

**BY ORDER OF THE COMMANDER
911 AIRLIFT WING**

911 AIRLIFT WING INSTRUCTION 32-201

30 APRIL 2013

Civil Engineering

FIRE PREVENTION AND PROTECTION



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This instruction implements Air Force Policy Directive (AFPD) 32-20, *Fire Emergency Services*, and DoD Instruction 6055.06, (DODI) *Department of Defense Fire and Emergency Services Program*, Department of Labor - Occupational Safety and Health Administration (OSHA), Code of Federal Regulation (CFR), and National Fire Protection Association (NFPA) standards as Air Force policy unless otherwise directed in DoD or Air Force instructions. This instruction provides guidance for implementing and maintaining a sound fire prevention program and establishes responsibilities, procedures and practices for effective control and elimination of fire hazards. It applies to all military personnel, their dependents, civilian personnel, tenants, contractors and concessionaires. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at https://www.my.af.mil/afirms/afirms/afirms/rds/rds_series.cfm.” Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional’s chain of command. See **Attachment 1** for a Glossary of References and Supporting Information.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. This instruction has been totally rewritten. Changes were made to paragraphs **1.3.3.2, 1.3.4.4.3, 1.6.2.2, 3.1.10,**

3.2, 3.6, 3.12.1, 3.13.1, 4.2, 4.4, 4.7.1. Paragraph 1.3.5.6 was deleted, and Attachment 1, Glossary of References and Supporting Information, was added.

CHAPTER 1—ADMINISTRATION AND ENFORCEMENT 4

- 1.1. Terminology. 4
- 1.2. Scope. 4
- 1.3. Responsibilities. 5
- 1.4. Authority Having Jurisdiction (AHJ). 7
- 1.5. Application. 8
- 1.6. Permits. 9
- 1.7. Fire Reporting. 9
- 1.8. Plans Review. 10

CHAPTER 2—MEANS OF EGRESS 11

- 2.1. Definition. 11
- 2.2. Aisles and Exits. 11
- 2.3. Exit Discharge. 11
- 2.4. Illumination of Means of Egress. 11
- 2.5. Emergency Lighting. 11
- 2.6. Marking of Means of Egress. 11
- 2.7. Fire Escape Stairways. 11
- 2.8. Locks, Latches and Alarm Devices. 11
- 2.9. Factors Affecting Egress. 12

CHAPTER 3—GENERAL REQUIRMENTS 13

- 3.1. Electrical Fire Safety. 13
- 3.2. Managers of Public Assembly. 13
- 3.3. Contractors and Concessionaires. 13
- 3.4. Fire Lanes. 14
- 3.5. Vacant Buildings. 15
- 3.6. Commercial Cooking Equipment. 15
- 3.7. Smoking. 16
- 3.8. Mechanical Rooms. 16
- 3.9. Combustible Waste and Refuse. 16
- 3.10. Housekeeping. 16

3.11. Dormitories and VQs. 17

3.12. Flammable and Combustible Liquids. 17

3.13. Compressed Gas Cylinder Storage. 18

3.14. Heating Appliances. 18

3.15. Refueling. 18

3.16. Fireworks. 18

3.17. Spray Application Using Flammable and Combustible Materials. 18

3.18. Treatment of Floors. 19

Chapter 4—INSTALLED FIRE DETECTION – SUPPRESSION SYSTEMS 20

4.1. Acceptance Tests. 20

4.2. Fire Detection Systems. 20

4.3. Fire Sprinkler Systems. 20

4.4. Manual Pull Stations. 21

4.5. Maintenance and Testing. 21

4.6. Standpipe Systems. 22

4.7. Fire Extinguishers. 22

4.8. Fire Doors/Service Counter Doors. 23

4.9. Fire Hydrants. 23

4.10. Nothing in this Instruction is intended to prevent the use of alternative or equivalent practices or methods relating to fire prevention, fire protection or life safety initiatives. 24

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 25

Chapter 1

ADMINISTRATION AND ENFORCEMENT

1.1. Terminology.

1.1.1. Fire Protection. Includes all aspects of engineering, prevention, suppression, detection, operations, education and training.

1.1.2. Fire Prevention. The measures directed toward avoiding the occurrence of a fire.

1.1.3. Fire Safety Deficiency: A condition which reduces fire safety below an acceptable level, including non-compliance but will not, by itself, cause a fire to occur.

1.1.3.1. Fire Safety Deficiency Code (FSDC): A numerical value given after analysis of fire deficiencies to prioritize risks and seriousness of conditions found. The lower the number-the greater the risk (i.e., Code I = Severe; Code V = Little impact). NOTE: FSDC's are equivalent to Risk Assessment Codes (RACs) issued through Base Safety and Bioenvironmental personnel.

1.1.3.2. Only Fire Department personnel are authorized to issue FSDCs.

1.1.3.3. Only Base Safety and Bioenvironmental personnel are authorized to issue RACs.

1.1.4. Fire Hazard: A condition which is serious enough, if left uncorrected, to cause or contribute to a fire.

1.1.5. Installed Fire Protection Systems. Systems installed in various facilities for the purpose of fire detection, alarm and/or suppression of fire.

1.1.6. Occupant Load. The maximum number of persons that may occupy a building, or portion thereof, at any one time.

1.1.7. Functional Managers. The operating officials at the wing and group commander's staff exercising managerial control of an activity or operation. Tenant units are responsible for preparation and maintenance of their unit's hazard abatement plan.

1.1.8. Facility Managers. Individuals assigned responsibility for facilities under the functional manager's control. The functional manager will appoint these individuals and their names will appear on official civil engineer real estate records.

1.2. Scope.

1.2.1. The provisions of this Instruction are applicable to the jurisdictional boundaries of the 911th Airlift Wing commander and off-base Air Force owned or leased land, facilities and appurtenances that are subject to the commander's jurisdiction to include:

1.2.1.1. The inspection of buildings, processes, equipment, systems and other fire-related life safety situations.

1.2.1.2. The investigation of fires, explosions, hazardous materials incidents and other related emergency incidents.

1.2.1.3. The review of construction plans, drawings and specifications for life safety systems, fire protection systems, access, water supplies and processes, hazardous materials and other fire and life safety issues.

1.2.1.4. The fire and life safety education of employees, responsible parties and the general public.

1.2.1.5. Existing occupancies and conditions, the design and construction of new buildings, remodeling of existing buildings, and additions to existing buildings.

1.2.1.6. The storage, use, processing, handling and transportation of hazardous materials.

1.2.1.7. The design, alteration, modification, construction, maintenance, and testing of fire protection systems and equipment.

1.2.1.8. Access requirements for fire department operations.

1.2.1.9. Hazards from outside fires in vegetation, trash, building debris, and other materials.

1.2.1.10. The regulation and control of special events.

1.2.1.11. The interior finish, decoration, furnishing and other combustibles that contribute to fire spread, fire load and smoke production.

1.3. Responsibilities.

1.3.1. Base Fire Marshal. Base Civil Engineer is designated as the base Fire Marshal and is responsible to the installation commander for the effective and efficient execution of the installation's fire protection program. Additionally, the Fire Marshal provides the Fire Inspector with the necessary support to ensure the highest possible priority and funding of fire protection and prevention initiatives to accomplish mission support.

1.3.2. Fire Inspector. The Fire Inspector is the base fire protection official and is directly responsible to the base Fire Marshal for determining the resources required for the installation's overall fire prevention program. The Fire Inspector will establish and implement an effective fire prevention program.

1.3.2.1. Fire Chief. The Allegheny County Airport Authority Fire Chief is delegated by MAJCOM as the sole authority for fire protection operations and emergency response services to the base as it falls under the jurisdictional bounds of the Airport Authority.

1.3.3. Unit Commanders and Supervisors. Unit Commanders and supervisors at all levels are to ensure that sound fire prevention procedures are established for each facility under their control and supervision. They must:

1.3.3.1. Ensure each person receives a fire prevention orientation within 30 days after arriving on base. The organization documents this training.

1.3.3.2. Ensure fire prevention training is accomplished in accordance with AFI 91-203, *Air Force Consolidated Occupational Safety Standard* within the organization on a regular basis.

1.3.3.3. Initiate administrative or disciplinary action where there is willful misconduct or negligence involving fire prevention. Action will be taken against any person who

willingly breaks established rules and causes a fire to occur through carelessness or maliciously tampers with fire extinguishers, installed fire detection and/or fire suppression systems.

1.3.3.4. Contact Fire Protection Inspector to schedule a fire prevention visit when special events are held. One week prior notice shall be given for events such as concerts, haunted houses or other similar special gatherings.

1.3.4. Facility Managers. Facility managers are responsible to the commander for the fire safety condition of each building under their control. Alternates are to assume this responsibility in the absence of the facility manager. Their duties include, but are not limited to the following:

1.3.4.1. Insure a copy of 911 AWI 32-201 is kept on file for each occupied facility.

1.3.4.2. Accompany the Fire Inspector, or designate an alternate, during all scheduled visits and take prompt corrective actions on all noted fire hazards or deficiencies.

1.3.4.3. Provide familiarization training to all personnel within their area of responsibility on fire reporting procedures and location and operation of first aid firefighting equipment.

1.3.4.4. Make periodic inspections of all assigned facilities to eliminate potential hazards, malpractices and infractions. This inspection shall consist of the following:

1.3.4.4.1. Ensure exits are not blocked or obstructed and that exit doors are unlocked while the facility is occupied.

1.3.4.4.2. Facility Managers of buildings with elevators shall perform and document monthly operational tests of the emergency telephone in the elevator car.

1.3.4.4.3. Perform monthly checks on portable fire extinguishers located within their area/s of responsibilities in accordance with AFI 91-203 and paragraph 4.7 of this Instruction.

1.3.4.4.4. Check the operation and condition of exit and emergency lighting.

1.3.4.4.5. Check for improper use of extension cords, space heaters or convenience appliances. Coffee makers must be equipped with an automatic, shut-off timer not to exceed 2 hours.

1.3.5. Fire Prevention Visits. The Fire Protection Inspector, conducts fire prevention visits annually to all base facilities, unless required more often by public law or other statutory requirement. The objective is to evaluate each organization's fire prevention program.

1.3.5.1. At the conclusion of the visit, the Fire Prevention Inspector will brief the facility manager or alternate on the results of the visit.

1.3.5.2. If no hazards are noted or if discrepancies are corrected on the spot, the fire inspector will annotate the visit on the back of the AF IMT 218, Facility Fire Prevention/Protection Record.

1.3.5.3. If hazards are discovered during the visit, the Fire Inspector will prepare AF IMT 1487, Fire Prevention Visit Report. The inspector will itemize the hazards and/or

discrepancies, assign the appropriate Fire Safety Deficiency Code (FSDC), and itemize corrective action required to eliminate the hazard and/or deficiency.

1.3.5.4. Functional and facility managers will take the necessary action to eliminate the hazards.

1.3.5.5. Functional managers will annotate all corrective actions taken to include job and work order numbers on AF IMT 1487.

1.3.6. Fire Drills. Fire Drills will be conducted by the Base Fire Inspector based on the type of occupancy and operations of the functional area.

1.3.6.1. Commanders and supervisors may obtain assistance in conducting evacuation drills by contacting the Fire Prevention Office at X8731.

1.3.6.2. The use of the building fire alarm system to conduct fire evacuation drills without the presence of a fire protection representative is prohibited.

1.3.7. Base Traffic. Firefighting vehicles shall be given right-of-way when lights and/or sirens are on. Drivers will clear intersections and roadways and will stay back 300 feet from a responding fire department vehicle.

1.4. Authority Having Jurisdiction (AHJ).

1.4.1. HQ USAF/ILE is the overall AHJ for Air Force fire protection policy and approval of permanent deviations to NFP standards.

1.4.2. The Major Command Civil Engineer (MAJCOM/CE) is responsible for execution, oversight, and compliance with, DOD, Air Force and OSHA regulations and NFPA standards as implemented by the Air Force. The MAJCOM/CE is the AHJ for approval of long-term (more than 18 months) deviations to NFPA standards. MAJCOM/CEs forward all requests for permanent deviations to NFPA standards to HQ USAF/ILE for approval. They ensure that installation programs are provided with high priority and funding to maintain compliance with this program. They are also responsible for validation and coordination of long term and permanent deviations that are forwarded to HQ USAF/ILE.

1.4.3. The installation commander is the AHJ to approve the processes, procedures and programs developed locally for compliance with this instruction. The installation commander is the AHJ for approval of short-term (less than 18 months) deviations. The AHJ must ensure programs are assigned an appropriate priority for the associated risk and adequate funding for correction and compliance. They also approve Operational Risk Management (ORM) plans for deviations and forward to the MAJCOM/CE/SE. ORM plans must identify (1) functional areas in which the installation fails to comply with Air Force fire protection policies and (2) quantify the operational restrictions or other appropriate mitigating actions that fully offset the installation's failure to explicitly comply with those Air Force standards.

1.4.3.1. Base Fire Marshal. The Base Civil Engineer is designated as the Fire Marshal and serves as staff advisor to the Commander on fire protection matters. The Fire Marshal is authorized to abate any operations or processes considered to be a fire or explosive hazard.

1.4.3.2. The base fire protection inspector may serve as the interim Fire Marshal in the absence of the Base Civil Engineer.

1.4.4. The authority having jurisdiction may delegate to other qualified individuals and organizations such powers necessary for the proper administration and enforcement of this instruction.

1.4.5. The base Fire Protection Inspector and/or Fire Marshal is authorized to inspect at all reasonable times, any facility or premises for dangerous or hazardous conditions or materials as set forth in this instruction. The authority having jurisdiction may order any person(s) to remove or remedy such dangerous or hazardous condition or material. Any person(s) failing to comply with such order shall be in violation of this instruction.

1.4.6. Where conditions exist and are deemed by the fire inspector hazardous to life and property, the inspector shall have the authority to summarily abate such hazardous conditions that are in violation of this instruction.

1.4.7. Any authority having jurisdiction engaged in fire prevention and inspection work is authorized at all reasonable times to enter and examine any building, structure, vehicle or premises for the purpose of making fire safety inspections.

1.4.8. Persons authorized to enter and inspect buildings, structures, vehicles, and premises, as herein set forth shall be identified by proper credentials issued by this governing authority.

1.4.9. The authority having jurisdiction shall have the authority to require plans and specifications to ensure compliance with applicable, codes, standards and instructions.

1.4.10. The Fire Protection Inspector is permitted to develop and implement a public fire safety education program as deemed necessary for the general welfare with respect to the potential fire hazards within the jurisdiction.

1.4.11. Unqualified persons shall not impersonate fire inspectors, give fire related technical support, advice, or instruction without first consulting the authority having jurisdiction.

1.4.12. When any construction or installation work is being performed in violation of the plans and specifications as approved by the authority having jurisdiction, a verbal notice shall be issued to the contract monitor to stop work on the portion of the work in violation. The notice shall state the nature of the violation and no work shall be continued on the portion until the violation has been corrected.

1.5. Application.

1.5.1. This instruction applies to both new and existing conditions.

1.5.2. Where the requirement differs between this instruction and other referenced documents, the requirements of this instruction shall have precedence.

1.5.3. Buildings in existence or permitted for construction, prior to the adoption of this instruction, shall comply with provisions stated previously or referenced for existing buildings.

1.5.4. When in fixed locations and occupied as buildings, vehicles, vessels or other mobile structures shall be treated as buildings and comply with this instruction.

1.5.5. Additions, alterations or repairs to any building shall conform to that required of a new building without requiring the existing building or structure to comply with all the requirements of this instruction. Additions, alterations or repairs shall not cause an existing

building to become unsafe or adversely affect the performance of the building as determined by the authority having jurisdiction.

1.5.6. Where two or more classes of occupancy occur in the same building or structure, and are so intermingled that separate safeguards are impracticable, means of egress facilities, construction, protection and other safeguards shall comply with the most restrictive fire safety requirements of the occupancies involved.

1.6. Permits.

1.6.1. The Fire Protection Office shall have the authority to issue permits for the following operations within the boundaries of this installation:

1.6.1.1. Starting or maintaining any open flame. Instructions and stipulations of the permit shall be adhered to. Cooking fires are exempt and do not require a permit. However, grills will not be used within 25 feet of a building or 50 feet from flammable storage lockers.

1.6.1.2. Only propane fueled grills are permitted for use by the general population. Charcoal fueled grills are permitted for use by Services functions only.

1.6.1.3. The Fire Protection office may develop and require additional permits as necessary, such as for camp fires, destruction of classified documents, etc.

1.6.2. **Welding, Cutting and Brazing.** The operations will comply with AFOSH Standard 91-5, *Welding, Cutting, and Brazing*.

1.6.2.1. All welding will be performed by qualified personnel and, if possible, be done in booths or rooms constructed for the purpose.

1.6.2.2. When welding outside of an approved booth or room, the Fire Protection Flight will be contacted to inspect the work site and equipment. If the operation is safe, an AF IMT 592, *USAF Welding, Cutting and Brazing Permit*, will be issued per AFI 91-203.

1.6.2.3. Certain shops that perform welding operations on a routine basis may, at the discretion of the Fire Protection Inspector, be trained and certified to issue their own AF IMT 592.

1.6.2.4. Prior to welding or cutting on piping, tanks or containers that contain or have contained flammable liquids, they will be thoroughly purged and vented. Detection equipment will be used to sample for explosive mixtures. The supervisor of the operation will contact Wing Safety, Civil Engineer Squadron Fire Protection Office and the Bioenvironmental Engineering Fight to inspect the work site.

1.6.2.5. Tar Kettles on Roofs. Permits shall be obtained at least 2 working days prior to the placement of a tar kettle on a roof.

1.7. Fire Reporting.

1.7.1. Fire Reporting Procedures. Early detection and notification of fire is critical, delayed or improper reporting has in many cases resulted in excessive fire damage and or loss of life. Upon recognition of a fire, immediately sound the alarm, evacuate the facility, telephone the fire department using the 9-1-1 system and direct the responding crews. Some manual fire alarm systems installed in base facilities are "local alarm only". Consequently, they serve

only to alert the occupants. Therefore, even though these systems are activated the Fire Department must still be notified.

1.7.2. All fires will be reported to the Fire Protection Office regardless of size or type. Additionally, any condition that could result in a fire or create a hazardous situation must be reported immediately.

1.8. Plans Review.

1.8.1. For new construction, modification, or rehabilitation, the Fire Protection Inspector shall review construction documents and shop drawings.

1.8.2. It is the responsibility of the applicant to ensure that the construction documents include all of the fire protection requirements and that the shop drawings are correct and in compliance with the applicable codes and standards.

1.8.3. Fire Protection Engineering. The Engineer Flight or Maintenance Engineer Flight manages fire protection engineering requirements as prescribed by the current edition of UFC-3-600-1, *Unified Facilities Criteria*. The fire inspector provides consultation and design recommendations regarding firefighting operational requirements. The fire inspector is not responsible for system design. The fire inspector coordinates on design drawings to signify review and that firefighting operational recommendations are incorporated. The coordination does not indicate fire protection engineering design acceptance.

1.8.4. Review and approval by the authority having jurisdiction shall not relieve the applicant of the responsibility of compliance with this instruction.

1.8.5. Where field conditions necessitate any substantial changes from the approved plan, the authority having jurisdiction shall have the authority to require the corrected plans be submitted for approval.

Chapter 2

MEANS OF EGRESS

2.1. Definition. A means of egress is a continuous and unobstructed way of exit travel from any point in a building to a public way. The means of egress must be free from obstructions that would prevent its use.

2.2. Aisles and Exits. Aisles and exits must comply with NFPA Standard 101, *Life Safety Code*.

2.2.1. The minimum number of means of egress from any balcony, mezzanine, story or portion thereof shall be two. Such exits shall be remotely located from each other and shall be arranged and constructed to minimize the possibility that more than one can be blocked by any one fire or other emergency condition.

2.2.2. Exit Doors must be visible, accessible and swing freely without restriction and the door and panic hardware must be in good repair.

2.2.2.1. Both leafs of double-doors shall be unlocked when the building is occupied.

2.2.3. Prior to blocking any door or exit, the facility manager will contact the Base Fire Inspector for approval.

2.3. Exit Discharge. All portions of any exit discharge must be of required width to provide occupants with safe access to a public way.

2.3.1. The minimum width of any corridor or passageway shall be 44 inches (112cm) in the clear.

2.4. Illumination of Means of Egress. The floors of means of egress must be illuminated at all points, including: corridors, passageways, stairways, landings of stairways and exit doors.

2.5. Emergency Lighting. Emergency lighting shall be provided in the means of egress in all buildings as required by NFPA Standard 101.

2.6. Marking of Means of Egress.

2.6.1. An approved sign must mark exits readily visible from all directions.

2.6.2. Where an exit or way to reach it is not readily apparent, and approved, readily visible sign will mark access.

2.6.3. Exit signs will be of such size, distinctive color, design and so located to be readily visible and contrast with interior decorations.

2.7. Fire Escape Stairways. Stairways must provide a continuous, unobstructed, safe path of travel to the exit discharge or a safe area.

2.7.1. Storage of combustible materials or flammable liquids underneath stairways is prohibited.

2.7.2. Fire escape stairways and landings must be kept free of stored items.

2.8. Locks, Latches and Alarm Devices.

2.8.1. Exit doors must be arranged to be readily opened from the egress side whenever the building is occupied.

2.8.2. No lock, padlock, hasp, bar, chain or other device will be installed or maintained on a door with panic hardware while the facility is occupied.

2.8.3. Where pairs of doors are required in a means of egress, each leaf of the pairs must be provided with its own releasing device. Each leaf will be unlatched at the top and bottom for free swing during normal occupancy.

2.9. Factors Affecting Egress.

2.9.1. Hangings or draperies shall not be placed over exit doors or otherwise be located to conceal or obscure any exit. Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of exit.

2.9.2. Where the Fire Protection Official finds the required path of travel to be obstructed by furniture or other movable objects, they may require that they be fastened out of the way or may require that railings or other permanent barriers be installed to protect the path of travel against encroachment.

Chapter 3

GENERAL REQUIRMENTS

3.1. Electrical Fire Safety. All electrical appliances, fixtures or wiring will be installed and maintained per NFPA Standard 70, *National Electric Code*. Only B.O.S contractor electricians or licensed electrical contractors may alter electrical wiring systems.

3.1.1. All switches, receptacles, junction boxes and control panels will have suitable cover plates or panel doors.

3.1.2. All unnecessary electrical appliances, such as coffee makers, toaster ovens and the like, will be unplugged when not in use.

3.1.3. A clearance of at least 18 inches will be maintained between electrical light fixtures and combustible materials.

3.1.4. Multi receptacle bars used for computers and other small appliances will be fused and listed by an approved testing agency (i.e. Underwriters Laboratory Inc.).

3.1.5. An extension cord or flexible wiring is prohibited from use when:

3.1.5.1. It is used as a substitute for fixed wiring.

3.1.5.2. It is run through walls, ceilings, floors, doors, windows or similar openings.

3.1.5.3. It is attached to building surfaces by nails, hooks, staples, and glue or wrapped around beams/columns.

3.1.5.4. It is concealed under carpets.

3.1.5.5. Cord size (wire gauge) is smaller than the cord of the item being used.

3.1.5.6. It is plugged into another extension cord.

3.1.6. A clear area of at least 36 inches will be maintained around all circuit breaker panels. Each circuit shall be clearly labeled as to what it supports.

3.1.7. Individual air-conditioning units must be installed on the correct amp rated circuit.

3.1.8. Exposed coil hot plates are prohibited.

3.1.9. Use of electrical space-heaters is prohibited unless authorized in writing by the base Civil Engineer.

3.1.10. Convenience appliances, such as coffee makers, toaster ovens, microwave ovens, and the like, must be inspected for electrical safety. (Refer. to NFPA Std. 70, *National Electric Code*.)

3.2. Managers of Public Assembly. Managers of public assemblies are responsible for the overall fire prevention and life safety program and must follow the guidance provided in AFI 91-203.

3.3. Contractors and Concessionaires.

3.3.1. The Services Squadron Commander and the AAFES General Manager will appoint a supervisor to ensure all contracted projects and concessionaires comply with this instruction.

3.3.2. Contracts carried out on Base will state the contractor's and concessionaire's responsibilities for fire safety and compliance with fire safety standards.

3.3.3. Contractors will be briefed before they start any project. Contractors shall comply with this instruction and the provisions covered in NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*.

3.3.4. Construction management will advise the fire inspector in advance of all scheduled pre-construction briefings.

3.3.5. Construction Fire Safety. This includes contractors and all base personnel performing construction or self-help projects. An AF IMT 332, Base Civil Engineering Work Request, will be coordinated prior to any project being accomplished outside the realm of base Contracting function.

3.3.5.1. Contractor supervisors and base contract monitors are responsible for fire safety at construction sites.

3.3.5.2. During the construction phase, a fire inspector is authorized to inspect the job site; any problems will be addressed to the contract monitor.

3.3.5.3. The base Fire Inspector has the authority to stop-work immediately when serious fire safety infractions are discovered on a construction site.

3.4. Fire Lanes.

3.4.1. Fire lanes shall be provided for all buildings that are set back more than 150ft (45.75 m) from a public road or exceed 30ft (9.14 m) in height and are set back over 50 ft (15.25 m) from a public road.

3.4.2. Fire lanes will be provided to allow clear access for fire apparatus to connect to fire protection equipment (i.e. standpipe and sprinkler connections).

3.4.3. Fire lanes shall be wide enough to accommodate all fire equipment; able to withstand fire apparatus live loads and have a minimum of 13ft 6 inch vertical clearance; shall provide for a turnaround or thru street. Exception No. 1: T or Y turnaround arrangements are permitted. Exception No. 2: When acceptable to the authority having jurisdiction, turnaround arrangements other than a cul-de-sac may be used.

3.4.4. Fire lanes shall be marked with freestanding signs or marked curbs, sidewalks, or other traffic surfaces that have the words "FIRE LANE NO PARKING" painted in contrasting colors at a size and spacing approved by the authority having jurisdiction.

3.4.5. Parking is not allowed in fire lanes; fire lanes must be free from obstructions at all times. Should it be necessary to park in a fire lane for vehicle loading or unloading, the operator must remain with the vehicle.

3.4.6. Vehicles shall park no closer than 20 feet from any fire hydrant, standpipe, or sprinkler connection.

3.4.7. Motor vehicles will not park on streets, passageways or fire lanes in such a way as to block access of fire apparatus.

3.4.8. Streets will not be barricaded or otherwise obstructed without prior notification of the Fire Protection Flight.

3.5. Vacant Buildings.

3.5.1. Every person owning or having charge or control of any vacant building shall remove all combustible waste and refuse therein and lock, barricade, or otherwise secure all windows, doors and other openings in the building to prohibit entry by unauthorized persons.

3.5.2. Buildings that are vacant shall maintain all required sprinklers and standpipe systems in service. Exception: As approved by the authority having jurisdiction.

3.5.3. The authority having jurisdiction shall have the authority to require an inspection and test of any sprinkler system, standpipe system or fire alarm system that has been out of service for 30 days or more before restored back into service.

3.6. Commercial Cooking Equipment.

Commercial cooking equipment will be maintained per AFI 91-203 and NFPA 1, *The Fire Prevention Code*.

3.6.1. Cooking equipment that produces grease-laden vapors (such as but not limited to, deep fat fryers, ranges, griddles, broilers, woks, tilting skillets and braising pans) shall be protected by fire extinguishing equipment.

3.6.1.1. Fire extinguishing equipment shall include both automatic wet chemical extinguishing systems as primary protection and portable fire extinguishers as secondary backup.

3.6.2. When a system is out of service for any reason, cooking equipment protected by that system will not be used.

3.6.3. Building managers are responsible for visually inspecting systems prior to cooking each day. This inspection is to provide reasonable assurance that the system is fully charged and operable.

3.6.4. The fire inspector will be notified prior to and after completion of any maintenance on a wet/dry chemical system.

3.6.5. The operation of any extinguishing system shall automatically shut off all sources of fuel and heat to all equipment requiring protection by that extinguishing system. Any gas appliance not requiring protection but located under the same ventilating equipment shall also be shut off. All shutdown devices shall be considered integral parts of the system and shall function with the system operation. This equipment shall be of the type that requires manual resetting prior to fuel or power restoration.

3.6.6. Hoods, grease removal devices, fans and ducts shall be cleaned to bare metal at frequent intervals prior to surfaces becoming heavily contaminated with grease or oily sludge. They shall be inspected and documented at least every 6 months.

3.6.7. Flammable solvents or other flammable cleaning aids shall not be used.

3.6.8. At the start of the cleaning process, electrical switches that may be accidentally activated shall be locked out.

3.6.9. Care shall be taken to not apply cleaning chemicals on fusible links or other detection devices of the automatic extinguishing system.

3.6.10. When cleaning procedures are completed; qualified personnel shall return all electrical switches, detection devices, and system components to an operable state. Cover plates shall be replaced and dampers and diffusers shall be positioned for proper airflow.

3.6.11. Deep fat fryers shall be equipped with a separate high limit control in addition to the adjustable operating control (thermostat) to shut off fuel or electricity when the fat temperature reaches 475 F (246 C), 1 inch (25.4 mm) below the surface. Deep fat fryers shall be calibrated annually to ensure the separate high limit control is properly functioning. EXCEPTION: Solid-state, deep-fryers manufactured without separate controls and conforming to UL standards.

3.6.12. Operating Procedures.

3.6.12.1. Exhaust systems shall be operated during all periods of cooking.

3.6.12.2. Filter-equipped exhaust systems shall not be operated with filters removed.

3.6.12.3. Openings provided for replacing covers, dampers or any other means that would reduce the operating efficiency of the exhaust system shall not restrict air exhausted through ventilating equipment.

3.6.12.4. Instructions for manually operating the fire extinguishing system shall be posted conspicuously in the kitchen and shall be reviewed periodically with employees by the management.

3.7. Smoking.

3.7.1. Smoking is not permitted inside any building on base.

3.7.1.1. Designated smoking areas are provided throughout the base.

3.7.2. "No Smoking" signs are needed only for areas posted for fire, explosives or other safety hazards. All other areas are assumed to be "NO SMOKING".

3.7.3. Receptacles used for the disposal of smoking materials shall be used exclusively for smoking materials and shall be constructed of metal for the sole purpose of disposal of smoking materials. When these containers become half-filled, the contents will be thoroughly soaked by water for no less than 15 minutes; placed in a plastic bag and discarded in a trash can or dumpster.

3.7.4. Contracted services are responsible for ensuring receptacles are emptied.

3.8. Mechanical Rooms. Mechanical rooms will not be used for storage purposes.

3.8.1. Limited, incidental storage of non-flammable items for use by BOS/CE/CES/ Safety maintenance personnel in the same mechanical room is permitted with Fire Inspector's approval.

3.9. Combustible Waste and Refuse. Building managers will not allow combustible waste to accumulate in a manner to create a fire hazard. Dumpsters and trashcans shall be positioned a minimum of 15 feet from any building.

3.10. Housekeeping. Good housekeeping relative to fire safety is the responsibility of commanders, supervisors, building managers, occupants.

3.10.1. Greasy and oily rags, paint rags and polishing cloths must be stored in self-closing metal containers after use.

3.10.1.1. Used, oily shop rags shall be stored in self-closing, labeled, metal containers and emptied at regular intervals IAW base environmental oily shop rag recycle policy.

3.10.2. Trash must not be allowed to accumulate within work areas and must be emptied frequently.

3.10.3. Flames resistant, plastic, trash cans are permitted for ordinary office trash although metal cans are preferred.

3.10.4. Mops shall be thoroughly rinsed after use and hung off the floor to prevent spontaneous combustion.

3.10.5. In facilities where clothes dryers are in use, lint build-up must be eliminated from under the dryer, around electrical motors and from discharge vents.

3.10.6. Dust and floor lint must be eliminated from under and around appliances housing energized, electrical motors.

3.11. Dormitories and VQs.

3.11.1. Cooking in dormitories not equipped with hood and exhaust systems is prohibited.

3.11.1.1. Guest room coffee makers shall be equipped with automatic, shut-off timers.

3.11.2. Burning of candles is prohibited.

3.11.3. Bicycles will not be stored in halls or other common areas.

3.11.4. All combustible materials such as bedding materials and curtains must be kept a minimum of 6 inches from all electrical outlets to avoid a potential fire hazard. Additionally, for all issues dealing with electrical safety, section 3.2, are applicable.

3.12. Flammable and Combustible Liquids.

3.12.1. Flammable and combustible liquids, including spray cans will be handled and stored per AFI 91-203 and AFJMAN 23-210, *Joint Service Manual for Storage and Materials Handling*.

3.12.2. Gasoline, thinner and other volatile flammables will not be used for cleaning purposes.

3.12.3. Flammable and combustible liquids shall be stored in approved flammable storage lockers when not in use.

3.12.4. Not more than 120 gal (454 L) of Class I, Class II and Class IIIA liquids may be stored in a storage cabinet. Of this total, not more than 60 gal (227L) may be of Class I and Class II liquids and not more than three (3) such cabinets may be located in a single fire area, except that in an industrial occupancy, additional cabinets may be located in the same fire area if the additional cabinet or group of not more than three (3) cabinets is separated from other cabinets or group of cabinets by at least 100 feet (30 m)

3.12.5. Dip tanks must be properly grounded and be protected by self-closing metal lids with fusible links.

3.12.6. Dispensing storage drums shall have spring closing type faucets and drip pans in place.

3.12.7. When flammable and combustible liquids are spilled in large quantities, the spill will be reported immediately to the Security Force Desk at ext 8250.

3.13. Compressed Gas Cylinder Storage.

3.13.1. General storage precautions can be found in AFJMAN 23-210.

3.13.2. Compressed gas cylinders, full or empty, will be stored in an upright position, firmly secured, with the dome cap in place.

3.13.3. Cylinders shall be located to minimize exposure to excessive temperature, physical damage, and tampering.

3.13.4. Compressed gas cylinders will be stored in designated locations only. Oxygen and acetylene gas will be stored separated by a wall or 60 feet of distance. Storage areas will be separated and posted according to their hazard group.

3.14. Heating Appliances.

3.14.1. Use of portable kerosene space heaters is prohibited in all Base facilities. EXCEPTION: Heaters used in tent operations during training.

3.14.2. Portable electric space heaters are not permitted without permission of the Base Civil Engineer/ Fire Marshal.

3.14.3. Space heaters must be kept at least 36 inches from combustible materials such as paper, furniture or curtains.

3.15. Refueling.

3.15.1. Fuel spills, regardless of size, will be reported to base Security Force Control Desk X911.

3.15.2. Fuel Dispensing System. A clearly identified and easily accessible switch(es) or circuit breaker(s) shall be provided at a location remote from dispensing devices, including remote pumping systems to shut off the power to all dispensing devices in the event of an emergency.

3.16. Fireworks.

3.16.1. Fireworks are prohibited on Base. EXCEPTION: Authorized, military stock listed, training devices, contact 911 AW/SEW for specific instructions.

3.17. Spray Application Using Flammable and Combustible Materials.

3.17.1. Spray application operations shall not be conducted in a building classified as assembly, educational, institutional or residential, except in a room designed for the purpose, protected with an approved system of automatic sprinklers and separated vertically and horizontally from such occupancies by construction having not less than a 2 hour fire resistance rating. EXCEPTION: For temporary purposes, the procedure may occur with the prior approval of the Fire Protection Office, Wing Safety and Bioenvironmental Engineering.

3.17.2. All metal parts of spray booths, exhaust ducts and piping systems conveying flammable or combustible liquids or aerated combustible solids shall be properly electrically grounded in an effective and permanent manner.

3.17.3. Exhaust ducts shall be provided with ample access doors to facilitate cleaning.

3.17.4. Spray areas shall be protected with an approved automatic fire extinguishing system.

3.17.5. All spray areas shall be kept free from the accumulation of deposits of combustible residues. Combustible coverings (thin paper, plastic, etc.) and strippable coatings may be used to facilitate cleaning operations in spray areas. If residue accumulates to excess in booth, duct or duct discharge points or other spray areas, then all spraying operations shall be discontinued until conditions are corrected.

3.17.6. Personnel required to handle or use flammable or combustible materials shall be instructed in the safe handling, storage and use of the materials, as well as the emergency procedures that may be required.

3.17.7. Approved metal waste cans shall be provided wherever rags or waste are impregnated with sprayed material and all such rags or waste deposited therein immediately after use. The contents of waste cans shall be properly disposed of at least once daily at the end of each shift.

3.18. Treatment of Floors. Sanding, varnishing and polishing of large floor areas such as gyms and bowling lanes create a serious explosion hazard.

3.18.1. The Fire Protection Office will be contacted before these types of floor treatment begins.

3.18.2. All unnecessary electrical exhaust fans, lights, motors and pilot lights will be shut off prior to and treatment of floors.

3.18.3. All electrical equipment used during floor treatment will be in good repair and conform to NFPA 70, *National Electric Code*. Buffers must be equipped with spark arrestors. No open flame devices and authorized. Doors and windows will be opened for ventilation.

Chapter 4

INSTALLED FIRE DETECTION – SUPPRESSION SYSTEMS

4.1. Acceptance Tests. Prior to final acceptance of any new fire detection or suppression system, the system will be tested in the presence of a fire official, a fire alarm technician and a utility shop representative if a sprinkler system is installed. The contractor must provide notification of a final acceptance test to the Fire Prevention Office not less than 1 week prior to the test for scheduling.

4.1.1. Prior to and after performing tests or maintenance on fire detection systems or fire suppression system, technicians will inform the fire alarm Communications Center (Law Enforcement Desk) and the building manager. The building manager will notify the building occupants.

4.2. Fire Detection Systems. Responsibilities for functional managers, supervisors and facility managers are outlined in AFI 91-203, and NFPA 72, *The Fire Alarm Code*.

4.2.1. Where detectors have been determined to be required, a total coverage system shall be installed. Total coverage shall include all rooms, halls, storage areas, basements, attics, lofts, spaces above suspended ceilings, other subdivisions and accessible spaces, the inside of all closets, elevator shafts, enclosed stairways, dumbwaiter shafts and chutes. Inaccessible areas shall not be required to be protected by detectors.

4.2.2. Upon completion of an installation or alteration, satisfactory tests of the entire system shall be made in the presence of the authority having jurisdiction. All functions of the system shall be tested, including operation of the system in various alarm and trouble modes for which it is designed (e.g., open circuit, grounded circuit, power outage, etc.)

4.2.3. Building managers and occupants must not tamper with or obstruct fire detection devices and alarm equipment. Compliance with the following provisions will help ensure fire detection systems function as designed and provide early detection of fire.

4.2.3.1. Painting of fire detection devices is prohibited.

4.2.3.2. Items will not be stored near fire or smoke detectors.

4.2.3.3. Only Fire Protection personnel and BOS contractor technicians are authorized to open and operate fire alarm panels.

4.2.4. High heat generating maintenance equipment shall not be operated in buildings equipped with heat detectors, without first notifying the Fire Protection Office.

4.2.5. Detectors shall be supported, in all cases, independently of their attachment to the circuit conductors.

4.3. Fire Sprinkler Systems. Responsibilities for functional managers, supervisors and facility managers are outlined in AFI 91-203 and NFPA 13, *The Fire Sprinkler Code*.

4.3.1. Building managers and occupants must not tamper with or obstruct fire sprinkler system components. Compliance with the following provisions will help ensure fire suppression systems function as designed and provide early extinguishment of fire.

4.3.1.1. Do not paint over any sprinkler system component without approval from the Fire Protection Flight.

4.3.1.2. Do not store items near sprinkler risers, heads or test valves.

4.3.1.3. Welding will not be conducted in sprinkled facilities when the system is out of service. EXCEPTION: Emergency repair work with AHJ approval.

4.3.2. Water Supply. Sprinkler piping serving not more than six sprinklers for any isolated hazardous area shall be permitted to be connected directly to a domestic water supply system having a capacity sufficient to provide 0.15 gpm per sq. ft (6.1 L/min/m) of floor area throughout the entire enclosed area. An indicating shut-off valve shall be installed in an accessible location between the sprinklers and the connection to the domestic water supply.

4.3.3. Automatic sprinkler systems shall be maintained in full operating service at all times except when repairs or modifications are being made. Systems shall not be left out of service overnight or at other times when the building is not occupied. The Fire Department shall be immediately notified any time that a system is out of service.

4.3.4. Personnel who work in areas covered by Halon or Aqueous Film Forming Foam (AFFF) systems will be familiar with emergency evacuation procedures.

4.4. Manual Pull Stations. Responsibilities for functional managers, supervisors and facility managers are outlined in AFI 91-203 and NFPA 72, *The Fire Alarm Code*.

4.4.1. Supervisors must train occupants annually on proper use of fire alarm systems. Supervisors can contact building managers or the fire inspector for assistance.

4.4.2. Each fire alarm pull station shall be securely mounted. The bottom of the box shall be not less than 3 ½ ft (1.1 m) and not more than 5 ft (1.4 m) above the floor level.

4.4.3. Manual fire alarm boxes shall be distributed throughout the protected area so that they are unobstructed, readily accessible and located in the normal path of exit from the area and as follows:

4.4.3.1. At least one box shall be provided on each floor of the premises.

4.4.3.2. Additional boxes shall be provided so that travel distance to the nearest box will not be in excess of 200-ft (61 m) horizontal distance on the same floor.

4.5. Maintenance and Testing.

4.5.1. Any non-required system that creates an unsafe or hazardous condition shall be removed.

4.5.2. Every required automatic sprinkler system, fire detection and alarm system, smoke control system, exit lighting, fire door and other items of equipment required by this instruction shall be continuously maintained in proper operating condition.

4.5.3. Systems shall be under the supervision of a responsible person who shall ensure that proper tests are made at specified intervals and have general charge of all alterations and additions.

4.5.4. Fire alarm signaling equipment shall be restored to service as promptly as possible after each test, alarm or maintenance and shall be kept in normal condition for operation.

4.5.5. A functional test shall be conducted as required in UFC 3-600-02. Equipment shall be fully operational for the duration of the test. Written records of testing shall be kept by the authority having jurisdiction.

4.5.6. Emergency generators used to provide power to emergency lighting systems shall be installed, tested and maintained in accordance with NFPA 110, *Emergency and Standby Power Systems*.

4.5.7. Elevators shall be subject to routine and periodic inspections and test. All elevators equipped with emergency telephones shall be subject to a monthly operational test conducted by the building manager or alternate.

4.5.8. Inoperative Systems. Urgent priority will be assigned for returning fire detection and suppression systems to service. The civil engineering technicians will notify of any system outage and provide estimated date it will be returned to service.

4.5.8.1. Inoperative systems in aircraft hangars housing airframes will be given the highest repair priority. Emergency ORM procedures will be determined on an "as needed" basis.

4.6. Standpipe Systems.

4.6.1. New buildings more than three stories in height or new buildings over 50ft (15.25 m) in height above grade and containing intermediate stories or balconies shall be equipped with a standpipe system.

4.6.2. When a standpipe system or any portion thereof is out of service for any reason, notice shall be given to the local fire department and a sign shall be posted on each fire department connection indicating what portion of the system is out of service.

4.6.3. All stand-pipe systems on base are designated "FOR FIRE DEPARTMENT USE ONLY"

4.7. Fire Extinguishers.

4.7.1. Building managers' and organizational responsibilities for fire extinguishers are contained in AFI 91-203, and NFPA 10, *The Fire Extinguisher Code*.

4.7.2. Fire Protection Office is available to assist commanders by providing training on hand-held fires extinguishers.

4.7.3. Owning organizations are responsible for ensuring hand-held fire extinguishers are removed from use and delivered to fire extinguisher maintenance shop for maintenance/repair. They are also responsible for requisitioning a replacement for those fire extinguishers that are not repairable or reserviceable.

4.7.4. Flight line fire extinguishers will be checked daily by the using organizations. Unserviceable units will be removed from service and delivered by the using organization to unserviceable areas (flight-line side of building 418) for servicing.

4.7.4.1. The Fire Protection Office will be notified of fire extinguishers removed from service and will arrange for servicing.

4.7.5. Use of halon agent fire extinguishers shall be limited to 5 lb portable extinguishers mounted on board aircraft or 150 lb wheeled type extinguishers used for flight line

applications only. Halon is a known ozone-depleting agent and is associated with certain health risks. The use of a self-contained breathing apparatus during operation of these extinguishers is highly recommended.

4.7.6. Hand-held fire extinguishers will not be moved from their designated location except to extinguish a fire.

4.7.7. Ensure extinguishers are hung or mounted on protective stands and are highly visible and easily accessible.

4.7.7.1. Cabinets housing extinguishers shall not be locked unless access can be gained without the use of a key.

4.7.7.2. Extinguishers having a gross weight not exceeding 40 lb (18.14 kg) shall be installed so that the top of the extinguisher is not more than 5ft (1.53 m) above the floor. Extinguishers having a gross weight greater than 40lb (18.14 kg) (except wheeled types) shall be so installed that the top of the extinguisher is not more than 3 ½ ft (1.07m) above the floor. In no case shall the clearance between the bottom of the extinguisher and the floor be less than 4 in (10.2cm).

4.7.8. A 30-day inspection of all portable hand-held fire extinguishers must be made and annotated on the attached inspection card and log book or electronic record system by the facility manager or designated representative.

4.7.8.1. Check pressure and agent levels and insure tamper seals and pins are intact.

4.7.8.2. Visually check for damage and excessive corrosion.

4.7.9. Fire Extinguisher Training. All personnel shall be trained upon assignment and annually thereafter on the use of fire extinguishers, standpipe and hose systems that they may be required to use. The initial training may be conducted by the Fire Protection Office; refresher education shall be conducted by designated unit personnel with technical advice and assistance provided by the fire protection authority if requested.

4.7.10. Flight Line Fire Extinguisher Training. Newly assigned aircraft maintenance and servicing personnel will receive initial hands-on training on the use of 150 lb Halon 1211 flight line fire extinguisher. After initial training, personnel will receive annual refresher education from designated unit personnel.

4.8. Fire Doors/Service Counter Doors.

4.8.1. Doors shall be operational at all times and arranged for automatic closing.

4.8.2. Areas around fire doors and service counter type windows will be kept clear of anything that would obstruct or interfere with the free operation of a door.

4.8.3. Fusible links and heat-actuated release devices will not be painted.

4.9. Fire Hydrants.

4.9.1. Fire hydrants are for use by the Fire Department and will not be used indiscriminately for other purposes. The Fire Marshal is the approval authority for use of fire hydrants.

4.9.2. The Fire Inspector will be notified of any proposed water curtailment that will affect fire hydrants. An “Out of Service” sign will be placed on an inactive fire hydrant and removed when it is returned to service.

4.10. Nothing in this Instruction is intended to prevent the use of alternative or equivalent practices or methods relating to fire prevention, fire protection or life safety initiatives. This Instruction may be amended at anytime to incorporate alternative or equivalent practices with the approval of the AHJ.

CRAIG C. PETERS, Col, USAFR
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFJMAN 23-210, *Joint Service Manual (JSM) for Storage and Material Handling*, 12 APR 1994

AFMAN 33-363, *Management of Records*, 01 MAR 2009

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, 15 JUN 2012

AFPD 32-20, *Fire Emergency Services*, 21 JUN 2012

DoD Instruction 6055.6, (DODI) *Department of Defense Fire and Emergency Services Program*

NFPA 1, *The Fire Prevention Code*.

NFPA 110, *Emergency and Standby Power Systems*

NFPA 13, *The Fire Sprinkler Code*

NFPA 70, *National Electric Code*

NFPA 72, *The Fire Alarm Code*.

NFPA Standard 101, *Life Safety Code*

NFPA Standard 70, *National Electric Code*

TO 42B5-1-2, *Gas Cylinders, Uses Handling and Maintenance*

UFC 3-600-02, *ITM Fire Protection Systems*

UFC-3-600-1, *Unified Facilities Criteria*

Adopted Forms

AF IMT 1487, *Fire Prevention Visit Report*

AF IMT 218, *Facility Fire Prevention/Protection Record*

AF IMT 3, *Hazard Abatement Plan*

AF IMT 332, *Base Civil Engineering Work Request*

AF IMT 592, *USAF Welding, Cutting and Brazing Permit*

AF Form 847, *Recommendation for Change of Publication*, 22 SEP 2009

Abbreviations and Acronyms

AAFES—Army and Air Force Exchange Service

AF—Air Force

AFFF—Aqueous Film Forming Foam

AHJ—Authority Having Jurisdiction

B.O.S.—Base Operating and Support Services

CFR—Code of Federal Regulation

DOD—Department of Defense

FSDC—Fire Safety Deficiency Code

MAJCOM—Major Command

MAJCOM/CE—Major Command Civil Engineer

NFP—National Fire Protection

NFPA—National Fire Protection Association

ORM—Operational Risk Management

OSHA—Occupational Safety and Health Administration

RACs—Risk Assessment Codes

VQs—Visiting Quarters