments which have volunteer or paid-on-call personnel. In all departments the duty roster should not be interpreted to automatically change duty status at a given time.

9-2.1.4 Responsibility for Temporary Assignments. Departmental regulations should indicate the on-duty strength to be maintained in each company. Where this is one method of maintaining

9-1.2.7 Situation Reports. Departmental regulations should require the officer or member in charge of the first company to arrive at the scene of any fire or emergency to give a brief situation report to the dispatcher indicating the nature and extent of the emergency.

9-1.2.8 Run Reports. Departmental regulations should require the company officer to prepare a report on each run made, giving specified information. Company run reports should describe the location and nature of the fire or emergency and duty performed. They should include the names of the members responding with the equipment and the names of other members reporting for duty at the scene of the emergency to show what portion of the company strength is actually usable in the effective minutes.

The record of arrival time of all department units is particularly important. It is useful to show when fire station locations may be outdated by excessive response time. It helps to determine if notification arrangements are satisfactory for members on call and if their response is effective. Where companies are not required to report their arrival by radio, times stated may be approximate, but a rule requiring the report of first arriving company by radio is desirable. (*See Section 11-2.2.2.*)

9-1.3 Company Officers — Jurisdiction of Company Officers. Departmental orders or regulations should specify the jurisdiction of company officers so that they know at any time which men they have under their direction and to which superior officer they are responsible.

9-1.4 Station Officers.

9-1.4.1 Station Officer in Charge. Departmental regulations should designate the officer, among those assigned to a station at a given time, who is to be responsible for each fire station and for the most effective use of the time of all the personnel assigned thereto. The chief officer having jurisdiction should be responsible for seeing that station officers in charge exercise proper management of their stations.

9-1.4.2 Apportionment of Company Duties. Departmental regulations should require the station officer to apportion the duties related to station and equipment maintenance among the companies sharing the station. Regulations should also require that the station officer and on-coming officers attached to the station meet at the changing of duty shifts, for the purpose of coordinating duty assignments between the shifts.

9-1.4.3 Coordination of Company Activities. Departmental regulations should require each station officer to coordinate his company's activities to execute the various programs of the department, such

company strengths, they should charge an appropriate officer with responsibility for making temporary assignments from one company to another and keeping a record of the assignments. This officer may be the headquarters chief on each shift, a headquarters administrative officer or the district chief of each shift.

9-2.1.5 Administering Temporary Assignments. Departmental regulations should provide that no person should be temporarily assigned to another company for a substantial period. Any exchange of shifts between company members should require written approval of the chief or his designated administrative or personnel officer.

9-2.1.6 Relief Personnel. The working shift arrangements used in the department should be so chosen that all positions essential to effective operations are covered all the time. Because no working shift arrangements can always cover all positions at all times, relief personnel should be used to cover such vacancies.

For situations which occur frequently, the vacancies can be covered by individuals who are temporarily transferred from an off-duty position and paid where appropriate. Each department has its own history of vacancies which has to be reflected in the number of relief personnel budgeted for and employed.

9-2.2 Duty Regulations.

9-2.2.1 Duty Roster. Departmental regulations should provide for a duty roster and procedures for its maintenance. This roster should indicate the current assignments of every member of the department by name and rank. It should show assignments to staff work or special assignments, members on duty in companies assigned to respond to fires and emergencies, members on shifts or work groups, members off duty, members on regular leave or vacation and members on sick leave.

Without a duty roster and recognition of absences for sickness, vacation and time off, response to fires and emergencies is haphazard.

9-2.2.2 Posting of Duty Roster. The master duty roster should be maintained at fire department headquarters. That part of the roster affecting companies and other units should be kept by the officers responsible for each unit and posted in unit quarters or fire stations. In departments with districts (battalions) or divisions, the district or division officers should maintain respective rosters for districts and divisions.

9-2.2.3 Personnel Officer. A personnel officer should be provided where the work involved in maintenance of a duty roster is beyond what the chief himself can do. Officers of each shift should be required to advise the chief or personnel officer, through channels, of assignments

carried out and of changes in future assignments. The roster maintenance procedure should provide for consultation with officers of each shift regarding personnel regularly assigned to their platoon or group. Company officers, and district and division officers, in turn, for payroll purposes, should be required to report assignments carried out, report absences and the reason therefore, and forward information as to sickness or other absences requiring modification of the regular duty schedule.

9-2.2.4 Vacations and Holidays. Departmental regulations should designate holidays and general vacation periods for department personnel. The roster maintenance procedure should provide for approval of the chief or personnel officer of the vacation and holiday schedule of every member and there should be a procedure for recognizing preferences of members for various time-off periods.

Vacations and holiday absences require adjustments in most work systems and an orderly procedure is necessary for keeping vital positions covered.

9-2.2.5 Absence Due to Sickness and Injury. Departmental regulations should set up a procedure for handling absences due to sickness and for avoiding unnecessary absences. The orders should specify that records of absence for sickness be entered in a medical file kept as part of the personnel file on each member. The fire department should prepare a program to promote physical fitness and health maintenance of all members.

The fire department should have one or more physicians on call for assistance in handling absences due to sickness and injury.

9-2.2.6 Seniority Roster. A fire department should keep a seniority roster. This should not be confused with the duty roster, the purposes of which are quite different. Seniority is used for ranking personnel for retirement, for order of authority, for direction of operations, for priorities in off-duty time and for other situations, details of which are not otherwise specified.

9-3 Response to Fires and Emergencies.

9-3.1 Response Orders.

9-3.1.1 Routine Response Orders. Running assignment or equivalent facility should designate the response of company units and chief officers to fire and emergency calls, including those available as off-shift or out-of-city forces. The dispatcher at fire alarm headquarters should be responsible for knowing the location of all company units and chief officers and their availability for response to calls for fires and emergencies. The running assignment should be predetermined by

response orders and should be published or posted for instruction of all members of the department. Chiefs assigned to response duty should be held responsible for responding to fires and emergencies in accordance with the orders as shown in running assignments, and officers of company units should be held responsible for the response of their respective units.

9-3.1.2 Preplanned Basis of Response Orders. Orders for response as shown in running assignments should be based on procedures developed by study of the situations for which response may be needed.

The running assignments reflect the work which is done in pre-fire planning and the planning for handling the emergency calls, the requirements for which can be anticipated. For all properties specifically covered by preplanned procedures, a separate running assignment is prepared. For properties such as those of residential or mercantile districts, running assignments based on the general response planned are prepared by zones or general locations. Where there are street fire alarm boxes, a running assignment is prepared for each box location. Even where there are no street boxes, points in the city may be given coded numbers identifying these points just as if street boxes were located at them. They are often described as "phantom" boxes. When telephoned alarms are received, it is usual to send response corresponding to the nearest street or phantom location.

9-3.2 Company Response — Deviation from Preplanned Response. The dispatchers should be given the running assignments showing the response schedule to be normally followed and instructions to use judgment, within departmental guidelines, when they observe conditions or a situation developing that requires modification of normal response.

The dispatchers can be given instructions to put into operation reduced assignments when an unusually high frequency of calls is experienced. The commitment of a certain percentage of companies on duty can be used as a yardstick to determine when this occurs. At a big fire, many calls are received which the operator cannot positively identify as additional fires. In such cases of doubt, he may be instructed to reduce first alarm response assignments. He can be furnished with special running schedules for certain areas during a brush or grass fire season. He should also be instructed as to the response which should be sent to calls out of the fire department area.

9-3.3 Response Requirements.

9-3.3.1 First Alarm Response. Individual response to a fire or emergency, usually described as first alarm response, should be a force able to perform something more than first-aid service. The exact re-

sponse to be provided should be determined as a result of pre-fire planning which takes into account a large variety of conditions.

Where the water supply is such that water for fire fighting must be either trucked or supplied by pumpers in relay, additional pumper or mobile water supply apparatus should be provided in the initial equipment assignment.

9-3.3.2 Multiple-Alarm Response. When a fire or emergency requires forces additional to those responding on first-alarm, the exact response should take into account all foreseeable conditions as developed by actual pre-fire plans. Second-alarm response should ordinarily be equal to the first-alarm response but as a general rule this may be modified in plans by certain locations, times of day and other conditions.

9-3.3.3 Disaster or Unusual Emergencies. For unusual emergencies requiring the calling of large numbers of companies, and where such forces are available, the response orders should provide for calling companies in groups. It should be necessary for the chief at the fire emergency to give only one signal to the dispatcher for response and the dispatcher should have to give only one signal to advise such companies of the required action.

9-3.3.4 Response of Off-Shift Forces. Situations for which recall of off-duty personnel is required should be defined in department regulations; and how it is to be accomplished should be stated.

9-3.3.5 Response of "Out-of-City" Forces. When companies from another municipality or fire district are to be employed in a response, a legally acceptable relationship should be established between the parties. Where out-of-city forces are utilized, they should be provided with adequate personnel and direction.

9-3.3.6 "Covering" Response. Procedures should include provisions for redistributing available companies within the community in such a manner as to provide the best possible protection in the event of calls additional to the first. Intelligent scheduling of response from and to designated stations can do much to give the fire department area the best coverage by available fire companies at all times.

Chapter 10 Fire Prevention, Inspection, Investigation and Education

10-1 Objective. The objective of a coordinated fire safety program should be the reduction of life and property loss through the elimination and public awareness of fire hazards within the community.

10-2 Programs.

10-2.1 Fire Prevention.

10-2.1.1 Activities. The fire prevention activities of the fire department should include but not be limited to the following:

- (a) Informing the public about fire safety and securing the cooperation of individuals and property owners in practices for their own safety and the safety of others;
- (b) Consultation with the public on matters affecting fire safety;
- (c) Inspection of properties for situations which create fire hazards affecting the public safety;
- (d) Regulating the transportation of dangerous materials within or through the community;
- (e) Preparation of special orders for situations not covered by specific provisions of ordinances or laws. Also forwarding recommendations on provisions needed in fire prevention codes and building codes to the proper agency;
- (f) The enforcement of laws, ordinances and administrative orders for the public safety;
- (g) Direct involvement in the development and implementation of fire, life safety, fire prevention and related codes and standards.

10-2.1.2 Participation of Members. All members of the department should participate in the various fire prevention activities. The department should establish routines so that each member understands the tasks to which he is regularly or periodically assigned. A wide range of talent for the fire prevention activities is required.

10-2.1.3 Training. The department's training program should provide all members with suitable training in fire prevention work so that members may be steadily upgraded from abilities to per-

form the simplest tasks of inspection and consultation to the more difficult and complex. All members should be trained in fire prevention education work.

10-2.1.4 Fire Company Inspection Work. Company inspections should be utilized for identification of hazards to life and property within the community and for familiarizing personnel with individual buildings and locations where they may have to fight fires.

The fire chief should assign inspection duties to individual fire companies. Each company should be expected to know about all automatic sprinkler systems and other fire protection equipment in its district, including hydrants, and by inspection, be kept informed that sprinkler valves are open and other protective equipment is in order.

Inspection responsibilities involve establishing a geographical area in which the company shall make inspections and a schedule specifying the number and types of occupancies and inspection frequency based on fire and loss potential. Inspections are needed of all occupancies in which there may be hazards or equipment for which certificates of occupancy, licenses or permits are required. Company inspections include work done by the company officer or members on individual assignments, or inspections made by the company as a whole. Special inspection activities may be required on an around-the-clock procedure.

10-2.1.5 Consulting Work. The fire department should be prepared to furnish consulting service as a means of making its fire prevention work effective. The department should work with architects, engineers, building and other officials but should not limit its work to these. Consultation should also be direct with property owners, managers and occupants. To be of maximum service, the fire department should work with people in the community to show them the best accepted methods of dealing with fire hazard situations. For problems on which the fire department is frequently called, the department should develop standard recommendations for specific applications. The fire department should also be prepared to help people with less familiar fire problems. It should provide an office to which people can come for any possible help with problems of some complexity. The fire department should maintain a library of reference materials, handbooks and publications for consultation by qualified persons. In addition, the chief and other officers should be acquainted with individuals outside of the fire department who would have specialized knowledge or experience and to whom people with special problems may be referred.

10-2.1.6 Preparation of Recommendations. The fire department should be prepared to formulate recommendations on matters which affect fire prevention. The department should provide general recommendations and explanatory materials which individual members may distribute to answer common questions. Recommendations on these

subjects should be thoughtfully prepared and issued to answer questions and to secure correction of the fire hazard or defect in protection. Records should be kept of recommendations prepared for each new situation. From these, the department should accumulate a file describing recommended practices which have been found to be helpful. The fire department should adopt a policy on the issuance of formal or written recommendations. Some should be issued only by the chief or by a fire prevention bureau to which the chief has assigned responsibility for such issuance.

Fire department educational work requires the preparation of statements which are readily understood and which suggest appropriate courses of action by individuals. Fortunately, most fire prevention actions have to deal with situations which arise time and time again in substantially the same form. In consulting work, most situations will also be familiar ones. A file of subjects on which it is necessary to issue recommendations helps to identify subjects to be covered by building codes and fire prevention codes.

10-2.1.7 Plans Review. The fire department should review plans of all buildings or projects which could produce fire fighting problems or develop hazards which could affect neighboring property or the safety of the public generally. The fire department should recommend that fire prevention and building codes require plans of such projects to be submitted to the fire department. Where no such provision exists, the fire department should request cooperation of property owners or a building department or other governmental office to which such plans are submitted. The plans review should be assigned to competent department personnel who should be expected to follow up the review by appropriate consultation and preparation of recommendations.

A cooperative arrangement with the building department for the review of such plans is important.

10-2.1.8 Files and Records. For properties, the inspection of which is a matter of considerable detail, a fire folder should be maintained at fire headquarters or by the fire prevention bureau. The master files at headquarters should accumulate (or summarize information from) reports on inspections by company officers and shift chiefs. These officers should keep a folder duplicating the headquarters' folder for their purposes. Fire headquarters, or the fire prevention bureau, should provide shift chiefs and fire company officers with records of inspections in their districts made by the bureau or other information about each property the bureau may obtain from any source.

For many of the dwellings and small properties in the city, the fire department may not need to maintain files. However, files are needed for many properties where a certificate of occupancy, a license or a permit has been issued. Files are needed on properties with automatic

sprinklers, standpipe systems, private hydrants or other private fire protection with special notation to identify those that are legally required. This system of files is basic. With it, new data does not have to be compiled every time an inspection is made. Inspection work planning is expedited and time is more effectively devoted to inspection.

10-2.1.9 The Fire Prevention Bureau.

10-2.1.9.1 Bureau Officer in Charge. A fire prevention bureau should be established with one or more fire prevention specialists. The officer in charge of the fire prevention bureau under direction of the chief of the department should have charge of all of the department's fire prevention activities.

The importance of fire prevention activities makes it desirable to develop certain members of the department as specialists to handle fire prevention functions. The size of this staff will depend on the needs of the community and the size of the fire department. In small departments, the fire chief may directly supervise fire prevention activities. The chief officer in charge of this staff agency may be described as chief of the fire prevention bureau, but various titles are in use such as chief inspector, fire warden, or fire marshal. Fire chiefs may also assign to the chief of the fire prevention bureau direction of public relations, research and planning and fire investigation.

10-2.1.9.2 Personnel. The personnel of a fire prevention bureau should be made up of those members of the department best qualified for the work. In addition, some specially qualified technical specialists should be made available whenever possible. Bureaus in a large city, or serving any city desiring to have maximum bureau effectiveness, should include staff personnel of special qualifications such as chemists or chemical engineers. In addition, the services of one or more fire protection engineers should be available. It is expected that personnel of chief officer rank or other responsible authority qualifying as fire protection engineers will enhance over-all fire department capability in addition to effecting a superior bureau.

The greater the range of technical skills available, the better the work the department can do. (*See NFPA 1031, Professional Qualifications for Fire Inspector, Fire Investigator and Fire Prevention Education Officer.*)

10-2.1.9.3 Schedules of Work. The fire prevention bureau should recommend to the fire chief the schedules of inspection work for fire company group inspection and for inspection by company members, company officers and chiefs of shifts.

10-2.1.9.4 Training Responsibility of Bureau. The fire prevention bureau should define the scope of fire prevention training given to all members of the department and assist the training officer in the execution of these training programs.

10-2.2 Inspections.

10-2.2.1 Purposes of Inspections.

10-2.2.1.1 Inspections to Develop Procedures for Fires and Emergencies. Inspections should be performed for the identification of hazards to life and property and for pre-fire planning of fires and other related emergencies.

10-2.2.1.2 Fire Prevention Inspections. Fire prevention inspection work should be conducted by the fire department to contact and educate the public and as a step in its consulting services. Fire prevention inspections should be initiated by the department to enable its members to know of situations creating fire hazards affecting the public safety. Inspections should also be made to comply with provisions of laws and ordinances which specify specific fire department inspections be made.

The absence of laws authorizing inspection specifically is no reason not to make inspections. The fire department has an implied obligation to act in the public interest and legal backing for any particular inspection should be obtained. Almost all commercial and industrial buildings contain storage, processes or operations which require inspections. Hazardous materials are transported through the community and these, too, require fire department supervision by periodic inspection.

A fire department has two general categories of inspections to make for fire prevention. One relates to securing the removal of unnecessary accumulations of combustible waste and rubbish, correcting common hazards like unsafe heaters, improperly maintained fire extinguishers, blocked exit and access doors, lack of required permits, certificates or licenses and numerous like matters. This class of inspection work is described in some departments as common hazard inspections. The term is not used to imply that these are unimportant, since they make up, by far, the largest part of the department's inspection work. They include a great many matters which have to be dealt with repeatedly. The necessary corrective measures are easy to understand and almost any member of the department can be readily trained to issue the needed orders for correction.

The other category of inspection work is that requiring personnel with technical education, specialized training and experience who must put in more time making the more definitive inspection, conferring with the parties concerned and with fire department officers and preparing a more comprehensive report set of recommendations. Some of both categories of work can be distributed to the fire companies, fire company officers and district chiefs. Exactly how it is distributed must depend on the departments' resources. Most of the individual inspection work requiring considerable time and experience will be referred to specialists in a fire prevention bureau.

10-2.2.2 The Fire Prevention Inspector. The fire department should provide personnel with personality, talent and technical training required for fire prevention inspection work. An inspector should bring knowledge and experience to bear on the problems to which his work is directed. He should leave a property safer because he has visited it and an improved attitude toward fire prevention by those in charge of the property. He should be capable of persuading people to act for fire safety. An inspector who relies solely on police power cannot accomplish as much as one who relies on salesmanship. However, firm law enforcement activity is necessary.

10-2.2.3 Legal Action.

10-2.2.3.1 File of Laws, Regulations, and Orders. The fire department should keep an up-to-date compilation of all laws, ordinances and its work. The department should also file its own reports and recommendations so classified that they can be cited as evidence of impartiality.

Particularly useful is a file of state and federal laws, codes and regulations applying to transportation of dangerous articles. Another useful file is one of standards of the National Fire Protection Association and other technical societies and trade associations since provisions of these standards can be cited as evidence of good practice.

10-2.2.3.2 Orders. The fire department should recommend that the broadest possible language be used in establishing ordinances thereunder. It should recommend that where a code specifies a list of occupancies to be inspected, the list should be preceded by general authority to inspect any and all occupancies where necessary to safeguard life and property from fire. It should also recommend that a list of subjects on which the fire department is empowered to issue orders should be similarly preceded by general language.

Where a fire prevention law or ordinance empowers the fire department to put its recommendations in the form of "orders," the fire prevention code usually specifies a procedure for the service of such orders. When so served, they constitute a notice that a specific condition is a matter of public concern. It is entirely proper and desirable for an order to have a time limit and to contain a provision that work shall be stopped until compliance with the order is secured. This authority is primarily a convenience to the fire department and the court and it makes prompt action on orders possible where a pressing danger exists. In the absence of such authority, the fire department can still initiate action by taking its recommendations before a court and asking the court to issue the appropriate order. The legal situation is, fundamentally, not different where a fire department is actually seeking "compliance" with codes and laws. It is necessary to "enforce" a law by seeking legal action, as only a court of law has final "enforcement" power. A court may order

that the recommendation of the fire department be carried out, or it may order some other course of action.

The diligence with which the department presents its recommendations affects the success of enforcement efforts. Therefore, the fire department's job, in legal action, is to effectively prepare its recommendations. In many cases, the issues are usually simple, but in extreme cases they may require thorough inspection work, the making of plans, taking of photographs, preparing a careful statement, supported by competent testimony and exhibits, of how the condition cited affects the public safety.

10-2.2.3.3 Certificate of Occupancy. A device employed for convenience of the departments of the city is a certificate of occupancy. Building codes commonly require that such a certificate be issued to record the fact that the building and its protection is suitable for its occupancy. If certificates of occupancy are issued other than by the fire department, the fire department should recommend that the ordinance provisions require the fire department to approve such certificates. Any change in occupancy made without obtaining a new certificate should subject the owner to penalties for code violation.

10-2.2.3.4 Licenses and Permits. The fire department should review the local licensing procedures to make sure that they provide the department notice of conditions affecting the department's fire prevention work. The department should recommend that it be consulted before certain licenses are issued. The fire department should pass on certificates of fitness issued to persons handling explosives and be permitted to comment on the adequacy of financial bonds required. The fire department should make sure it is the permit issuing agency in all matters affecting fire hazards or protective equipment or that issuance of a permit in such matters is conditional on fire department approval.

Licenses are issued to provide lists of occupancies which affect public health, safety or welfare so that they may be supervised. Licenses are also issued to individuals as evidence of their competence to perform certain trades, such as that of a plumber, electrical or gas fitter. Certain permits are required as a tool of administering building codes and fire prevention codes.

10-2.2.3.5 Building Codes. The fire department should review building code requirements and work out with building officials procedures for handling matters on which the fire department has a responsibility. The fire department should recommend that the building code be expressed in terms and administered so as to not permit erection of building complexes which produce unreasonable fire prevention and extinguishment problems.

Traditionally, building officials' activity is finished with the design, erection and completion of the buildings; the fire department's fire prevention activities have to deal with the continued use of the buildings and their contents.

10-2.3 Fire Investigation.

10-2.3.1 Functions.

10-2.3.1.1 Research and Planning. The investigation of fires is basic to good fire department management since it results in bringing to light the factors which can be used to lessen the number and severity of fires in the future. Fire investigation should be a part of the department's research activities since it furnishes data in which its planning can be based. A more specific objective should be the evaluation of all the procedures of the department, particularly its public education program, its inspection projects and its operational procedures at fires and emergencies. Every alarm should be investigated. Each should receive appropriate attention. Many fire departments should make it a practice to find out about fires which are extinguished without the fire department being called simply to be sure some important situation is not being overlooked.

This does not mean each case should be given equal attention. All are not equal as to the useful information they will produce. It is an activity which should not be neglected. It often is neglected in favor of other activities; but, when this is done, the other activities may be misdirected because they are not backed up by local experience.

10-2.3.1.2 Fire Prevention. As a basis for fire prevention work, the investigation of fires should show the location and occupancies at which inspections are most useful and the causes of fires to which the attention of the public can be most effectively directed in educational programs. The investigations should show whether local building and fire prevention codes and their enforcement cover the subjects which are factors in fires and how well they are covered.

The objective of investigating a fire to determine exactly why the fire occurred, including possible criminal aspects, is very important. It is the certainty of investigation which provides a powerful deterrent to a citizen for allowing a fire to occur, regardless of cause.

10-2.3.1.3 Evaluation of Operating Procedures. As a basis for evaluating operational procedures, the investigation should determine whether the department's standard operational procedures were followed. It should produce data to suggest any change needed. The investigation should have the objective of identifying important facts about all operational phases of fire fighting and emergency work. It should cover water supply, equipment, manpower, training, communications, pre-fire planning and other operational details.

It may be necessary to investigate failures of gas, electric or water systems, or leaks or spills involving flammable gases or liquids, or accidents with chemicals or explosives, to determine whether any of these incidents have lessons affecting fire department procedures. It may often be useful to seek qualified specialists to assist such investigation.

10-2.3.1.4 Criminal Fires. If a crime is suspected, special technical assistance for investigation of the criminal aspects should be called in to assist. The department's arson investigators should be notified as early as possible after the fire occurs as well as local police and state and other fire officials charged with investigation of arson, other criminal burning and fire associated crimes.

10-2.3.2 Organization.

10-2.3.2.1 Release of Information. Control and release of all information about fires should be done under the supervision of the fire chief.

Information resulting from investigation of fires may have important significance in the relationships of the fire department with the individuals concerned in fires and with the general public. Thus, the fire chief must exercise control and close supervision. Furthermore, investigation of fires requires maintaining relationships with outside officials (municipal and state, for example). These individuals have a certain statutory responsibility in the investigation of fires which may not in all cases be given to the fire department itself. Investigation of fires usually requires maintaining relationships with utility companies, insurance adjusters, inspection bureaus, companies and agents.

10-2.3.2.2 Fire Investigating Staff. Where the volume of work in fire investigation goes beyond what the chief himself can handle or delegate to members of the department with other duties, he should provide fire investigating staff personnel including a chief fire investigating staff officer. In communities where a fire investigating official may have been established prior to the formation of the fire department, the fire chief should recommend that the official be absorbed into the fire department. Whenever the fire department is in a position to provide qualified personnel for the purpose, and where such authority is lacking, the fire chief should recommend that he and his staff be given statutory authority to subpoena witnesses and take testimony under oath for purposes of fire investigation.

The fire marshal or chief of the fire prevention bureau is also charged with fire investigation work in many departments. From a management point of view, fire prevention and fire investigation are different and, in large departments, justify personnel to perform each function separately. In general, state fire marshals (and some county fire marshals) in the United States and provincial fire marshals in Canada have authority to subpoena witnesses. They may, in turn delegate it to persons in fire departments qualified in the legal procedures. "Fire Marshal" has been widely used as a title for officials with fire investigation responsibilities, but other titles are also used. (*See NFPA 1031, Professional Qualifications for Fire Inspector, Fire Investigator, and Fire Prevention Education Officer.*)

10-2.3.2.3 Arson Squad. In communities where the number of fires requiring investigations is sufficient to justify such procedure, the fire department investigators assigned to such work and the investigators provided by an outside department such as a fire marshal's office or the city police, should be formed into an Arson Investigation Squad.

Such a squad provides a focal point for this work. While much of the work of fire investigators may be concerned with the technical aspects of fires, in a few investigations they will also be concerned with the circumstances suggesting arson, burning to defraud insurance companies, or other criminal circumstances. In such cases, the fire department needs the services of a number of persons whose speciality is investigative work. For many departments, it is sufficient to call in the help of personnel with detective or crime investigation experience from a state fire marshal's office or a county fire marshal's office. In other cases, the fire department can ask the police department serving its community to assist in investigation of the criminal phases of the fire.

10-2.3.3 Reports For Fire Investigation.

10-2.3.3.1 Reporting Routines — Duties of Members. The department should establish routines so that each member of the department fully understands the information he is to acquire on each fire or alarm answered.

Almost every member of a fire department participates in the recording of the sequence of events of a fire. The results of fire investigation are incorporated in various department reports and records. The following sections are a brief discussion of the most important ones. (*See NFPA No. 901, Uniform Coding for Fire Protection.*)

10-2.3.3.2 Fire Alarm Communication Center Record. The fire alarm communication center record of the receipt and subsequent transmission of an alarm should be the usual starting point for the compilation of a file of the investigation of each incident.

10-2.3.3.3 Company Run Report. Each fire company should make a report on its activities at a fire. This report should record what the individual members of the company saw at the fire which might be significant in a later investigation. In addition to giving the minimum information about a fire, such as the time, date and place, this company run report should show the sequence of operations of the company and where it worked.

10-2.3.3.4 Report on Each Alarm. The basic report on each alarm should be the responsibility of the officer in charge of the fire. He should be required to consolidate in his report data on the operations of all companies and service units responding to each alarm. A detailed type

of report should be used to report a fire in a building or a fire such as a loss of life fire which may require the collection of considerable information. The report of a fire in a building should give complete information on the building and its construction and such information as is available at the time of the fire on the ownership of the building and the names of occupants. The report should include a narrative account of the fire not only giving obvious information, such as the progress the fire had made on the arrival of the department and how pumpers and ladder trucks and other equipment were placed, but also suggestions of any kind which may be used as lessons of the fire.

Many alarms do not require an exhaustive report. Fire departments frequently use a simple record form for a report of an alarm other than a fire in a building.

10-2.3.3.5 Supplementary Reports. Reports of supplementary investigations and final information on losses should be added to the report in the file. Some fires require the attention of the training officer, the chief of the fire prevention bureau, the water officer, or other staff officer. Their reports and observations should be filed with the report. In many fires, it would be desirable to also hold a post fire critique by the personnel involved in a fire to review what was done and to note suggestions for changes in operational procedures. A report of any such critique should be made a part of the file.

10-2.3.3.6 Fire Record Journal. Information from the report on each alarm should be posted at headquarters in the fire record journal which is a chronological list of alarms and fires. If no further follow-up is to be made of the particular incident, the report should be filed. Reports should be filed by street and number as this enables the complete fire history of any particular building or location to be quickly identified.

10-2.3.3.7 Summary Reports for Management. From the report and supplementary reports, information should be taken off at headquarters for a consolidated daily report where such a daily report is used, but particularly for a consolidated monthly report or an annual report of the department. (*See Chapter 3, Management Reports and Records.*)

10-2.4 Public Education. (*See also Chapter 7, Community Relations.*)

10-2.4.1 Organization of Public Education.

10-2.4.1.1 Local Fire Prevention Committee. Participating organizations should be formed into a fire prevention committee which helps to consider the overall fire prevention program of the community

and breaks it up into separate assignments for individuals and groups to develop and promote.

While a fire department can make an effective contribution working alone, its public relations activity should enlist the cooperation of every possible group and individual in the community. A community fire prevention committee adds enormously to the resources, skills and manpower available to do effective public education work in fire prevention. Perhaps even more important community-wide participation means community-wide interest in the fire department's program.

10-2.4.1.2 Use of Mass Media. The fire department should use all the media of mass communication: newspapers, magazines, news letters and house organs, radio and television stations, billboards and car cards.

Use of mass media is the basic approach to public education. More people can be reached by these means than any other. Distribution of educational literature, displays and exhibits also effectively reaches large numbers of people.

10-2.4.1.3 Meetings and Talks. The fire department should provide speakers with demonstrations and films for presentation of fire safety information before trade and service clubs, to reach businessmen; meetings of women's organizations, to reach housewives; to PTA, and church groups, to reach parents; and to schools and meetings of youth organizations, to reach children.

10-2.4.1.4 Dwelling Inspections. The fire department should organize a program of private dwelling inspections. An effective program should be scheduled on practically a year-round basis. The approach should be an educational one designed to point out existing hazards to the householder with suggestions for their elimination.

Such a program accomplishes direct elimination of fire hazards and has important educational aspects. From 25 percent to 100 percent of all private dwellings in the community can be inspected annually. During the course of the inspection, pointers on fire safety practices may be given. Every community which has instituted a properly organized and adequate dwelling inspection program has experienced positive results in reduced life and property losses from fire.

10-2.4.1.5 Educating Children. Since children receive most of their formal education in schools, the schools should be the focal point of their training in fire safety. The fire department should see that local schools are adequately supplied with information and materials. The fire department should prepare simple demonstrations for the classroom. Class visits to fire stations should be encouraged, and junior fire department programs should be undertaken.

Children are important objectives of fire safety education as carried on by the fire department. Since they are the principal victims of fire, every constructive effort to instruct them helps to reduce casualties. Even more important, if children everywhere are adequately taught the hazards of fire and trained in safe habits, there should, eventually, be a general public so fire conscious that the incidence of fire will be markedly reduced. How effectively fire education is taught in the schools depends to a considerable degree on the materials available to individual schools and teachers. A fire fighter in uniform talking to a class or school assembly can be an effective teacher. It is important to choose an individual for this task who can translate what he knows about fire safety in terms understandable to children.

10-2.4.1.6 Baby-Sitter Training. The fire department should participate in or initiate a program aimed at giving the baby sitter some basic knowledge and ability to handle emergency situations. Baby sitters should be given fire safety instruction. Parents should be asked to show them the layout of the home and escape routes. They should be told that children are to be taken out of the house at the first sign of smoke or fire, and that the fire department is to be called quickly, preferably from a neighbor's telephone or the nearest fire alarm box.

Baby sitters, usually teenagers, brought into homes to watch over small children for a few hours or a whole evening need careful training. Instances have been reported where training in these simple rules has saved lives.

10-2.4.1.7 Employee Instruction. The fire department should encourage and assist industrial and commercial firms in instructing employees in fire-safe practices on-the-job and off-the-job. It should also see that special efforts to this end are made in hospitals, nursing homes, schools and other occupancies where a high life hazard may be involved. The minimum instruction is that all workers should have procedures explained to them as to how to use exit facilities and turn in a fire alarm. This instruction should deal with the employees' function in reducing physical property losses, production interruptions, and other problems of even the small fire. The fire department should encourage instruction by getting private firms and organizations to provide classes, demonstrations, bulletin board displays of posters and information material, folder distribution, and publicity in house organs published for the employees. Fire exit drills should be periodically held where practicable.

10-2.4.2 Components of Year-Round Fire Prevention Campaign.

10-2.4.2.1 Fire Prevention Week. The fire department should make effective use of the nationally observed Fire Prevention Week, which annually is the full calendar week including October 9th, the date of the great Chicago Fire of 1871.

The Fire Prevention Week campaign provides an opportunity to emphasize the year-round need for attention to fire safety and the responsibility of every individual in the prevention of fire. It is also the occasion to teach and remind people of common in-the-home and on-the-job fire hazards which they personally can control or eliminate.

10-2.4.2.2 Spring Cleanup. Spring cleanup campaigns should also be used. The fire department should make sure that fire safety is emphasized in any general program of home and civic beautification which is sponsored in the community.

A thorough cleaning out of rubbish and trash in homes, commercial establishments, and industrial plants is the objective of these campaigns.

10-2.4.2.3 Holiday Periods. Other seasonal opportunities to stress particular fire hazards should be undertaken by the fire department. At Christmas, information about the proper handling of Christmas trees, decorations, lighting sets and wrappings should be given. Fireworks hazards should be emphasized at the Fourth of July and other holiday periods when fireworks are used. Halloween is a time when parents should be alerted to the hazards of flammable costumes and sources of ignition, like bonfires and candles.

10-2.4.2.4 Monthly Programs. Month-by-month drives should be employed to concentrate for one month on a single subject such as home fire drills, unattended children, bad smoking habits, electrical safety, heating and cooking equipment care, and flammable liquids handling.

This procedure allows time to deal with each subject in detail without the risk of confusing people with simultaneous warnings and information on a wide variety of hazards. At the same time, it serves to keep the public alert to the need for fire safety practices in general.

Chapter 11 Training

11-1 Functions of Chief and Staff Officers.

11-1.1 Functions of Chief and Line Officers.

11-1.1.1 Chief. The chief is responsible for the training program of the department and should designate a chief officer to act for him in administering the program. The chief should budget for training facilities, expendable supplies, training aids, and training staff, both in-house and guest instructors. He should utilize training services provided by a state, provincial or regional training program where available.

For small departments, it may be possible to establish and staff a training facility for an appropriate region, such as a county. Such a training facility can be created by joint action of any group of departments. By joint contract or articles of association the several departments can provide for the government of a joint facility. Each department supporting the facility would be expected to budget for its proportionate share of expenses for facilities, supplies, equipment and staff.

11-1.1.2 Chief Officers of the Line Organization. District chiefs and other chiefs in the line organization should fully support and be required to see that the training activities as prescribed by the training officer are carried out within their respective commands. They should be required to coordinate training with other activities, to make reports on training done and to assist the training officer in evaluating the effectiveness of the program.

11-1.2 Functions of Staff Officers.

11-1.2.1 Staff Training Programs. The staff officers in charge of fire prevention, maintenance, communications and other staff bureaus should be responsible for special training needed by the personnel assigned to their particular staff function. They should coordinate this special training with the other programs of the department and with the training officer.

11-1.2.2 Assistance to Training Officer. All officers should assist the training officer in determining the subject matter, number of hours and other details of training related to their functions which must be given to all members of the department.

11-2 The Training Officer.

11-2.1 Responsibility for the Training Program.

11-2.1.1 Subject Matter. The training officer should recommend the subjects in which training is to be given. The program should be related to the personnel needs of the department, and should utilize all available resources within the community. See the NFPA published Standards of the National Professional Qualifications System.

11-2.1.2 Training Schedules. The training officer should recommend the performance standards to be covered by the training program and develop schedules to assure that the respective members of the department meet the standards. Instruction should be either at the department's own facilities for training, in stations or at regional fire department training schools which may be available. There are often other facilities within the community that can be utilized for personnel training.

11-2.1.3 Effectiveness of Training. The effectiveness of department training should be continually evaluated by department staff, using fire critiques as an aid to such evaluation. At least annually, the program should be reviewed with a report to the chief suggesting new techniques or equipment for changing conditions. The training officer should witness operations at emergencies and at training sessions from time to time to determine progress and to see that training is uniform and that it follows procedures as directed.

11-2.1.4 Records of Training. Staff officers and company officers should make reports on training sessions to the training officer. The training officer should review statements of staff and company officers as to the performance of members of the department assigned to training under these officers. Performance records of members of the department taking instruction at a training school other than one operated by the department itself should be obtained. The training officer should evaluate the performance of members assigned to him for instruction at the department training facilities. He should be responsible for seeing that proper records and evaluation of training completed are furnished the chief for the personnel file of each member of the department.

11-2.2 Responsibility for the Department Training Facilities.

11-2.2.1 Training Staff Personnel. The training officer should be responsible for the work of department personnel assigned to him as instructors or assistants.

11-2.2.2 Training Equipment, Buildings, and Other Facilities. The training officer should be responsible for the operation of training equipment, fire service library, buildings, training aids and other facilities. Departmental rules should cover the use of shared facilities and equipment.

11-3 Company Officers.

11-3.1 Training of Company Members.

11-3.1.1 Company Officers. Company officers should be responsible for the training of members of the company assigned to them.

Members of a fire department are assigned to operating companies for most of their working periods. Most training must be done in company quarters, by the company officer, since the unit must work together as an effective team.

11-3.1.2 Training Schedule. Company officers should be required to complete the training scheduled, putting in the number of hours of training and covering the subject matter as developed by the chief and the training officer. They should coordinate the various daily company activities so that members assigned receive the scheduled training. They should be required to coordinate an individual's training with his off-days so that each man receives all required training in spite of sick leave and vacations. The training schedules of individual companies should be varied for effective use of available training aids.

11-3.2 Evaluation of Training.

11-3.2.1 Lesson Plans. Company officers should use lesson plans utilizing a standard format so that each training session can be measured against a planned program of instruction.

Company officers should exercise versatility in using lesson plans varied according to the company's principal response district.

11-3.2.2 Evaluation. Company officers should periodically evaluate members assigned to their company, to determine that the training is actually effective and to provide a basis for evaluation of the performance of individuals.

11-3.2.3 Use of Experience at Fires or Drills. Company officers should evaluate the performance of assigned members at fires and drills for evidence that they are utilizing the techniques covered by the training program. Critiques of all company operations at fires should be held to discuss in general terms its performance as a team. Company officers should be alert to deficiencies of individuals or the company as a whole. They should repeat drill sessions as necessary to correct them.

This requirement is one on which the training officer and chief should insist to avoid perfunctory training work.

11-3.2.4 Reports. Company officers should be required to furnish the training officer, through channels, reports on training sessions held, subjects covered and hours of training. Reports on the performance of members of the department receiving training should be made by the company officer and sent to the training officer for further evaluation.

11-4 Training Program.

11-4.1 Training of New Personnel.

11-4.1.1 Purpose of Training. New personnel should be given comprehensive training during the period they are required to serve as probationers. This should be a course of instruction for the probationer's personal safety and to make it possible for him to work effectively at fires. It should be a foundation for subsequent in-service training.

11-4.1.2 Subject Matter. The course of probationary training should be consistent with the performance objectives as stated for the designated fire fighter level within NFPA Standard 1001, *Fire Fighter Professional Qualifications*.

11-4.1.3 Hours of Training. The course duration for new personnel instruction should be the minimum number of hours necessary to meet the performance objectives as stated within the designated fire fighter level of NFPA Standard 1001, *Fire Fighter Professional Qualifications*. It should be additional to training received for serving as a member of a company during the probationary period.

11-4.1.4 Function of Training Officer. Probationary training should be under the direction of the training officer.

11-4.2 Training at Company Quarters.

11-4.2.1 Scheduled Training. At least two hours of each tour of duty (at least four hours where shifts are 24 hours) should be devoted to training activity. This activity should be in the form of classroom instruction, practice drills, familiarization inspection or pre-fire planning.

11-4.2.2 Function of Training Officer. The training officer should recommend the subject matter for each training session so that periodically all personnel in the department complete training in specified subjects. He should generally supervise the training program and review and approve lesson plans prepared by company officers.

11-4.3 Group Training and Evaluation.

11-4.3.1 Purpose of Group Training. The group training should be provided to enable the training officer to evaluate the ability of each company group to properly use assigned equipment. It should be provided to update operating methods and to demonstrate, or provide practice, with new equipment or methods. It should also bring pumper and ladder companies together to enable the training officer to evaluate operations of companies as a group.

11-4.3.2 Training by Company Groups. Each shift of each company should be assigned to the training officer periodically for group training. This assignment should be for enough times, or a long enough single period, so that each member can complete the program objectives.

The largest fire departments have so many companies that they can easily meet this requirement.

11-4.3.3 Training Reports. Annually, or more often as appropriate, the training officer should furnish the chief with a report on the performance of each company in group training sessions.

11-4.4 Training of Company Officers.

11-4.4.1 Making Training Available. Courses for the training of personnel to meet minimum qualifications as company officers should be provided by the training officer. Officer candidates should be relieved of company duty for the hours during which such courses are given. Whenever possible the scheduling of such courses should not cause the member to miss regular training periods. Departments which do not provide comprehensive training courses should arrange for this class of training at any available educational institution or fire department training facility.

11-4.4.2 Subject Matter. The subject matter of training courses should be designed to achieve the stated performance objectives within specific officer levels of NFPA Standard 1021, *Fire Officer Professional Qualifications*.

Candidates should pass an examination on the above objectives as well as an examination on the complete training course. Candidates should be evaluated on the basis of their examination grades, class participation and in exercises to test their performance of officers' duties.

This is primarily to measure the effectiveness of the instruction. These examinations and evaluations can serve the purposes of the fire department as part of the qualifications for promotion, but where a separate personnel agency has jurisdiction, the candidate may also have to pass other examinations to satisfy the personnel agency concerned.

11-4.4.3 Function of Training Officer. The training officer should see that the subject content of courses for promotion is appropriate, handle the scheduling of courses, provide the necessary instructors and give the examinations. He should also be required to advise the chief as to the candidate's overall performance in the training courses and in evaluation of the candidate's suitability for appointment as a company officer.

11-4.5 Other Training. Special and advanced training is desirable. Courses should be developed for individuals including special instruction and advanced training for all members to the extent that facilities, instruction personnel and time permits.

Examples are courses for prospective chief officers, chief officers' operators or aides, personnel for special duties and administration, fire prevention, fire investigation, communications and maintenance. Other examples are advanced courses for operators of pumps and special equipment and courses on advanced tactical operations.

Chapter 12 Communications

12-1 Communication Facilities. (*See NFPA Standard 73, Standard for Public Fire Service Communications.*)

12-1.1 Nonemergency Communications.

12-1.1.1 Business Communication Facilities. Facilities for communication between individuals and units of the department for nonemergency business should be provided. Department rules should define when such facilities may be used for personal calls by members, or a telephone should be provided at each station for personal use.

12-1.1.2 Business Telephone. A telephone number should be provided through which nonemergency calls from outside the fire department can be made.

12-1.2 Emergency Service.

12-1.2.1 Internal Emergency Communications. Facilities associated with the department's function of dealing with emergencies should be provided for handling messages within the department organization and for communications with other fire departments and agencies which may work with the fire department during emergencies.

12-1.2.2 Alerting Systems. The fire department should have a selective alerting system by which it can summon designated personnel at any hour of the day or night. Certain fires may require summoning the chief or other officers or members of an off-shift. Sirens or horns by which an alarm may be given are one means of alerting members of the department. In addition, radio receivers, pagers, or telephones can be provided for all personnel as in volunteer departments, or for selected officers and personnel in other departments. Through these instruments, a particular individual or group of individuals can be alerted without disturbing the general public or any of the unneeded personnel.

12-1.2.3 Public Reporting of Fires and Emergencies. Facilities or systems should be provided so that the public may notify the fire department of fires and emergencies.

Systems for this service include telephone, telegraph and radio equipment. Included are systems by which signals may reach the fire

department from individual properties. Buildings may be protected by alarm systems for water flow in piping supplying automatic sprinklers or by automatic fire detection or manual fire alarm systems.

A telephone emergency reporting service, known as 911, has been designated by authorities and has been mandated in some jurisdictions. This service contemplates dialing only the digits 911 to report an emergency of any nature. A political subdivision is expected to provide the communications emergency reporting facility, together with the necessary retransmission channels and the operators attending the facility. The unit may serve an incorporated community, a county or a portion of a county. Geographic areas served by telephone wire centers will have a bearing upon territory that may be served by a given 911 center.

12-1.2.4 Alarm and Signaling Systems in Individual Properties. Property owners should be encouraged by the fire chief to provide proper alarm and signal systems. Properties in greatest need of such facilities are those of high life hazard, high fire hazard, or high value. Actually, any property is worthy of assessment for facility installation.

Although a private signaling company may provide desired system maintenance and supervision under contract with the individual property, fire department periodic inspection is essential, irrespective of any code requirements. The fire department communication center may serve as the point of supervised signal receipt. (*See NFPA Standards 71, 72A, 72B, 72C, 72D, 72E and 74.*)

12-1.3 Malicious False Fire Alarms.

12-1.3.1 Public Education. The fire department should sponsor a systematic public education campaign, particularly in the schools on the problems, dangers, results, and criminal penalties in connection with reporting false alarms.

12-1.3.2 Ordinance Provisions. There should be an ordinance providing suitable penalties for false alarms, for tampering with the fire alarm system or being in unauthorized possession of keys for operating fire alarm boxes.

12-1.3.3 Study of Street Boxes. When an individual street box is used repeatedly for false alarms, it should be studied for conditions peculiar to the box that might encourage surreptitious use. In extreme cases it may be necessary to remove a particular box.

12-1.3.4 Special Response Procedures. Special response procedures should be adopted for application to city areas where patterns of false alarms develop. Fire alarm control center operators should be given guidelines to reduce the number of companies dispatched when a false

alarm epidemic develops in any part of the city and to send normal response only when simultaneous calls from the particular neighborhood confirm an emergency.

12-1.3.5 Cooperation with Police. Procedures should be established for notifying police patrols when a series of false alarms develops. Joint Fire-Police Teams should assist in rehabilitating persons responsible for false alarms.

12-1.3.6 Cooperation with Prosecutors. The fire department should actively assist prosecutors in court cases involving individuals accused of reporting false alarms.

12-1.4 Supervision of Communications. Where personnel are available, the fire chief should have a staff communications officer to prepare communication plans and procedures and carry them out under his direction.

12-1.5 Alarm Communication Center.

12-1.5.1 Location. An alarm communication center should be provided at which all calls by telephone, radio or from a fire alarm system are received.

12-1.5.2 Center Buildings. The alarm communication center should be in a building located so as to be unexposed in case of a sweeping fire and free from wind, earthquake or flood damage or suitably protected from such damage. The building should be accessible from at least two directions at points remote from one another. It should be possible to restrict access points from unauthorized persons. The building itself should be protected with automatic sprinklers and be of fire-resistive construction and, under best conditions, be used for alarm, communications center operations only. If located in a building devoted to other functions, such as a fire station, the alarm communication center should be in a space cut off from the rest of the building by fire-resistive wall, floor and roof construction. Such wall and floor construction should be without doors or openings and entrance should be by way of separate outside access. The building should be provided with an approved emergency standby electric power plant. The capacity of this plant should be sufficient to handle, at a minimum, all emergency lights and signal power requirements.

The floor space required for electrical equipment at the alarm communication center depends on the facilities provided. Accessibility of the building should not be overlooked if the alarm communication center is underground.

12-1.5.3 Operators. The alarm communication center should be manned by one or more operators 24 hours of every day. A procedure should be worked out so that when fires or emergencies occur, likely to