# POSITION CLASSIFICATION STANDARD FOR FIRE PROTECTION AND PREVENTION SERIES, GS-0081

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#### INTRODUCTION

This standard provides a series definition, titling instructions, and grading criteria for positions in the Fire Protection and Prevention Series, GS-0081.

#### **COVERAGE**

This series includes positions that supervise or perform work to control and extinguish fires, rescue persons endangered by fire, and reduce or eliminate potential fire hazards. It also covers fire service positions that:

- Control hazardous materials incidents;
- Provide emergency medical services;
- Train personnel in fire protection and prevention;
- Operate fire communications equipment;
- Develop and implement fire protection and prevention plans, procedures, and standards; and
- Advise on improvements to structures for better fire prevention.

Positions in this series require knowledge of:

- Firefighting and fire prevention theory and techniques,
- Fixed and mobile firefighting equipment operation; and/or skill for planning, directing, or carrying out fire protection and prevention programs and operations.

Some positions may also require varying levels of knowledge regarding hazardous materials and/or emergency medical services.

March 2004

#### MODIFICATIONS TO THE PREVIOUS STANDARD

Issuance of this classification standard replaces the previous GS-0081, Fire Protection and Prevention Series standard last revised in September 1991. This standard is an updated and expanded standard rather than a complete revision. It adds new occupational information and parenthetical titles. The intent of this revised standard is to recognize and address structural firefighting duties and responsibilities exercised in conjunction with emergency medical services and hazardous material response assignments. Positions in other series may continue to be assigned emergency medical or hazardous material responsibilities as primary or collateral duties but if the position does not have a primary requirement for firefighting knowledge and skills, the position must be classified using other standards.

Changes were not made to the fire protection inspector criteria as they were outside of the intent of the revisions. The new information and modifications are identified by dated paragraphs.

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#### HAZARDOUS NATURE OF FIREFIGHTING

While most fires and hazardous materials incidents are kept under control, they all have the potential to cause physical harm to persons and/or property. Firefighters are regularly exposed to a variety of dangerous situations such as fires that are out of control, toxic spills, or possible explosions.

Hazards encountered by firefighters include the potential for:

- Burns, dehydration, and other effects of heat, smoke inhalation, heavy protective clothing, falling materials, or explosions;
- Exposure to toxic materials and chemical, biological, radiological, nuclear, and explosive agents;
- Physical injury and sensory damage from firefighting activities and noise levels;
- Dealing with victims in varying stages of fright, panic, and injury; and/or
- Operating or riding on fire trucks under adverse conditions or flying in aircraft to reach crash sites or fires in outlying areas.

These hazards make demands on the knowledge and judgment used by firefighters and on their physical ability to cope with the conditions. Firefighters must be prepared to avoid unnecessary dangers and to identify and deal effectively with hazardous situations when they are encountered. The knowledge, skills, and abilities required to deal with hazards of the kind typically encountered in this occupation have been considered in the evaluation criteria for this standard.

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#### OCCUPATIONAL INFORMATION

Preparation and readiness is the cornerstone of the firefighting occupation. Successful response to emergencies requires preparing for the unexpected. Firefighters are trained to react to a variety of conditions, which may occur at the installation or facility, with a response appropriate to the conditions encountered. Although firefighters follow established protocols or procedures and refer situations not covered by them to professionals, they must also quickly and independently gauge the situation, make a number of assessments, and choose from a variety of actions.

#### **EVALUATION OF POSITIONS**

Fire departments vary greatly in their size, organizational structure, and equipment as they work to meet the needs of the environment (e.g., community, installation, or facility) that they serve to protect. Fire chiefs consider the range of fire hazards and other emergencies that may occur in determining the components and required level of service to be provided. In turn, these factors will dictate the positions and possible specializations needed in the fire department. Some organizations will not have certain types of specializations because these functions are performed by other installation components such as hospitals or clinics.

The appropriate grade of a position is based on the duties and responsibilities of the position and the appropriate qualifications or certifications for the position rather than those possessed by the position's incumbent. Firefighting personnel are expected to attain and maintain their assigned proficiencies, but the personal possession of certifications or qualifications beyond what is needed or required for a position does not justify a higher grade.

The necessity for readiness requires firefighters to often be trained for duties and responsibilities that they do not regularly perform. Duties demanding less than a substantial; i.e., 25 percent amount of time are not usually considered in classifying or grading a position. However, when evaluating emergency related duties in an occupation like the firefighter, credit is given for maintaining proficiency in higher graded tasks even though they may not occur frequently. The criticality of the employee's prompt response to an emergency seldom permits the reassignment of such tasks to a higher graded staff member. (For further guidance see the <a href="OPM Digest of Significant Classification Decisions & Opinions">OPM Digest of Significant Classification Decisions & Opinions</a>, <a href="Page 1">Page 1</a>, <a href="No 18">No 18</a>, <a href="dated August 1993">dated August 1993</a>.)

When computing the percentage of time, must include preparation time preceding emergency runs and post emergency actions that the firefighter must complete. Preparatory time will vary depending on the specializations and the level of the specialization required. For example, preparatory work may include stocking and keeping necessary supplies current and maintaining specialized equipment and keeping it in working order. Activities following an emergency may include completing medical or hazard material paperwork, discussing patient-related issues with medical providers, replacing expended materials, cleaning-up of medical biohazards, and/or discussing the incident with hazardous material incident responders from other agencies or fire departments.

A position may require specializations in both emergency medical services and hazardous material response. Evaluate positions of this nature the same as other potentially mixed grade positions. (For further guidance see the <u>Introduction to the Position Classification Standards</u>.)

Consider the paramount requirement for the position in determining titling and grading in those cases where it is necessary to assign emergency medical services and/or hazardous material response to fire protection inspector personnel. (For further guidance see the <a href="Introduction to the Position">Introduction to the Position</a> Classification Standards.)

#### ORGANIZATION OF THE STANDARD

The grade level criteria for the Fire Protection and Prevention Series are in two parts. This is to facilitate the presentation and application of grade level criteria that are different for supervisory and nonsupervisory positions.

Part I is presented in three sections as follows:

- Descriptions of Typical Positions This section describes the duties and responsibilities common to each of the typical supervisory positions found in Federal fire departments; i.e., fire chief, assistant chief, and station chief. This section also describes duties and responsibilities of the typical work leader; e.g., crew chief.
- Classification of Fire Chief Positions This section defines and describes in degrees of difficulty
  the four criteria and provides a grade conversion chart for fire chief positions. The criteria are
  defined and measured in four factors:
  - *Nature and Variety of Fire Hazards;*
  - Potential Severity of Fires;
  - Scope of Supervisory Responsibility; and
  - Fire Program Management.
- Classification of Supervisory and Lead Firefighter Positions This section provides guidelines for the classification and grading of these positions.

*Part II* of the standard provides grade level criteria for nonsupervisory Firefighter and Fire Protection Inspector positions, grades GS-03 through GS-09.

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Fire protection specialist positions are relatively few in number and vary widely in the duties and responsibilities assigned. Depending on the duties and responsibilities it may be necessary to consider other classification standards in evaluating the fire protection specialists. Generally, there are two general types of fire protection specialist positions:

- Type A Staff positions with responsibility for developing plans, procedures, and standards for implementation at a number of operating fire departments in an organizational or geographical area. These positions may require the same technical knowledges required for fire chief positions, but not an equivalent level of authority and responsibility. Use the grade level criteria provided in this standard for guidance in evaluating these positions. Other standards measuring abilities in organizational or management analysis may be appropriate for some positions. In some cases, consider additional comparisons with other standards for appropriate engineering and engineering technician positions.
- Type B Positions within an operating fire department with full time staff responsibility for one phase of the total fire protection and prevention program. For example, an individual working full time in developing and implementing training programs for all personnel of the fire department, where there is not a resident fire chief. Evaluate these positions with classification standards for related occupations. Select the standard relating to the type of assignment associated with the position. For example, evaluate a training position by referring to the Grade Level Guide for Instructional Work.

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Classify positions that involve communications equipment operation, in addition to fighting fires by using this standard and other standards, as appropriate.

#### **DEFINITIONS OF TERMS**

Air Moves – includes aircraft take-off, landing, and touch-and-go.

Advanced Life Support (ALS) – see Paramedic definition under Emergency Service Personnel below.

Automatic Transport Ventilator (ATV) – a time-cycled, constant-flow, gas-powered device used to provide positive pressure ventilation to patients during Cardiopulmonary Resuscitation (CPR) and other instances where the extended ventilation of a patient is required. The devices typically provide a fixed 100% oxygen concentration and have adjustable controls.

Capnometry – the measurement and display of carbon dioxide level on an electronic or printable monitor. It provides a waveform that indicates levels of inspiratory and expiratory carbon dioxide during the respiratory cycle. Capnometry capability is included on certain advanced patient monitors and is used to evaluate respiratory function for patients on ventilators and continuous positive airway pressure.

*Capnography* – a graphic display of instantaneous (real time) carbon dioxide concentration. Includes single-use, disposable colorimetric devices and electronic monitors. Capnography provides an estimate of expiratory carbon dioxide to verify correct endotracheal tube placement and to detect endotracheal tube displacement.

Cardiopulmonary Resuscitation (CPR) – an emergency technique used to assist someone whose heart and/or breathing has stopped. When the heart stops, blood stops circulating throughout the body. If breathing stops, the blood can not get oxygen. By administering a combination of artificial, or "mouth-to-mouth," respiration and manual cardiac compression, the rescuer can breathe for the victim and help circulate blood throughout the patient's body. Cardiopulmonary resuscitation does not restart the heart but it can keep a victim alive until more aggressive treatment (e.g., defibrillation) can be administered.

Clean-up Operation – an operation where hazardous substances are removed, incinerated, neutralized, stabilized, cleaned up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

*Containment* – the neutralization, recovery, and decontamination of hazardous waste accomplished by trained experts in related fields. The disposal of hazardous materials is not typically a function of a Federal hazardous materials emergency response team.

Continuous Positive Airway Pressure (CPAP) – respiratory therapy that utilizes a mechanical device to force air into the small air passages of a patient suffering from adult respiratory distress syndrome and other forms of acute pulmonary edema. Continuous positive airway pressure may be applied using a

mask or via an endotracheal tube, but in the emergency medical field it is normally administered by mask to avoid endotracheal intubation in a patient with severe respiratory distress.

*Crash Truck* – a vehicle primarily designed for aviation crash/rescue operations that is also used to fight wildland and structural fires. Typically, these vehicles are capable of quickly delivering large amounts of foam, water, or dry chemicals through articulating or telescoping water towers or turrets while still in motion.

*Cricothyrotomy* – a surgical procedure used in emergency situations to establish a patient airway by making an incision through the skin and cricothyroid membrane of the neck to permit the introduction of an endotracheal tube. Used when noninvasive techniques for removing an object from an airway are not effective.

*Decontamination* – the physical or chemical removal of hazardous substances from employees and/or their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects.

*Defibrillation* – a device or treatment that stops chaotic electrical heart activity and allows the heart to re-pace itself to a normal rhythm. The main methods of defibrillation are:

- Automatic External Defibrillation involves a portable device that is used to restore the rhythm of the patient in cardiac arrest. It determines the patient's rhythm, judges whether defibrillation is appropriate, and delivers a shock through pads placed on the chest wall to stop a lifethreatening disturbance of cardiac rhythm.
- *Manual Defibrillation* the traditional form of defibrillation performed by health care providers is a complex skill requiring the:
  - ability to interpret electrocardiogram (ECG) rhythms;
  - ability to recognize which ECG abnormalities require defibrillation and which ones do not (for example, a person with no electrical activity in the heart or a "flat line" ECG would not require or benefit from defibrillation); and
  - knowledge of how to manually operate the available defibrillator.

*Dual Lumen Airway Device* – an emergency airway device that can deliver ventilations whether placed in the trachea or esophagus, typically by "blind" insertion with no laryngoscopy or other special equipment.

*Electrocardiogram* (*ECG or EKG*) – a test that records the electrical activity of the heart through several small electrode patches placed on the skin of the chest, arms, and legs.

*Emergency Service Personnel* – pre-hospital medical providers who are trained at the Emergency Medical Technician (EMT)-Basic Life Support level or higher to care for patients at accident scenes and in transport by ambulance to a hospital. Pre-hospital providers are trained and certified at primarily three levels:

• Basic Life Support – provided by an individual who continues the patient care initiated by the first responder to provide the first level of field care based on assessment findings; treats conditions based on the specific symptoms observed or described by the patient.

- Intermediate Life Support (ILS) provided by an individual who provides all basic life support measures plus invasive medical procedures such as starting intravenous fluids, or administering certain medications and solutions. The scope of support provided may vary based on differing medical controls and may include some specializations such as Cardiac or Shock Trauma. These individuals supplement paramedic or advanced life support staff.
- *Paramedic* an individual who provides all basic and intermediate life support measures in addition to using invasive medical procedures including intravenous therapy, cardiac defibrillation, administering medications and solutions, and using ventilation devices, as dictated by state law and performed under medical control.

*Intubation* – used for patients who cannot control or protect their own airways (unconscious or in an altered mental state) the insertion of a tube into the larynx to introduce air. There are several types of intubations including:

- *Digital Intubation* a 'blind' techniques where the EMS technician palpates and physically moves the epiglottis with their finger(s) to facility the introduction of the endotracheal tube;
- *Endotracheal Intubation* inserting a tube into the trachea for the isolation of the airway and positive pressure ventilation;
- Facilitated/Rapid Sequence Induction a procedure that facilitates the introduction of an endotracheal tube into a seizing, combative, or responsive patient. Various combinations of sedating and paralysis-inducing medications are administered.
- *Nasal Intubation* inserting an endotracheal tube through the nostril and nasopharynx. This 'blind' procedure requires that the patient have some respiratory effort;
- *Oral Intubation* inserting an endotracheal tube through the mouth and larynx while visualizing the vocal cords using a laryngoscope;

Fire Detection System – an automatic system that identifies a developing fire by the detecting smoke, flame, or heat and alerts building occupants and others to the presence of a fire condition. These systems vary in complexity and are selected based on the hazards being monitored. They may range from a simple smoke detector unit in an administrative building to a complex computer driven system that monitors several maintenance buildings. Some fire detection systems are also linked to fire suppression systems.

*Firefighting Apparatus* – specialized equipment such as pumper trucks, crash trucks, aerial ladder trucks, brush trucks, fireboats, or other firefighting equipment that is the equivalent in terms of difficulty of operation.

*Fire Suppression Systems* – automatic systems that shut down electrical equipment such as computers or air handling fans to prevent smoke migration. These systems may also activate sprinkler systems, or fans to extract smoke or to discharge gaseous fire extinguishing systems.

*First Responder* – the first individual to provide basic emergency care (first aid) or hazardous material response at an emergency scene. This term may also refer to a specific level of emergency medical service certification, which covers limited Basic Life Support procedures.

Fuel – any compound used for propulsion or heating, or that will support combustion.

*Hazardous Material (HAZMAT)* – any substance (solid, liquid, or gas) to which exposure results or may result in adverse effects on the health or safety of persons, property, and/or the environment.

*Hazardous Material Personnel* – first responders who are trained and certified at primarily three levels to respond to hazardous material incidents. These three levels are:

- Hazardous Material Awareness Level typically, first responders who in the course of their normal duties could be the first on the scene of an emergency involving hazardous material. These individuals are trained to initiate an emergency response by protecting themselves and others, calling for trained personnel, and securing the area.
- Hazardous Material Operations Level persons who respond to releases or potential releases of hazardous material as part of the initial response to the incident for the purpose of protecting nearby persons, the environment, or property from the effects of the release. These individuals are trained to assess the magnitude of the incident, plan an initial response utilizing available resources, and implement and evaluate the response.
- *Hazardous Material Technician Level* those persons who respond to releases or potential releases of hazardous materials for the purpose of controlling the release. Hazardous materials technicians are trained to use specialized chemical protective clothing and control equipment to approach the point of release to stop the release.

Hazardous Materials Response Team (or HAZMAT Team) – an organized group of employees, designated by the employer, expected to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members respond to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident.

*Incident* – an occurrence or event, either human-caused or natural phenomenon that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

*Incident Management System (IMS)* – an organized system of roles, responsibilities, and standard operating procedures used to manage and direct emergency operations. Such a system is also referred to an *Incident Command System (ICS)*.

*Invasive Procedures* – procedures in which the integrity of the skin, mucous membrane, or tissue is interrupted by needles, instruments, or other devices and where the potential for bleeding exists.

*Laryngoscopy* – the use of a lighted laryngoscope to move the tongue and other soft oral tissue and visualize the glottic opening and vocal cords so that the endotracheal tube can be inserted into the trachea.

*Material Safety Data Sheet (MSDS)* – a form, provided by chemical manufacturers, containing information about chemical composition, physical and chemical properties, health and safety hazards, emergency response, and waste disposal of the material.

*Mitigate* – to control consequences in an incident to reduce the loss of life and property, and to increase the potential for recovery.

*Personal Protective Equipment* – specialized equipment provided to shield or isolate a person from chemical, physical, and thermal hazards that may be encountered at a fire or a hazardous materials incident. Various types of protective equipment are employed to provide different levels of protection to the respiratory system, skin, face, head, body, extremities, and hearing.

*Pleural Decompression* – use of a large bore needle or chest tube with a surgical incision to evacuate air from the pleural (chest) cavity in a patient suffering from a tension pneumothorax (collapsed lung).

*Pulse Oximeter* – monitors the percentage of hemoglobin that is saturated with oxygen. The oximeter consists of a noninvasive probe attached to the patient's finger or ear lobe which is linked to a computerized unit. The unit displays the percentage of hemoglobin saturated with oxygen together with an audible signal for each pulse beat and a calculated heart rate.

*Protocols* – standing medical orders that prescribe medical treatment guidelines for emergency medical service personnel to follow. Protocols are prepared by physicians and are based on the latest guidelines in emergency care adapted to the field. Essentially, protocols are physician prescriptions for interventions written in advance of field problems. These protocols are consistent with established standards for medical treatment and are followed in conjunction with sound clinical judgment.

*Transcutaneous External Pacing* – an emergency external pacemaker used for patients with symptomatic bradycardia (slowing of the heart beat) and severe heart attacks.

*United Nations/North American (UN/NA) Identification Number* – a four digit number assigned to a hazardous material. The number is used to identify and cross-reference products in transport.

#### **GENERAL TITLING GUIDANCE**

This section provides information on titling instructions for positions in the Fire Protection and Prevention Series, GS-0081. It also provides information on titling instructions for supervisors, leaders, and organizational titles in this series.

#### **Supervisors and Leaders:**

- The title for positions responsible for managing and supervising fire protection and fire prevention programs for one or more departments is *Fire Chief*.
- Add the prefix "Supervisory" to the title of positions classified using the **General Schedule Supervisory Guide** (with the exception of the Fire Chief).
- Add the prefix "Lead" to the title of positions classified using the <u>General Schedule Leader</u>
   <u>Grade Evaluation Guide</u> for Firefighter and Fire Protection Inspector positions that meet the criteria for Work Leader.

#### **Basic Titles:**

- The basic title for positions that involve firefighting operations is *Firefighter*.
- The basic title for positions that involve preventing fires by physically inspecting a variety of
  facilities to detect and reduce or eliminate the hazards that cause fires is *Fire Protection Inspector*.
- The basic title for positions that involve developing and/or implementing protection and prevention programs is *Fire Protection Specialist*. These positions normally fall into one of the following types:
  - Type A staff positions with responsibility for developing plans, procedures, and standards for implementation at a number of operating fire departments in an organizational or geographical area.
  - Type B positions within an operating fire department with full time staff responsibility for one phase of the total fire protection and prevention program. For example, an individual working full time in developing and implementing training programs for all personnel of the fire department, where there is not a resident fire chief.

#### **Parenthetical Titles:**

- Use the basic title of *Firefighter* when there is no established parenthetical title or for positions that involve work in more than two of the established parenthetical titles.
- Use any combination of two established parenthetical specialty titles in official positions titles such as *Firefighter (Basic Life Support/Hazardous Material Technician)*.
- Use a parenthetical title only when it corresponds to the parenthetical title for the grade level criteria used to evaluate the positions.
- Use the official parenthetical titles below to further identify the duties and responsibilities performed and the special knowledge and skills necessary.

- Firefighter (Hazardous Material Operations)
- Firefighter (Hazardous Material Technician)
- Firefighter (Basic Life Support)
- Firefighter (Intermediate Life Support)
- Firefighter (Paramedic)
- Use other agency-established parenthetical titles where appropriate as unofficial position titles such as organizational or functional titles.

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#### **Organizational Titles:**

Use the official position titles as outlined above for human resources management, budget, and fiscal purposes. This does not preclude continued use of organizational or functional titles for internal management, public convenience, program administration, or similar purposes.

#### CROSSWALK TO THE STANDARD OCCUPATIONAL CLASSIFICATION

The Office of Management and Budget requires all Federal agencies that collect occupational data to use the Standard Occupational Classification (SOC) system for statistical data reporting purposes. The Bureau of Labor Statistics (BLS) uses the SOC codes for the National Compensation Survey and other statistical reporting. The Office of Personnel Management (OPM) works with agencies to develop and maintain the "crosswalk" between the Federal occupational series and the SOC codes to serve this need. These SOC codes and this requirement have no effect on the administration of any Federal human resources management system. The information contained in this table is for information only and has no direct impact on the classification of positions covered by this standard. The SOC codes shown generally apply only to nonsupervisory positions. As changes occur to the SOC codes, OPM will update this information. More information about the SOC is available at <a href="http://stats.bls.gov/soc">http://stats.bls.gov/soc</a>

and ' Occupational Series	Federal Occupational Softheir Related Standard Occupational  Standard Occupational Classification Code Based on Occupational Series				
Fire Chief, GS-0081	33-1021	First-Line Supervisors/ Managers of Fire Fighting and Prevention Workers	Fire Chief	33-1021	First-Line Supervisors/ Managers of Fire Fighting and Prevention Workers
Fire Protection Inspector, GS-0081	33-2021	Fire Inspectors and Investigators	Fire Protection Inspector	33-2021	Fire Inspectors and Investigators
Fire Protection Specialist, GS-0081	33-2011	Fire Fighters	Fire Protection Specialist	33-2011	Fire Fighters
Firefighter, GS-0081	33-2011	Fire Fighters	Firefighter	33-2011	Fire Fighters
			Firefighter (Hazardous Material Operations)	33-2011	Fire Fighters
			Firefighter (Hazardous Material Technician)	33-2011	Fire Fighters
			Firefighter (Basic Life Support)	33-2011	Fire Fighters
			Firefighter (Intermediate Life Support)	33-2011	Fire Fighters

(Continued)

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Federal Occupational Series and Position Titles and Their Related Standard Occupational Classification System Codes					
Occupational Series	Standard Occupational Classification Code Based on Occupational Series	Position Title	Standard Occupational Classification Code Based on Position Title		
Firefighter,	33-2011 Fire Fighters	Firefighter	33-2011 Fire Fighters		
GS-0081		(Paramedic)			

#### **EXCLUSIONS**

Although some positions may require applying knowledge of firefighting and fire prevention theory and techniques, knowledge of fixed and mobile firefighting equipment operation, and/or the ability to plan, direct, or carry out fire protection and prevention programs and operations, classification to the Fire Protection and Prevention Series, GS-0081, may not be appropriate. To select the appropriate series, you must determine the most important or paramount subject matter knowledge required to perform the primary duties of the position. In determining the paramount knowledge, you must also consider the primary purpose for the position's existence, the position's scope, the most important qualification(s) required, the mission setting, recruitment sources, career progression, and the background knowledge required. The following table provides examples of situations where the work may involve applying related knowledge and skills, but not to the extent that it warrants classification to this series.

If Work Involves	See This Standard or Series Definition:
Safety program management, and fire protection and prevention are only one of several major areas of responsibility.	GS-0018, Safety and Occupational Health Management
Guarding Government buildings and property and incidentally identifying obvious fire hazards, locating and reporting fires, and activating emergency firefighting procedures.	GS-0083/0085, Grade Evaluation Guide for Police and Security Guard Positions
Operating fire communications equipment but does not require specialized knowledge of firefighting techniques, equipment, and procedures to prevent and control fires.	GS-0382, Telephone Operating  GS-0392, General Telecommunications  GS-2151, Dispatching
Fire control, suppression, and related duties incidental to forestry or range management work.	GS-0462, Forestry Technician GS-0455, Range Technician
Providing medical care with no requirements to perform fire protection and prevention duties.	GS-0600, Medical, <u>Hospital, Dental and</u> <u>Public Health Group</u>
Applying professional engineering knowledge and principles in an appropriate professional engineering series, such as Fire Protection Engineering.	GS-0800, Engineering and Architecture Group

# PART I -- FIRE CHIEF, SUPERVISORY, AND LEAD FIREFIGHTER POSITIONS SECTION I -- DESCRIPTIONS OF TYPICAL POSITIONS

#### Fire Chief

Fire chiefs are responsible for the overall management and supervision of the fire protection and fire prevention programs for a Federal installation, including tenant activities and smaller installations under their jurisdiction. They develop, coordinate, and implement programs, policies, regulations, and procedures and serve as technical advisors to management on all matters pertaining to fire protection and prevention. In arson cases they advise law enforcement officials and provide testimony in judicial proceedings. They exercise full supervisory responsibility for a firefighting and fire protection inspection force.

#### Assistant Chief

Assistant chief positions are organized in a number of ways depending upon local requirements. Typical examples are as follows:

- A full deputy chief;
- In charge of firefighting, fire prevention, or training activities on a shift; or
- In charge of overall fire program management for inspections, training, hazardous material handling, or other programs.

#### Station Chief

Station chief positions are typically found at large installations with three or more stations when the fire chief and assistant chief are unable to provide immediate oversight and direction of day-to-day activities. Each station typically has two or more crews on a shift. If there are only two stations, the assistant chief may supervise one station by frequent visits or by being physically located there. A crew chief or similar position may be delegated the responsibility for directing day-to-day activities when there are only two stations or when there is a subordinate station with two or fewer crews.

#### Crew Chief

A crew chief is a work leader responsible for directing and participating in the work of the crew of one piece of firefighting apparatus. Typically the crew chief performs the following:

- Directs the crew in firefighting activities, working from specific orders from higher level supervisors at the scene;
- Directs and participates in practice drills and training classes for the assigned crew;
- Directs the crew in fire protection inspection functions;
- Assigns crew members to station maintenance work such as cleaning equipment;
- Prepares reports for the supervisor concerning fire runs, training, inspection, or other topics; and
- Takes charge of all firefighting activities at the scene of a fire in the absence of the supervisor.

#### **SECTION II -- CLASSIFICATION OF FIRE CHIEF POSITIONS**

Four major variables directly affect the technical difficulty and the degree of responsibility of fire chief positions. They are the:

- Prevalence of various types of conditions contributing to the potential for fires;
- Severity of fires resulting from these conditions if not quickly controlled or extinguished;
- Scope of supervisory responsibility as reflected by the level of supervision exercised and the physical dispersion of the workforce; and
- Presence of added aspects of fire program management.

The kind and combination of work situations found in individual fire chief positions vary greatly. The examples of work situations included at each factor level illustrate the concept of the level of difficulty. The final grade level determination should be made by using sound classification judgment based on comparisons with the characteristics and examples provided for each of the factors.

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#### **FACTOR 1 -- NATURE AND VARIETY OF FIRE HAZARDS**

The type and variety of fire hazards at an installation directly affect the difficulty of establishing and maintaining effective fire protection and prevention programs. The differences in difficulty are reflected in the:

- Need for variation and adaptation of agency guidelines in establishing programs;
- Frequency and extent that the programs must be revised to meet changing conditions; and
- Degree to which management requirements are complicated by other factors including, for example:
  - Numerous requests for services other than emergency firefighting,
  - Continuing personal contacts with top level officials to sell the program objectives,
  - Keeping up with changing conditions, and
  - Ensuring compliance with established regulations and procedures.

#### Degree A

Facilities at the installation are principally administrative and residential; e.g., one-story offices, barracks, dormitories, etc. Fire hazards are mainly conditions such as excess trash accumulation, electrical fires caused by household appliances or other similar electrical equipment, or improper use of common flammable liquids. Conditions of a more hazardous nature are few in number, and safety precautions can be readily taken; e.g., use and storage of oxygen in a hospital. Necessity for special planning, standby services, or other special preventive measures is infrequent.

#### Degree B

The overall conditions at installations typical of *Degree B* are such that fire could occur with more frequency than with installations typical of *Degree A*. Revision of prevention and protection programs is required only infrequently, as the types of hazards are relatively constant with occasional changes in the location of these hazards. Standby services and other protective and preventive measures requiring changes in daily work schedules occur with some frequency. Standard prevention and protection measures are normally suitable for handling the hazardous conditions typical of this level.

Situations of the following types are characteristics of *Degree B*:

- 1. A substantial amount and variety of combustible or valuable materials, supplies, and equipment are stored and/or used; e.g., rubber, chemicals, information technology equipment, electronic simulators or training equipment, or other valuable equipment;
- 2. A variety of shops (e.g., machine, paint, or carpenter shops) present some work situations with partially uncontrollable hazardous conditions, such as welding in unprotected areas, machining and grinding magnesium, and painting in an insufficiently ventilated area;
- 3. Airfield activities involve a moderate number of air moves, e.g., 100-200 by skilled pilots. There are only a few training flights that involve higher than normal crash or fire potential. Aircraft normally carry passengers or cargo with relatively low fire potential. Hazards are primarily fuel fires resulting from crashes and engine and wheel fires that must be controlled quickly to avoid spread to fuel and cargo or passenger compartments; and/or
- 4. Large numbers of people are present whose physical or mental condition substantially increases the probability of fires occurring. These include, for example, a hospital with 200 beds where hazards include patients in physically weakened conditions in bed and other protected areas, or neuropsychiatric patients being allowed to move freely throughout the buildings and grounds.

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#### Degree C

The quality and types of hazardous conditions are such that the expectancy of fire or toxic materials release is high. The nature and location of these hazards are subject to frequent change, requiring regular alteration both in the overall prevention and protection programs and in the day-to-day operating procedures. Extensive pre-planning and special protective services are necessary to cope with these highly hazardous conditions.

Situations of the following types are characteristic of *Degree C*:

- 1. Industrial or mission related operations characterized by:
  - a. Large shops engaged in industrial or maintenance and repair activities. Many shops cannot be adequately protected by fire prevention techniques or require innovative prevention methods because of the basically hazardous nature of the operation. They are involved in activities such as producing explosive materials and using highly toxic or flammable liquids and gases, or performing major overhaul and repairs on tracked vehicles, aircraft and rockets, or extensive ship construction and repair;
  - b. Active piers usually servicing several ships concurrently. Most carry cargos of high fire potential such as munitions, fuels, and gases, or hazardous materials such as nuclear weapons, volatile chemicals, and fuels;

- c. Storage and movement of large quantities of highly flammable or explosive materials such as gasoline and other fuels, conventional and nuclear explosives, or chemicals; and/or
- d. Extensive timber resources subject to fires from troop training exercises, munitions testing, or drought. Terrain features require special consideration in fire suppression such as air dropping fire retardants and water or deploying large numbers of workers.
- 2. Air traffic and support operations characterized by:
  - a. Armed military tactical aircraft;
  - b. A large quantity of fuel aboard aircraft (e.g., 18,660 kilograms or 50,000 pounds) or in storage (e.g., 3,785,000 liters or 1,000,000 gallons);
  - c. A large number of air moves (e.g., 250 daily) of aircraft with normal crash or fire potential, or a moderate number (e.g., 100-200) involving pilot training or other air moves with high crash or fire potential; and/or
  - d. A large aircraft rework facility, extensive flight line repair work, or hot pit refueling.
- 3. Research activities characterized by:
  - a. Items and materials that have a great capacity for producing fire or explosion (e.g., specialty chemicals, exotic fuels, or ordnance);
  - b. Materials that are novel or yield hazardous by-products requiring special fire prevention and firefighting procedures and equipment; and/or
  - c. Materials or processes for which the exact nature and extent of potential fires or explosions are unknown. The effective materials and techniques for preventing and extinguishing fires are not known with certainty, and special liaison is required with research officials to cope with hazards without improperly interfering with the project goals and methodology.

#### Degree D

Degree D is characterized by installations having a wide variety of operations. Each type of operation presents different and unusually difficult problems in the types and variety of hazardous conditions to be handled. Many of the hazards are unique, requiring specialized knowledges and originality in devising new methods of protection and prevention. Fire department coordination with technical specialists is needed to design and formulate procedures for the operational control of fire prone equipment and materials. Planning must ensure the timely completion of projects, many of which have national significance, while still providing the maximum safety possible. Extensive training must be provided for firefighters and other employees of the installation in preventive and protective techniques.

Often, installations having the characteristics typical of *Degree D* include a combination of the three major types of operations; i.e., industrial, airfield, and research; or other situations that substantially exceed *Degree C* in overall difficulty and complexity.

#### Characteristics typical of *Degree D* include:

- 1. Major programs that involve constructing, flight testing, and evaluating experimental aircraft, rockets, and/or missiles and their component systems, as well as experimental fuels, propellants, oxidizers, munitions, and/or chemicals;
- 2. A large number of flights (e.g., 400 daily) of experimental and conventional aircraft;
- 3. Frequent modification during the test program of already unique systems, requiring constant awareness of changes, revising rescue techniques, and retraining crews to use special firefighting tools and equipment;
- 4. Producing, storing, or moving a large quantity of exotic or conventional fuels, explosives, chemicals, or other highly unstable materials; and
- 5. Major complexities in balancing regular services with standby services at many locations at once involving different and unrelated hazards and a variety of firefighting skills and equipment.

#### **FACTOR 2 -- POTENTIAL SEVERITY OF FIRES**

This factor measures the degree to which the probability that fires or emergency incidents will become large and widespread influences the complexity of fire protection and prevention programs. In many cases, the same characteristics that create the potential for fires (see *Factor 1*) also increase the possibility that fires will be large and destructive. For example, large-scale aircraft operations are characterized by a high potential for fires, and the presence of large amounts of fuel and explosives also increases the likelihood that the fires, once started, will become severe.

The two factors are not always directly related, however. For example, the storage of explosives creates a high potential for fire or explosion. However, explosives are normally stored in small quantities in specially designed, isolated bunkers or other facilities. Therefore, it is unlikely that a fire will spread beyond the immediate vicinity. Conversely, administrative activities conducted in old, wooden frame buildings present a relatively low fire potential, but if a fire did start, there is a good possibility that it would spread rapidly and grow in major proportions.

Several elements contribute to the probable occurrence of large and destructive fires at an installation. These include:

- 1. The type and condition of the structures to be protected, including the degree of fire resistance of the structure and the availability of fixed protection systems;
- 2. The type of facilities to be protected, including the number and proximity of buildings, the type of aircraft supported, and the number and types of persons to be protected; and
- 3. The presence of materials that, in addition to increasing the probability of fire, also tend to spread the fire more easily, such as flammable liquids or explosives.

The potential severity of fire imposes additional problems on the fire chief's job, including:

- Differences in requirements for the type, number, and placement of firefighting facilities, equipment, and personnel; and
- The need for specialized fire prevention and detection methods and techniques.

The four degrees of this factor are described below:

#### Degree A

- 1. Installations are typically small (e.g., 50-100 buildings), and buildings are principally single story, fire resistant, or have full sprinkler systems and are sufficiently spaced in uncongested areas;
- 2. Hazardous operations are performed in areas affording maximum protection from the spread of fire, and stored materials have minimum potential for severe fires or are limited to remote or fully protected areas;
- 3. Air moves consist of helicopters and small aircraft; and/or
- 4. In the event of fire, damage to property would be relatively minor, and there is only a small possibility that it would spread to other areas and endanger many lives.

#### Degree B

- 1. Installations are moderately sized (e.g., 400 buildings), and a significant number of the buildings are multi-storied with three or more floors. Most of the larger buildings are fire resistant in construction, with the more hazardous areas protected by sprinkler systems. Many of the smaller buildings are of wooden or other nonresistant construction or are not sprinkler protected, although the contents are of considerable value and importance;
- 2. Airfield activities, which involve primarily passenger and cargo type aircraft, require constant standby during the hours of operation to minimize hazard to large numbers of passengers and to prevent potential spread to other aircraft or structures through run-off of burning fuel or by explosion;
- 3. There are large numbers of people (e.g., 200 hospital patients) whose physical or mental condition limits their ability to protect themselves in the event of a fire;
- 4. Standby and other protective measures are required with some frequency for hazardous operations; and/or
- 5. Storage facilities have large areas containing significant quantities of piled and stocked combustible materials.

#### Degree C

- 1. A large installation (e.g., 750 buildings, 10,000 people of which 4,000 are housed on the grounds in barracks and individual dwellings) with predominately large, multi-storied buildings, piers, or marine railways clustered in congested areas. Many of the buildings are of nonresistant construction and are either not protected by fixed systems or the systems are inadequate for the highly hazardous conditions present;
- 2. Industrial and research activities have a high potential for fire and toxic materials release with great potential for destruction of life or property. These include:
  - Producing and testing toxic agents, explosives, and propellants;
  - Storing large volumes of fuels, nuclear weapons, etc.; or

- Testing jet engines after repair;
- 3. Airfield operations involve aircraft with large quantities of fuel, conventional and nuclear weapons, and other materials that have the potential to explode within seconds after a fire starts. These conditions involve risk to the lives of many people in the vicinity as well as other aircraft and airfield structures of great value;
- 4. A very large number of people (e.g., 500 or more hospital patients) whose physical or mental condition severely limits their ability to protect themselves in the event of a fire. In addition, a significant number of these people are in secured areas (e.g., neuropsychiatric patients on locked wards) and/or are likely to become confused and uncooperative. Extensive planning is necessary to evacuate those endangered by fire to avoid danger to many lives and to facilitate firefighting; and/or
- 5. Extensive wildland areas that are mountainous or subject to high prevailing winds causing fast moving fires that quickly cover large areas. The installation has many small, widely dispersed, flammable structures housing valuable equipment. Fire roads and fire breaks are planned, constructed, and maintained for access, firefighting, and evacuation.

#### Degree D

- 1. A very large sized installation (e.g., 1,500 buildings, 20,000 people, barracks and individual housing for 8,000 people). Buildings are multi-storied or of nonresistant construction, and fire hazards are such that normal fixed protection systems are mostly inadequate to control fires for any length of time. This requires extensive preventive programs as well as the design and installation of detection and protection systems devised or adapted specifically for the particular fire hazard encountered;
- 2. Industrial areas are large and highly congested and have many activities of an extremely high fire prone nature. There is also a likelihood of air crashes in the industrial area, caused by the large number of experimental aircraft being used;
- 3. There are numerous movements of fuels, explosives, and chemicals through congested areas; and/or
- 4. Equipment or facilities are extensive, having heavy electric power requirements, under floor electric power connections, and environmental control systems. Mainframe computers, high voltage equipment, or sophisticated electronic installations make the use of water either dangerous or undesirable. Inert gas fire suppression systems can threaten students or workers in secure classrooms or research facilities.

#### FACTOR 3 -- SCOPE OF SUPERVISORY RESPONSIBILITY

The degree to which the scope of supervisory responsibility affects the difficulty and responsibility of fire chief positions is measured by: (a) the level of supervision exercised, and (b) the physical dispersion of the workforce.

There are two levels of supervision exercised:

#### Level 1: The fire chief:

- Plans work schedules to evenly distribute work and to meet deadlines or emergency situations;
- Changes schedules because of temporary higher work loads or temporary personnel losses;
- Coordinates with other installation offices on priorities and procedures;
- Recommends the replacement or maintenance of equipment;
- Reports on workload and expected vacancies;
- Assigns firefighters to positions and structures assignments to provide experience and training;
- Directs on-the-job training;
- Advises on performance requirements;
- Evaluates the performance of work assigned;
- Explains work requirements;
- Provides for training on difficult or new equipment; and
- Solves technical problems.

#### Level 2: The fire chief:

- Reorganizes work to increase effectiveness, productivity, and job satisfaction;
- Justifies substantial changes to staffing levels, budgets, priorities, and/or services;
- Estimates budget requirements and departmental capabilities;
- Assigns work and reassigns subordinates based on special qualifications, departmental capabilities, or resources;
- Sets performance standards and devises written instructions or procedures for nonroutine work;
- Implements the installation's personnel management policies;
- Prepares formal personnel actions;
- Selects, promotes, and disciplines employees; and
- Receives formal grievances and develops training plans.

#### Physical Dispersion

The physical dispersion of the employees supervised by the fire chief is the second consideration for evaluating this factor. This consideration can be measured by the number of fire stations for which the fire chief has management responsibility.

If the fire chief has one station, but has three or more crews on each shift, count the station as two stations. This only applies when the fire chief supervises only one station.

#### Evaluation of Factor 3

Use the following chart to assign an overall Degree for *Factor 3, Scope of Supervisory Responsibility*. Determine which level of supervision is appropriate and then count the number of fire stations managed.

#### **Number of Fire Stations** Level **Three** Two Four or more One C 1 В A A 2 C В D A

#### SCOPE OF SUPERVISORY RESPONSIBLITY

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#### **FACTOR 4 -- FIRE PROGRAM MANAGEMENT**

Fire chiefs have significant responsibilities for fire program management that are not covered under the previous three factors. In some environments, these aspects of fire program management dominate the day-to-day work of the fire chief. In other environments the work is managed through key subordinates. These responsibilities include the following six program aspects:

- 1. Ongoing training programs that are particularly intense due to new or changing requirements. For example:
  - a. Emphasis on hazardous materials incident control may require significant additional firefighter training on the appropriate response to numerous chemical hazards or on how to set up a special hazardous materials response team;
  - b. Recurring proficiency drills are required to build confidence, supplement fire ground supervision, and ensure effective response;
  - c. Numerous aircraft transit the airfield requiring continuing firefighter training on egress from numerous airframe configurations; and/or
  - d. The overall training program may be at a level of difficulty or significance to require one or more subordinates to be assigned full time responsibility for training matters.
- 2. The fire chief manages a program that actively and systematically pursues client participation in fire prevention. For example:

- a. Fire program personnel or the fire chief hold meetings with installation supervisors and unit commanders to recruit and determine the special services of numerous unit personnel;
- b. Unit personnel in a variety of work environments monitor and exercise day-to-day responsibilities for fire safety and fire prevention practices; and
- c. Fire program personnel regularly schedule safety orientations for new employees or tenants, or systematically teach client groups fire safety (e.g., teach household fire safety practices to children).
- 3. The fire chief manages a program to upgrade installed fire protection systems. The installation has a continuing large-scale building or facility renovation program requiring:
  - a. Significant attention to approving construction plans and monitoring phases of construction throughout the installation; and
  - b. Responsibility for the proper number and placement of exits, sophisticated alarm and fire suppression systems, and technical features such as automatically closing doors and ventilation flow in stairwells and air shafts.

At times, one or more subordinates will be assigned full time responsibilities for attending planning meetings, coordinating construction approvals, or monitoring construction. However, the fire chief retains control and ultimate approval authority.

- 4. The fire chief is responsible for negotiating mutual aid agreements to protect remote sites on the installation and/or to assist local communities by:
  - a. Arranging mutual aid agreements with three or more Federal or local fire departments;
  - b. Ensuring the frequent updates and reassessments necessary to support particularly fluid mutual aid requirements; and/or
  - c. Assessing the capability of other fire departments to provide the required services.
- 5. The fire chief manages a program involving active participation in arson investigations or in determining the specific cause of fires. The chief:
  - a. Directs or assists investigators;
  - b. Personally conducts the investigations; and/or
  - c. Testifies as an expert witness in judicial proceedings concerning fires on the installation or in the surrounding community.
- 6. The fire chief manages an active hazardous materials protection and control program where:
  - a. A variety of hazardous materials are used in several different installation operations;
  - b. Extensive contingency plans for containment and evacuation must be devised and coordinated with client organizations and support groups such as investigators, police, guards, and evacuation units: and
  - c. The fire department:
    - Deploys vehicles with specialized equipment; and
    - Continually replaces protective gear, absorptive materials, chemical neutralizers, and other expended equipment.
  - d. The fire chief has significant, additional responsibilities not directly related to fires or hazardous materials containment. For example:

- Managing a motor vehicle or transportation operation, in addition to firefighting equipment;
   or
- Managing an extensive ambulance or emergency medical service.

#### Evaluation of Factor 4

Determine how many of the six aspects above are present in the fire program managed and use the following table to assign an overall Degree for *Factor 4*, *Fire Program Management*.

#### **FIRE PROGRAM MANAGEMENT**

Added Aspects	Degree		
No additional aspects	A		
One or two additional aspects	В		
Three or four additional aspects	С		
Five or more additional aspects	D		

#### **GRADE LEVEL DETERMINATIONS**

This table represents typical combinations of the different factors and factor levels defined in *Part I*, *Section II*, of this standard. Refer to the criteria in *Part I*, *Section II*, to establish the most appropriate degree levels for each of the four factors. Make a reasonable match with the combinations to determine a grade level. Adjust the final grade to reflect those situations where the significant duties and responsibilities discussed in this standard may be limited or extended.

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#### **GRADE CONVERSION OF FIRE CHIEF POSITIONS**

	To 4 To 1			
	Factor Levels			
Grade Level	1	2	3	4
GS-7	A	A	A	A
GS-9	A	В	A	A
	В	В	A	A
GS-11	В	A	В	В
	В	C	A	В
	C	В	В	В
GS-12	C	В	A	C
	C	C	В	В
	C	C	C	В
GS-13	C	C	C	C
	D	C	C	C
	D	D	В	C
	D	D	D	C
	D	D	D	D

### SECTION III -- CLASSIFICATION OF SUPERVISORY AND LEAD FIREFIGHTER POSITIONS

Fire station organizational positions such as assistant chief, station chief, and crew chief may be considered either "Supervisory" or "Work Leader" positions. Base this determination on the nature of the duties and responsibilities and not the organizational title of the position.

#### Supervisory Positions

To be a "supervisory" position, the incumbent must be performing "supervisory" functions. Refer to the <u>General Schedule Supervisory Guide (GSSG)</u> for the criteria necessary to establish and determine grade levels for supervisory positions.

#### Work Leader Positions

Work Leaders are *nonsupervisory* positions, the duties of which are to direct and lead employees in accomplishing the work of the unit. These positions are evaluated according to the criteria provided in the **General Schedule Leader Grade Evaluation Guide (GSLGEG)**, which requires that they have a continuing responsibility for performing both technical and administrative oversight for an assigned group of employees.

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#### Assistant Chief Positions

The difficulty and responsibility of assistant chief positions are best measured by comparison with the level of the fire chief position and the position's relative status within the organizational structure. Assistant fire chief positions are normally classified two grades below the grade of the fire chief. An assistant chief position that has the duties and responsibilities of a full deputy for all matters and who fully shares in the overall technical and administrative management of the fire department on all shifts may be classified one grade below the fire chief when that grade level best reflects the overall responsibility of the position.

#### Station Chief Positions

Station chief positions are normally one grade above the crew chief positions at their stations. However, a station chief at a very large installation, where the station is in a remote location and the nature of the fire hazards and potential severity is high, and/or a station chief with four or more crews, where a higher level line supervisor is not on the shift, may be classified two grades above the crew chiefs.

#### Crew Chief Positions

Crew chief positions are normally classified one grade above the highest level of nonsupervisory work in the crew led. They are evaluated according to the work leader criteria provided in the **General Schedule Leader Grade Evaluation Guide (GSLGEG)**, which requires that they have a continuing responsibility for both technical and administrative oversight for an assigned group of employees. In accordance with the GSLGEG, they perform work that is usually of the same kind, level, and type as that performed by the team or crew led.

## PART II -- NONSUPERVISORY FIREFIGHTER AND FIRE PROTECTION INSPECTOR POSITIONS

#### FIREFIGHTER, GS-0081-03

GS-03 assignments include training intended to develop firefighting skills and knowledge in preparation for the more difficult assignments at higher levels.

Typically, GS-03 firefighter training assignments include primarily formalized classroom study, on-the-job instruction, practice drills and demonstrations. Training includes general theory and methods appropriate for all types of standard firefighting, prevention, and rescue methods and techniques with emphasis on specialized procedures and techniques required at the installation. Examples of areas of training are:

- Structural and shipboard fires,
- Airfield and aircraft firefighting and rescue,
- Fires involving unusual hazards, and
- Fundamental principles of fire protection inspection.

During the initial stages of training the GS-03 firefighter participates in actual firefighting under immediate supervision of a higher grade firefighter. As training progresses, the employee performs most of the routine tasks with less supervision and assists higher grade firefighters with more difficult tasks, such as salvage and overhaul, or rescue operations.

Firefighters at this and higher levels:

- 1. Perform strenuous physical activities such as lifting heavy firefighting equipment, climbing standard and aerial ladders, and lifting and carrying people and equipment for rescue and salvage;
- 2. Use and maintain firefighting equipment;
- 3. Apply the theories necessary for effective firefighting and equipment operation and the techniques of fighting fires;
- 4. Apply the specialized techniques required for particular hazards involved at the installation; and
- 5. Apply basic first aid.

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#### FIREFIGHTER, GS-0081-04

GS-04 firefighter positions are typically concerned with performing structural and/or airfield firefighting of low to moderate difficulty. By comparison, GS-03 assignments are of a trainee nature and are performed under close supervision with detailed instructions, particularly as to more difficult duties.

GS-04 firefighters typically provide fire protection for buildings, shops, warehouses, fuel and explosives storage areas, piers, and a variety of other structures and facilities. Some GS-04 firefighters perform airfield crash rescue and firefighting involving small aircraft and helicopters. At this level, aircraft are

characterized by standard design features with few modifications that affect the difficulty of rescue or fighting fires. They carry small numbers of passengers; e.g., 10, and relatively small quantities of fuel or other materials that create problems in controlling the spread of fire to other aircraft or facilities.

The following types of firefighting tasks are illustrative of GS-04 assignments:

- Performs pre-fire planning by physically going through structures to become familiar with the layout, nature, and location of particular hazards, and the location of fixed protection systems;
- Controls and extinguishes fires, operates hose lines, makes forced entries, ventilates structures, performs or assists in rescue operations including administering first aid to injured victims, and performs salvage and overhaul (uses a variety of hand tools, hydraulic tools, and portable fire extinguishers);
- Enters crashed and/or burning aircraft to free or rescue personnel and uses hand tools to make forced entry when necessary (disconnects batteries, plugs, ruptured fuel and hydraulic lines to reduce the danger of explosion); and
- Performs standby detail on crash trucks during normal periods of flying activity and for special circumstances such as air movements involving medical patients.

#### FIREFIGHTER, GS-0081-05

The following types of tasks are typical of GS-05 firefighter assignments:

- 1. Provides fire protection at a research activity engaged in producing and testing experimental fuels, explosives, gases, or chemicals. The firefighter must use a constantly updated knowledge of the:
  - a. Nature and location of the various research activities;
  - b. Fire characteristics of the unique materials being tested; and
  - c. Proper firefighting, rescue, and decontamination methods and extinguishing agents to use.

The firefighter uses a variety of special protective gear in situations where poisonous gases, radioactive materials, or hazardous biological products are involved.

- 2. Performs crash/rescue and firefighting duties at airfields handling predominately large or complex aircraft; e.g., fighters, bombers, cargo, and passenger. Such aircraft carry large volumes of fuel, conventional and sometimes nuclear weapons, and/or highly flammable or explosive cargo. In rescuing aircrew members and fighting fires, the firefighter:
  - a. Directs water through turrets and handlines to cool weapons and ammunition during rescue;
  - b. Operates or deactivates mechanisms and systems such as hatch or canopy mechanisms, ejection seat mechanisms, or oxygen supply systems (sometimes uses special tools developed for the particular mechanism);
  - c. Performs standby duty during aircraft fueling and defueling, engine maintenance and testing, welding and burning on fueled and/or armed aircraft, or ammunition handling; and
  - d. Maintains constant awareness of the frequent changes in cockpit design, ordnance placement, and cabin layouts to determine how they affect the difficulty of rescue and fighting fires.
- 3. Fights fires in an installation environment presenting complex and hazardous firefighting situations equivalent to that described in *Degree C of Factors 1 and 2, Part I, Section II.*

- 4. Engages in specialized fire program missions such as hazardous materials containment and control. The firefighter as a hazardous material first responder:
  - a. Detects the presence of potentially hazardous materials;
  - b. Protects self and others by establishing a safe perimeter around the incident;
  - c. Advises fire chief to notify responsible agencies and to call for assistance from qualified personnel;
  - d. Controls access to the area until the arrival of law enforcement;
  - e. Surveys the incident from a safe location to identify the name, UN/NA (United Nations/ North American) identification number, or type placard applied for any hazardous materials involved;
  - f. Collects hazard and response information from current reference materials; and
  - g. Uses, maintains, and decontaminates common hazardous material response equipment and supplies including protective clothing, breathing apparatus, dry and extinguishing chemicals, and decontamination agents and equipment; and replaces expended chemicals and agents.
- 5. Assists the injured by applying knowledge and training for such purposes to:
  - a. Use direct pressure and tourniquets to stop bleeding,
  - b. Check the windpipe for obstructions,
  - c. Perform cardiopulmonary resuscitation,
  - d. Immobilize for safe transport, or
  - e. Provide other assistance at the comparable level of difficulty.

**Note:** At this level, employees do not administer drugs to patients orally or by injection.

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#### FIRE PROTECTION INSPECTOR, GS-0081-05

Inspectors at this level perform inspection tasks at installations where the nature of hazards and the potential severity are typically at a low to moderate degree (*Degree A to B of Factors 1 and 2 in Part I*, *Section II* of this standard). In their day-to-day inspection duties, they work alone and normally make recommendations to operating officials for correcting hazards without the involvement of the supervisor.

The following fire protection inspection tasks are typical of GS-05 assignments:

- 1. Inspects warehouses, shops, hospitals, offices, and living quarters for violations of fire regulations, and for conditions contributing to serious fire hazards. Inspects:
  - a. Electrical systems and equipment;
  - b. The storage of a wide variety of flammable materials in warehouses;
  - c. The storage and use of oxygen and other compressed gases in hospitals; or
  - d. Painting or welding operations in areas where a certain degree of hazard is unavoidable.
- Inspects new construction for inclusion of appropriate fire prevention materials and equipment. The inspector recommends additions such as fire doors and walls, or fixed suppression systems in new or existing structures;
- 3. Checks fixed protection systems and equipment for proper placement. Inspectors perform tests and minor maintenance and repair to ensure operational condition; and

4. Participates in preliminary investigations into causes of fires by inspecting damaged areas and interviewing witnesses. Inspectors may appear as witnesses before courts or boards of inquiry.

Fire protection inspectors at this level must:

- 1. Apply the codes of the National Fire Protection Association as well as agency and activity regulations and procedures;
- 2. Detect and determine proper corrective action for the moderately complex hazards found at the installation;
- 3. Discuss findings with operating officials to obtain compliance with recommended actions; and
- 4. Write complex and accurate inspection reports.

#### FIREFIGHTER, GS-0081-06

Firefighters at this level typically:

- 1. Combat fires or rescue personnel on board ships where conditions create very difficult and dangerous situations. These include:
  - a. Small passages that restrict movement while wearing protective clothing and breathing equipment;
  - b. Small compartments with low ceilings;
  - c. The proximity of aviation fuel on hangar decks or ammunition in magazines or at gun mounts;
  - d. Movement through gas-filled tankage areas or past hot metal bulkheads;
  - e. The proximity of massed electrical cables; and/or
  - f. The proximity of high pressure steam lines.

The ships may be loading, unloading, or under repair. Such conditions may have additional hazards such as open hatches, cluttered decks, power supply interruptions, unstored paint, and volatile cleaning fluids. These hazards are often encountered below decks in dark, confined, and unventilated areas

- 2. Drive and operate firefighting apparatus of significant complexity; e.g., pumpers, aerial ladder trucks, and crash rescue trucks. The firefighter:
  - a. Drives a vehicle to the scene of the fire following a predetermined route, or selects an alternate route when necessary; positions the vehicle, considering factors such as wind direction, water sources, hazards from falling structures, location of armaments on aircraft, etc.;
  - b. Operates pumps, foam generators, boom and groundsweep nozzles, and other similar equipment; determines proper pressure for the distances to be pumped and the number of lines being used; and applies principles of hydraulics to water flow friction and friction loss. When operating a crash truck, the firefighter maneuvers the vehicle to keep the fire in optimum range while ensuring that backflash will not occur. The firefighter maintains a constant awareness of water levels in self-contained tanks and warns handline and rescue personnel when tanks are close to running dry; and
  - c. Assists in training other firefighters in the skills of driving and operating the equipment.

3. Perform other comparable duties and responsibilities of similar scope and complexity to the duties and responsibilities associated with shipboard firefighting and/or driving firefighting apparatus as described in paragraphs 1 and 2 above, in addition to the duties and responsibilities associated with hazardous material awareness and an emergency medical first responder described at the GS-05 firefighter level.

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#### FIREFIGHTER (HAZARDOUS MATERIAL OPERATIONS), GS-0081-06

In addition to the duties and responsibilities described at the GS-05 firefighter first responder level, positions at this level react to releases or potential releases of hazardous materials as part of the initial response to the site to protect nearby persons, property, or the environment from the effects of a release. The firefighter:

- Employs hazard and risk assessment techniques to complete initial incident analysis by:
  - Surveying the incident to identify the materials involved, determine whether hazardous materials have been released, and evaluate the surrounding conditions;
  - Collecting hazard and response information from material safety data sheets (MSDS),
     (United Nations/North American (UN/NA) identification numbers, or hazardous material placards;
  - Predicting the likely behavior of a material and container; and
  - Estimating the potential harm to people and the environment.
- Establishes communication with responsible agencies to gain qualified assistance and additional technical guidance;
- Plans and initiates the initial response within the capabilities and competencies of available personnel, personal protective equipment, and control equipment;
- Implements the response by:
  - Establishing and enforcing scene control procedures, including control zones and decontamination;
  - Utilizing hazardous material response equipment and supplies including protective clothing, breathing apparatus, dry and extinguishing chemicals, and decontamination agents and equipment; and
  - Initiating an incident management system.
- Evaluates the success and effectiveness of on-going response actions;
- Assists hazardous material technicians and other hazardous material personnel; and
- Maintains and decontaminates common hazardous material response equipment and supplies including protective clothing, breathing apparatus, dry and extinguishing chemicals, and decontamination agents and equipment; and replaces expended chemicals and agents.

#### FIRE PROTECTION INSPECTOR, GS-0081-06

This level includes fire protection inspector positions at installations where the degree of hazard and severity are moderate (*Degree B*) but where there is no resident fire chief position. It also includes positions in training for Fire Protection Inspector, GS-07, or positions where the inspections are more difficult than those typical of the GS-05 level, but less difficult than those typical of the GS-07 level.

Some Fire Protection Inspectors, GS-06 are assigned to installations where there is no resident fire chief position because fire protection is normally furnished by municipal or other fire departments. The types and variety of fire hazards and the potential fire severity encountered are the same as at the GS-05 level. However, the GS-06 fire protection inspector works under the administrative supervision of an installation official having little or no background in fire prevention. The inspector receives technical guidance from headquarters or from a fire chief of another installation through periodic visits and reviews of reports.

#### FIREFIGHTER (BASIC LIFE SUPPORT), GS-0081-07

In addition to the firefighting and first responder duties and responsibilities described at the GS-05 and GS-06 firefighter levels, positions at this level follow protocols in providing basic life support. The firefighter performs emergency procedures that are noninvasive. In performing these procedures, the firefighter:

- Performs initial and on-going focused patient assessment and physical examination;
- Determines priority of patient care based on assessment findings;
- Takes, records, and monitors patient's baseline vital signs including temperature, blood pressure, and pulse;
- Manages respiratory and cardiac emergencies to include performing cardiopulmonary resuscitation (CPR), bag-valve-mask resuscitation, or automatic external defibrillation (AED);
- Controls external bleeding with direct pressure and treats shock with pneumatic anti-shock garments;
- Splints and immobilizes fractures and dislocations for transport;
- Attempts to ascertain whether the patient has preexisting medical problems and to obtain a comprehensive drug history from the patient that includes the names, strength, and dosage of drugs taken by the patient;
- Assists patients in taking emergency medications for certain complaints; e.g., Nitroglycerin tablets for chest pain, Epinephrine auto-injections for allergic reactions, or Albuterol inhalers for asthma patients, under the direction of standing orders or of a physician;
- Establishes communication with the receiving facility, providing all patient information including estimated time of arrival;
- Employs a variety of established emergency medical techniques, methods, and equipment to stabilize the patient for transport as soon as possible to the receiving facility;
- Assists intermediate life support or paramedic staff;
- Prepares appropriate and relevant patient care documentation and reports to ensure medical requirements are met and accurately reported; and

 Uses and maintains care of emergency equipment such as backboards, suction devices, splints, oxygen delivery systems, and stretchers; properly disposes of biohazard materials; and replaces medical and expendable supplies.

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#### FIREFIGHTER (HAZARDOUS MATERIAL TECHNICIAN), GS-0081-07

In addition to the duties and responsibilities described at the GS-05 firefighter level and the Firefighter (Hazardous Material Operations), GS-06 level, positions at this level respond to releases or potential releases of hazardous materials for the purpose of stopping or controlling the release using specialized protective clothing and control equipment. Response to the incident is more aggressive in that the technician will approach the point of release to plug, patch, or otherwise stop the release of a hazardous substance. In performing these duties, the firefighter:

- Employs hazard and risk assessment techniques to complete incident analysis by:
  - Surveying the incident to identify the materials and containers involved, and to identify and verify the presence and concentrations of hazardous materials through the use of monitoring equipment;
  - Collecting and interpreting hazard and response information from transportation emergency information centers, shipper and/or manufacturer contacts, printed, and online data bases, and technical resources as well as monitoring equipment;
  - Determining the extent of damage to containers;
  - Predicting the likely behavior of released material and their containers when multiple materials are involved;
  - Estimating the size of the endangered area; and
  - Identifying institutions or groups requiring special evacuation assistance; e.g., nursing homes, hospitals, or prisons.
- Develops an appropriate strategy for approaching the release site and containing the release;
- Implements the response by:
  - Performing advanced mitigation, control, and confinement operations within the capabilities
    of the available resources and personal protective equipment available to control leaks or
    releases using a variety of methods to include:
    - Cooling, plugging, or patching containers;
    - Applying diluting sprays or neutralizing agents; and
    - Constructing dams, dikes, or channels.
  - Utilizing hazardous material response equipment and supplies including liquid splash- and vapor-protective clothing, respiratory protection, dry and extinguishing chemicals, and decontamination agents and equipment; and
  - Performing the duties of an assigned position within the local Incident Management System (IMS).
- Continuously evaluates the effectiveness of the situational response and recommends potential alternative or supplementary actions;
- Assists in incident debriefings and critiques;

- Prepares incident reports and documentation; and
- Maintains and decontaminates hazardous material response equipment and supplies including a
  variety of protective clothing, respiratory protection equipment, dry and extinguishing chemicals,
  and decontamination agents and equipment; and replaces expended chemicals and agents.

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#### FIRE PROTECTION INSPECTOR, GS-0081-07

GS-07 fire protection inspectors are responsible for areas of an installation characterized by equipment, materials, and operations involving hazards that are difficult to recognize and once identified require advanced, sometimes innovative methods to reduce or eliminate them (see *Levels C and D of Factors 1 and 2 in Part I, Section II* for examples of hazards). They adapt accepted fire protection techniques for application to potential hazards in highly specialized and technical operations. They must be especially alert to new or unusual types of combustibles or other hazardous materials and recognize conditions of high fire expectancy and severity. When these are noted, GS-07 inspectors research technical manuals, fire codes, or trade reference books to gain additional information and ascertain the fire characteristics. They determine measures to reduce or eliminate the potential for fire or explosion.

Many of the recommendations made by inspectors at this level are controversial in terms of their effect on the time and operating requirements of the programs and projects involved. Inspectors are expected to maintain relationships with operating officials such that only very difficult or controversial cases need to be referred to superiors for final disposition.

In addition to those discussed above, the following are some duties and responsibilities of Fire Protection Inspectors, GS-07:

- 1. Reviews plans for new construction and alternation and extension of existing structures. Recommends changes and additions to ensure compliance with fire protection and prevention requirements.
- 2. Inspects and corrects deficiencies in a variety of fixed fire protection systems, many of which are complex and/or designed for the specific operations and hazards. Examples include:
  - a. Carbon dioxide cascade systems,
  - b. Halon total flood systems,
  - c. Heat rise detection systems, and
  - d. Interlock systems.
- 3. Maintains thorough familiarity with the layout and contents of buildings, locations of fire protection systems, and other similar characteristics of the installation.
- 4. Knows the recognized standards covering:
  - a. Fire prevention techniques and procedures;
  - b. Agency and installation manuals, rules, and regulations; and
  - c. Local, State, and Federal fire prevention ordinances and building codes.
- 5. Occasionally participates with fire prevention or safety engineers in studying fire prevention problems.
- 6. Adapts standard fire prevention practices and procedures to local requirements.

7. Uses tact and firmness in dealing with all levels of management in gaining acceptance of good fire prevention practices.

#### FIREFIGHTER (INTERMEDIATE LIFE SUPPORT), GS-0081-08

In addition to the firefighter and first responder duties and responsibilities as described at the GS-05 firefighter level and the Firefighter (Basic Life Support) GS-07 level, positions at this level follow protocols in providing intermediate or enhanced levels of life support. In performing emergency procedures, the firefighter:

- Provides advanced or detailed patient assessment by conducting a systematic evaluation of the patient's condition;
- Conducts and interprets electrocardiograms (EKG) depending on personal certification and local protocols;
- Performs advanced airway techniques including the use of an esophageal or dual lumen airway device and oral intubation using laryngoscopy. Utilizes pulse oximeter, capnometry, capnography, or other secondary confirmation methods to ensure correct placement of emergency advanced airway devices;
- Starts intravenous fluids or administers some medications in accordance with established protocols;
- Assists paramedics in advanced life support situations; and
- Uses and maintains care of emergency equipment such as specialized kits and bags, backboards, suction devices, splints, oxygen delivery systems, and stretchers; properly disposes of biohazard materials; and replaces medical and expendable supplies.

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#### FIRE PROTECTION INSPECTOR, GS-0081-08

In addition to the fire protection inspector duties and responsibilities identified at the GS-07 level, the inspectors at this level:

- Conduct an information program and secure client involvement in fire prevention, detection, and suppression;
- Emphasize pertinent fire prevention topics;
- Develop prevention messages from actual fire incidents;
- Interact with a wide variety of employees and others in all aspects of fire prevention;
- Coordinate established fire watch programs with designated building, facility, or installation program representatives, and fire marshals;
- Teach school children about home fire prevention and emergency procedures;
- Develop materials, and provide situational and classroom training in installation fire prevention activities; and
- Address a variety of client groups in fire program methods and goals.

#### FIREFIGHTER (PARAMEDIC), GS-0081-09

In addition to the firefighter duties and responsibilities described at the GS-05 firefighter level and the Firefighter (Intermediate Life Support) GS-08 level, positions at this level follow protocols in providing advanced life support. In performing emergency procedures, the firefighter:

- Provides advanced or detailed patient assessment by conducting a systematic physical examination of the patient's condition and determines treatment methods;
- Performs electrocardiology procedures to include:
  - Taking and interpreting electrocardiograms (EKG);
  - Performing manual defibrillation; and
  - Providing Transcutaneous external pacing.
- Performs advanced and invasive airway procedures that may include;
  - Needle or surgical cricothyrotomy;
  - Pleural decompression;
  - Endotracheal intubation;
  - Nasal intubation;
  - Application of continuous positive airway pressure (CPAP); or
  - Automatic transport ventilator devices.
- Performs advanced assessment and treatment of the pediatric patient to include infant and neonatal resuscitation;
- Performs emergency childbirth and care for the newborn;
- Completes invasive procedures such as endotracheal intubation and intravenous therapy;
- Administers medications and solutions orally or intravenously under the direction of standing orders (protocols) or of an off-site physician;
  - Calculates patient medication doses considering such factors as potential interaction with other medications, concentration of drugs immediately available, patient weight, dose prescribed by the written protocol, and method of delivery;
  - Documents drugs administered and provides information to the hospital or medical provider either while in transit or upon arrival; and
  - Observes and documents the effects of drugs administered.
- Uses and maintains care of emergency equipment such as specialized kits and bags, backboards, suction devices, splints, stretchers, oxygen delivery systems, and monitoring equipment. Ensures proper disposal of biohazard materials. Replaces used intravenous (IV) needles and solutions, linens, blankets, and other expendable supplies. Maintains the currency, inventory, and proper control of authorized on-hand medications as dictated by the appropriate overseeing medical authority.