BY ORDER OF THE COMMANDER
482D FIGHTER WING

HOMESTEAD AIR RESERVE BASE
INSTRUCTION 32-2001

7 APRIL 2020

Civil Engineering

FIRE PREVENTION, PROTECTION, AND ENFORCEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Brig Gen. David A. Piffarerio)

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This instruction aligns with AFPD 32-20, Fire Emergency Services, and supplements AFI 32-2001, Fire Emergency Services (FES) Program. It establishes policies, practices, and procedures for a comprehensive, base-level fire protection program at Homestead Air Reserve Base (HARB). It applies to all personnel assigned or attached to units at HARB, to include all tenant organizations including all personnel, military and civilian, the Army Air Force Exchange Services (AAFES) Base Exchange Mart (BX Mart) and all facilities and activities within and upon the physical limits of HARB. It assigns responsibilities for fire prevention and protection and establishes a recognized standard practice for safeguarding life and property from the effects of fire. This instruction is consistent with Occupational Safety and Health (OSHA) standards, Air Force Safety and Health standards, National Fire Protection Association (NFPA) codes and standards, Unified Facilities Criteria (UFC) 3-600-01, Fire Protection Engineering for Facilities, Engineering Technical Letters (ETL), and the International Building Code (IBC), as applicable. Standards for unique conditions for which no fire prevention criteria have been developed or published will be developed according to the recommendation of the HARB Fire Emergency Services (FES).

Refer recommended changes to and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force Form 847 (AF Form 847), Recommendation for Change of Publication; route AF Form 847 from the field through the appropriate functional's chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual 33-363 (AFMAN 33-363), Management of Records, and disposed of IAW AFI 33-364, Records Disposition –

Procedures and Responsibilities Records Disposition Schedule located at **http://www.my.af.mil/afrims/afrims/ afrims/rims.cfm**

See **Attachment 1** for a glossary of references and supporting information. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. Requests for waivers must come through the chain of command from the commander of the office seeking relief from compliance. Waiver requests must be submitted to the OPR; waiver authority has not been delegated. The waiver approval authority for all compliance items within this publication are at Wing Level (Tier T-3, at a minimum) and may require MAJCOM level (Tier-2) or Air Force Civil Engineer Center (AFCEC, Tier-1) level depending on the specifics of the requested waiver.

SUMMARY OF CHANGES

This publication enhances and streamlines the previous guidance, removes sections currently not applicable to the installation is revised to reflect the latest changes in Air Force Instructions, and must be completely reviewed.

Overview. In order to prevent or minimize loss of life or property from fire, the fire protection branch, commanders, supervisors, facility real property managers, and all military and civilians must take adequate measures to prevent fires and fire hazards. All military and civilian personnel will assist and participate in recognition of their individual responsibilities for fire prevention. They are responsible for observing and enforcing fire prevention regulations and AFOSHSTD in the course of their duties. In addition to this regulation and other official publications of the AF and the Department of Defense (DoD), and other nationally recognized standards such as, Underwriters Laboratories, American Insurance Association, Factory Mutual Laboratories and Occupational Safety and Health Administration and the National Fire Protection Association directives will apply.

1. ADMINISTRATION AND ENFORCEMENT

1.1. **Purpose:**

1.1.1. This instruction defines policies and responsibilities and sets standards and procedures for fire prevention and fire protection from a facility engineering perspective.

1.1.2. This instruction establishes minimum fire prevention measures for complete fire protection services to prevent loss of life or personal injuries and reduce property loss to the lowest attainable level consistent with mission, sound engineering, and economic principles.

1.2. **Authority.**

1.2.1. This program is directed IAW AFI 32-2001, The Fire Emergency Services (F&ES) Program.

1.2.2. The HARB Fire Emergency Services (FES) Flight is authorized to inspect, at reasonable times, any building or premises for dangerous or hazardous conditions or materials as set forth in this standard. The fire department will inform any entity failing to comply with this standard that they are in violation of the directives of this document. All violations will be recorded in writing and the reference standard noted.

1.2.3. Fire protection waivers, exceptions and alterations: The fire department is not authorized to approve waivers, exceptions or alterations. Waivers, exceptions, and alterations concerning fire protection will be made in accordance with AFI 32-2001 and AFI 32-10141, Planning and Programming Fire Safety Deficiency Correction Projects.

1.3. **Objective.**

1.3.1. The objectives of the Fire Prevention Program are to prevent fires, facilitate early intervention of fires that occur, and ensure the safety of exposed personnel during fires. These objectives are accomplished through four program elements: FES facility plan reviews, fire prevention inspections, code enforcement and fire safety education.

1.4. **Fire Prevention and Protection Program.**

1.4.1. Every Air Force activity will have a fire prevention and fire protection program based on its size, mission, and available resources.

1.4.2. Installation Commander: Responsible for fire safety of personnel and property. The installation commander delegates execution to the Installation Fire Chief (IFC) through the Base Fire Marshal.

1.4.3. The Base Fire Marshal: (482 MSG/BCE) is responsible to the Installation Commander for oversight of F&ES programs and provides the IFC the resources to execute the F&ES mission.

1.4.4. Installation Fire Chief. The F&ES Flight Chief is the IFC and responsible to the Base Fire Marshal for the following: establishing, executing and maintaining F&ES programs, determines additional resources, conducting risk assessments and advising commanders regarding risk and capability. Develops and implements Risk Management Plans, which include detailed actions for periods of reduced F&ES capability for

approval by the installation commander (may be delegated no lower than the Base Fire Marshal).

1.4.5. Fire Inspection Program: IAW AFI 32-2001, Fire Emergency Services Program, the Fire Emergency Services flight performs facility inspections and advises unit commanders, facility managers, and supervisors of fire hazards and fire safety deficiencies noted in their facilities. The primary responsibility for correcting identified hazards or deficiencies rests with the unit commander executed by the facility/building manager of the unit or facility inspected.

1.4.5.1. Per AFI 32-2001, frequency and numbers of installation facilities requiring inspection are determined by the base Fire Chief and inspected by the FES Inspection section.

1.5. **Fire Prevention and Public Education.**

1.5.1. The Fire Prevention Section is available to present fire prevention briefings. Call the fire prevention section at extensions (786) 415-6776 or 415-7547 (DSN 535-6776/7547) to request and schedule this training.

1.5.2. Commander's calls or other unit functions may be utilized to train personnel in fire prevention responsibilities. Annual refresher training may be accomplished via computer-based training (CBT).

1.6. **Fire Protection Engineering Program.**

1.6.1. All facilities and structures on base shall be designed with the appropriate fire protection/safety features. Prior to new construction of any facility, regardless of real property status, the Fire Prevention Section shall review plans to ensure all required features are present and local emergency response elements are incorporated (i.e., accessibility to facility, location of fire hydrants, etc.).

1.6.2. All construction, alterations, modifications, renovations and self-help projects shall be coordinated with 482 MSG/BCE and the base Fire Protection Section DSN 535-6776/7547. All work must be documented on an AF Form 332, Base Civil Engineer Work Request, and submitted through proper channels.

1.6.3. Coordinate all work requests on an AF Form 332, Base Civil Engineer Work Request, through the fire prevention flight and completely process them through 482 MSG/BCE prior to making any change or addition that will affect the floor plan or interior finish of any facility or structure.

1.7. **Construction Requirements, Alterations, Modifications, and Self Help Projects.**

1.7.1. Ensure all construction at HARB complies with the provisions of all applicable UFC, ETL, NFPA, and local Standards and requirements. This applies to new construction, reconstruction, alterations, modifications, self-help projects, and maintenance or repair of existing facilities.

1.7.2. Buildings or portions of buildings may be occupied during construction, repair, alterations, or additions only if all means of egress and all fire protection features are in place and continuously maintained.

1.7.3. The installation Fire Protection Section shall be notified either via e-mail or in writing of all pre-construction conferences, pre-final and final facility inspections.

1.8. **Change of Occupancy.**

1.8.1. If a change of occupancy or portion of occupancy is required in an existing or new facility, this change shall be permitted only if such building or structure conforms to the requirements of the UFC 3-600-01, applying to the new construction or for the proposed new use.

1.8.2. Alterations, modifications, or other changes to government structures are prohibited without the prior approval of the Commander, 482 MSG/BCE or his/her designee.

1.9. **Notification of Public Gatherings.**

1.9.1. Organizations shall notify the base Fire Prevention Section at least one week prior to any assembly that will be conducted in a facility or area not specifically designed as a place of assembly. This is to ensure that all requirements outlined in NFPA Standards, 101 Life Safety Code are met and events are conducted safely.

1.9.2. Notify FES of all major social events when temporary decorations or unusual arrangements exist.

1.9.3. The following announcement (or similar) shall be read by the Facility Manager or other responsible parties at all public assembly gatherings held indoors, prior to the start of any function: "Exits are located in the places I am now indicating. In the event of a fire, alarm activation or other emergency necessitating evacuation, please move in a calm and orderly manner to the nearest exit."

2. RESPONSIBILITIES.

2.1. **Organizational Commanders.**

2.1.1. Commander's role: The most critical ingredient in an effective fire prevention and fire protection program is the commander's awareness, involvement and active participation. The unit commanders are responsible for establishing and enforcing an effective fire prevention program within each activity or facility under their jurisdiction.

2.1.1.1. Unit Commanders shall:

2.1.1.1.1. Develop an operating instruction (OI) or fire reaction plan for their unit to follow when fire is discovered. This publication will cover fire reporting, evacuation, and safeguarding of classified information. Depending upon the type of activity, the OI will also provide emergency removal of aircraft from hangars, protection of high value and critical material, fuel handling, and accidents involving fuel spills. Emergency number on base is 911. If calling from a cell phone, dial 786-415-7117.

2.1.1.1.2. Submit the unit OI to the Base Fire Department for technical review and endorsement prior to implementation. Post this OI conspicuously on a bulletin board in each building or facility occupied as a work center. A copy will be kept in facility folders for easy reference.

2.1.1.1.3. Notify the Base Fire Chief in writing of the location and building number of any facility where personnel are sleeping other than those designated as sleeping facilities.

2.1.2. Functional managers must sign any AF Form 1487, Fire Prevention Visit Reports, issued against facilities and operations under their control and identified uncorrected hazards or FSDs.

2.1.3. Ensure that all assigned personnel are knowledgeable concerning fire reporting procedures, personnel evacuation, fire prevention measures, and fire extinguisher use. Annual refresher training may be accomplished via computer-based training (CBT).

2.1.4. Immediately inform the Fire Prevention Flight of any installed fire protection system or fire extinguisher that has been discharged or damaged regardless of the reason.

2.2. **Facility Managers:**

2.2.1. Each facility manager, designated in accordance AFI 32-9005, Real Property Accountability and Reporting, is responsible to the unit commander for the fire safe condition of all facilities under their jurisdiction.

2.2.2. Facility Managers/supervisors shall ensure emergency contact names and phone numbers are kept up to date with 482 CES Customer Service.

2.2.3. Facility Managers shall ensure all buildings are numbered IAW UFC 3-120-01 and the base facility standard.

2.2.4. Facility Managers shall conduct fire drills if required as directed by this instruction. Pre-arrange any fire drills where they desire the use of installed alarm systems with the Fire Prevention Flight, so that a representative may be present to evaluate, furnish suggestions for improvement, and reset the fire alarm system.

2.2.5. Facility Managers shall accompany the fire inspectors during fire inspections. The inspector shall notify the Facility Manager on all fire hazards or deficiencies noted and the corrective action required via AF Form 1487, Fire Prevention Visit Report. Instructions for completing the form are on the reverse side of the AF Form 1487, which must be returned IAW the suspense date assigned. Interim corrective actions must be taken on all identified items that cannot be corrected by the suspense date.

2.2.6. Ensure all facility fire extinguishers are maintained in a ready-to-use condition, are inspected monthly for serviceability, and annual fire extinguisher maintenance is performed. Documentation shall be kept on hand for the fire inspector to review.

2.2.7. Facility Managers shall maintain a fire prevention monthly checklist. HARBI 32-2001, **Attachment 2**, will be the minimum standard for monthly fire prevention checks. This folder will be on file for the fire inspectors' review.

2.2.7.1. Facility Managers are responsible for correcting deficiencies/hazards noted during a fire inspection. Items that cannot be corrected immediately must be submitted via AF Form 332, Base Civil Engineer Work Request. Facility Managers are also responsible for performing follow-up on submitted AF Form 332's

2.3. **Supervisors and Employees.**

2.3.1. Supervisors and employees are responsible for ensuring their work place is free of fire hazards. Eliminate all hazards and deficiencies immediately, or report to a level where corrective action can be taken.

2.3.2. The supervisor of the operation must take prompt action to reduce or eliminate the hazard, or cease operations and withdraw exposed personnel to safety where hazardous conditions pose an imminent threat to life or property.

2.4. **482d Civil Engineering Squadron (482 CES).**

2.4.1. The Engineering Flight is responsible for ensuring all protection engineering requirements are met. Additionally, the Engineering Flight will conduct a pre-design meeting for all construction projects to assure understanding of fire prevention features between the user, the Fire Protection Flight, Safety, and the design engineer. Designs will comply with all current requirements of UFC 3-600-1, Unified Facilities Criteria and the National Fire Protection Association (NFPA).

2.4.2. The Appropriate Civil Engineer Shop or Contractor Equivalent is responsible for inspection, testing, repair, and maintenance of all fire detection, water distribution, and fire suppression systems on the installation.

2.5. **Contractors.**

2.5.1. All contractors performing work on properties under jurisdiction of this installation shall be responsible for fire safety and compliance with all applicable OSHA, State, Air Force, AFRC, and base instructions and directives.

2.5.2. The Prime Contractor shall attend a contractor's briefing on fire safety prior to commencement of any work.

2.5.3. The Prime Contractor shall ensure that all personnel and sub-contractors under their control are briefed on fire prevention practices IAW this instruction.

2.5.4. Contractors shall be required to supply their own equipment, to include fire extinguishers, lock-out/tag-out equipment, etc.

2.6. **Security Forces.**

2.6.1. Upon notification of a fire and/or crash, the Base Defense Operations Center (BDOC) or Law Enforcement Desk (LED) shall dispatch patrols to the fire scene to provide traffic control, security of government property, and assist the Fire Department when requested by the installation Fire Chief or his authorized representatives.

2.6.2. Security Forces personnel will remain on the scene until relieved by the Senior Fire Official, or until an investigation is initiated, as required by the Fire Protection Flight, Wing Safety or Installation Commander.

3. FIRE SAFETY DEFINCIENCIES AND RISK ASSESSMENT CODES

3.1. **Fire Safety Deficiency (FSD).**

3.1.1. A condition that reduces fire safety below an acceptable level, including noncompliance with standards, but by itself cannot cause a fire to occur.

3.1.2. FSD I includes missing fire protection systems or missing NFPA 101 features in any building or process. Any facility FSD which results from a failure to comply with AFI-32- 10141, **3.4.1** is considered an FSD I.

3.1.3. FSD II includes deficiencies in existing fire protection systems or features in any building or process not covered by **3.1.2**. Any existing fire protection system/feature identified in UFC 3-601-02, O&M: Inspection, Testing, and Maintenance of Fire Protection Systems, which is out of service or impaired so as to prevent automatic or manual (manual is applicable only if the system/feature is only operated by manual activation) response to a fire event for more than 72 hours shall be considered an FSD II.

3.1.4. FSD III. All other FSDs not covered by **paragraphs 3.1.2** and **3.1.3** are classified FSD IIIs.

3.2. **Risk Assessment Codes (RAC).**

3.2.1. A condition which reduces fire safety below the acceptable level, includes non-compliance with standards and may cause a fire to occur. A RAC describes the relative risk of injury, illness, or premature death that could result from exposure to a hazard. RAC's vary between a RAC 1 for a relatively high risk and a RAC 5 for an insignificant risk.

3.3. **FSD Correction/ Mitigation Process.**

3.3.1. FSD discovered (either by FES or by other entities).

3.3.2. FSD is identified and determined to be either an FSD I or FSD II.

3.3.3. FES issues a 1487 (Fire Prevention Visit Report) and provides an Interim Corrective Action Plan (ICAP) to user/owner (only good for 72 hours after occurrence/discovery) of the facility.

3.3.3.1. ICAP includes Fire Watch Checklist and Fire Safety Deficiency Signs for use in the affected area(s).

3.3.4. Outage is recorded in the Emergency Communications Center Outage Board.

3.3.5. 482nd MSG/CEFP (Fire Prevention) prepares a Mitigation-Corrective Action Plan (M-CAP) and sends an email package to 482 ABW workflow for processing.

3.3.6. Affected facility performs actions IAW the established Mitigation-Corrective Action Plan (M-CAP) and FSD is corrected or waived by higher authority.

3.3.7. 482nd MSG/CEFP tracks the FSD until closure.

3.3.7.1. Signed by issuing Fire Emergency Services representative, area supervisor and area functional manager.

3.4. **Hazard Abatement Plan.**

3.4.1. Unit Commanders and Facility Managers will establish and maintain a hazard abatement program. AF Form 3, Hazard Abatement Plan, will be initiated and annotated for all RAC's 1-3 which have not been corrected within 30 calendar days. A copy of the AF Form 3 will be sent to the Base Fire Chief for those hazards involving fire-related

discrepancies. Copies will also be sent to Wing Safety for inclusion into the Base Hazard Abatement Plan.

3.4.2. Use of the AF Form 3 for recording lesser hazards is optional; however, the Functional Manager must maintain a record of these lesser hazards and once a year send a summary to the Installation Commander listing those RAC 4 and 5 hazards that have not been corrected. AF Form 1118, Notice of Hazard, will be posted until a RAC 1, 2, and 3 hazard is corrected.

4. EMERGENCIES PROCEDURES AND EQUIPMENT

4.1. **Procedures in Case of Fire or Other Emergency.**

4.1.1. Remain calm; activate the fire alarm by pulling the nearest pull station and evacuating the facility or area.

4.1.2. Notify the Fire Department by dialing 911 or (786) 415-7117. If you dial 9-1-1 from a cell phone, you will reach Miami Dade County Dispatch Center; ensure they are told you are reporting a fire or emergency on Homestead Air Reserve Base. When you are connected to the HARB Emergency Communications Center (ECC) provide the following information:

4.1.2.1. Building number and/or building name.

4.1.2.2. Nature/type of emergency reporting.

4.1.2.3. Name of person reporting the emergency.

4.1.2.4. Provide call back phone number to operator.

4.1.2.5. Any other pertinent information.

4.1.2.6. DO NOT HANG UP until the ECC operator tells you to.

4.1.2.7. After reporting an emergency, direct the emergency vehicles to the emergency scene if able.

4.1.3. In case of fire, evacuate all personnel and never re-enter the building once evacuated. The Facility Manager shall have a designated meeting place for accountability.

4.1.4. If time permits, secure or remove all classified material and close all doors and windows. (Do not lock).

4.1.5. Use portable fire extinguishers to extinguish a fire only if trained to do so and the fire is discovered in its early stages. Have an escape route prior to fighting the fire.

4.2. **Driver Responsibilities.**

4.2.1. **All drivers of vehicles noting the approach of responding emergency vehicles,** hearing sirens, or observing warning lights, shall pull over to the right or curbside, stop and remain stopped until all emergency vehicles have passed.

4.2.2. All spectators or other personnel not involved in emergency operations must stay clear of the scene and not interfere with emergency operations. Obey directions given by Fire and Security Forces personnel.

4.3. **Fire Extinguishers.**

4.3.1. Any contractor shall be required to supply their own fire extinguishers as part of all construction projects. Placement of fire extinguishers shall be IAW UFC 3-600-01, AFI 91-203, NFPA 10 and NFPA 101.

4.3.2. Fire extinguisher purchase and maintenance. Facility managers and using organizations shall budget for purchase and maintenance of fire extinguishers, and appropriate mounting equipment.

4.3.2.1. Fire extinguishers shall be subjected to maintenance not more than one year apart or when specified by a fire inspector.

4.3.2.2. A contract service is provided annually. This does not remove the obligation of the using organizations who are ultimately responsible for the re-servicing, 6-year maintenance, and 12 year hydrostatic testing of fire extinguishers, and for the maintenance and upkeep of the same.

4.3.2.3. Where fire extinguisher cabinets are not provided, there shall be suitable hangers or supports for extinguishers. Fire extinguishers are not to be stored on the ground.

4.3.2.4. Fire extinguishers having a gross weight not exceeding 40 pounds (lbs.) shall be installed so that the top of the fire extinguisher is not more than five feet above the floor.

4.3.2.5. Fire extinguishers having a gross weight greater than 40 lbs. (except wheeled type) shall be installed so that the top of the extinguisher is not more than three and one half feet above the floor. In no case shall the clearance between the extinguisher and the floor be less than four inches.

4.3.2.6. Fire extinguishers shall be of the appropriate size and type for the occupancy and mission. Fire Prevention personnel should be contacted for selection assistance.

4.3.3. Fire extinguishers 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.

4.3.4. Facility Manager or organizational fire extinguisher checklist:

4.3.4.1. Check all fire extinguishers monthly for the following:

4.3.4.1.1. Visual damage to cylinder body, hose, discharge handle, and gauge assembly.

4.3.4.1.2. Ensure pin and seal are installed and properly secured.

4.3.4.1.3. Ensure gauge is reading in the full zone (green zone).

4.3.4.1.4. Ensure that there is not any visible blockage of the discharge hose, and that the hose is maintained in a serviceable condition.

4.3.4.1.5. If any of the above conditions are observed, immediately remove the extinguisher from service and replace.

4.3.4.2. In large rooms, and in certain locations where visual obstructions cannot be completely avoided, means shall be provided to indicate the extinguisher location.

4.3.5. Halon flight line fire extinguishers (150 lb. Halon 1211) are procured for the protection of aircraft and adjacent ground equipment. Flight line Halon extinguishers shall not be located within any facility except for fueled aircraft hangars. They are placed according to the guidelines in T.O. 00-25-172, Ground Servicing of Aircraft and Static Grounding/Bonding. The user or using organizations will be responsible for moving flight line fire extinguishers from established pickup/drop off points to the location requiring the extinguisher.

4.3.6. Flight line Extinguisher Guidelines.

4.3.6.1. Do not lay the 150 lb. Halon 1211 fire extinguisher down. This flight line extinguisher must be utilized from the upright position.

4.3.6.2. No items shall be chained or otherwise attached to flight line extinguishers. Do not place items on top of extinguishers at any time.

4.3.6.3. All 150 lb. Halon 1211 flight line fire extinguishers will be serviced annually. The using organization shall bring flight line extinguishers due for annual service to the fire department or other designated location for swap-out.

4.4. **Tampering With Fire Safety Equipment.**

4.4.1. Smoke alarms shall not be disconnected, pulled down, taped or painted over.

4.4.2. Only Fire Department, Civil Engineer or authorized contractor personnel shall reset activated fire alarm systems.

4.4.3. Ensure fire detection systems, pull stations, and fire extinguishers are not hidden or blocked at any time.

4.4.4. Ensure nothing is hung from or attached to fire detection or fire suppression systems.

4.4.5. The initiation of fire alarms by any person other than for an actual emergency or drill or any attempt to alter, operate or damage the function of any fire detection /protective systems is strictly prohibited.

4.5. **Reports and Records.** Is a condition, which reduces fire safety below the acceptable level, includes non-compliance with standards and may cause a fire to occur. A RAC describes the relative risk of injury, illness, or premature death that could result from exposure to a hazard. RAC's vary between a RAC 1 for a relatively high risk and a RAC 5 for an insignificant risk.

5. GENERAL FIRE SAFETY.

5.1. **Fire Hydrants And Fire Department Connections.**

5.1.1. Parking of vehicles, equipment or permanent fixtures shall not be permitted within 15 feet of any fire hydrant.

5.1.2. Fire hydrants, sprinkler connections, standpipe connections, backflow preventers, and post indicator valves shall be kept clear and accessible at all times by cutting and removing grass, weeds, trees, shrubbery, and loose debris

5.1.3. Bollards will be installed where hydrants are subject to vehicle damage.

5.1.4. Fire hydrants shall be used only for their intended purpose and shall be operated by authorized personnel only using standard hydrant wrenches.

5.1.5. Any fire hydrant found to be leaking, damaged, or defective shall be reported to Civil Engineer Service Call immediately so that proper repair may be started.

5.1.5.1. Whenever any fire hydrant is placed out-of-service for any reason, the Fire Department shall be notified immediately.

5.1.5.2. Out-of-service hydrants shall be marked with an indicative marking, which shall fit over the hydrant outlet and be held in place by the outlet cap.

5.1.5.3. The Fire Department shall be notified immediately whenever an out-of-service hydrant is restored to service.

5.1.6. When no other source of water is available at construction sites and water is required for construction purposes, permission may be granted by the Base Fire Chief to use a hydrant as a source of water.

5.2. **Fire Lanes/ Fire Access Ways.**

5.2.1. Designated fire lanes and accessibility to fire lanes shall not be obstructed.

5.2.2. Prescribed fire lanes within, or exterior to, buildings or structures shall be identified by the Fire Department. It is the Facility Manager's responsibility to make sure these lanes are clearly marked and free from objects or illegal parking IAW NFPA 1 or applicable UFCs.

5.2.2.1. Fire department access roads shall have an unobstructed width of not less than 20 feet (ft.) (6.1.mn).

5.2.2.2. Fire department access roads shall have an unobstructed vertical clearance of not less than 13 ft. 6 in. (4.1 m).

5.2.2.3. Vertical clearance shall be permitted to be reduced provided such reduction does not impair access by fire apparatus, and approved signs are installed and maintained indicating the established vertical clearance when approved.

5.2.2.4. Vertical clearances or widths shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.

5.2.2.5. Surface: Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with an all-weather driving surface.

5.3. **Evacuation Plans.**

5.3.1. In large complex facilities, evacuation plans shall be located throughout the facility.

5.3.2. Evacuation plans shall include the following:

5.3.2.1. Layout of facility.

5.3.2.2. Location of fire extinguishers.

5.3.2.3. Location of fire alarm pull stations.

5.3.2.4. Primary and secondary means of egress. The plan must indicate primary and secondary egress from each specific evacuation point (classroom, office, etc.).

5.3.2.5. Shelter-In-Place locations as well as Tornado shelters.

5.3.2.6. Emergency phone numbers.

5.3.2.7. Assembly point outdoors for accountability.

5.3.3. Emergency Management office shall be the authority of locations listed in **5.3.2.5**.

5.4. **Fire/ Evacuation Drills.**

5.4.1. Emergency egress and relocation drills shall be conducted as specified by the occupancy classification in NFPA 101, most current edition.

5.4.2. Supervisors and employees are responsible for the prompt evacuation of all personnel.

5.4.3. All fire drills requiring activation of fire alarms shall be coordinated in advance with the Fire Prevention Section.

5.4.4. During a fire evacuation drill, participating individuals shall continue under drill discipline even after reaching the outside area or place of safe assembly. Supervisors will ensure complete evacuation and accountability of all personnel.

5.4.5. Fire evacuation drills that involve the response of firefighting apparatus, without warning and approval of the base Fire Department, are prohibited.

5.4.6. In conducting drills, emphasis shall be placed on orderly evacuation under proper discipline rather than on speed.

5.4.7. Drills shall include suitable procedures to ensure that all persons in the building or all persons subject to the drill actually participate.

5.4.8. Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in the case of fire.

5.5. **Fire Doors.**

5.5.1. Required fire rated/smoke doors and their assemblies shall not be altered, obstructed or modified. Labels shall not be painted over or removed from any required fire rated assembly.

5.5.2. Do not paint, cover, modify or hang heavy objects from any fire doors.

5.5.3. Doors normally required to be kept closed shall not be secured in the open position at any time and shall be self-closing or automatic-closing IAW NFPA 101.

5.6. **Fire Protection Systems.**

5.6.1. Activated sprinklers shall not be shut off except upon direction of the senior fire officer.

5.6.2. Only properly authorized personnel shall maintain and test sprinkler systems. The Fire Department shall be notified before any test or sprinkler impairment is performed.

5.6.3. Whenever any fire alarm system or sprinkler system is out of service for any reason, the Fire Department and Facility Manager shall be notified immediately. Refer to Chapter 3 of this HARBI for specific roles and responsibilities for mitigating fire alarms and sprinkler impairments.

5.6.4. Storage shall be kept at least 18 inches below all sprinkler heads. Storage over 15 ft. must be kept at least 36 inches below all sprinkler heads.

5.6.5. All building modification projects in buildings with sprinkler systems shall include provisions for the modification or rearranging of the sprinkler system as necessary for compliance with NFPA 13 and UFC 3-600-01.

5.6.6. Do not paint, cover, hang objects from or obstruct sprinklers, risers, pull stations, fire alarms, fire alarm panels, backflow preventers, post indicator valves, fire department connections, and any other fire detection devices.

5.6.7. The locking, chaining of any item or otherwise blocking access to installed fire protection systems is strictly prohibited.

5.6.8. Ensure fire department connections are visible, accessible, couplings or swivels rotate smoothly and are not painted shut. Ensure all plugs or caps are in place.

5.6.9. Maintain a 3 ft. clear space around all fire protection devices listed in **5.6.6**, and **5.6.7**.

5.6.10. Do not park vehicles within 15 ft. of devices listed in **5.6.6** and **5.6.7**.

5.7. **Tobacco Use.**

5.7.1. Tobacco includes all products that may be configured to deliver nicotine, including but not limited to, cigars; cigarettes; electronic cigarettes (e-cigarettes); stem pipes; water pipes; hookahs; vaporizers; smokeless products that are chewed, dipped, sniffed, or “vaped”; and any other nicotine delivery system that the Food and Drug Administration (FDA) defines as a tobacco product.

5.7.2. Tobacco use is prohibited in all HARB facilities, to include roof assemblies, stairwells, and mechanical rooms. All personnel are subject to the restrictions prescribed in AFI 40-102, Tobacco Free Living.

5.7.3. No tobacco use will be permitted within 50 feet of facility entrances or near air handling systems. No tobacco use shall be permitted within 100 feet of playgrounds.

5.7.4. No tobacco use or open flame will be permitted within 50 feet of aircraft and high hazard operations. Smoking is prohibited in all areas where explosives, chemicals, flammable or highly combustible materials are stored or handled.

5.7.5. Tobacco use in government vehicles (including golf carts) on HARB is prohibited.

5.7.6. The use of “strike anywhere” matches is prohibited on base.

5.7.7. Dispose of smoking materials in approved containers listed by Underwriter Laboratory (UL) or other recognized testing laboratory specifically designed for smoking materials.

5.7.7.1. Supervisors will ensure that contents of disposal containers are extinguished and wet down with water before being combined with other waste in dumpsters and trash collection points.

5.7.8. A "Designated Tobacco Use Area" sign will be posted in all designated smoking areas.

5.7.9. For additional guidance, refer to AFI 91-203, *Air Force Consolidated Occupational Safety Instruction* and AFI 40-102, *Tobacco Free Living*.

5.8. **Electrical Safety.**

5.8.1. The current edition of NFPA 70 shall be the minimum standard for all electrical wiring and equipment. Only qualified electricians shall install, repair, or modify electrical wiring, or any attachments for electrical appliances.

5.8.2. Use only electrical appliances and devices that bear the UL label or those listed by other approved testing agency. Appliances or devices that do not have the UL label or other approved listing shall not be used. All appliances must be provided with an adequate power supply.

5.8.3. Electric switches, circuit breakers, and fuses in power panels shall be labeled correctly to indicate the circuits or devices they control.

5.8.3.1. Do not store any materials beneath or above and provide continuously clear access to all panels.

5.8.3.2. Maintain a clearance of at least three feet in depth in front of electric panels and a minimum of three feet clearance for all electrical equipment 600 volts or less.

5.8.3.3. Switch boxes, fuse boxes, circuit breakers, and junction boxes will be provided and maintained with lids or cover plates.

5.8.3.4. Electrical cords shall be without splices and shall not be hung over nails, rafters, or in a manner that would constitute a fire hazard.

5.8.3.5. Do not hang anything from or attach anything to electrical cords, wiring or conduit.

5.8.4. Use of extension cords shall be of sufficient gauge for the applicable use (same rating or higher than the appliance being energized). Refer to AFI 91-203 for specific guidance.

5.8.4.1. Extension cords shall not be used in lieu of permanent wiring and shall not run through walls, ceilings, floors, doorways, windows, or other openings.

5.8.4.2. Electrical cords shall not be placed under rugs, carpets or other combustible materials.

5.8.5. UL approved power strips with safety fuses are permitted. This is to prevent overloading of circuits.

5.8.5.1. Not more than one surge protector is permitted per outlet.

5.8.5.2. Power strips shall not be connected in series with any other power strips or extension cords.

5.8.5.3. Multiple electrical plugs will not be used.

5.8.5.4. High wattage appliances such as refrigerators, microwaves, coffeemakers, heaters, etc., shall be plugged directly into a facility outlet.

5.8.5.5. Never connect a laser printer or plotter to a power strip or an UPS. A laser printer or plotter draws significantly more power and may overload the equipment.

5.8.6. All electrical wiring, equipment, and devices, shall comply with NFPA 70, Article 500 and 501 in areas where classified hazardous conditions are present.

5.8.7. Extension cords, power strips and UPS devices shall not be "piggy-backed" or plugged into each other.

5.9. **Cooking Appliances.**

5.9.1. Cooking is permitted only in properly equipped locations IAW NFPA 1.

5.9.2. The use of high amperage equipment such as coffee makers, refrigerators, microwave ovens heaters, food preparation equipment, etc., shall comply with provisions of AFI 91-203. Heating appliances, such as toasters, toaster oven and coffee makers shall be plugged directly into a hard-wired facility outlet and shall be unplugged at the end of the work shift. Additionally, coffee makers in the workplace shall have an auto-shutoff device or the unit shall be unplugged from the electrical sources when left unattended.

5.9.3. Exhaust systems over cooking surfaces where smoke or grease-laden vapors are produced shall have removable baffle type filters or listed/approved grease extractors. Cooking shall not be done unless all filters are in place. Any open flame or an appliance that produce grease laden vapors is prohibited in base facilities not equipped for that type of cooking IAW NFPA 96.

5.9.4. Hoods and associated duct systems over commercial type cooking equipment where grease-laden vapors are produced shall be protected and serviced IAW AFI 91-203.

5.9.5. Hood and exhaust ducts serving cooking equipment shall be thoroughly cleaned by a qualified technician as determined by the fire prevention authority. Documentation for cleaning of hood and duct systems must be maintained by the Facility Manager or supervisor, and shall be affixed to the unit.

5.9.6. The correct type of portable fire extinguishers shall be provided at all locations where cooking is conducted IAW NFPA 10.

5.9.7. When hood and duct exhaust fans are inoperative, cooking shall stop immediately until the exhaust fan is fully operational.

5.9.8. Do not install deep fat fryers closer than 16 inches to cooking equipment with open flame. Provide a metal or metal-clad cover for each deep fat fryer and have them readily available for immediate use in case of fire.

5.10. **Heating Appliances.**

5.10.1. All building heating equipment shall be Underwriters Laboratory (UL) listed or Factory Mutual (FM) approved, or IAW the American Gas Association. Heating equipment shall be installed IAW the manufacturer's instructions and NFPA Standards.

5.10.2. The use of unvented hydrocarbon fueled heating appliances inside buildings is prohibited.

5.10.3. The use of open flame heating devices is prohibited in all areas.

5.10.4. Ensure clothes dryers are vented to the exterior of a facility. Keep dryers, lint traps, and vent piping free of lint accumulation.

5.10.5. Space Heaters: As a matter of policy, unrestricted use of space heaters is not permitted due to energy conservation and electrical circuit capacity concerns. However, a letter to the Fire Chief explaining all circumstances and safety guidelines may be approved on a case-by-case basis. (See **Attachment 5**)

5.10.5.1. All space heater requests will be coordinated with the Facility Manager.

5.10.5.2. If permitted, all space heaters must be UL listed or FM approved.

5.10.5.3. Units must have a built-in tilt switch and screen over the heating elements.

5.10.5.4. All space heaters must have an electrical rating of 110 or 120 volts with no more than 550 watts electrical heat rating.

5.10.5.5. Heaters will not be left unattended, and will be unplugged when the immediate area is unoccupied.

5.10.5.6. Do not plug the portable space heater into an extension cord or multi- outlet strip.

5.10.5.7. Safe and proper use of space heaters will be the responsibility of the users and the Facility Manager. The Facility Manager shall keep all letters on file.

5.10.6. Keep combustible materials a minimum of 3 ft. from all heating appliances.

5.11. **Fireworks/ Open Fires/ Barbecues.**

5.11.1. Fireworks: The exploding of any fireworks with the limits of HARB is prohibited, to include sparklers. The Base Fire Marshall or Fire Chief must approve the exploding of fireworks during special holiday events.

5.11.2. Burning of classified is not permitted. Use a classified shredder only. Contact Installation Security Manager for more information.

5.11.3. Outdoor burning (other than barbecues) shall require a burn permit through the Fire Prevention Section.

5.11.4. Barbecues/Deep Fat Fryers shall not be used inside any structure or located within 10 ft. of any building, balcony or overhang when in use.

5.11.4.1. Special care shall be taken not to place these units near air handling equipment during use.

5.11.4.2. Upon completion of cooking, hot coals shall be quenched with water or covered with a noncombustible cover to prevent sparks or hot coals from being scattered by the wind. All ashes and coals shall be cold safe prior to disposal.

5.11.4.3. Barbecue grills that utilize propane tanks shall not be stored as a connected unit unless it is located and secured outside at least 3 ft. from the facility. If grills are

to be stored inside, the grills need to be cold safe and the tank must be disconnected and stored in a covered, outdoor secured area.

5.12. **Decorations.**

5.12.1. Furnishings and decorations in building occupancies such as health care, lodging, and places of public assembly shall comply with NFPA 1 and NFPA 101.

5.12.2. The burning of candles and similar open flame devices in any facility other than assembly is prohibited. For assembly occupancies, see Chapter **7.**7.4 of this HARBI.

5.12.3. Decorations, such as paper, flowers, tinsel, streamers, parachutes, camouflaging, scenery, etc., must have a flame resistant rating prior to use.

5.12.3.1. Decorations shall be kept to a minimum.

5.12.3.2. Ensure decorations do not interfere with fire protection systems.

5.12.3.3. At no time shall decorations obscure or block exits or any means of egress from the facility.

5.12.4. The use of a natural Christmas tree inside any facility on Homestead ARB is prohibited.

5.12.5. Artificial Christmas trees must be UL listed or FM approved and shall have a fire resistive rating.

5.13. **Parking of Vehicles.**

5.13.1. Parking of vehicles and equipment shall be controlled to ensure free access of emergency response equipment to all sides of buildings.

5.13.2. Vehicles, including motorcycles, ATVs, and riding lawnmowers, shall not be permitted in any building for parking, repairs, or storage except for approved maintenance or storage facilities. The above shall not be parked under stairs, overhangs, or within an exit discharge leading to a public way.

5.14. **Storage and Handling.**

5.14.1. Attics and concealed spaces will be kept clean. No storage of any type is permitted in these areas.

5.14.2. Steel wool shall be stored within a metal storage container.

5.14.3. Rags and other combustible cleaning textiles shall be stored in proper containers.

5.14.4. Materials shall not be stored under or piled against building doors, exits, or stairways. Combustible materials shall not be stored within 25 ft. of any structure.

5.15. **Storage in Maintenance and Communications Rooms.**

5.15.1. Occupant storage is prohibited in any Maintenance Room on the Installation. This includes mechanical, electrical, communication, generator, fire alarm, and boiler rooms.

5.15.2. Mechanical, electrical, communication, and boiler rooms are to be kept secured.

5.15.3. Fire extinguishers shall not be required in mechanical, electrical, or communications rooms.

5.16. **Housekeeping and Garbage.**

5.16.1. Good housekeeping and cleanliness are major factors in preventing fires. Housekeeping activities are the responsibility of the using agency or organization, whether or not custodial services are provided. Maintain and enforce good housekeeping at all times.

5.16.2. Dispose of rubbish and scrap materials in properly identified and located non-combustible cans, bins, or receptacles. Keep all work areas reasonably free of the accumulation of combustible materials.

5.16.3. Place dumpster units and other central trash disposal units at least 25 ft. from any building unless barricaded by a noncombustible wall. Dumpster lids shall be kept closed, except when refuse is being loaded into or unloaded out of dumpsters.

5.16.4. Leaves and vegetation will be cleared from under and around buildings (including gazebos). Facility Managers must not allow cuttings to accumulate within six ft. of buildings. Remove all dead vegetation.

5.16.5. Empty dust collection bags and other waste receptacles at the end of the workday. Ensure areas used for packing and crating are kept free of excessive accumulation of combustible materials.

5.17. **Door and Exits.**

5.17.1. Every required exit access, exit, or exit discharge shall be continuously maintained free of all obstructions or impediments in the case of fire or other emergencies. When this requirement cannot be met contact the Fire Prevention Section for mitigation/corrective actions.

5.17.2. Doors and gates (used in egress paths) shall be arranged to be readily opened from the egress side whenever the building is occupied. No exit door shall be locked as to restrict egress, but may be to prevent entry into a facility.

5.17.2.1. Locks, if provided, shall not require the use of a key, tool, special knowledge, or effort for operation from the inside of the building.

5.17.2.2. Restrictive hardware, such as padlocks and hasps, throw-bolts, and crossbars shall not be installed on any exit door except as permitted by NFPA 101.

5.17.2.3. Doors may be provided with an alarm device for additional security control measures.

5.17.3. Authorization will be obtained from the Base Fire Chief before blocking existing doors.

5.17.3.1. The Fire Prevention office will be the only entity on base to determine if the exit is to be marked as “NO EXIT” or “EXIT BLOCKED”.

5.17.3.2. Blocked doors will be clearly marked “DOOR BLOCKED” on exterior and interior sides of the door using four-inch wide letters on a red background.

5.17.4. Exits in all facilities shall be arranged for full compliance with NFPA 101.

5.17.5. Stairway or stairway enclosures (areas beneath stairways) shall not be used for storage or for any purpose other than a stairway or means of egress.

5.17.6. Stairway enclosures are required to be protected by self-closing doors. These doors shall not be wedged or blocked in the opened position or by any other device that prevents the doors from closing automatically, unless specifically designed for this purpose.

5.18. **Exits Signs/ Emergency Lighting.**

5.18.1. All exit signs required by UFC 3-600-01 and NFPA 101 shall be continuously illuminated to identify egress routes in all facilities.

5.18.2. Photo luminescent signs may be used in places where natural lighting occurs.

5.18.3. All emergency lighting units shall be fully operational IAW UFC 3-600-01 and NFPA 101.

5.18.4. Exit signs and emergency lighting shall be tested monthly as part of the facility manager inspection.

5.19. **Life Safety.**

5.19.1. The type of occupancy determines travel distance. This means the distance that one needs to travel from the most remote place in the facility to an exit varies according to the type of occupancy IAW NFPA 101. For questions concerning travel distance, contact the Fire Prevention section at DSN 535-7102.

5.19.2. Facility Managers shall ensure that ceiling tiles are in place at all times.

5.19.3. Combustible products shall not be permanently attached to firewalls.

5.20. **Vacant Buildings.**

5.20.1. Vacant buildings shall be secured against unauthorized trespass.

5.20.2. Electrical power for fire alarm systems and support of sprinkler systems shall be maintained, if so equipped.

5.20.3. Real Property Management section will notify the Fire Prevention Flight of buildings scheduled to be torn down, or moved to new locations to assure all installed fire systems and fixed alarm systems are removed.

6. HAZARDOUS MATERIALS.

6.1. **Explosives, Blasting Agent and Pyrotechnics.**

6.1.1. For the purpose of this HARBI, an explosive is defined as any substance or article, including a device, which is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion.

6.1.2. Explosives, blasting agents and pyrotechnics will be stored, handled, used, and disposed of in accordance with NFPA 495, Explosive Materials Code, and AFMAN 91-201, Explosives Safety Standards.

6.1.3. Explosives loaded aircraft will not be placed inside a hangar for the purpose of maintenance until all munitions and explosives have been removed. EXCEPTION: Cartridge and propellant activated devices used in personnel egress systems and pyrotechnics stored in survival and rescue kits.

6.1.4. The sale, possession of, use, storage or transportation of fireworks is prohibited on HARB unless approved in writing by the Installation Commander.

6.1.5. Proper fire symbols must be posted on all buildings, rooms or areas storing explosives as required by AFMAN 91-201 and/or the explosives license for that area. Personnel in charge of explosives must promptly notify the base Fire Department via Direct Line or at extension DSN 535-7101/7102 to update the Munitions Tracking Board each time there is a change in the explosives fire or hazard symbols.

6.1.6. Fire Drills: Fire drills must be conducted within explosive storage areas at intervals not to exceed six months. Coordinate drills through the base Fire Emergency Services Training Section at extension DSN 535-7101, Weapons Safety (482 ABW/SEW) office and the unit commander of the affected area. Ensure all involved are aware that an exercise, not an actual fire, is in progress.

6.1.7. Vegetation Control: The 482 MSG/BCE determines vegetation control. The primary purpose of vegetation control is to limit the probability of combustible vegetation catching fire and to slow the spread of vegetation fires.

6.1.8. Do not conduct controlled burning within 200 ft. of any explosives locations. The base Fire Chief will coordinate and provide oversight for controlled burning of vegetation, should the need arise. Close windows, doors and ventilators of facilities containing explosives within 600 feet of burning operations.

6.1.9. Do not use flammable liquids for cleaning purposes within an explosives area or near explosives, except as authorized. Confine authorized use to a specific designated work area. In-use stocks may not exceed a 1-day supply. Store materials in approved/labeled/listed safety containers only.

6.1.10. Store only small stocks of flammable materials, such as paints and solvents required to support explosives maintenance. When not in use, store in exterior location. Use flammable storage cabinets or lockers.

6.1.11. Do not park vehicles, other than those being loaded or unloaded, closer than 25 ft. to any explosives facility or storage area.

6.1.12. Use the following guidance when operating support equipment (not including vehicles) powered by internal combustion engines.

6.1.12.1. Locate equipment 50 ft. or more from explosives.

6.1.12.2. Place aircraft ground support equipment as far away as the length of the cord will allow.

6.1.12.3. Equipment may be closer provided adequate ventilation and a fire resistant dividing wall are provided.

6.1.12.4. Equipment designed into and installed as part of an operating or storage facility is exempt.

6.1.12.5. Do not refuel equipment within 100 ft. of explosives.

6.1.12.6. Vehicles transporting explosives shall not be refueled with gasoline while explosives are in the vehicle, except in an emergency, then only with the engine stopped, all lights and radios off, and static grounding devices properly connected.

6.1.13. Stacking Combustible Material: See AFMAN 91-201.

6.1.14. Fire Extinguishers.

6.1.14.1. Unless otherwise directed by the base Fire Department, provide a minimum of two serviceable extinguishers suitable for the hazards involved.

6.1.14.2. The types of extinguishers that are required will be established on the explosive license in local Operating Instructions for the specified area or as outlined in AFMAN 91-201 for any explosive operating or storage location.

6.1.14.3. Ensure one fire extinguisher is available for each item of powered materials handling equipment used to handle or transport explosives.

6.1.14.4. Provide each explosives-laden vehicle used for transport with at least two portable 2A:10BC (5 lbs. Dry Chemical) rated extinguishers.

6.1.14.5. Provide flight line fire extinguishers for each aircraft according to munitions manuals and **Chapter 4**, **paragraph 4.3.7**, of this document.

6.1.14.6. Fire extinguishers must be inspected annually. For guidance on maintenance and inspection, see **Chapter 4**, *Fire Extinguishers*, of this HARBI.

6.1.15. Emergency Withdrawal Distances for Nonessential Personnel: Refer to AFMAN 91-201.

6.1.16. Firefighting Guidance Symbols: Refer to AFMAN 91-201.

6.1.16.1. Chemical Hazard Symbols: Refer to AFMAN 91-201.

6.1.17. Explosive Placards: Use Department of Transportation placards for the transportation of explosives as directed in AFMAN 91-201, and Code of Federal Regulations (CFR) Title 49.

6.1.18. Postings of firefighting symbols requirements are outlined in AFMAN 91-201.

6.2. **Flammable and Combustible Liquids.**

6.2.1. Flammable and combustible liquids dispensing, storage and use will be IAW the requirements of NFPA 30, *Flammable and Combustible Liquids Code*, AFI 91-203, *Air Force Consolidated Occupational Safety Instruction* **Chapter 22**, 29 CFR 1910.106, OSHA's Flammable and Combustible Liquids Regulation. For the purposes of this HARBI, flammable liquids are defined as any liquid with a flash point below 100° Fahrenheit. Examples of flammable liquids include gasoline, alcohol, naphtha, lacquer paints and thinners. Combustible liquids are defined as any liquid having a flashpoint greater than 100° Fahrenheit. Combustible liquids include kerosene, mineral spirits, #2 diesel fuel and JP-8. Flammable and combustible liquids are divided into classes. Refer to **Table 1** below.

Table 1. Flammable and Combustible Classes.

CLASS	FLASH POINT	BOILING POINT
IA	<73°F (22.8°C)	<100°F (37.8°C)
IB	<73°F (22.8°C)	=/>100°F (37.8°C)
IC	=/>73°F (22.8°C) but <100°F (37.8°C)	N/A
II	=/>100°F (37.8°C) but <140°F (60°C)	N/A
IIIA	=/>140°F (60°C) but <200° F (93°C)	N/A
IIIB*	=/>200°F (93°C)	N/A
*This class is not included in AFI 91-203		

6.2.1.1. Authorized storage areas (i.e., Exterior Hazardous Waste Accumulation Site (EHWAS)) for flammable and combustible liquids will be located not less than 50 ft. from other structures, except as authorized by the base Fire Emergency Services.

6.2.1.2. When not in use, all flammable or combustible liquid containers (including safety cans or pots) will be stored in approved flammable storage cabinets or areas.

6.2.1.3. Where flammable cabinets are utilized they will conform to the following requirements:

6.2.1.3.1. Cabinets must be constructed IAW requirements of AFI 91-203 and NFPA 30.

6.2.1.3.2. Cabinets must have an operational, 3-point lock system on doors (doors may be self-closing, but is not required).

6.2.1.3.3. Cabinets must have a 2-inch catch basin in the bottom for spill containment. NOTE: Materials may be stored in this basin. However, prudence must be utilized as to not defeat the purpose of the storage basin.

6.2.1.3.4. Cabinet must have a visible, contrasting color, exterior label which states: **FLAMMABLE - KEEP FIRE AWAY.**

6.2.1.3.5. Use of other languages, the international symbol for “Flammable” (a flame in a triangle), the international symbol for “Keep Away” (a burning match in “no” circle) shall be permitted.

6.2.1.3.6. No open containers are allowed in storage cabinets. Flammable/combustible liquids must be in approved, properly labeled containers with lids.

6.2.1.3.7. Cabinets must have 1 1/2 inch air space between exterior/interior walls and cabinets.

6.2.1.3.8. No more than a total of 120 gallons of class I, II, and III flammable/combustible liquids shall be stored in a single cabinet.

6.2.1.3.9. From the 120 total gallons, no more than 60 gallons of class I and II flammable/combustible liquids may be stored in a single cabinet.

6.2.1.3.10. Not more than three such cabinets may be located in a single fire area. Exception is in certain industrial areas. NOTE: For definitions of a fire area, refer to AFI 91-203, Chapter 22.

6.2.1.3.11. Additional cabinets maybe located in the same fire area of an individual area if the additional cabinet, or group of more than three (120 gallons each) cabinets, is separated from other cabinets or group of cabinets by at least 100 feet. The total aggregate volume of Class I, Class II and Class IIIA liquids in a group of storage cabinets shall not exceed maximum allowable quantity (MAQ) of flammable and combustible liquids per control area based on the occupancy where the cabinets are located. The MAQs of liquids allowed in each control area shall not exceed the amounts specified in the below table. If a unit requires more than three (3) storage cabinets, it must coordinate with the FES Flight. Refer to NFPA 30 and the below table for additional information. NFPA 30 is available for review at the FES Flight. Note: The limit of three (3) cabinets in a single area can be increased where smaller cabinets are used. However, the maximum amount of flammable storage cannot exceed that which could be stored in three 120-gallon capacity cabinets (460 liters).

6.2.1.3.12. Incidental Storage of Flammable Liquids in Industrial Areas. Incidental storage shall be authorized only after the following requirements are met:

6.2.1.3.12.1. Incidental storage shall be in industrial areas only.

6.2.1.3.12.2. Storage shall be in metal cabinets stenciled, ―FLAMMABLE—KEEP FIRE AWAY.

6.2.1.3.12.3. Storage shall be limited to 1 gallon (4 liters) of Class I or 10 gallons (40 liters) of Class II and Class III liquids, not to exceed 10 gallons (40 liters) total per cabinet, in close containers. Storage shall be limited to a 5-day supply of flammables in a metal cabinet, and in closed containers not to exceed limits specified above. Each work center shall be limited to one cabinet.

6.2.1.3.12.4. The installation FES Flight shall be consulted prior to establishing incidental storage areas in industrial shops.

Table 2. Maximum Allowable Quantities per Control Area.

MAXIMUM ALLOWABLE QUANTITIES per CONTROL AREA				
MAQ of Flammable and Combustible Liquids per Control Area				
	Liquid Class(es)	**Quantity**		**Notes**
		gal	**L**	
Flammable Liquids	IA	30	115	1, 2
	IB and IC	120	460	1, 2
	IA, IB, IC Combined	120	460	1, 2, 3

Combustible Liquids	II	120	460	1, 2
	IIIA	330	1,265	1, 2
	IIIB	13,200	50,600	1, 4

Reference: Table 9.6.1 of NFPA 30, 2015 Edition

Note 1: Quantities are permitted to be increased 100 percent where stored in approved flammable liquids storage cabinets or in safety cans in accordance with the fire code. Where Note 2 also applies, the increase for both notes is permitted to be applied accumulatively.

Note 2: Quantities are permitted to be increased 100 percent in buildings equipment throughout with an automatic sprinkler system installed in accordance with NFPA13, *Standard for the Installation of Sprinkler Systems.* Where note 1 also applies, the increase for both notes is permitted to be applied accumulatively.

Note 3: Containing not more than the maximum allowable quantity per control are of Class IA, Class IB, or Class IC flammable liquids, individually.

Note 4: Quantities are not limited in building equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13, and designed IAW the protection criteria contained in Chapter 16 of NFPA 30.

6.2.1.3.13. HAZMAT Pharmacies and Other Areas that may Exceed MAQs Limit. In HAZMAT Pharmacies, buildings and/or portions of buildings where liquids area stored that may exceed MAQs per control area shall be classified as High-Hazard Level 3, as established by NFPA 30.

6.2.1.3.14. No oxidizers, corrosives or other incompatible substances, which may adversely react with the flammable/combustible liquids, may be placed in the same cabinet. If storage of other materials is required, see the appropriate section of this HARBI or AFI 91-203 that addresses the class of the material in question.

6.2.1.3.15. Flammable storage cabinets must not be located next to exit doors, nor physically obstruct a means of egress from the building or area. Additionally, cabinets may not be placed under stairways or near any other egress routes.

6.2.1.3.16. If the cabinet is located indoors, the ventilation caps/bungs must be in place. If the cabinet must be vented, venting must be performed through piping to the outdoors. For outdoor storage, the vent caps/bungs should be removed.

6.2.1.3.17. Rags and other combustible materials will not be stored inside flammable storage cabinets. Unopened shipping boxes/containers and protective packaging from the manufacturers, which contain flammable liquids, are permitted. However, once the box/container is opened and at least one internal container removed, all containers shall be removed and the outside box shall be

discarded. Boxes/containers opened for labeling purposes may be stored only if the container is full and complete. Protective over packing that secures containers from breaking, tipping over or spilling shall be permitted until empty of all containers.

6.2.1.3.18. Grounding of flammable storage cabinets is not required.

6.2.1.4. Flammable/combustible liquids will not be stored in any public assembly facility, club, lodging, office areas, desks, unattended workbenches, buildings that normally or temporarily are used as sleeping quarters and other similar type locations.

6.2.1.5. Gasoline or other flammable/combustible liquid containers, utilized or sold on this installation will be UL or like agency tested/listed, having a tight closing screw or spring type lid and fitted with a suitable pouring spout. Glass or plastic containers will not be used for storing, dispensing or carrying flammable liquids unless they are approved for this purpose and/or are received from the manufacturer in this configuration.

6.2.1.6. Flammable/combustible liquid containers found to be leaking will be moved to a safe location and the contents transferred to a serviceable container. Leaking containers will be disposed of properly.

6.2.1.7. Flammable and combustible liquids will not be disposed of in sewers, canals, drainage systems or any other restricted or unauthorized area.

6.2.1.8. Gasoline or other flammable liquids will not be used for cleaning equipment parts, refinishing floors, desks, or other furniture. Only non-flammable cleaners or solvents and/or water based solvent detergents will be used.

6.2.1.9. Dip tanks, vats, wash tanks, bench washing vats or parts washers and other similar containers will be of metal construction, equipped with tight fitting, noncombustible covers, equipped with fusible links that will close the covers automatically in the event of fire. Lids will remain closed when not in use.

6.2.1.10. No smoking areas will be strictly enforced.

6.2.1.11. Oily rags and waste will be stored in closed, metal or rated plastic. Properly labeled containers with tight fitting lids and emptied at least once daily or more often if needed (spring loaded or “easy open” lids on 55 gallon drums, used for rag containers, as satellite accumulation points are permitted).

6.2.1.12. Gasoline or other fuels will be drained from fuel tanks or immersion heaters, lawn equipment, kitchen ranges, gas lanterns and other like equipment, prior to storage in supply rooms. Filler caps on fuel tanks will be tightly closed.

6.2.1.13. Gravity discharge of any flammable/combustible liquid from tanks, drums, or containers other than UL listed safety cans is prohibited within structures, unless the area used for dispensing is approved, designed and designated for indoor dispensing.

6.2.1.14. Flammable/combustible liquids will be drawn from or dispensed into tanks or containers within a building or non-dispensing designated area only with the drum

in an upright position, using approved and listed, manually, pneumatically, or electrically operated pumps.

6.2.1.15. Tanks, hoses, and containers will be bonded and grounded while flammable liquids are being poured or dispensed to prevent static electricity discharge. Flammable or combustible liquids stored in plastic drums shall only be stored on heavy plastic or nylon type pallets. Wood pallets are not permitted for this use.

6.2.1.16. Transfer of flammable liquids or purging of tanks or containers by compressed air or gases is prohibited (other than is specified in T.O.s or written in procedural guides).

6.2.1.17. The storage of fuel in containers or in power mowers, outboard motors, and similar equipment with fuel tanks shall be in an outside building under the following guidelines:

6.2.1.17.1. The total amount in the container or equipment will not exceed 25 gallons (except equipment that has an integral gasoline tank).

6.2.1.17.2. Gasoline will only be stored in a safety can listed by a nationally recognized testing laboratory.

6.2.1.17.3. No refueling will be conducted inside or within 10 ft. of any building, including garages or attached right of ways.

6.2.1.18. Outside storage buildings, storing of flammable and combustible liquids: See AFI 91-203.

6.2.1.18.1. Outside storage of flammable liquid lockers:

6.2.1.18.1.1. Lockers will not exceed 1500 square ft. gross floor area.

6.2.1.18.1.2. Vertical stacking of lockers shall not be permitted.

6.2.1.18.1.3. Lockers shall include a spill containment system to prevent the flow of liquids from the structure under emergency conditions. The containment system shall have sufficient capacity to contain 10 percent of the volume of containers allowed or the volume of the largest container, whichever is greater.

6.2.1.18.1.4. Designated Sites:

6.2.1.18.1.4.1. Lockers shall be placed at least five ft. apart, and be placed no less than ten ft. from any building or public way/property line.

6.2.1.18.1.4.2. The approved designated storage site shall be protected from tampering or trespassing when the area is accessible to the general public.

6.2.1.18.1.4.3. No other flammable or combustible material storage shall be within the designated site.

6.2.1.19. Fire prevention in flammable storage areas:

6.2.1.19.1. At least one serviceable portable fire extinguisher rated not less than 4A: 20 B:C (10 lbs. Dry Chemical) will be located between 10 and 25 ft. of any flammable liquid storage area located outside of a storage room, but inside a

building.

6.2.1.19.2. Fire extinguishing systems will be via sprinkler, water spray, or other USAF approved systems.

6.2.1.19.3. Open flames and smoking will not be permitted in or within 50 ft. of flammable or combustible liquid storage areas.

6.2.1.19.4. Water reactive materials will not be stored in the same room with flammable or combustible liquids. Refer to AFI 91-203.

6.2.1.19.5. Containers and portable tanks used for Class I liquids will be electrically bonded and grounded during transfer of liquids.

6.2.1.19.6. Liquid and aerosol containers will be protected from heat sources since heat will cause the contents to expand and pressurize the containers. At elevated temperatures, rupture of the containers may occur.

6.2.1.20. For storage and use of flammable and combustible liquids in specific applications, refer to AFI 91-203.

6.3. **Flammable Solid.**

6.3.1. For the purposes of this HARBI, flammable solids are defined as a solid other than a blasting agent or explosive as defined in 29 CFR 1910.109(a) that is liable to cause a fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard.

6.3.2. Flammable solids such as aluminum, magnesium, lithium, beryllium, titanium, zirconium, matches and sodium will be stored, machined, fabricated, heat treated, collected for scrap and disposed of IAW with the provisions of NFPA 480, *Standard for the Storage, Handling, and Processing of Magnesium Solids and Powders*, NFPA 481, *Standard for the Production, Processing, Handling, and Storage of Titanium*, NFPA 482, *Standard for the Production, Processing, Handling and Storage of Zirconium*, NFPA 484, *Standard for Combustible Metals and this Base Instruction.* This section will also apply to the above applications for any flammable solid located on this installation.

6.3.3. Storage of Solid Flammable Scrap:

6.3.3.1. Solid flammable solid scrap, such as clippings and castings, shall be stored in non-combustible bins and containers pending salvage.

6.3.3.2. Oily rags, packing materials, and similar combustibles shall not be permitted in storage bins or areas storing flammable solid scrap.

6.3.4. Storage of Flammable Solid Powder:

6.3.4.1. Buildings used to store flammable solid powders shall be of non-combustible single-story construction.

6.3.4.2. The use of automatic sprinklers in such buildings shall be strictly prohibited.

6.3.4.3. Flammable solid powders shall be stored in steel drums or other closed containers. These containers shall be kept tightly sealed and stored in dry locations.

6.3.4.4. As necessary, flammable solid powder storage areas shall be checked for water leakage. If the area is found to have a water leak, an emergency work order will be initiated to correct the problem and the materials will be moved as far as possible from the source of the leak.

6.3.4.5. Areas that routinely are used for the storage of flammable solid powders shall be considered Class II, Group E, IAW NFPA 70, and the National Electric Code.

6.3.4.6. Suitable fire extinguishment material shall be readily available in these locations.

6.3.5. Portable Fire Extinguishers for use on Flammable Solids:

6.3.5.1. Portable fire extinguishers shall be provided IAW NFPA 10. Water based or CO2 extinguishers shall not be provided in areas containing flammable solids in fines, chips, pigs, ingots, billets, clippings, castings or powders.

6.3.5.2. If portable extinguishers are to be used on flammable solid fires, they shall be approved for use on Class D fires. The owner of the process, based on the flammable solid being stored, will make the proper agent type available.

6.3.5.3. Dry sodium chloride, Lith-X, Met-L-X, or other dry powders or compounds suitable for extinguishment or containment of flammable solid fires, shall be permitted to be substituted for Class D fire extinguishers. These alternative agents shall be stored in a manner that ensures the agent's effectiveness. Shovels or scoops shall be kept readily available adjacent to the containers. All extinguishing agent storage areas shall be clearly identified.

6.3.5.4. When a fire occurs in processing equipment, material fed to the equipment shall be stopped. The equipment shall be kept in operation unless continued operation will spread the fire.

6.4. **Compressed Gases and Cryogenic Liquids.**

6.4.1. For the purposes of this HARBI, a compressed gas is defined as any material or mixture in a container with an absolute pressure exceeding 40 psi at 70° F (21.1° C); or regardless of pressure at 70° F, an absolute pressure exceeding 104 psi at 130° F (54.4° C) or a liquid having a vapor pressure exceeding 40 psi at 100° F (37.8° C) as determined by ASTM D-323-72. A cryogenic liquid is defined as a liquid having a boiling point lower than -150° F (-101°C) at 14.7 psia (an absolute pressure of 101 kPa).

6.4.2. Compressed gas and cryogenic liquid cylinders and pressurized storage tanks will be located, stored, utilized, inspected and transported IAW NFPA 55, *Compressed Gases and Cryogenic Fluid Code, NFPA 50A, Standard for Gaseous Hydrogen Systems at Consumer Sites*, NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting and Allied Processes*, NFPA 58, *Liquefied Petroleum Gas Code.* 49 CFR parts 100 to 179, *Code of Federal Regulations*, 29 CFR 1910.101, 102, 103, 104, 105, 111, Compressed Gas Association Pamphlets C-6 and C-8 and this HARBI.

6.4.3. The Department of Transportation (DOT) divides compressed gases into three subclasses. They are as follows:

6.4.3.1. Division 2.1 - Flammable Gases.

6.4.3.2. Division 2.2 - Non-Flammable Gases.

6.4.3.3. Division 2.3 - Gases which are toxic or poisonous by inhalation.

6.4.4. Non-liquefied compressed gases, liquefied compressed gases, compressed gases in solution and cryogenic liquids will all fall within one of the three above sub-classes.

6.4.5. General compressed gas cylinder storage and use requirements:

6.4.5.1. Outdoor Storage - Outdoor storage areas shall have a minimum of 25 percent of the perimeter open to the atmosphere. This open space shall be permitted to incorporate chain link fence, lattice construction, open block or similar materials for the full height and width of the opening.

6.4.5.1.1. Storage areas shall be kept clear of dry vegetation and combustible materials for a minimum distance of 15 ft. (4.6 m).

6.4.5.1.2. Cylinders stored outside shall not be placed on the ground (earth) or on surfaces where water can accumulate.

6.4.5.1.3. Storage areas shall be provided with physical protection from vehicle damage.

6.4.5.1.4. Storage areas shall be permitted to be covered with canopies of noncombustible construction.

6.4.5.1.5. Cylinders stored out of doors will conform to the separation distances specified in Table **6.4.1** (below).

6.4.5.1.6. Assigned storage spaces must be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons.

6.4.5.1.7. Each area storing/using cylinders shall determine that the compressed gas cylinders under their control are in a safe condition to the extent that it can be determined by visual inspection. Visual and other inspections shall be conducted as prescribed in the Hazardous Materials Regulations of the Department of Transportation (49 CFR, parts 171-179 and 14 CFR, part 103).

6.4.5.1.8. When two or more compressed gases are stored together, the gases shall be compatible.

6.4.5.1.9. Spill control, drainage, and secondary containment shall not be required for the storage of compressed gases.

6.4.5.1.10. Floors of storage areas shall be of noncombustible or limited-combustible construction.

6.4.5.1.11. Shelves used for storage of cylinders shall be of noncombustible construction and designed to support the weight of the cylinders stored.

6.4.5.1.12. For separation from incompatible or combustible materials, storage of compressed gases shall be either:

6.4.5.1.12.1. Segregated from any incompatible or combustible materials

storage by a minimum of 20 feet (6.1 m), IAW Table 6.3 of NFPA 55; or

6.4.5.1.12.2. Isolated from any incompatible or combustible materials storage by a barrier of noncombustible material at least five ft. (1.5 m) high, having a minimum fire resistance rating of 1/2 hour.

6.4.6. Flammable Gases: The following general requirements for storage of flammable gases shall apply:

6.4.6.1. The storage location of non-liquefied flammable gas cylinders in buildings shall be determined by the total volume of flammable gas and shall be in the order of preference as indicated by NFPA 55.

6.4.6.2. Storage of compressed flammable gases in other than industrial/mercantile and storage occupancies shall not exceed the quantities listed in Table 6.4. Storage of compressed flammable gases in mercantile and business occupancies shall be limited to 400 SCF (11.3 Sm3). Storage of liquefied flammable gases in all occupancies shall be in accordance with NFPA 55, *Compressed Gas and Cryogenic Fluids Code*, Chapter 7 and NFPA 58, *Standard for Storage and Handling of Liquefied Petroleum Gases.*

6.4.6.3. Electrical equipment shall conform to the provisions of NFPA 70, National Electric Code, and Article 501 for Class I, Division 2 locations.

6.4.6.4. Smoking and open flames shall not be permitted in storage areas or within 20 ft. (6.1 m) of storage areas.

6.4.6.5. Gas cylinders shall be stored a minimum distance of 20 ft. (6.1 m) from storage of flammable and combustible liquids and solids.

6.4.6.6. Liquefied flammable gas cylinders shall be stored in the upright position or such that the pressure relief valve is in direct communication with the vapor space of the cylinder.

6.4.6.7. Storage of multiple groups of cylinders of flammable gases, each 2500 SCF (70.79 Sm3) or less, in one fire area shall be permitted where the groups are separated by a minimum distance of 100 ft. (30.5 m) (for exceptions see NFPA 55).

6.4.6.8. Different flammable gases shall be permitted to be stored together in a group.

6.4.6.9. The following requirements shall apply to the storage of flammable gases between 2501 SCF (70.82 Sm3) and 5000 SCF (141.6 Sm3) in any fire area:

6.4.6.9.1. Gas cylinders shall be stored in a room or enclosure with a minimum one- hour fire resistance rating. (For exceptions see NFPA 55).

6.4.6.9.2. Multiple groups of cylinders within one sprinkler fire area shall be permitted where a minimum distance of 100 ft. (30.5m) separates the groups. (For exceptions see NFPA 55)

6.4.6.10. Gas cylinder storage rooms shall be provided with natural or mechanical ventilation designed to provide a minimum of one cubic feet per-minute (cfm) per square feet (0.3 m3/m2) of floor area. Ventilation systems shall discharge a

minimum of 50 ft. (15m) from the intakes of air handling systems, air conditioning equipment and air compressors.

6.4.7. Toxic Gases. In addition to the requirements of section **6.4.5** of this HARBI, the following specific requirements for storage of toxic gases shall apply:

6.4.7.1. Indoor storage areas used to store toxic gases shall be equipped with a continuous gas detection system that provides an alarm to warn of the presence of toxic gases in levels that present a hazard to life (for exceptions see NFPA 55).

6.4.7.2. Exhaust ventilation systems shall be installed in all indoor areas used for toxic gases (for exceptions see NFPA 55).

6.4.7.3. Exhaust ventilation systems for indoor toxic gas storage shall comply with the following, except where natural ventilation prevents toxic accumulation of gases being stored:

6.4.7.3.1. Where gas cabinets are not used, mechanical ventilation shall be operated continuously at a rate of not less than one cfm per square feet (0.3 m3/m2) of floor area of the storage area. (For exceptions, see NFPA 55).

6.4.7.3.2. A manual ventilation shutoff shall be provided outside the room adjacent to the access door into the room in a location approved by the authority having jurisdiction. The switch shall be labeled “Ventilation System Emergency Shut-off.”

6.4.7.3.3. Exhaust ventilation shall not be re-circulated within a room or building.

6.4.7.3.4. Ventilation shall not be required to be operated when no toxic gas is stored.

6.4.7.4. Outdoor storage of toxic gases shall be located 75 ft. (22 m) from a line of property that may be built upon public ways; i.e., places of public assembly and buildings not associated with the manufacture or use of the gases in storage. Such storage areas shall be secured from unauthorized access.

6.4.7.5. Cylinders of toxic gases while in storage and while being handled shall have valve protection devices or caps and gas-tight valve outlet caps or plugs in place. This shall apply to all cylinders whether full, partially full or empty.

6.4.8. Hazard Identification.

6.4.8.1. Hazard identification signs shall be placed at all entrances to locations where compressed gases are produced, stored, used or handled (for exceptions see NFPA 55).

6.4.8.2. Signs shall not be obscured or removed. Signs shall be in English as a primary language or in symbols.

6.4.8.3. Signs prohibiting smoking or open flames within 50 ft. shall be provided in areas where toxic, flammable, oxidizing or pyrophoric gases are produced, handled, stored or used.

6.4.8.4. Individual compressed gas cylinders shall be marked or labeled in accordance with DOT and OSHA/AF requirements.

6.4.8.5. The labels applied by the gas manufacturer to identify the compressed or liquefied gas cylinder contents shall not be altered or removed by the user except for the marking of empty cylinders by marking "Empty" and/or tearing one of the attached tags in half.

6.4.9. Compressed Gas Cylinders, General Requirements.

6.4.9.1. Cylinders shall be designed, fabricated, tested and marked (stamped) IAW regulations of the US (DOT), Transport Canada (TC) or the Rules for the Construction of Unfired Pressure Vessels, Section VIII, The American Society of Mechanical Engineers (ASME), *Boiler & Pressure Vessel Code.*

6.4.9.2. Defective cylinders shall be returned to the supplier. Suppliers shall remove it from service and repair the cylinder or dispose of it in an approved manner.

6.4.9.3. Compressed gas cylinders having residual products shall be treated as full except when being examined, serviced or refilled by a gas manufacturer or distributor.

6.4.9.4. Where compressed gas cylinders are designed to accept valve protection caps, the user shall keep such caps on compressed gas cylinders at all times except when being filled or connected for use.

6.4.9.5. Where gas tight valve outlet caps are provided, the user shall keep such devices on the valve outlet at all times except when being filled or connected for use.

6.4.9.6. Compressed or liquefied gas cylinders in use or in storage shall be secured in an appropriate manner to prevent them from falling or being knocked over (for exceptions see NFPA 55.)

6.4.9.7. Compressed gas cylinders shall be permitted to be stored and used in the horizontal position. All liquefied gas cylinders or gas in solution cylinders (acetylene) shall only be stored and used in the upright position (excluding Liquid Proteome Gas powered forklifts).

6.4.9.8. Compressed gas cylinders exposed to fire shall not be used until they are re-qualified IAW the pressure vessel code under which they were manufactured.

6.4.9.9. Compressed gas cylinders shall not be placed where they can become a part of an electrical circuit.

6.4.9.10. Compressed gas pesticides/poisons (not including aerosols) shall be stored away from heat (steam pipes, heaters, direct sun) in a covered area outdoors.

6.4.9.11. Cylinders shall be tightly closed, provided with a safety cap when not in use (whether full or empty), and provided with labeling IAW DOT labeling requirements which indicates whether the individual container is full or empty.

6.4.9.12. Cylinders shall be separated by type, contents, and full or empty status. Compressed gas pesticide/poisons shall be separated from other compressed gases by pipe railings or other effective means acceptable to the base Fire Department.

6.4.10. Safety Precautions.

6.4.10.1. Smoking or open flames shall not be permitted within 50 ft. of any area where flammable, oxidizing, pyrophoric or toxic compressed gases are stored.

6.4.10.2. Where flammable gas may be ignited by static electricity: means shall be provided to prevent a static discharge.

6.4.10.3. Electrical equipment and wiring in areas where flammable gases are produced, stored, handled or used shall be installed IAW the provisions of NFPA 70, *National Electrical Code*.

6.4.10.4. An automatic fire extinguishing system IAW NFPA 13, Standard for the Installation of Sprinkler Systems, or NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection shall protect separate rooms and areas of buildings for use or storage of toxic or pyrophoric gases.

6.4.10.5. Where mechanical ventilation, treatment systems, temperature control, manual alarm, detection or other electrically operated systems are required by other provisions of this standard, such systems shall be connected to a standby source of power to automatically supply power in the event of loss of power from the primary source.

6.5. **Corrosives and Oxidizers.**

6.5.1. For the purposes of this HARBI, corrosive materials are defined as a liquid or solid that cause full thickness destruction of human skin at the site of contact within an exposure period of four hours, or a liquid that has a severe corrosion rate on steel or aluminum based on the criteria in 49 CFR 173.137(c) (2). Corrosives are divided into two groups, acids and bases. Acids refer to the end of the pH scale, which is from 6 down to 0 and bases; have pHs that range from 8 to 15. Oxidizers are defined as materials other than a gas, which may, generally by yielding oxygen, cause or enhance the combustion of other materials. Organic peroxides are defined as any material, other than a gas, that contains Oxygen (O) in the bivalent -O-O- structure and which may be considered a derivative of hydrogen peroxide, where one or more of the hydrogen atoms have been replaced by organic radicals.

6.5.2. Corrosives and oxidizers shall be located, stored, utilized and transported IAW NFPA 430, *Code for the Storage of Liquid and Solid Oxidizers*, NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 49 CFR parts 171-180, *The Hazardous Materials Regulations*, 29 CFR 1910.104, Oxygen, 105, *Nitrous Oxide*, AFI 91-203 and this HARBI.

6.5.3. Oxidizers are divided into two sub-classes by the DOT. They are as follows:

6.5.3.1. Division 5.1 - Oxidizers.

6.5.3.2. Division 5.2 - Organic Peroxides.

6.5.3.3. Corrosives are all included in the DOT hazard class of 8.0.

6.5.4. For the purpose of this HARBI, oxidizers and organic peroxides shall be classified according to the system described in the following section:

6.5.4.1. Class 1: An oxidizer whose primary hazard is that it slightly increases the burning rate but does not cause spontaneous ignition when it comes in contact with combustible materials (Generic Type G).

6.5.4.2. Class 2: An oxidizer that will cause a moderate increase in the burning rate or that causes a spontaneous ignition of combustible materials with which it comes in contact (Generic Types E and F).

6.5.4.3. Class 3: An oxidizer that will cause a severe increase in the burning rate of a combustible material with which it comes in contact or that will undergo vigorous self- sustained decomposition due to contamination or exposure to heat (Generic Types C and D).

6.5.4.4. Class 4: An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock. In addition, the oxidizer will enhance the burning rate and can cause spontaneous ignition of combustibles (Generic Types A and B).

6.5.4.4.1. For a listing of typical oxidizers in the above classes, see NFPA 430, Appendix B.

6.5.5. Buildings used to store corrosives and oxidizers shall comply with the following requirements:

6.5.5.1. Ventilation will be provided by means of permanent louvered openings at floor level and ceiling levels, other accepted gravity ventilation methods, or mechanical ventilation suitable for the location, at a rate of not less than one cfm per square feet (0.3 m3/m2) of floor area of the storage area.

6.5.5.2. Electrical installation may be for general-purpose areas and shall conform to the requirements of NFPA 70, *National Electric Code*.

6.5.6. Different acids will be stored separately in designated areas. In lieu of aisle space, non-combustible barriers up to a minimum of 3 ft. high and sealed at the floor level may be used to obtain maximum storage space.

6.5.6.1. The arrangement and quantity of oxidizers in storage shall depend upon their classification, type of container, type of storage (segregated, cutoff, or detached), and fire protection as requirements as specified in NFPA 430.

6.5.7. Corrosives and oxidizers shall be stored to avoid contact with incompatible materials such as ordinary combustibles, combustible or flammable liquids, greases and those materials that could react with the corrosive or oxidizer, promote, or initiate their decomposition. These shall not include approved packaging materials, pallets or dunnage. Corrosives and oxidizers stored in plastic drums shall only be stored on heavy plastic or nylon type pallets. Wood pallets are not permitted for this use:

6.5.8. Special care shall be taken to prevent any contamination of corrosives or oxidizers in storage.

6.5.9. All storage areas containing corrosives and/or oxidizers shall be conspicuously identified by the words “CORROSIVES” or “CLASS (X) OXIDIZERS”. If different

classes of oxidizers are stored in the same area, the area shall be marked for the most severe hazard class present.

6.5.10. All packages shall be approved and individually marked with the chemical name of the corrosive or oxidizer. All original shipping labels, to include DOT labels, shall be affixed to the container and shall be legible at all times.

6.5.11. Heating and Electrical Installations:

6.5.11.1. Heating shall be arranged so that stored materials cannot be placed in direct contact with heating units, piping, or ducts and corrosives or oxidizers shall be separated so that they cannot be heated to within 25°F (14°C) of their decomposition temperature/boiling point or to 120°F (49°C), whichever is lower.

6.5.11.2. Electrical installations shall be in conformance with NFPA 70, National Electrical Code for ordinary wiring locations.

6.5.12. Maintenance and Repairs:

6.5.12.1. The performance of maintenance work in an oxidizer/corrosive storage area shall be subject to prior review and approval by supervisory personnel and the base Fire Emergency Services.

6.5.13. Fire Extinguishing Equipment:

6.5.13.1. Manual firefighting equipment in the form of portable water extinguishers or water hose reels stations or cabinets shall be provided IAW the requirements of NFPA 10, Standard for Portable Fire Extinguishers, and NFPA 14, Standard for the Installation of Standpipe and Hose Systems, and UFC 3-600-01.

6.5.13.2. The placement and use of dry chemical extinguishers containing ammonium compounds (Class A, B, and C) shall be prohibited in areas where oxidizers/corrosives that can release chlorine are stored.

6.5.13.3. Halon extinguishers shall not be used in areas where oxidizers/corrosives are stored.

6.5.14. Housekeeping and Waste Disposal:

6.5.14.1. Accumulation of combustible waste in oxidizer/corrosive storage areas shall be prohibited.

6.5.14.2. Spilled oxidizers/corrosives and leaking or broken containers shall be removed immediately to a safe area if feasible. If in doubt, notify the base Fire Department via 911 to initiate emergency response actions.

6.5.14.3. Used, empty, combustible containers shall be stored in a detached or sprinkled area.

6.5.14.4. Operations shall be arranged to prevent excessive fugitive dust accumulation.

6.5.14.5. When absorptive combustible packing materials used to contain water-soluble oxidizers and corrosives have become wet during either fire or non-fire conditions, the oxidizer/corrosive can impregnate the packing material. This will

create a serious fire hazard when the packing material dries. Wooden pallets that are exposed to water solutions of an oxidizer/corrosive also can exhibit this behavior. Such materials shall be relocated to a safe outside area and shall be disposed of properly.

6.6. **Pesticides and Poisons.**

6.6.1. For the purpose of this HARBI, "pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest or for use as a plant regulator, defoliant or desiccant. A "restricted use pesticide" is as classified under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) in 40 CFR, part 152.175, *Pesticides Classified for Restricted Use*. These pesticides shall be permitted to be purchased and applied by applicators that are certified and licensed in accordance with the United States Environmental Protection Agency regulations.

6.6.2. For the purpose of this HARBI, "poisonous materials" means a material, other than a gas, which is known to be so toxic to humans as to afford a hazard to health during transportation and storage, or which, in the absence of adequate data on human toxicity, is presumed to be toxic to humans because it falls within any one of the following categories when tested on laboratory animals.

6.6.3. Pesticides and poisons shall not be stored on this Installation until proper precautions and requirements are met in coordination with 482 BCE/CEV. Pesticides are transported onto this installation pre-mixed by a certified and licensed contractor for pest management.

6.6.3.1. The rest of this section is RESERVED in the event of future mission changes.

6.7. **Radioactive Materials.**

6.7.1. For the purpose of this HARBI, "Radioactive Material" means any material having a specific activity greater than 70 Becquerel per gram (0.002 micro curie per gram) and any material that emits, by spontaneous nuclear disintegration, corpuscular or electromagnetic emanation.

6.7.2. Radioactive materials shall be received, stored, packaged, handled, shipped and disposed of in accordance with Air Force Joint Instruction 23-504, *Radioactive Commodities in DOD Supply System*; MIL STD-129, *Military Marking for Shipment and Storage*, Air Force Manual 24-204_IP, *Preparing Hazardous Materials for Military Air Shipments*, 49 CFR, parts 100-185, OSHA 29 CFR 1910.96-STD_01-04-001, 1910.1096, 29 CFR1926.53 and this HARBI.

6.7.3. Storage of Radioactive Materials.

6.7.3.1. Where containers are used for storage, the labels required by 29 CFR 1910.1096 shall state the quantities and kinds of radioactive materials in the containers and the date of the measurement of the quantities.

6.7.3.2. Buildings or rooms containing radioactive substances will be reported to the Base Fire Emergency Services by the building Facility Manager having jurisdiction. The Facility Manager will provide a detailed floor plan drawing indicating the exact location of the material to the Base Fire Emergency Services. Any time the

radioactive materials are moved or removed from the facility or area, notifies the base Fire Emergency Services at extension DSN 535-7101 or DSN 535-7102.

6.8. **Hazardous Cargo.**

6.8.1. For the purpose of this HARBI, "hazardous cargo" is defined as materials that are regulated under the above listed hazard classes and materials that are not regulated under any of the above hazard classes, but is defined as other regulated materials (ORMs) according to 49 CFR, parts 100-179 and is being transferred on the installation. This includes hazardous wastes, consumer quantities of hazardous materials, and materials identified in one of the above listed definitions.

6.8.2. The base Fire Emergency Services will be notified of all, other than routine, proposed transfers of explosives, oil, gasoline, or other hazardous materials as defined above. The following general guidance will be followed:

6.8.2.1. Such transfers will be subject to applicable regulations, installation operating instructions and this HARBI.

6.8.2.2. All fire precautions will be observed.

6.8.2.3. A fire watch, approved by the base Fire Emergency Services, will be posted and proper fire extinguishing equipment will be provided.

6.8.2.4. Under special or unusual conditions (i.e., hot refuels/defuels, specialized product transfers), firefighters and apparatus may be required for standby.

6.8.3. Shipments of bulk goods, which are received through the Enterprise Environmental, Safety & Occupational Health Management Information System (EESOH-MIS) or consumer quantities of hazardous materials received through the Base Exchange are exempt from the above requirements of this section.

6.8.3.1. Any time that a shipment of hazardous materials is received or transferred on this installation, the following precautions will be followed:

6.8.3.2. The receiver and shipper of the material will inspect the packaging to ensure that it is in a serviceable condition and that it is properly secured to the pallet if one is provided. If the package is found to be leaking, do not load or unload the material, secure the area, perform immediate area evacuation and notify the base Emergency Communications Center (ECC) via 911 to report the incident.

6.8.3.3. The shipper/expediter will ensure that the material being transported is in a serviceable condition, the material is secured to the shipping pallet, if provided, and that the material is properly secured to the vehicle.

6.8.3.4. The organizational personnel receiving the material will inspect the shipment for serviceable container conditions and that the material is the proper material ordered. If the material is found to be defective or leaking, the driver of the vehicle and the receiving personnel shall secure the area. The vehicle containing the defective/leaking material shall not be moved. Notify the base ECC via 911 to report the incident. When possible, have the shipping paperwork and any SDS' for the material immediately available for responding Fire Department personnel.

6.9. **Petroleum, Oil and Lubricants (POL) Storage Areas.**

6.9.1. For the purpose of this HARBI, POL storage areas are defined as areas that are used for the bulk storage of petroleum, oil or lubricant materials and fueling operations from a bulk source, such as gasoline stations and bulk refueling vehicles.

6.9.2. Bulk storage, transportation, transfer, handling and inspection of POL products/areas will be performed in accordance with NFPA 30, *Flammable and Combustible Liquids Code*; AFI 91-203, **Chapter 22**, *Flammable and Combustible Liquids; NFPA 385, Standard for Tank Vehicles for Flammable and Combustible Liquids*; NFPA 386, *Standard for Portable Shipping Tanks for Flammable and Combustible Liquids*; AFI 91-203, Chapter 20, *Safety Color Coding, Labeling and Marking for Piping Systems*; 29 CFR 1910.106; applicable AF Technical Orders and this HARBI.

6.9.3. Protection Requirements:

6.9.3.1. Bonding facilities for protection against static sparks during the loading and unloading of tank vehicles through open domes shall be provided where flammable and combustible liquids are transferred. NOTE: NFPA 77, *Recommended Practice on Static Electricity*, and T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding, provide additional information on static electricity protection.*

6.9.4. Liquid handling, transfer and use. The following criteria will apply to POL storage areas:

6.9.4.1. Flammable and combustible liquids shall be kept in closed tanks or containers, except when being transferred or in use.

6.9.4.2. Where liquids are used or handled, provisions shall be made to promptly and safely confine and dispose of leaks or spills.

6.9.5. Piping, valves and fittings shall be in accordance with Chapter 3, "Piping Systems", of NFPA 30.

6.9.6. Equipment shall be designed and arranged to prevent the unintentional escape of liquids and vapors and to minimize the quantity escaping in the event of accidental release.

6.9.7. Fire Prevention and Fire Extinguishing Equipment:

6.9.7.1. Welding, cutting and similar spark-producing operations shall not be permitted in areas containing flammable liquids until an AF Form 592, *USAF Welding, Cutting and Brazing Permit*, is issued by the base Fire Emergency Services to authorize such work.

6.9.7.2. Maintenance and operating practices shall control leakage and prevent spillage of flammable and combustible liquids.

6.9.7.3. Combustible waste materials and residues in operating areas shall be kept to a minimum, stored in covered metal containers and disposed of at least daily.

6.9.7.4. Ground areas around POL facilities where liquids are stored, handled, or used shall be kept free of grass, weeds, trash, or other unnecessary combustible materials. Managers of POL areas will ensure grass and weed control schedules are performed with the base grounds contractor.

6.9.7.5. Aisles established for movement of personnel shall be maintained clear of obstructions to permit orderly evacuation and ready access for manual firefighting activities.

6.9.7.6. Personnel responsible for the use and operation of fire protection equipment shall be trained at least annually in the use of the equipment.

6.9.7.7. Procedures shall be established to provide for safe shutdown of operations under emergency conditions. Provisions shall be made for periodic training, inspection and testing of associated alarms, interlocks and controls.

6.9.7.8. Facility and area Managers of POL areas shall inspect fire protection equipment monthly and keep a written or automated product record of the inspections.

6.10. **Miscellaneous Requirements.**

6.10.1. When a new material is received into inventory, the responsible agency shall have available an SDS for the product, either in hard copy form or on automated products. This information shall be immediately available for use by the base Fire Emergency Services in the event of a spill or unintentional release.

6.10.2. Not Used.

6.10.3. Chemsites, Initial Accumulation Points and Satellite Sites:

6.10.3.1. All personnel who manage chemsites, initial accumulation points or satellite sites shall be trained in hazardous materials/hazardous waste procedures by attending or completing an approved chemical manager's course. All personnel who handle hazardous wastes shall be trained on Air Force hazardous waste collection, turn-in and disposal procedures.

6.10.3.2. General Chemsites guidance:

6.10.3.2.1. The chemsite manager will ensure that all fire extinguishers are inspected monthly and annually. If the extinguisher requires inspection, refer to 4.3 of this HARBI for inspection checklist.

6.10.3.3. General Chemsite Inspection Criteria:

6.10.3.3.1. Ensure flammable/combustible liquid drums are grounded and bonded properly.

6.10.3.3.2. If drum pumps are utilized, ensure they are properly installed into the drum and that hoses are retained in the hose holders, i.e., not lying on the floor.

6.10.3.3.3. Ensure that drum funnels on hazardous waste drums are removed and the drum bung is reinstalled after each use.

6.10.3.3.4. Ensure that all containers are in a serviceable condition and that they are not corroded, swollen, or severely damaged.

6.10.3.3.5. Ensure all drums and containers are properly labeled as to contents and that start date, if applicable, is on the container.

6.10.3.3.6. Ensure that proper transfer devices are utilized for the material being

transferred (compatible).

6.10.3.3.7. Keep chemsites free of trash and unnecessary combustibles.

6.10.3.3.8. Ensure that grass and weeds around chemsites remain trimmed.

6.10.3.3.9. Ensure that the main drain valve on the beam surrounding a chemsite is kept in the closed position, unless draining off excess rainwater or is being utilized to remove chemicals. The drain valve shall only be allowed to be open when the site is supervised.

6.10.3.3.10. Ensure that signs on the outside and inside of the chemsite are in good repair, i.e., "Flammable No Smoking" signs, chemsite manager listing and emergency phone numbers, as well as material location signs.

6.10.4. Chemical Compatibilities

6.10.4.1. If there are questions as to compatibility of stored materials, contact the Civil Engineer Environmental Engineering (CEV) Flight.

6.10.4.2. Ensure that materials of different types and hazardous wastes are properly labeled and stored accordingly.

7. SPECIAL OPERATIONS AND OCCUPANCIES

7.1. **Airfield and Hanger Operations.**

7.1.1. Power units, when hooked and serving an aircraft, will have a qualified attendant observing the unit at all times while running.

7.1.2. A fire extinguisher will be located near all power units while running.

7.1.3. Ground power equipment will be operated IAW applicable directives.

7.1.4. AGE equipment will be positioned upwind from aircraft being serviced, and utilize the full length of the power cable.

7.1.5. Flame and electrical spark producing equipment will not be used during repair or maintenance of aircraft (except as authorized by Base Fire Chief).

7.1.6. Fuel Cell Operations.

7.1.6.1. Aircraft undergoing fuel cell or external tank repair will be in an isolated area or authorized hangars and position not less than 100 feet from the nearest smoking area and/or other sources of ignition.

7.1.6.2. Fuel cells or external fuel tanks to be repaired will be thoroughly purged and fuel concentration tests conducted with an approved type explosimeter or flammable vapor- testing instrument.

7.1.6.3. All equipment used in aircraft fuel cell repairs will be of the approved type in accordance with current Air Force directives.

7.1.6.4. After fuel residues have been removed from tank cells through de-fueling, maintenance personnel will air purge the cells. The cells atmosphere during purging will be checked periodically with an approved and properly calibrated explosimeter or flammable vapor-testing instrument.

7.1.6.5. Under no circumstances will power units with combustion-type heater blowers be used to purge fuel cells or other flammable material containers.

7.1.7. Servicing aircraft with liquid or gaseous oxygen.

7.1.7.1. All sources of power will be turned off (except as specified T. O. 00-25-172).

7.1.7.2. Before oxygen-servicing operations are started, all sources of flame or sparks will be removed from the immediate area. No flame or spark-producing device will be permitted within 50 feet of oxygen servicing operations.

7.1.7.3. Aircraft oxygen systems will not be serviced or the system drained within 50 feet of hangars, structures or fuel spills. The aircraft will be adequately grounded and the oxygen servicing unit or trailer electrostatically bonded to the aircraft before oxygen is transferred.

7.1.7.4. Oxygen servicing trailers will not be left unattended while connected to the aircraft. Grease and oil reacts violently with liquid oxygen. To reduce the fire hazard, all tools, equipment, clothing, and hands of personnel will be free of grease or oil before handling liquid oxygen. LOX servicing carts will be parked on non-hydrocarbon surfaces when not in use.

7.1.8. Aircraft will be properly grounded at all times on parking ramps, hangars and/or other maintenance facilities or areas.

7.1.9. Aircraft components parts (aft section, engines, fuel tanks, drop tanks, or reservoirs) containing flammable liquids, when separated from the aircraft will be purged and certified to be vapor free.

7.1.10. Vehicles operating in hangars and nose docks will be equipped with flame and spark arrestors. Vehicles so equipped will be allowed to operate in hangars only long enough to move aircraft, equipment or material. They will not be allowed to leave the vehicle unattended in front of or near, hangar or nose dock doors.

7.1.11. Open flames or element space heaters will not be used in any part of a hangar shop or where fire hazards would be created. Under no circumstances will space heaters be permitted in locations suspected of having concentrations of flammable and /or explosive substances.

7.1.12. Parking AGE equipment, aircraft component parts, and/or tow vehicles is prohibited in the area bordered on either side of the door encasements of all main hangar doors, where the track extends to each side.

7.1.13. Vehicles without flame spark arrestors on the engine exhaust system will not be operated or parked inside hangars, (high hazard facilities/structures) without prior approval from the Base Fire Chief.

7.1.14. Electrically operated appliances and vending machines will be properly grounded and will not be located in hazardous areas of a hangar.

7.2. **Services Station/Fueling Operations.**

7.2.1. Service station/fueling operations shall be IAW NFPA 1, NFPA 54 and NFPA 30A.

7.2.2. Fueling of powered equipment or the dispensing of any flammable liquid shall be conducted outside of all structures (inside fueling is prohibited).

7.2.3. Only UL Listed or FM approved safety containers will be authorized for use. Filling of portable gas containers shall only be performed while setting on the ground. Containers will not be filled while setting in the back of pickup trucks or any other vehicle.

7.2.4. Do not use cell phones during dispensing operations.

7.2.5. If re-entry into vehicle is made, make sure you ground yourself from all static electricity prior to touching the gas dispensing handle.

7.2.6. Do not smoke in or around areas where fueling operations are being conducted.

7.3. **Welding, Cutting, Brazing and Grinding.**

7.3.1. All welding, cutting, brazing and grinding operations shall comply with criteria set forth in AFI Standard 91-203 and NFPA 51B *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work.*

7.3.2. The Fire Department shall be notified whenever any cutting, welding, brazing and grinding is to be performed outside of an established shop. A qualified Fire Department representative shall inspect the work site prior to starting the operation. The individuals conducting the operation shall provide a minimum 10 lb. ABC portable fire extinguisher. Facility extinguishers are not to be used. If the operation is deemed safe, an AF 592 Form, *USAF Welding, Cutting and Brazing Permit*, signed by the inspector, shall be given to the operator. An after duty hours phone number shall be provided by the operator or supervisor. No person at any time shall conduct any cutting, welding, brazing or grinding operation outside of an established properly authorized shop without an approved AF Form 592. A qualified Fire Department representative shall establish duration of permit.

7.3.3. Established welding shop locations are initially and periodically (at least annually) inspected for compliance with established guidance for welding shops. If deemed acceptable by Fire Protection, Ground Safety and Bioenvironmental organizations, the shop is given a certificate of compliance that is good until the shop is terminated or disbanded.

7.4. **Confined Spaces.**

7.4.1. Anyone conducting any type of work i.e., maintenance or inspection which requires entry into any confined space shall comply with the Occupational Safety and Health Administration, Code of Federal Regulations 1910.146 *Confined Spaces*, and AFI 91-203.

7.4.2. Prior to entering any permit required confined space, an AF Form 1024, *Confined Spaces Entry Field Permit*, or equivalent shall be filled out and a copy to be kept at the site at all times.

7.4.3. Any confined space entry work, which requires a permit, will be coordinated through the base Safety Office, Bioenvironmental Engineering Flight, and the base Fire Emergency Services.

7.4.4. If a permit required entry is being conducted for routine work or maintenance, the permit originator must ensure rescue team availability during the entry. Originators will contact the base Fire Emergency Services at the time of entry and the time of exit, prior to entry in to the confined space. If during the entry an emergency situation develops that renders rescue services unavailable, the ECC will notify the originator to terminate the entry until emergency services are again available.

7.4.5. Contractors performing Confined Space Entry on HARB must comply with OSHA, 29 CFR 1910.146 requirements. Homestead ARB Fire Emergency Service will not be a "designated rescue team" for contractor entry into confined spaces. However, if an emergency arises contactors must call 911 to report emergencies and response will be initiated as indicated by the callers report.

7.5. Painting Operations.

7.5.1. The use of open flame devices for removing paint from any structure is prohibited.

7.5.2. Flammable thinners, solvents, and cleaners shall be handled, stored, dispensed, and used only in accordance with the regulations pertaining to flammable liquids NFPA 30 and AFI 91-203.

7.5.3. Regular spray painting shall not be conducted within buildings unless standard spray booths or rooms constructed and arranged IAW NFPA 33 are provided.

7.5.4. Spray booths shall be equipped with an exhaust ventilation system. Fans shall be non- sparking types, with explosion proof fan motors located outside the booth. Exhaust systems shall be installed to conform to the standards of the NFPA 70.

7.5.5. Before refinishing floors, eliminate all sources of ignition, including pilot lights for water heaters and appliances.

7.5.6. Flammable liquids, chemicals, paints, paint-soaked rags, and similar materials shall not be kept in clothing lockers.

7.5.7. Aircraft touch up painting guidance and other aircraft preparation/touch up painting shall be conducted IAW T. O. 1-1-3 and T.O. 1-1-8, NFPA 409, and NFPA 410.

7.6. **Tar Pots and Kettles.**

7.6.1. Tar roofs are not installed on Homestead ARB. Therefore, tar pots and kettles shall not be authorized.

7.6.2. Welding permits for the heating/drying of rolled roofing shall be issued daily. All areas shall be re-inspected before a new permit is issued.

7.6.3. Smoking shall not be permitted on the roof.

7.7. **Public Assembly.**

7.7.1. Public assembly facilities shall establish a sound fire prevention program. Employees shall be trained in fire reporting, facility evacuation, and portable fire extinguisher use. The Facility Manager shall maintain a record of all training.

7.7.2. Managers or assistants shall conduct closing inspections IAW Attachment #3, Facility Managers Closing Checklist.

7.7.3. Managers will ensure all exits are unlocked and serviceable before allowing patrons to enter the facility for the day.

7.7.4. Candles/gaslights shall be securely supported on a noncombustible surface and away from combustible materials. Glass globes shall protect flames from accidental contact.

7.7.5. Portable cooking/warming equipment fueled by small heat sources shall be used IAW manufacture recommendations.

7.7.6. Carpets, curtains, and draperies shall be fire resistant or treated for fire resistance. The Facility Managers shall maintain certification documentation.

7.7.7. The Fire Prevention Section will determine maximum Occupancy Load.

7.7.8. Facility Managers will contact the Fire Prevention section at least one week before any special events to schedule a special inspection to ensure fire safety practices are maintained.

7.7.9. Aisles, egress routes, exits, and exit discharges shall not be blocked or hidden at any time.

7.8. **Warehouses.**

7.8.1. Access aisles shall be maintained to provide convenient access to all portions of the storage areas. Access aisles shall not be less than eight feet in width.

7.8.2. Cross aisles of not less than four feet in width shall be provided for stacks up to 10 ft. in height. Where stacks exceed 10 ft. in height, cross aisles shall be at least five ft.

7.8.3. Combustible materials, such as excelsior, rags, and shredded paper, shall be stored in fire resistant bins with fusible link or self-closing doors.

7.8.4. Materials shall not be stored under or piled against building doors, exits, or stairways. Combustible materials shall not be stored within 25 ft. of any structure.

7.8.5. A 24-inch space shall be maintained between stored combustible materials and interior finish, firewalls and partitions.

7.8.6. Packing materials shall be kept in the original bales until used. Broken bales shall be kept in all metal lined bins with automatic self-closing covers. Waste from packing/unpacking or other sources shall not be allowed to accumulate in hazardous quantities. All waste shall be removed outside daily at the end of the workday/shift and disposed of in designated containers.

7.9. **Special Events.**

7.9.1. Tents/Canopies: Tents and canopies must be noncombustible and certified fire resistant IAW NFPA 1. Tents and canopies shall not be erected in facilities for either temporary or permanent use.

7.9.2. Propane tanks for cooking shall be secured with a base to avoid tipping.

7.9.3. Generators used to service vendors will be placed on a non-combustible surface and care shall be taken that exhaust is minimum 3 feet from combustible items and away from personnel.

7.9.4. No decorations or equipment shall be placed in such a way that it blocks life safety and/or fire protection devices.

7.9.5. Fire Prevention Section shall be notified of and will be involved in planning for special events, and shall perform fire safety inspections as determined by the Installation Fire Chief.

DAVID A. PIFFARERIO, Brig Gen, USAF
Commander, 482d Fighter Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 32-9005, *Real Property Accountability and Reporting and Reporting*, 14 Aug 2008

AFI 40-102, *Tobacco Use in the Air Force*, 03 Jun 2002

AFMAN 33-363, *Management of Records*, 01 Mar 2008

AFMAN 91-201, *Explosives Safety Standards*, 12 Jan 2011

AFOSH Standard 91-5, Welding, Cutting, and Brazing, 01 May 1997

AFOSH Standard 91-66, *General Industrial Operations*, 01 Oct 1997

AFOSHSTD 91-501 6.2.9.1, *Air Force Consolidated Occupational Safety Standard*, 07 Jul 2004

Article 500, *National Electrical Code*

ETL 02-15, Fire Protection Engineering Criteria-New Aircraft Facilities, 3 Dec 2002

National Fire Protection Association (NFPA) 101 Life Safety Code

National Fire Protection Standard 30, (2008) 2012 Edition is Released

National Fire Protection Standard 30A, 2003 Edition

National Fire Protection Standard Association (NFPA) Standard 70, *National Electrical Code*

UFC 3-600-02, *Unified Facility Criteria*

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

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 332, *Base Civil Engineer Work Request*

AF Form 1487, *Fire Prevention Visit Report*

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

AF Form 3, *Hazard Abatement Plan*

AF Form 1118, *Notice Hazard*

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

Abbreviations and Acronyms

AF—Air Force

AFOSHSTD—Air Force Occupational Safety and Health Standard

AGE—Aerospace Ground Equipment

AHJ—Authority Having Jurisdiction

ARB—Air Reserve Base

BCE—Base Civil Engineers

CBT—Computer Based Training

CEF—Chief, Fire Department

CES—Civil Engineering Squadron

DOD—Department of Defense

ETL—Engineering Technical Letter

FACC—Fire Alarm Communication Center

HARB—Homestead Air Reserve Base

HVAC—Heating, Ventilating and Air Conditioning

IAW—In accordance with

MSG—Mission Support Group

NFPA—National Fire Protection Association

OPR—Office of Primary Responsibility

POL—Petroleum Vehicle

RAC—Risk Assessment Codes

SFO—Senior Fire Official

UFC—United Facility Criteria

UL—Underwriter's Laboratory

USAF—United States Air Force

Attachment 2

FIRE ACTION PLAN MEMORANDUM

Date:

MEMORANDUM FOR:

FROM:

SUBJECT: Fire Reaction Plan

1. When notified by the Fire Inspector of a fire drill, or the discovery of a fire, no matter how small, complete the following:

a. Any person discovering a fire will report it immediately to the base fire department, extension 7117. (If a drill, ensure you notify the fire department as such.)

b. Personnel reporting the fire will give the following information

Exact location of the fire

(1) Name and rank of person reporting the fire

(2) Type of fire (building, grass, kitchen, automobile)

(3) Do not hang up until directed to do so

c. The following actions will be taken immediately after discovering a fire or notified of a fire drill.

(1) Notify the building occupants verbally or pull fire alarm

(2) Ensure all occupants have evacuated the facility

(3) Ensure a head count is completed

(4) Secure funds

(5) Check all area of facility

(6) Close all building doors (do not lock)

(7) Use available fire extinguishers in an effort to control or extinguish the fire.

(8) In the event of a real fire, have someone meet the fire department out front to direct them toward the emergency

(9) In the event of a real fire, secure the area until Security Forces arrives

Approved/Disapproved

Commander’s Signature Element