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OSAN AIR BASE**

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Civil Engineering**

FIRE PREVENTION PROGRAM

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(Col Kevin R. Mantovani)

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This instruction implements AFPD 32-20, *Fire Emergency Services*, and complements AFI 32-2001, *Fire and Emergency Services (FES) Program*, AFMAN 91-203, *Air Force Consolidated Occupational Safety Instruction*, AFI 91-202, *The US Air Force Mishap Prevention Program*, AFI 32-10141, *Planning and Programming Fire Safety Deficiency Correction Projects*, Unified Facilities Code (UFC) 3-600-01, *Design: Fire Protection Engineering for Facilities*, UFC 3-601-02, *Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems*, and National Fire Protection Association (NFPA) codes. It establishes responsibilities, requirements, authority and procedures for a thorough and comprehensive program of fire safety, fire prevention, and fire protection in compliance with the provisions of AFI 32-2001. It applies to all activities, organizations, associate units, tenants, concessionaires, contractors, and personnel (American and local nationals) located on Osan AB and in off-base areas under the jurisdiction of this headquarters. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. It supersedes 51FWI 32-2001, 23 December 2013. This revision refers to the Air Force-adopted NFPA consensus standards throughout the text. It incorporates changes from the inclusion of AFMAN 91-203, which superseded all Air Force Occupational Safety and Health (AFOSH) standards, AFI 32-10141, AFI 91-202, and the rescinding of AFI 91-301. There is also the inclusion of NFPA 55 for storing of gas, NFPA 704 and OSHA 1910.109 for hazardous identification placards.

1.	Purpose:	3
2.	Authority Having Jurisdiction (AHJ):	3
3.	Osan AB Fire Prevention Program:	3
4.	Fire Safety Deficiency (FSD) and Risk Assessment Code (RAC):	4
5.	Fire Prevention Program Responsibilities:	5
6.	General Fire Prevention Requirements:.....	9
7.	Welding, Cutting, and Use of Open Flame/Torches.....	25
8.	Ammunition and Explosives:.....	28
9.	Specific Occupancy Requirements:	29
10.	Fire Protection Engineering Review, and Consultation.	35
11.	Fire Detection, Suppression, and Alarm Systems:.....	38
12.	Fire Investigations:	39
Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		40
Attachment 2— MONTHLY FIRE EXTINGUISHER INSPECTION RECORD EXAMPLE (FOR USE ON INDIVIDUAL EXTINGUISHERS)		44
Attachment 3— FIRE EXTINGUISHER CHECKLIST AND INVENTORY SHEET EXAMPLE		45

1. Purpose: Provide fire emergency services to prevent and minimize losses to Air Force lives, property, and the environment. The Osan AB Fire Emergency Services (FES) flight, commanders, supervisors, managers, facility/functional managers, all military, DoD and local national civilian personnel, Military Family Housing (MFH) occupants, tenants, concessionaires, and contractors must take adequate measures to eliminate and prevent fires and fire safety hazards. Since the most effective means of reducing fire loss is an aggressive fire prevention program, all personnel are responsible for strictly adhering to the provisions of this instruction.

2. Authority Having Jurisdiction (AHJ):

2.1. The Installation Commander (51 FW/CC) is designated the AHJ. The Fire Marshal (51 CES/CC) serves as staff advisor to the Installation Commander on fire protection matters. The Fire Marshal is authorized to halt or abate any operations or processes considered to be a fire or explosive hazard.

2.2. The installation Fire Chief (51 CES/CEF) is responsible to the Fire Marshal for the management and operation of the fire prevention program. The Fire Chief is responsible for the administration of this instruction.

2.3. The 51 FW/CC is the AHJ responsible for approving the processes, procedures, and programs developed locally for compliance of temporary deviations (less than 1 year).

2.3.1. Ensures programs are assigned an appropriate priority for associated risk and adequate funding for correction and compliance.

2.3.2. Approves Operational Risk Management (ORM) plans for temporary deviations and forwards to Major Command (MAJCOM)/CV for review.

2.4. The AHJ for long term deviations (greater than 1 year) is The Air Force Civil Engineer. Request for long term deviations shall be submitted through the MAJCOM Engineer.

3. Osan AB Fire Prevention Program:

3.1. The objective of the installation fire prevention program is to eliminate the potential causes of fire and to reduce the loss of life, injuries, property damage and to protect the environment in the event of a fire. Accomplishing these objectives is vital if the mission is to continue without delay due to fire. To reach this objective it is necessary to reduce unsafe practices and conditions through the education of all personnel, command support at all levels and enforcement of safe practices. Fire prevention and fire safety will not be compromised for reasons of expediency or economy.

3.2. Supervision and execution of the fire prevention program is a command function. It is everyone's responsibility to actively assist and participate in the fire prevention program and report hazards promptly to the proper authority for corrective actions.

3.3. The Assistant Chief of Fire Prevention executes the wing's fire prevention program and manages 51 CES/CEFP (Fire Prevention). The Fire Prevention Office (shall be referred to as CEFP throughout this instruction).

3.3.1. Designated by the Fire Chief as the AHJ to execute the 51 FW Fire Prevention program.

3.3.2. Manages an aggressive facility fire safety inspection program.

3.3.3. Coordinates with other agencies to ensure appropriate Fire Safety Deficiencies (FSD)s are entered into hazardous abatement program and programmed IAW AFI 32-10141.

3.3.4. Briefs fire prevention deficiencies and trends at wing safety council.

3.3.5. Manages the fire prevention and safety public education program.

3.4. Fire Inspectors:

3.4.1. Coordinates directly with facility managers to schedule mandatory fire prevention visits.

3.4.2. Maintain a master facility inspection list, using Automated Civil Engineer System Fire Department (ACES FD) or automated product, for accuracy to ensure all facilities are inspected at the proper frequencies IAW DoD and Air Force standards.

3.4.3. Upon completion of facility fire inspection, provides guidance to facility manager/supervisor on required action to correct existing fire hazards/deficiencies.

3.4.4. Provide fire prevention, safety and extinguisher training to the base populace, upon request.

4. Fire Safety Deficiency (FSD) and Risk Assessment Code (RAC): AFI 91-202 outlines the hazardous abatement program. AFI 32-10141 outlines the planning and programming process for FSDs and the subsequent need of coordinated/approved corrective action plans.

4.1. An AF Form 1487, *Fire Prevention Visit Report*, will be used to notify facility managers, functional managers/commanders of FSDs and RACs found in facilities under their charge.

4.2. RAC Process: A RAC will be noted on the AF Form 1487 for each fire safety hazard IAW AFI 91-202. RACs 1, 2, or 3 that are not abated within 30 days must be coordinated with 51 FW Safety and entered into the Hazard Abatement Plan using an AF Form 3, *Hazard Abatement Plan*, and IAW AFI 91-202. A coordinated AF Form 3 must be provided to CEFP for tracking. Facility managers shall notify CEFP monthly as to the status of the RAC and upon correction/termination of the AF Form 3.

4.3. FSD Process: A FSD will be noted on the AF Form 1487, for each fire safety deficiency as outlined in AFI 32-10141.

4.3.1. All FSDs shall be corrected on the spot if feasible. All uncorrected FSDs shall be planned and programmed for correction IAW AFI 32-10141.

4.3.2. Facility managers/using organizations are responsible for submitting a Deliberate Risk Assessment for coordination through 51 CES/CEF. CEFP can provide a DRA template upon request.

4.3.2.1. Approval authority for DRAs involving a FSD I is the 51 FW/CC. Approval authority for DRAs involving FSD II may be the 51 FW/CC or designated commander as outlined in AFI 32-10141.

4.3.2.2. Using organizations are responsible for providing CEFP with a completed and approved DRA for each FSD I and II within 30 days of notification/finding (issuance of an AF Form 1487 with noted FSD I or II). DRAs are not required for FSD III.

5. Fire Prevention Program Responsibilities:

5.1. Functional Managers: Are responsible for administering the fire prevention program within their functional area ensuring full compliance with AFI 32-2001, this instruction, and all other applicable AFI. Functional managers will:

5.1.1. Designate a primary and alternate facility manager for every facility within their functional area.

5.1.2. Ensure commanders and supervisors at all levels remain responsible for assuring a sound fire prevention program within their area(s) of control.

5.1.3. Ensure immediate corrective actions are taken for all fire hazards and fire safety deficiencies.

5.1.4. Sign all AF Form 1487s that are submitted for their review and coordination by the respective facility managers.

5.1.5. Sign all deliberate risk assessments that are submitted for their review and coordination by the respective facility managers for the planning and programming of correction of FSD I and II as per AFI 32-10141.

5.2. Commanders and Supervisors: Will ensure sound fire prevention practices, procedures, and policies are established and enforced in each activity, operation, and facility under their jurisdiction. They will ensure full compliance with this instruction as it pertains to their jurisdictional control. They will:

5.2.1. Ensure all newly assigned personnel receive and document fire prevention and fire extinguisher training within 30 days of assignment and at least annually, thereafter.

5.2.2. Ensure all personnel are knowledgeable of required fire and emergency reporting procedures and fire prevention practices and policies.

5.2.3. Ensure adequate fire prevention inspections and safe practices are strictly enforced by the supervisor responsible for secured areas (facilities, rooms, or areas, under continuous lock and key). Additionally, it is their responsibility (through the respective facility manager) to arrange/provide access to these areas for the fire prevention inspector to perform scheduled fire prevention visits.

5.2.4. Ensure all self-help projects are reviewed/approved by CEFP and a work order number has been assigned before work is started by properly coordinating an AF Form 332, *Base Civil Engineer Work Request*, through 51 CES customer service.

5.2.5. Ensure fire evacuation drills are conducted at the appropriate frequencies ([See Paragraph 6.7.](#)). The 51 CES/CEF will assist in developing a training plan/program IAW unit's flight management program. Documentation and recordkeeping is the responsibility of the functional/facility managers.

5.2.6. Ensure all personnel are made aware that willful transmission or reporting of a false fire or emergency alarm is prohibited and punishable under the Uniform Code of Military Justice (UCMJ).

5.2.7. Review corrective actions required and the corrective actions taken on AF Form 1487. The unit commander/functional manager must sign and date the reverse side of the form.

5.2.8. Sign all deliberate risk assessments that are submitted for their review and coordination by the respective facility managers for the planning and programming for correction of FSD I and II as per AFI 32-10141 (See [Paragraph 4.3.](#))

5.2.9. Ensure all personnel are knowledgeable of fire/emergency reporting, evacuation procedures, and the activation of all installed fire alarm and suppression systems. All employees must be trained within 30 days of initially reporting to duty and annually thereafter. Contact CEFP for specialized group training.

5.3. Facility Managers: As designated in AFI 32-9005, *Real Property Accountability and Reporting*, facility managers are responsible to the unit commander/functional manager for the safe condition of all facilities under their jurisdiction. The facility manager or designated alternate will accompany the fire prevention inspector during the fire prevention visit and take immediate corrective action on any fire hazards, discrepancies, and deficiencies found. Facility managers will:

5.3.1. Accompany the fire inspector during all scheduled fire prevention visits.

5.3.2. Provide access to every part of the facility/area/operation. Areas under lock and key, controlled-access areas, and areas/rooms using or safeguarding classified information shall be scheduled in advance by the facility manager to ensure access for the inspector(s) during their visit.

5.3.3. Take appropriate action to complete any AF Form 1487 issued by 51 CES/CEF with noted fire safety hazards or FSD.

5.3.3.1. Fill out the back of the AF Form 1487 and properly annotate corrective actions taken.

5.3.3.2. Submit AF Form 1487 to the functional manager/commander for his/her review and coordination.

5.3.3.3. Return AF Form 1487 to CEFP, completely filled out and signed by functional manager/commander, by the suspense date.

5.3.4. Initiate development of a DRA for any FSD I or II annotated on the AF Form 1487 (See [Paragraph 4.](#)). Provide the fire inspector an update on all open FSDs and RACs every 30 days until deficiency/hazard is corrected.

5.3.5. Accomplish fire prevention duties as outlined in all applicable AFIs, elsewhere in this instruction, and in the facility manager's fire prevention checklist.

5.3.6. On a monthly basis check all fire extinguishers, standpipe systems, fire doors, exits, exit lights, and emergency lights to ensure proper operation/readiness status. Initiate immediate corrective actions through the appropriate agency for any discrepancy.

5.3.7. Ensure the fire/emergency reporting number 911 is affixed to every telephone.

5.3.8. Develop a master fire prevention facility folder which covers all applicable requirements of this instruction.

5.3.8.1. CEFP will provide minimum requirements for the master folder and validate compliance during facility inspections.

5.3.8.2. Folders shall include (as a minimum); history of AF Forms 1487, AF Form 332, related to fire protection systems/components, exits, and egress components, fire extinguisher tracking sheet (See [Attachment 3](#) for example), and special occupancy requirements outlined in [Paragraph 9](#) of this instruction. The fire extinguisher tracking may be by electronic means so long as appropriate tracking information can be provided to a fire inspector upon request.

5.3.9. Periodically inspect all Designated Tobacco Area (DTA) to ensure proper receptacles are provided for the disposal of smoking materials and that they are emptied as needed.

5.3.10. Ensure a closing or end-of-shift inspection is conducted at the end of each workday or activity to ensure the facility or area is left in a fire-safe condition.

5.3.11. Facility Managers will ensure Knox box is installed on their facility. In order to allow rapid entry to properties, the Osan FES uses a designated key box and proprietary key system, utilizing the Knox Rapid Entry System (KRES). The following type properties are required to utilize the KRES system:

5.3.11.1. Buildings equipped with fire sprinkler systems and/or fire alarm systems monitored by the ECC.

5.3.11.2. Building with Elevators.

5.3.11.3. High-rise buildings.

5.3.11.4. Knox boxes shall be installed preferably at the main entrance, and height that allow them to be readily accessible. Circumstances such as the size of the property, nature of any hazards, etc., may warrant the need for additional boxes to be located on the same facility.

5.3.11.5. The number and sets of key shall be determined on the following criteria:

5.3.11.5.1. One (1) story buildings: 1 Set.

5.3.11.5.2. Two - three (2-3) stories: 2 Sets.

5.3.11.5.3. High-rise: 3 Sets.

5.3.11.5.4. Large assembly: Up to 3 Sets.

5.3.11.5.5. Note that a "set" of keys could be 1 master key to all entrance doors and interior rooms. If no master key is available, then each set should include building entrance key(s).

5.4. Individual Responsibilities: All individuals are required to comply with base and unit fire prevention programs, policies, and directives.

5.4.1. All fires must be reported when discovered, regardless of size or if the fire has already been extinguished.

5.4.2. Any person who willingly and/or maliciously does any of the following is subject to punishment under the Uniform Code of Military Justice (UCMJ): tampers with, damages, impedes upon, or otherwise renders out-of-service any fire suppression/alarm system to include fire extinguishers.

5.5. Concessionaires: Are responsible for fire prevention in their work areas and will comply with this instruction as it pertains to them.

5.6. Contractor Operations: The prime contractor performing construction on Osan AB will comply with all applicable provisions of this guidance, AFIs, UFC 3-600-01, UFC 3-601-02, NFPA codes, and the International Building Code (IBC). Contractors will:

5.6.1. Brief base fire prevention representative on the type, scope, and sequence of work to be accomplished under the contract during the preconstruction conference/meeting. The contractor will receive a briefing on fire prevention regulations/guidance applicable to the work being performed.

5.6.2. Coordinate with construction/project monitors to ensure fire prevention/protection regulatory compliance for all areas under contractor's control.

5.6.3. Accompany fire inspectors during both scheduled and unscheduled new construction fire prevention visits.

5.6.4. Ensure changes, modifications, or additions to fire alarm and suppression systems are coordinated with CEFP and alarms/systems personnel prior to starting work. Any fire suppression/alarm system work must include design/shop drawings and materials list. Once approved by CEFP and appropriate 51 CES element(s), work must be performed by licensed fire alarm/suppression technicians.

5.6.5. Coordinate alarm and suppression system outages with the Emergency Communication Center (ECC), CEFP, and contract monitor. This coordination must be accomplished both before work starts and after work is complete.

5.6.6. Be present for all acceptance inspections of work performed. Coordinate acceptance tests with the contract monitor at least 5 business days in advance.

5.7. Housing Residents: Fire protection criteria of the Life Safety Code, AFMAN 91-203, this instruction, and other directives apply to all housing residents.

5.7.1. The military family sponsor (usually the senior military individual residing in the MFH unit) is responsible for fire prevention in their quarters. Sponsors ensure dependents are familiar with fire safe practices and prevention measures, know how to report emergencies, and are knowledgeable of home fire evacuation procedures. Tenants and Associate Units.

5.8. Tenant organizations and associate units must adhere to the appropriate sections of this instruction.

5.9. Contract and Concessionaire Employees. Contract and concessionaire employees must receive a briefing of fire reporting procedures, evacuation procedures, and related fire prevention policies from the facility manager where they are conducting business.

6. General Fire Prevention Requirements:

6.1. Fire prevention and fire safety education: Commanders, functional managers, and supervisors at all levels are responsible for ensuring personnel under their supervision are knowledgeable and trained in their fire prevention responsibilities. This training is required for all personnel IAW AFMAN 91-203 and will be recorded on AF Form 55, *Employee Safety and Health Record*. All personnel will be educated upon initial assignment and annually thereafter (more frequently when required by other statutes) in work-place fire reporting, evacuation procedure, fire extinguishers, standpipe and hose systems, fire alarm, and installed fire suppression systems.

6.1.1. Employees shall be knowledgeable of the following (but not limited to):

6.1.1.1. Fire safe practices in the workplace.

6.1.1.2. Fire and emergency reporting procedures.

6.1.1.3. Emergency evacuation procedures.

6.1.1.4. Procedures to sound the alarm.

6.1.1.5. Location, use, and care of fire extinguishers in the work area.

6.1.1.6. Manual activation of fire suppression systems in the work area if installed.

6.1.2. All newly assigned aircraft maintenance and servicing personnel will receive initial hands-on training (no fire required) on the use of the 150 pound Halon 1211 flightline fire extinguisher. Annual refresher training will be conducted by supervisors or designated personnel.

6.1.3. CEFP will provide fire prevention lectures and demonstrations for any functional and social groups, upon request of that group/unit commander or the functional supervisors.

6.1.4. Occupants working in facilities protected by fire suppression systems require initial and refresher education. This includes cooking facilities that have hoods and ducts extinguishing systems and other facilities that have clean agent fire suppression systems. Supervisors shall provide the training and maintain documentation. Fire department personnel are available to host this training, upon request.

6.2. Fire Prevention Visit Process:

6.2.1. Scheduled fire prevention visits will be conducted annually or more often, depending on the occupancy and the hazard classification of the facility or area. Walk-through visits will be conducted on a no-notice basis and when increased activity or special operations indicate a need for increased fire safety. Walk-through inspections may include late evening visits (after normal duty hours) and may include firefighter familiarization visits.

6.2.2. Visits for follow-up inspections to ensure previously identified fire hazards and deficiencies have been adequately eliminated/mitigated shall be carried out on a no-notice basis.

6.2.3. The facility manager or his/her designated alternate will accompany the fire prevention inspector on all visits. He/she will provide access to all areas of the facility IAW **Paragraph 5.3**.

6.2.4. Fire safety hazards/deficiencies noted during the inspection will be Corrected On the Spot (COS), if possible. Hazards that cannot be COS shall be immediately reduced to an acceptable level of safety and corrected as soon as possible. If a hazard or condition poses an imminent danger, prompt action will be taken to eliminate or reduce the danger. When the hazard involves an operation or process that must be stopped and action is not taken to do so, the fire chief, fire marshal, wing safety officer and the functional manager will be notified to observe and resolve the hazardous condition. If the problem cannot be resolved, ensure cordon or other control measures are established to prevent exposure or equipment to the hazard. The Fire Chief will coordinate with 51 FW/SE and notify the 51 MSG/CC. The 51 MSG/CC will notify the 51 FW/CC, to include recommendation of OPREP-3 or CCIR, if warranted.

6.2.5. Any fire safety deficiency or hazard that cannot be COS shall follow the guidance in **Paragraph 4**.

6.2.6. An AF Form 1487 shall be used to annotate fire hazards and deficiencies that cannot be COS.

6.2.6.1. The fire inspector will provide the facility manager a copy of the AF Form 1487 and will explain the hazards identified on the report and discuss recommendations for corrective action(s).

6.2.6.2. The facility manager must indicate the corrective action taken on the reverse side of the report, have the unit commander or functional manager (not the facility manager) review, sign, and date the report.

6.2.6.3. The facility and functional manager shall ensure the completed report is returned to CEFP by the annotated suspense date.

6.2.6.3.1. In the event that an AF Form 1487 is not returned by the suspense date, CEFP will forward all relevant documents to the appropriate commander. If continued delinquency occurs, the Fire Marshal and/or appropriate group level commander will be notified.

6.2.6.4. When an AF Form 332 is submitted in order to correct a deficiency/hazard identified during an inspection the facility manager shall annotate, in the corrective actions section, that an AF Form 332 has been submitted and annotate the work request number.

6.3. Fire/Emergency Action Procedures:

6.3.1. When there is a fire in any building, immediate action must be taken to evacuate personnel, notify the fire department, and try to limit the spread of the fire. All personnel must be familiar with fire exits, fire alarm activation, fire suppression system activation if applicable, and emergency notification procedures. Employees should know primary and secondary escape routes for every area of the building. A rally point no closer than 200 feet from the building being evacuated will be established for all personnel evacuating

the building. For buildings/areas containing explosives refer to AFMAN 91-201, *Explosives Safety Standards*.

6.3.2. The “**SPEED**” system should be used during fire emergencies. “**SPEED**” utilizes the following sequence of actions:

6.3.2.1. -**S--Sound the Alarm**. Upon detecting fire, **sound the alarm** by either verbal and/or mechanical means to initiate evacuation.

6.3.2.1.1. In buildings equipped with fire alarm systems, activate the nearest fire alarm pull station and verbally notify facility occupants by yelling, “**Fire, fire, fire; evacuate the building.**”

6.3.2.1.2. In buildings not equipped with fire alarm systems verbally yell “**Fire, fire, fire; evacuate the building**” throughout the facility and immediately call the fire department.

6.3.2.1.3. Do not utilize fire alarm system to evacuate facilities for gas leaks, spills of flammable liquids, or bomb threats. Utilize runner system to inform occupants of what evacuation route must be taken to avoid the hazard, e.g., “There is a gas leak reported on the south side of the building. Use the north exit to evacuate the facility.”

6.3.2.2. -**P--Phone the Fire Department**. Dial 911 from an on base land line phone or 0505-784-9111 from a cell or off base phone to reach base fire department and provide the following information: Location of the fire, building number, and your name and grade and phone number. Remain on the telephone until told to hang up. Make the phone call from a fire safe area. Do not assume that the fire department will respond if the facility fire alarm system is sounding and do not assume that someone will make the call.

6.3.2.2.1. Any person discovering a fire, potential fire, or evidence of a fire must report it immediately to the FES flight. This includes any fire that has burned itself out or has been extinguished.

6.3.2.3. -**E--Ensure Evacuation**. Evacuate the facility in a prompt but orderly fashion. DO NOT use elevators during evacuation; use the stairs to evacuate to ground level.

6.3.2.3.1. Personnel will immediately leave the building and report to a predetermined rally location at least 200 feet from the involved facility.

6.3.2.3.2. At the rally point, the senior supervisor will determine if there are any personnel missing. Personnel not accounted for will be reported to the Senior Fire Official (SFO). All personnel will remain at the rally point until released by the SFO.

6.3.2.4. -**E--Extinguish if Possible**. For small fires, an attempt to fight the fire may be made with available fire extinguishers if no other hazards are present and the personnel have been adequately trained on using the firefighting equipment.

6.3.2.4.1. Fighting fire with an extinguisher is inherently dangerous. Do not endanger yourself or others. If the fire is uncontrollable, abandon firefighting efforts and evacuate the building.

6.3.2.5. **-D--Direct the Fire Department.** Direct emergency response personnel to the fire and brief them of the situation.

6.4. Fire Lanes/Restricted Parking:

6.4.1. Restricted parking areas around buildings are identified and no parking is allowed in these areas.

6.4.2. Do not park vehicles or trailers or store equipment in any manner that would impede access of firefighting equipment to all sides of buildings, in fire lanes, or within 15 feet of a fire hydrant.

6.4.2.1. Emergency vehicle access shall be maintained during all exercises/real world conditions. Barricades, wire, sand bags, etc. shall not prevent fire department emergency access to buildings.

6.5. Fire Hydrants, Post Indicator Valves (PIV) and Fire Department Connections (FDC):

6.5.1. Fire hydrants, PIV, and FDC must remain clear of all obstructions that might impede on their use during emergency situations. Areas around hydrants, PIV, and FDC, therefore, shall remain clear of all obstructions (vehicles, equipment, trailers, tugs, toe-bars, pallets, etc.). A minimum of 15 feet of clear space circling the device is required.

6.5.2. Items such as trees, bushes, shrubs, signs, fences, trash cans or any other obstacles shall not obstruct or conceal a fire hydrant, PIV, or FDC at any time.

6.5.3. Water mains and fire hydrants will not be shut off, nor maintenance performed that could interfere with the fire protection water supply without prior notification to the ECC.

6.5.4. AFI 32-2001 requires the fire chief (designated representative) to receive hydrant flow test reports annually. Test results are maintained on AF Form 1027, *Water Flow Test Record*, or data automated product. Hydrant flow testing shall be performed IAW NFPA 291, *Recommended Practice for Fire Flow Testing and Marking of Hydrants*, and UFC 3-600-02.

6.5.5. The 51 CES infrastructure/support will notify the Osan AB FES flight of proposed water curtailments which may affect fire protection water. They shall also identify inactive and defective fire hydrants by placing the appropriate "OUT OF SERVICE" placard on the fire hydrant.

6.5.6. Out-of-Service Fire Hydrants/Water Distribution System: All personnel shall notify the FACC prior to beginning work for any scheduled system/hydrant outage that may adversely affect emergency response. Provide date and time outage will occur, location, and estimated time back in service. This includes any project (i.e., road blockage) that will render hydrants out-of-service due to inability to access hydrant.

6.5.7. Out-of-service fire hydrants will be identified with an “OUT OF SERVICE” marker no smaller than 12 inches in diameter with weather proof white letters on a red background. Repairs should not exceed 3 working days. 51 CES/CEO shall update the ECC on changes in status on all outages and upon returning outage back in-service.

6.6. Fire Extinguishers: Civil Engineer Fire Prevention (CEFP) shall determine the type, number, distribution, and placement of portable fire extinguishers as outlined in AFMAN 91-203, NFPA 101®, *Life Safety Code*, NFPA 10, *Standard for Portable Fire Extinguishers*, and AFMAN 91-201. Facility managers and using organizations are responsible for the purchase and maintenance of portable fire extinguishers. ***Prior to purchase of portable fire extinguishers, organizations must coordinate with CEFP for their approval to ensure the proper type and size of extinguisher is purchased.***

6.6.1. General Fire Extinguisher Requirements:

6.6.1.1. Fire extinguishers will not be blocked or obstructed and shall remain readily accessible at all times. Directional arrows marking the location of fire extinguishers will be posted when extinguishers cannot be seen clearly in warehouses, industrial activities, and facilities where the volume of storage impairs or prohibits extinguisher visibility.

6.6.1.2. Fire extinguishers shall not be located on vehicles, equipment, or in facilities, unless required by directive (e.g., purchase description, technical orders, AFIs, NFPA 101®) or approved by the fire protection authority.

6.6.1.3. Fire extinguishers will be permanently mounted on walls using approved brackets or in approved fire extinguisher cabinets. Recessed or semi-recessed fire extinguisher cabinets shall be included for all new construction and renovation projects.

6.6.1.4. Fire extinguishers will not be used as doorstops, repositioned, or removed from their designated location without the approval of CEFP.

6.6.2. Fire Extinguisher Purchase and Maintenance: Facility managers and using organizations must budget for the purchase/procurement and maintenance of portable fire extinguishers. This includes, but is not limited to, facility extinguishers, vehicle extinguishers, and aircraft or other special purpose extinguishers. Extinguishers are not required for MFH, but if provided (e.g. occupant, contractor), extinguishers must be serviceable and properly maintained.

6.6.2.1. The facility manager or using organization manager is responsible for ensuring maintenance and testing of fire extinguishers. This includes emergency repair/maintenance, 6-year maintenance, and 12-year hydrostatic testing requirements as outlined in NFPA 10. It is generally more cost effective to replace the extinguisher instead of conducting the 12 year hydrostatic test. It may be necessary to replace the extinguisher at the 6 year mark if certified and qualified service technicians are not available to perform the 6 year maintenance.

6.6.2.2. The using organization is responsible for transporting extinguishers to their servicing location.

6.6.3. Minimum facility extinguisher ratings and travel distances are as follows:

6.6.3.1. Light Occupancy Hazard – minimum rating of 2-A:10-B:C; maximum travel distance is 50 feet.

6.6.3.2. Ordinary Hazard Occupancy – minimum rating of 2-A:20-B:C; maximum travel distance is 50 feet.

6.6.3.3. Extra Hazard Occupancy – minimum rating of 4-A:40-B:C; maximum travel distance is 30 feet.

6.6.3.4. Class K extinguisher for commercial cooking operations; maximum travel distance is 30 feet.

6.6.4. Aircraft extinguishers are considered a piece of equipment for the platform it's serving and must conform to the technical order requirements. There are programs in place through aircraft maintenance channels to assure adequate maintenance, repair, and replacement of unserviceable aircraft fire extinguishers.

6.6.5. Visual Inspection: Managers and supervisors at all levels shall ensure a visual inspection is performed monthly and documented for all fire extinguishers under their control. Extinguishers with discrepancies will be taken to the designated servicing location or replaced. This inspection includes:

6.6.5.1. Extinguisher located in designated place.

6.6.5.2. No obstruction to access or visibility.

6.6.5.3. Operating instructions on name plate legible and facing outward.

6.6.5.4. Safety seals and/or tamper indicators not broken or missing.

6.6.5.5. No obvious physical damage, corrosion, leakage, or clogged nozzle.

6.6.5.6. Pressure gauge reading or indicator in the operable range or position.

6.6.5.7. Fullness determined by weighing or "hefting."

6.6.6. Fire Extinguisher Records: Fire extinguishers will be inspected monthly and documented by the facility manager. Monthly extinguisher inspection records shall be affixed to each extinguisher. See OSANAB Form 25, *Monthly Fire Extinguisher Inspection Record*, for example monthly extinguisher inspection tag. It is the using organization/facility manager's responsibility to maintain an appropriate fire extinguisher maintenance/inspection program to include a method of tracking to ensure testing, maintenance, and/or replacement be executed before an extinguisher becomes unserviceable. See OSANAB Form 26, *Fire Extinguisher Checklist and Inventory*, for an example tracking sheet.

6.6.7. Explosive Licensed Facilities: See **Paragraph 8**. Licensed facilities shall maintain a minimum of one or more portable fire extinguishers with a capacity rating of at least 2-A:20-B:C. when storing 1.2 explosives; for facilities storing 1.3 and higher explosives, a minimum of 2-A:10BC extinguisher is required.

6.6.8. Commercial Cooking Facilities: Shall maintain at least 1 Class K-rated extinguisher within 30 feet of each cooking appliance utilizing vegetable oils and/or animal fats as a cooking medium. See **Paragraph 9.2.8**.

6.6.9. One hundred fifty (150) pound Halon 1211 Flightline Fire Extinguishers: AFI 32-7086, *Hazardous Materials Management*, governs the Halon management program. USAF and DoD has placed tight restrictions on the use of Halon in part because it is an Ozone-Depleting Substance (ODS). Halon cannot be used for anything other than the protection of aircraft. Controlled accountability of Halon inventory and detailed tracking of atmospheric releases are part of the ODS requirements.

6.6.9.1. All 150 pound Halon flightline extinguishers are assigned to Osan AB FES flight's Customer Account/Customer Requirements Listing (CA/CRL). No extinguisher shall be used for anything other than its intended purpose. All in-service flightline extinguishers are either on the airfield or in the ready line located on the airfield side of the fire department (bldg. 671).

6.6.9.2. One hundred fifty (150) pound flightline fire extinguishers will be used only for Osan AB mission critical areas. They will not be taken off the airfield for any reason without prior approval from the Fire Chief.

6.6.9.3. If a flightline extinguisher requires servicing, the using organization will bring the extinguisher to the airfield side of the fire department, building 671, to the out-of-service line. A new extinguisher can be picked up from the ready line.

6.6.9.4. Using organizations are responsible for moving flightline fire extinguishers within their work or ramp area to meet required coverage during maintenance and aircraft engine starts as outlined in T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*. Returning flight line extinguishers to the ready line that are not being used may be helpful to other mission requirements.

6.6.9.5. Using organizations shall notify the FES flight immediately upon any and all releases of Halon, whether intentional, accidental, or caused by malfunction of the cylinder/valves.

6.7. Fire Evacuation Drills: Emergency evacuation drills shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall include suitable procedures to ensure all persons subject to the drill participate. Fire evacuation drills are the responsibility of the functional manager, facility manager, and supervisors to ensure the safe evacuation of personnel in case of fire. Fire alarm systems will not be used to conduct fire evacuation drills without prior coordination with the FES flight.

6.7.1. During fire evacuation drills, occupants will evacuate to a safe distance, away from the facility, and in a timely and orderly fashion. See [Paragraph 6.3](#).

6.7.2. Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given. A roll shall be taken to ensure everyone is accounted for.

6.7.3. A written record of each drill shall be completed by the person responsible for conducting the drill and maintained by that unit in an approved manner.

6.7.4. If utilization of the fire alarm systems is desired, the facility manager will coordinate with CEFP.

6.7.5. Fire evacuation drills will be held as listed below:

6.7.5.1. Monthly:

- 6.7.5.1.1. Child care facilities.
- 6.7.5.1.2. Preschool facilities.
- 6.7.5.1.3. Youth centers.

6.7.5.2. Quarterly:

- 6.7.5.2.1. Health care facilities (one per shift).
- 6.7.5.2.2. Public assembly facilities (evacuation of patrons not required).

6.7.5.3. Semiannual:

- 6.7.5.3.1. Munitions facilities.
- 6.7.5.3.2. High rise MFH and dormitory facilities.

6.7.5.4. Annual:

- 6.7.5.4.1. Industrial occupancies.
- 6.7.5.4.2. All dormitories and any other facilities occupied by 25 or more persons.
- 6.7.5.4.3. Munitions Area Evacuation Drills.

6.7.6. Unit commanders/functional managers may conduct fire evacuation drills at their discretion.

6.7.7. The fire chief may direct fire drills in any facility where the need for such drills is indicated.

6.8. Exits, Exit Signs, And Emergency Lighting:

6.8.1. Egress, egress access, egress discharge, number of means of egress, and egress components capacity and arrangement shall be IAW NFPA 101®.

6.8.2. Exit doors will remain unlocked and unobstructed at all times the facility is occupied.

6.8.3. Do not chain, bolt, or otherwise lock exit doors for exercises or escalation of force protection conditions. All exits shall remain readily accessible and clear of all obstructions when the facility is occupied by one or more persons. Post sentries to monitor ingress, but DO NOT condone procedures that inhibit or impede egress. Exit hardware that prohibits ingress but does not hinder egress is available IAW NFPA 101®.

6.8.4. Exit doors must swing in the direction of egress when the facility/area is occupied by 50 or more people.

6.8.5. Any door that is neither an exit nor a means of exit access and that is located or arranged so it can be mistaken for an exit shall be identified with a sign stating “**NOT AN EXIT.**” Doors leading to basements, attics, closets, storerooms, etc., shall be labeled indicating their exact use.

6.8.6. Exit doors will be properly identified by exit signs readily visible from any direction of exit access.

6.8.7. Padlocks, chains, sliding bolts, or any device that may retard the intended safety action of the panic hardware will not be installed on exit or exit access doors.

6.8.8. Egress doors shall not be blocked, for any reason, without the prior approval of CEFP. When approved, blocked doors shall have a sign posted on both sides stating "DOOR BLOCKED." Signs shall be readily visible and apparent in the event of an emergency.

6.8.9. Passageways, aisles, and exit accesses shall be kept clear for easy access to emergency equipment and to enable firefighters to reach a fire. Additionally, areas adjacent to sprinkler control valves, fuse boxes, and electrical switch panels shall not be obstructed.

6.8.10. Exit signs will be used to clearly identify the means of egress from facilities when required. The signs will conform to the design and color requirements contained in Engineering Technical Letter (ETL) 99-4, *Fire Protection Engineering Criteria--Emergency Lighting and Marking of Exits* and NFPA 101®.

6.8.11. Exits and exit signs will not be obstructed or obscured from view at any time.

6.8.12. Facility managers will ensure immediate action is taken to repair any egress component (including doors, hardware, and exit signs) that is inoperative for any reason.

6.8.13. Exit signs will be suitably illuminated by a reliable light source and will be visible in both the normal and emergency lighting mode, when required. Burned out lights will be replaced by responsible organizations.

6.8.14. Emergency lighting is required only in facilities and areas outlined in NFPA 101® and ETL 99-4. 51 CES shall not install or maintain non-required emergency lighting units. Using organizations may purchase "convenience lights" with unit funds so long as they are Underwriters Laboratories (UL) listed and meet all applicable NFPA and AFI requirements.

6.8.15. Emergency lighting shall be serviceable at all times. Facility managers shall ensure an operational check of all facility emergency lighting units is conducted on a monthly basis. All faulty units must be reported to the appropriate authority for immediate correction.

6.9. Smoking and Disposal of Smoking Materials:

6.9.1. Designated Tobacco Areas (DTA) shall be controlled, designated, and approved by the unit/squadron commanders. All areas shall comply with appropriate regulations and policies IAW AFI 40-102, *Tobacco Free Living*.

6.9.2. Smoking is not allowed except in DTAs or other areas specially designated by the installation commander.

6.9.3. Smoking or striking of matches or using mechanical lighters will not be permitted in or within 50 feet of hangars, repair shops, paint/dope shops, gasoline storage, or dispensing areas, including the hydrant refueling systems and similar flammable liquid areas, dispensing vehicles or apparatus, motor pools or similar occupancies, or activities of extra hazardous nature.

6.9.4. Disposal of smoking material:

- 6.9.4.1. The disposal of smoking material in any container, other than approved containers specifically designed for smoking material, is strictly prohibited.
- 6.9.4.2. Stencil all smoking material receptacles "SMOKING MATERIAL ONLY."
- 6.9.4.3. Smoking material receptacles will be emptied weekly or as needed. Completely saturate with water before combining smoking material with other wastes in dumpsters or outside trash collection barrels.
- 6.9.4.4. Smoking receptacles will not be used for trash or any other combustible material.
- 6.9.5. Requests for DTAs shall be IAW AFI 40-102.
- 6.9.5.1. Requests for DTA in high hazard areas (i.e. airfield, explosives areas, etc.) will also be submitted in writing to the Base Fire Chief with a layout drawing of the proposed DTA. This letter signed/coordinated letter shall be posting in all approved high hazard area designated DTA.
- 6.9.6. A minimum of one 2-A:10-BC fire extinguisher shall be readily accessible.
- 6.10. Electrical Installation, Appliances, and Heating Equipment:
- 6.10.1. Electrical services and installations will conform to NFPA 70®, *National Electric Code*®, The National Electric Code (NEC).
- 6.10.2. Only qualified electricians (contract service electricians or licensed individuals) shall install, repair, or alter electrical equipment or wiring. Unauthorized wiring will be removed at the user or occupant's expense as determined by the 51 CES.
- 6.10.3. Receptacles:
- 6.10.3.1. All switch, outlet receptacles, fuse/circuit breaker, and junction boxes must have suitable cover plates.
- 6.10.3.2. Circuit breakers and fuse boxes/panels shall be legibly marked to indicate their purpose, unless purpose is obviously evident.
- 6.10.3.3. Multi-plug outlets, in lieu of permanent wiring, are prohibited. Relocatable power taps (RPT) (power strips, strip plugs, etc.) are authorized for use with low wattage/ampereage appliances such as computers, computer monitors, televisions, etc. so long as they meet the requirements of **Paragraph 6.10.4**.
- 6.10.3.4. Fuses/circuit breakers will not be bridged, by-passed, or replaced with a larger capacity to prevent tripping. Breakers shall not be secured in the open position.
- 6.10.3.5. Receptacles located in damp or wet locations shall meet the requirements of the NEC and shall be protected by ground fault circuit interrupters.
- 6.10.4. Cords: The NEC is the source document for electrical installation and equipment.
- 6.10.4.1. All cords, including extension cords shall:
- 6.10.4.1.1. Be Underwriter's Laboratory (UL) approved or Factory Mutual (FM) listed.

6.10.4.1.2. Not run through holes in walls, ceilings, floors, under rug/carpets, through windows, doorways or similar openings, and shall not be affixed in any way that may subject the wiring to physical damage.

6.10.4.1.3. Not be stapled, taped, or tacked to walls, ceilings, floors, metal pipes, etc.

6.10.4.1.4. Not be hung over nails, rafters, or in a manner that constitutes a fire hazard.

6.10.4.1.5. Not be kinked, stretched, or bent excessively.

6.10.4.1.6. Not be used in damp/wet locations unless specifically designed and listed to so do.

6.10.4.1.7. Not be walked on nor will equipment be allowed to run over them. If cords must be placed in travel lanes, they will be protected by molded housings or bridges.

6.10.4.2. Cords will be inspected frequently by user's supervisors for signs of fraying, cracking, wear, or any damage that could be a sign of possible short-circuiting. User shall ensure cords are the proper size/rating for equipment being serviced. Defective cords will be taken out of service.

6.10.4.2.1. Extension cords are for temporary use only and have been responsible for numerous fires. Their use will be held to an absolute minimum. Extension cords:

6.10.4.2.2. Shall not be used as a substitute for permanent/fixed wiring.

6.10.4.2.3. Shall have only one appliance plugged in to the extension cord and shall be of sufficient gauge to carry the ampere load of the attached appliance without heating the extension cord, plug, or other components.

6.10.4.2.4. Shall be of one continuous length and not taped, spliced, worn, or deteriorated.

6.10.4.2.5. Shall not be chained (plugged into other extension cords).

6.10.5. Appliances/Equipment:

6.10.5.1. Large wattage appliances (refrigerators, coffee pots, microwaves, etc.) must be plugged directly into an outlet. Extension cords and power strips are not authorized for use with large wattage appliances.

6.10.6. Heat-producing appliances:

6.10.6.1. Cooking with conventional high heat producing appliances is prohibited in all buildings except areas designed as kitchen facilities.

6.10.7. Portable/Space heaters:

6.10.7.1. Propane heaters will not be used in any building.

6.10.7.2. Special approval from 51 CES/CEOE must be obtained to use electric portable heaters.

- 6.10.7.3. Heaters must be UL approved or FM listed.
 - 6.10.7.4. Heaters must be unplugged when unattended.
 - 6.10.7.5. Heaters must be equipped with automatic shut-off that will shut the heater off if it tips over.
 - 6.10.7.6. Heaters must have an overheat protection device and an automatic thermostat control.
 - 6.10.7.7. Heaters must be plugged directly into a wall receptacle. Do not use multiple outlet strips or extension cords.
 - 6.10.7.8. Maintain an 18-inch minimum clearance between heat producing appliance and combustibles.
 - 6.10.7.9. The use of space heaters in any hazardous location is prohibited.
- 6.11. Flammable/Combustible Liquids/Liquid Petroleum Gas (LPG):
- 6.11.1. Specific guidance on storage of flammable/combustible liquids is contained in AFMAN 91-203, NFPA 30, *Flammable and Combustible Liquids Code*, and NFPA 99, *Health Care Facilities Code*. Guidance on LPG is contained in NFPA 1, *Fire Prevention Code*, and NFPA 58, *Liquid Petroleum Gas Code*.
 - 6.11.2. General Requirements:
 - 6.11.2.1. Flammable liquids and other hazardous materials such as paints, thinners, gasoline, diesel fuel, etc., will be stored in approved storage rooms and approved containers.
 - 6.11.2.2. Storage of flammable/combustible liquids shall be prohibited in office occupancies except small amounts that are required for maintenance and operation of building/equipment.
 - 6.11.2.3. Only daily use amounts are allowed to be out of a storage locker/facility. Flammable liquids will be placed into the storage structures/locker at the end of each workday.
 - 6.11.2.4. The use of any flammable liquid (flashpoint of 100 degrees Fahrenheit or less) for cleaning purposes is prohibited. Only approved cleaning products will be used.
 - 6.11.2.5. Storage of liquids shall not physically obstruct a means of egress. Storage shall be arranged so that a fire involving the storage area will not prevent egress from the area.
 - 6.11.2.6. Spills/releases of flammable or combustible liquids shall not be left unattended until clean-up operations are complete.
 - 6.11.2.7. Only approved materials shall be used to clean-up spills.
 - 6.11.3. Flammable Storage Cabinets:

- 6.11.3.1. All organizations or activities having a requirement to store flammable or combustible liquids inside or outside facilities shall procure and maintain an approved metal storage cabinet. Flammable/combustible liquids will be stored in flammable storage cabinets that comply with AFMAN 91-203 and NFPA 30.
- 6.11.3.2. Flammable storage facilities and cabinets will be labeled with conspicuous lettering which can be visible from 50 feet away, "FLAMMABLE-KEEP FIRE AWAY."
- 6.11.3.3. Flammable liquids stored in flammable storage cabinets shall be compatible with other items stored in the same locker. (Do not mix flammables and corrosives, e.g.).
- 6.11.3.4. The number of cabinets for each fire area shall not exceed three. Industrial occupancies are an exception to this requirement. Industrial occupancies are permitted to have more than three lockers, but not more than six in any single fire area as long as one of the following apply:
- 6.11.3.4.1. A minimum separation of 100 feet shall be maintained between groups of not more than three cabinets.
 - 6.11.3.4.2. Industrial occupancies protected throughout by an NFPA 13 *Standard for the Installation of Sprinkler Systems* -compliant sprinkler system shall be permitted up to six cabinets in a single fire area.
- 6.11.4. Flammable/Combustible Storage Containers:
- 6.11.4.1. Flammable liquids shall be kept in covered containers when not in use.
 - 6.11.4.2. Approved safety can/containers shall be used for transporting or dispensing flammable and combustible liquids. All other containers shall limited to the requirements of AFMAN 91-203, and NFPA 30.
 - 6.11.4.3. Only UL or Department of Labor-approved metal containers will be used for storing flammable and combustible liquids. The use of glass or plastic containers is strictly prohibited.
 - 6.11.4.4. Flammable liquids will not be transported in open containers.
 - 6.11.4.5. Flammable and combustible liquid containers shall be clearly labeled with at least 1-inch letters, identifying its contents.
 - 6.11.4.6. Dispensing and storage containers, such as tanks and drums, shall be bonded and grounded at all times.
 - 6.11.4.7. Metal containers with a lid plainly marked, as to the name of the contents, shall be used for the separate disposal of oil and paint soaked rags, steel wool, shavings, and other flammable or combustible material. At the end of each day the containers shall be emptied.
- 6.11.5. Gasoline-Powered Equipment:

- 6.11.5.1. Gasoline powered equipment may be stored inside of buildings during off-season as long as the equipment is thoroughly cleaned, drained of fuel, and spark plugs are disconnected (except in aircraft hangars, nose docks, corrosion control, fuel cell repair, or missile assembly and repair facilities).
 - 6.11.5.2. When stored, the equipment will be isolated from potential ignition sources.
 - 6.11.5.3. Powered equipment and vehicles shall not be fueled while the engine is hot and/or running.
 - 6.11.5.4. All fueling operations will be conducted in outside areas free from ignition sources.
 - 6.11.5.5. Military Exchanges, Commissaries, and Associate Retail Stores: Must adhere to the requirements outlined in AFMAN 91-203 and NFPA 30. Managers of military exchange, commissary, and warehouse facilities shall store small gasoline-powered equipment in an enclosed 1-hour fire-rated storage room.
- 6.11.6. Disposal of Flammable Liquids:
- 6.11.6.1. Allowing flammable liquids to intentionally enter drainage or sewer systems shall not be permitted. 51 CES/CEOE should be contacted for proper disposal methods.
 - 6.11.6.2. Clean up of spills/releases is the responsibility of the using organization.
- 6.11.7. Storage of Flammable/Combustible Gas Cylinders and Chemicals: Cylinders that contain flammable and/or explosive gases normally can only be effectively extinguished by stopping the flow of gas at its source. In order to eliminate fires due to this cause, the following prevention control measures are required.
- 6.11.7.1. Gases shall be stored in authorized locations IAW NFPA 30, NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*, and AFMAN 91-203 requirements.
 - 6.11.7.2. Cylinders will be secured in an upright position.
 - 6.11.7.3. Cylinders permitted inside buildings will be stored away from highly combustible and/or non-compatible material and will not be exposed to excessive increases in temperature.
 - 6.11.7.4. Petroleum products must be separated from oxygen cylinders. Oxygen cylinders must be adequately separated from acetylene cylinders.
 - 6.11.7.5. The valve on empty gas cylinders shall be closed and the valve cover shall be installed when cylinders are being handled.
 - 6.11.7.6. All flammable gas storage areas will be conspicuously posted with the words "Flammable Gas" and "No Smoking within 50 feet."
 - 6.11.7.7. In spaces or areas designated for storage of flammable/explosive gases, all electrical wiring and equipment will comply with Class 1, Division 1 or 2, as defined in NEC.

6.12. Housekeeping and Storage: Good housekeeping, in all facilities and/or work areas, is essential to preventing fires, reducing fire loading, allowing unimpeded fire fighter access, and is the responsibility of all personnel.

6.12.1. Housekeeping activities are the responsibility of the using agency or organization.

6.12.2. Dirty/soiled rags, steel wool, and clean and used speedy dry (granular adsorbent/absorbent materials) will be stored separately in metal containers with suitable lids and labeled as to its contents with 1-inch lettering.

6.12.3. Storage in rooms such as air conditioning/air handling, mechanical, generator, telecommunications rooms, and under stairwells, in exit enclosures, and in paths of egress is prohibited.

6.12.4. Boiler rooms, mechanical rooms, and other utility rooms will not be utilized as storage areas.

6.12.5. Storage in attics is strictly prohibited. Storage in basement areas shall be kept to a minimum and shall be restricted to designated locations.

6.12.6. Outside storage must not interfere with facility egress or exit discharge and shall not unnecessarily obstruct firefighter access or interfere with potential fire fighting operations. Firefighter access includes areas around fire hydrants, fire department connections, fire protection pump houses, access points to fire suppression systems, fire lanes, etc.

6.12.7. No combustible materials; (e.g., trash, rags, mattresses), shall be allowed to accumulate or be improperly stored in any facility and/or work area.

6.13. Special Events:

6.13.1. Facility managers are required to coordinate with CEFP for major social events when temporary decorations or unusual arrangements (nonpermanent seating/tables) are planned, to ensure that proper fire prevention practices are incorporated.

6.13.2. Any special event that utilizes an Air Force facility for any purpose other than its intended/designated occupancy use shall require advance coordination and approval from the FES flight, Wing ATO and Wing Safety (i.e. hangars/industrial areas used as assembly, etc.).

6.13.2.1. Prior to utilizing a facility for any purpose other than its intended/designated occupancy use MAY require an ORM plan and submission of request for temporary deviation to the 51 FW/CC, as determined by the base FES, Wing ATO and Wing Safety offices.

6.13.3. Facility fire suppression and fire alarm systems will not be taken out of service for any event.

6.13.4. Large outside events (i.e. air shows, Independence Day, etc.) require advanced coordination with CEFP to ensure all fire and safety issues are properly addressed.

6.14. Decorations, Drapes, Curtains and Flame Retardant Material:

6.14.1. Decorations, drapes, stage curtains, and furnishings must meet all AF directives and NFPA requirements.

6.14.2. Stage curtains/drapes shall be of fire-resistant material or treated with an approved flame-resistant solution.

6.14.3. All decorations (temporary or permanent) will be noncombustible or fire retardant and UL approved.

6.14.4. Decorations shall not obstruct corridors, exit ways, other means of egress, fire extinguishers, emergency exit signs, fire alarm pull stations, fire alarm audio/visual devices, sprinkler heads, or any other fire detection/protection equipment.

6.14.5. CEFP will inspect all decorations to be used and the proposed arrangements to ensure compliance before installation.

6.14.6. Christmas Decorations and Christmas Lights:

6.14.6.1. Natural-cut trees/shrubbery is not authorized in public facilities on Osan AB.

6.14.6.2. Artificial trees must be labeled flame retardant or flame resistive.

6.14.6.3. Electric string lights and wiring must be UL (or equivalent) approved and in good operating condition.

6.14.6.4. Electrical lights will not be used on metal artificial trees due to the danger of shock or electrocution.

6.14.6.5. Unplug all electrical decorations when building is unoccupied.

6.14.6.6. Open flame devices shall not be used on or near combustible materials.

6.14.6.7. Natural-cut trees will not be located near heating vents or other fixed or portable heating devices that could cause the tree to dry out prematurely or to be ignited.

6.15. Open Burning and Fireworks:

6.15.1. Barbeques, Gas Grills, Gas (Turkey) Fryers:

6.15.1.1. Grills, smokers, and gas fryers shall be located a minimum of 15 feet from buildings when in use and 50 feet from areas subject to having flammables. (Exception, gas grills/barbeques may be used on the balconies of the MFH towers, buildings 211, 1014, and 1015.)

6.15.1.2. At no time will grills, smokers, or gas fryers (e.g. fish/turkey fryers) be used indoors or under overhangs, canopies, or carports unless specifically approved by CEFP.

6.15.1.3. Only approved type charcoal lighter fluid (combustible liquid only) shall be utilized.

6.15.1.4. Charcoal residue both hot/cold shall be disposed of in a safe manner.

6.15.1.5. Propane bottles will not be stored inside any base facility. Propane should be stored outside at least 20 feet away from any sources of ignition.

6.15.1.6. All outdoor cooking appliances (barbecue, smokers, fryers, etc.) will be monitored at all times.

6.15.2. Open Flame:

6.15.2.1. Open burning, outdoor open flame fire places, and fire pits are allowed in the designated location approved by the Installation Fire Chief. Only fire wood will be utilized for in the burn pit. The users must notify the ECC prior to lighting the fire and after the fire is out. There will be no burn pit use after 2200 HRS.

6.15.2.2. The use of candles, incense, or other open flame devices is prohibited in all base buildings excluding MFH.

6.15.3. Fireworks:

6.15.3.1. The use of fireworks on Osan AB is prohibited.

6.15.3.2. Fireworks used during base-sponsored activities, such as the Independence Day celebration and base air shows must be coordinated with CEFP a minimum of one month prior to the event. Contractors must comply with safety guidelines in NFPA 1123, *Code for Fireworks Display*.

7. Welding, Cutting, and Use of Open Flame/Torches.

7.1. General Requirements: The heat produced by welding, cutting, or brazing can create a fire or explosion hazard. Because of this increased risk, safe practices must be observed at all times.

7.1.1. Welding, cutting, brazing, and open flame operations will be conducted in accordance with AFMAN 91-203; NFPA 51B, *Fire Prevention During Welding, Cutting, and Other Hot Work*; NFPA 410, *Standard on Aircraft Maintenance*, and 29 CFR 1910.252, *Occupational Safety and Health Standards: Welding, Cutting, and Brazing*.

7.1.2. When welding, cutting, brazing, torch, or open burning operations are conducted outside approved welding shops, an AF Form 592, *USAF Hot Work Permit*, will be issued by 51 CES/CEF or a qualified welding permit issuing authority prior to the start of all operations. 51 CES/CEF is the only authorized agency to issue AF Form 592 in hazardous locations (i.e. airfield and hangars, flammable storage areas, explosives areas, etc.).

7.1.3. The supervisor in charge of the operation will be responsible for requesting an AF Form 592 and for compliance of precautions/instructions outlined on the permit.

7.1.4. Prior to beginning any welding cutting or brazing operation, welders, and supervisors shall ensure:

7.1.4.1. Combustible material and vegetation within 35 feet of the operation has been removed or separated using flame resistant/rated material (i.e. welding blanket, sheet metal, etc.).

7.1.4.2. Flammable materials within 50 feet of the operation have been removed and all flammable vapors in the immediate vicinity have been eliminated.

7.1.4.3. All potential hazards are eliminated from the immediate vicinity.

- 7.1.4.4. The proper type/class of a serviceable fire extinguisher is readily accessible.
 - 7.1.4.5. All welding equipment is serviceable and in good repair.
 - 7.1.4.6. Welder and any required fire watchers are familiar with fire reporting and first-aid fire fighting procedures.
 - 7.1.5. Where removal of combustible materials is impractical, a suitable fire resistive shield or welding blanket will be placed between the materials and the welding operation.
 - 7.1.6. When welding, cutting, or brazing operations are completed, the area will be thoroughly and carefully checked for hot spots to ensure no hazards exist.
 - 7.1.7. The ECC will be notified upon completion of all welding, cutting, and brazing operations. The supervisor in charge of the operation will give the ECC operator the control number on the AF Form 592 and inform him/her of completion of operation and assure a fire-safe status.
 - 7.1.8. Welding, cutting, or brazing shall never be permitted in a high hazard situation for convenience.
 - 7.1.9. Welding, cutting, or brazing will not be permitted in a facility containing flammable or explosive materials until all likelihood of fire or explosion has been eliminated.
- 7.2. HAZMAT Tanks, Cylinders and Containers:
- 7.2.1. Prior to welding or cutting flammable liquid tanks, cylinders, or containers, they shall be thoroughly cleaned. Tank shall be made inert and safe before welding/cutting operation starts.
 - 7.2.2. Whenever welding is being done in the vicinity of sources of flammable vapors, the area and container will be sampled by qualified personnel using a flammable/explosive gas analyzer before start of work and every 15 minutes during the process.
 - 7.2.2.1. Contractors shall provide meters and qualified personnel to ensure a safe operation. They shall assure that flammable vapors do not reach 10 percent of the lower explosive limit (LEL).
 - 7.2.2.2. Air Force operations shall be sampled by any certified person and meter that meets Air Force regulations and guidance. This certified person shall assure that flammable vapors do not reach 10 percent of the LEL.
- 7.3. Aircraft Operations:
- 7.3.1. Welding on aircraft shall be done outside of hangars. Welding on aircraft inside a hangar shall be limited to mission-critical operations when there is absolutely no other alternative but to perform the operation inside a hangar. Aircraft welding inside hangars shall not be allowed for convenience or due to inclement weather. Utilize approved spots (coordinate with CEFPP to ensure safest aircraft welding site to limit possible exposure of fire to other aircraft).
 - 7.3.2. In the rare event an aircraft welding operation must be accomplished inside a hangar, the following must be strictly enforced:

7.3.2.1. Operation shall comply with the requirements of NFPA 410.

7.3.2.2. The requirement for industrial ventilation during welding will be IAW AFMAN 91-203.

7.3.2.3. No other aircraft shall be allowed in the hangar where welding is being accomplished.

7.3.2.4. No other operations shall be permitted inside the hangar for the duration of the operation.

7.3.2.5. Facility manager or supervisor shall coordinate with fire department and alarm system maintenance to shut down facility fire suppression system as needed. (This is to prevent accidental suppression system discharge due to smoke/ark flash)

7.3.2.6. Only base fire inspectors can issue welding permits for this type of operations.

7.4. Welding Shops:

7.4.1. All welding shops must be approved by the base fire department, bioenvironmental engineering, and wing safety.

7.4.2. Facility managers and supervisors shall maintain documentation of appropriate approvals at the shop (can be maintained in facility fire prevention folder).

7.4.3. Approved shops and documentation shall be revalidated every 2 years. It is the facility manager or supervisor's responsibility to request revalidation prior to expiration of previous approval. Call CEFP, bioenvironmental, and wing safety to schedule appointments.

7.5. Vehicle Maintenance Shops:

7.5.1. Welding or cutting in vehicle maintenance activities is only conducted in shops which are approved by FES, bioenvironmental, and wing safety IAW AFMAN 91-203.

7.5.2. Approved shops do not require the issuance of an AF Form 592 for welding operations. The shop supervisor and all welders must ensure the requirements of this instruction and AFMAN 91-203 are strictly enforced.

7.5.3. Maintenance shop supervision will evaluate each welding or cutting task to determine if batteries or fuel tanks require removal and/or purging.

7.6. Welding Permit Issuing Authorities:

7.6.1. The base fire department will instruct and certify welding shop supervisors and other selected personnel as welding permit-issuing authorities. Certified welding permit issuing authorities:

7.6.1.1. Shall oversee welding operations within their shops and areas to assure safety. Welding operations inside an approved shop does not require an AF Form 592.

7.6.1.2. Shall be welding permit-issuing authorities only for their areas of expertise.

7.6.1.3. Shall issue permits using an AF Form 592 to only their shop's qualified welders performing welding operations in the field.

- 7.6.1.4. Must do a complete inspection of the welding operation to ensure this instruction and all other safety requirements are adhered to prior to beginning work.
- 7.6.1.5. Will only issue permits for routine, nonhazardous work. If the permit-issuing authority determines a hazard still exists after exhausting all precautionary measures, they cannot issue a permit and must call CEFP (784-4835) for guidance or to oversee the operation.
- 7.6.1.5.1. Hazardous areas where permit-issuing authorities shall not issue permits include (but are not limited to) airfield, aircraft hangars, Liquid Oxygen (LOX) facilities, fuel facilities/areas, munitions facilities/areas, etc.
- 7.6.1.6. Shall obtain welding permit control numbers from the ECC. The ECC operator will have a current list of certified welding permit-issuing authorities. This list will contain certified individuals name, date certified, and expiration date. The ECC operator will not issue control numbers to anyone other than those listed or if that individual's training has expired.
- 7.6.1.7. Shall post fire watch and conduct after operation inspections as required.
- 7.6.1.8. Shall notify the ECC upon completion of the operation and/or after operation inspection.
- 7.6.1.9. Issue permits on a daily basis only.
- 7.6.2. Upon completing the required training, the installation fire department will certify the individuals in writing.
- 7.6.3. A master list will be maintained in the ECC for quick reference when issuing welding permit control numbers.
- 7.6.4. Recertification is required annually and is the permit-issuing authority's responsibility to ensure they remain current.

8. Ammunition and Explosives: The storage, handling, and maintenance of explosives shall be in strict compliance with AFMAN 91-201.

8.1. Explosive Licenses:

- 8.1.1. Use AF Form 2047, *Explosive Facility License*, for all ammunition and explosives storage locations that are outside of a controlled munitions storage area. Exception; facilities storing less than 1,000 rounds of small arms ammunition or cartridges for cartridge-actuated tools and locations storing thermal batteries do not require an explosive facility license.
- 8.1.2. Fire department coordination is required on all AF Forms 2047.
- 8.1.3. The requestor shall ensure a completed copy of the AF Form 2047 is forwarded to CEFP to be maintained on file in the unit's facility folder and in the ECC.
- 8.1.4. Limit amount of stored explosives to minimum quantities necessary to support the specific mission. Maximum quantities, outlined in AFMAN 91-201, shall not be exceeded.

8.2. Fire Symbols:

8.2.1. Fire and hazard symbols will be posted on the outside of all facilities that contain ammunition or explosives at nonnuclear explosives locations, except for exempted locations IAW AFMAN 91-201 (e.g., locations and aircraft loaded, storing, or maintaining nuclear weapons).

8.3. Post symbols on exterior and interior entrances to small rooms licensed for storing ammunition and explosives.

8.3.1. Mark lockers or containers with the proper symbol.

8.3.2. The ECC will be notified each time fire or hazard symbols are changed.

8.3.3. Posting Requirements for firefighting symbols.

8.3.4. Mark lockers or containers with the proper symbol.

8.3.5. The ECC will be notified each time fire or hazard symbols are changed.

8.4. Posting Requirements for firefighting symbols

8.5. Firefighting symbols are used as a back-up precaution for alerting response personnel to explosive or chemicals present. Firefighting symbols posted on nuclear, chemical, or conventional weapon storage sites will comply with posting requirements for Firefighting symbols, unless otherwise directed by the Installation Fire Chief (direction must be in writing). These written directions notify personnel that local conditions (e.g., security considerations) may make it undesirable to identify munitions with fire symbols at the actual storage locations.

8.6. Post the fire symbol and chemical symbol that applies to the most hazardous material present at non-nuclear explosives locations.

8.7. When non-class 1 hazardous items or materials are stored or used in a facility, without other items of class 1, identify the predominant hazard to guide emergency response personnel. In this case, placards are required in accordance with NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response* and OSHA 1910.109, *Explosives and blasting agents*.

8.8. Notify the ECC each time firefighting symbols are changed.

8.9. Munition Movements:

8.9.1. The 51 MUNS Munitions Control element shall inform the ECC of all munitions status which affects fire department response.

9. Specific Occupancy Requirements:

9.1. Public Assembly Facilities: Public assembly facilities include, but are not limited to clubs, recreational facilities, chapels, theaters, restaurants, libraries, public gathering places such as conference rooms, and facilities, rooms, or areas designated by CEFP. Public assembly facilities present a high loss of life potential resulting from the possibility of panic and require special fire prevention measures. Managers, assistant managers, and supervisors are responsible for and must ensure that sound fire prevention procedures are established and practiced in each activity and facility under their jurisdiction. Managers and/or supervisors of public assembly facilities shall:

9.1.1. Ensure a responsible individual is assigned during hours of operation to ensure complete and orderly evacuation of the facility in an emergency and for prompt notification of the FES flight.

9.1.2. Ensure hallways and aisles leading to exits, stairs, exit doors, and egress discharge areas are not blocked, disabled by any means, or obstructed from view during hours of occupancy.

9.1.3. Notify CEFP prior to all major social events, activities or concessionaire's setup that may involve temporary decorations or unusual interior arrangements. A CEFP representative will inspect the facility to ensure all fire and life safety measures have been taken.

9.1.4. Post the maximum capacity or occupant load in part 4 of the facility fire prevention folder. The maximum occupant load shall be calculated by CEFP personnel based on the actual exiting capacity of the corridors, aisles, stairs, doors, and other egress components IAW NFPA 101®. The capacity or occupant load shall not be exceeded for any reason.

9.2. Cooking Facilities: Commercial cooking operations inherently generate an increased risk of fire. The combination of grease-laden vapors and high-heat-producing appliances can be a lethal combination if not for sound fire prevention practices. Managers, supervisors, and all employees of cooking operations must be vigilant in applying safety requirements to minimize the risk of fire. Managers and supervisors of cooking facilities shall establish and enforce the following procedures:

9.2.1. All cooking equipment (ovens, fryers, stoves, grills, etc.) and peripheral components (hoods and ducts, fire-extinguishing systems, filters, grease accumulation systems, etc.) shall remain in good operating condition and be properly maintained.

9.2.2. All cooking appliances that produce grease-laden vapors shall be placed completely under an approved hood and duct exhaust system which is adequately protected by an approved automatic fire-extinguishing system. These systems shall be operational at all times except for scheduled inspections, testing, cleaning, and routine maintenance. If any of the systems are out of service for any reason, equipment protected by that system will be shut down and not used.

9.2.3. All employees must be thoroughly knowledgeable of their fire prevention requirements, to include; fire reporting, emergency evacuation procedures, use of fire extinguishers for cooking fires, and activation of installed fire suppression system.

9.2.4. Filters over grease vapor producing activities (e.g., deep fat fryer and grill) will be cleaned IAW section 9.2.6.8. Hoods and exposed ducts shall be thoroughly cleaned, daily. Hoods and filter shall not be allowed to accumulate grease deposits.

9.2.5. Deep Fat Fryers:

9.2.5.1. Each deep fat fryer will be equipped with a primary and secondary thermostat. The primary thermostat is not to exceed 400 degrees Fahrenheit, and a secondary thermostat must be a nonadjustable thermostat with a cut-off not to exceed 475 degrees Fahrenheit.

- 9.2.5.2. Thermostats shall be tested annually, or as recommended by the manufacturer, and after repair by certified and qualified personnel.
- 9.2.5.3. Documentation for testing must be maintained by the facility manager or cooking operation supervisor. Documentation of the test shall be attached to the unit or kept in the facility managers fire prevention folder and shall indicate the date the calibration was conducted.
- 9.2.5.4. Those units requiring disassembly or the transfer of hot liquid to conduct the test will be modified with a shunt bypass assembly as described in Federal Specifications A-F-695F *Standard Deep-Fat Fryer*. Modifications to meet these requirements will be accomplished during the next annual test.
- 9.2.5.5. Deep fat fryers with primary or secondary thermostats out of service or calibration will not be placed in operation until repaired and certified by a qualified electrician.
- 9.2.6. A properly fitted fire extinguisher cover for all deep fat fryers shall be easily accessible. The lid will fit snugly over the deep fat fryer with frying baskets raised or lowered. All cooking employees shall be trained on use of the fire extinguisher cover.
- 9.2.6.1. Exhaust Hood and Duct Systems. Hood and duct systems for commercial cooking equipment that produces smoke or grease-laden vapors must comply with NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.
- 9.2.6.2. All commercial cooking appliances shall be provided with a system for removal of smoke and grease-laden vapors. These systems must be protected by an approved fire-extinguishing system.
- 9.2.6.3. Grease filters shall be installed in hoods and duct systems. Filters shall be maintained in good operating condition and shall fit properly. Wire mesh filters are not authorized for use in commercial cooking operations.
- 9.2.6.4. Cooking shall not be permitted without all proper fitting filters in-place. Spare filters shall be available for cooking facilities that operate continuously.
- 9.2.6.5. Cooking is not permitted when exhaust fans are not operating properly. If an exhaust fan motor is shut-down for repair/replacement or cleaning the cooking equipment serviced by that exhaust fan must also be shut-down until the fan is returned to service.
- 9.2.6.6. Grease removal devices, fans, and exhaust duct systems shall be cleaned to bare metal; roofs, louvers, exterior walls, and copulas will be cleaned of all grease deposits IAW NFPA 96 at frequencies determined by CEFP.
- 9.2.6.7. When this service is completed by contract, CEFP will provide quality assurance inspections. Results of this inspection will be forwarded to the appropriate contract monitor and quality assurance evaluator as soon as the inspection is complete.

- 9.2.6.8. Installed grease filters and all exposed surfaces of hoods and ducts shall be thoroughly cleaned by facility employees at least daily, or more often if necessary, to prevent accumulation of grease.
- 9.2.6.9. Portable or temporary cooking equipment used indoors that uses grease or oil, such as donut machines and portable deep-fat fryers, shall be located beneath an installed fire-extinguishing system and a hood and duct exhaust system.
- 9.2.7. Fire-Extinguishing Systems for Hoods and Ducts Systems:
- 9.2.7.1. Fire-extinguishing equipment for commercial cooking operations provides protection for grease removal devices, hood exhaust plenums, exhaust duct systems, and cooking appliances. These systems shall include both automatic fire-extinguishing systems as primary protection and portable fire extinguishers as secondary backup (See **Paragraph 6.6.8.**).
- 9.2.7.2. Fire-extinguishing systems for protection of commercial cooking appliances and hoods and ducts systems shall be a wet chemical extinguishing system installed in accordance with NFPA 96 and approved by Osan AB FES.
- 9.2.7.3. All cooking appliances requiring protection of the wet chemical system shall be properly positioned beneath a discharge nozzle when in use.
- 9.2.7.4. Activation of the fire suppression system shall automatically shut down cooking equipment (all sources of fuel and electric power that produce heat to all equipment requiring protection by that system), sound the fire alarm, and signal the fire department.
- 9.2.7.5. In existing systems, when changes in the cooking media, positioning, or replacement of cooking equipment occur, the fire-extinguishing system shall be made to comply with new construction criteria.
- 9.2.7.6. Changes or modifications to the hazard after installation of the fire-extinguishing systems shall result in reevaluation and modification of the system by qualified personnel.
- 9.2.7.7. If any of the systems are out of service for any reason, equipment protected by that system (cooking appliances and exhaust systems) will not be used.
- 9.2.7.8. A readily accessible means for manual activation shall be located between 42 and 48 inches above the floor, be accessible in the event of a fire, be located in a path of egress, and clearly identify the hazard protected IAW NFPA 96.
- 9.2.7.9. Instructions for manually operating the fire-extinguishing system shall be posted conspicuously in the kitchen.
- 9.2.7.10. Maintenance of the fire-extinguishing systems shall be conducted by properly trained, qualified, and certified personnel IAW UFC 3-601-02 and applicable NFPA codes.
- 9.2.7.10.1. Maintenance/inspection shall be performed at least every 6 months.
- 9.2.7.10.2. Owning organization must budget for and purchase qualified contractors to provide maintenance for their fire-extinguishing system(s).

9.2.7.10.3. Fusible links shall be replaced at least semiannually or more frequently if required by the manufacturer.

9.2.7.10.4. The year of manufacture and the date of installation of the fusible links shall be marked on the system inspection tag.

9.2.7.11. Cooking Equipment in Other Facilities: Non-sprinkled areas that are provided with residential-type range top cooking surfaces must be equipped with an approved residential range top extinguishing system or Safe-T-Element burners as per AFCESA AGRAM 11-04, *Range-Top Fire Prevention System for Residential-Type Kitchen Ranges* and UFC 3-600-01. The range top extinguishing system must be connected to the building fire alarm system to sound a general building fire alarm and must disconnect power to the cooking equipment.

9.2.8. Cooking Operations Fire Extinguisher Requirements:

9.2.8.1. Fire extinguishers designated to protect cooking appliances that use combustible cooking media (vegetable, animal, or other cooking oils and fats) shall be located within 30 feet of the hazard but not in a position that it cannot be reached in case of fire.

9.2.8.2. Class K extinguishers shall be provided for hazards where there is a potential for fires involving combustible cooking media.

9.2.8.3. Using organizations must budget for purchase and maintenance of these replacement extinguishers.

9.2.8.4. A placard shall be conspicuously placed near the Class K extinguisher that states "In Case of Cooking Grease Fire – Use This Extinguisher after Fixed Suppression System Has Been Activated."

9.2.8.5. Employees must be thoroughly knowledgeable of proper procedures to manually actuate fixed suppression systems, use of Class K extinguishers and the requirements of [Paragraph 6.1](#).

9.2.8.6. Wet chemical extinguishers require hydrostatic testing at 5-year intervals.

9.3. Aircraft Facilities/Hangars:

9.3.1. Aircraft facilities and/or hangars shall be utilized only for their authorized/designed purpose (e.g., aircraft sheltering, maintenance, and storage) IAW AF directives, national consensus standards, UFC 3-600-01, and applicable technical orders.

9.3.1.1. Aircraft maintenance hangars shall not be used for storage and maintenance simultaneously.

9.3.1.2. Aircraft fuel cell maintenance is authorized only in approved aircraft hangars.

9.3.1.3. Aircraft shall be grounded properly.

9.3.1.4. Do not use, under any circumstances, power units with combustion-type heater blowers to purge fuel cells or other flammable material containers.

9.3.2. Motor vehicles will not be stored in hangars without written permission of the chief of FES and will only be operated in hangars when necessary to transport material or equipment.

9.3.3. Spills/releases of flammable or combustible liquids shall not be left unattended until cleanup operations are complete.

9.3.4. Only approved materials shall be used to cleanup spills.

9.3.5. Approved drip pans shall be available and properly emptied when required.

9.3.6. Fire lanes, lanes for evacuation of aircraft, and inside hangars shall be kept clear of any obstructions.

9.3.7. Fire lanes, on the exterior, shall be unobstructed on at least two sides of every hangar.

9.3.8. Automotive parking areas used for fire emergency services access must include at least one aisle 20 feet wide with adequate turning radius for fire apparatus. Parking of vehicles or equipment on either side of the door encasement area of all main hangar doors is prohibited.

9.3.9. Explosives-laden aircraft are prohibited inside hangars except IAW T.O. 11A-1-33, *Handling and Maintenance of Explosives Loaded Aircraft*.

9.3.10. Hangar Doors: Doors on aircraft hangars with fire suppression systems must remain closed during periods of inclement weather (below 35 degrees F) except while moving aircraft into/out of the hangar.

9.3.11. If a fire suppression or detection system is out of service for any length of time, the following shall apply:

9.3.11.1. There shall be no high hazard maintenance performed in the affected hangar.

9.3.11.2. Each aircraft in the hangar will be hooked to a tow-bar and a tug. In the event of an emergency, the aircraft shall be immediately removed from the hangar.

9.3.11.3. Variances and/or changes to the above requirements require written coordination from 51 CES/CEF and wing safety and approved by 51 FW/CC.

9.3.12. Gasoline powered equipment may not be stored in hangars, corrosion control, fuel cell repair, or munitions assembly and repair facilities.

9.4. Warehouse, Storage Facilities, and Outside Storage Areas:

9.4.1. Warehouse and storage facilities shall meet the requirements of all applicable UFC, NFPA Codes, and AFI.

9.4.2. Buildings used for storage shall have aisles between stacks, racks, and stored materials. Stacks will be properly maintained to inhibit the spread of fire. Main aisles shall be at least 36 inches wide to permit free movement of workers, equipment, and fire fighting personnel.

9.4.3. Passageways, aisles, and exit access shall be kept clear for easy access to emergency equipment and to enable firefighters to reach a fire, if necessary.

9.4.4. Areas adjacent to sprinkler control valves, sprinkler risers, fire extinguishers, manual fire alarm pull stations, fire alarms, fire alarm control panels, fuse boxes, and electrical switch panels shall not be obstructed.

9.4.5. Stacked materials will be kept at least 18 inches away from ceilings, light fixtures, sprinkler heads, and fire/smoke detectors. If stacks are over 15 feet high or when hazardous commodities are involved (regardless of stack height), the clearance for stored materials will be 36 inches.

9.5. Dormitories, Visiting Officers/Airmen's Quarters, And Temporary Lodging Quarters:

9.5.1. The following items are prohibited in unaccompanied housing:

9.5.1.1. Candles, incense, or any device which produces a constant flame.

9.5.1.2. Firearms and ammunition.

9.5.1.3. Explosives or pyrotechnics, including fireworks.

9.5.1.4. Flammable/combustible materials, other than lighter fluid, butane for lighters, and model glues and paints.

9.5.1.5. Cooking appliances, e.g., electric skillets, hotplates, ovens (other than microwaves).

9.5.2. Cooking activities will be restricted to those areas equipped with kitchen facilities. Unattended cooking is prohibited.

9.5.3. The storage or maintenance of gasoline powered equipment (motorcycles, mopeds, etc.) inside the facility is prohibited.

9.6. Family Housing:

9.6.1. Vacant units shall not be reoccupied if any fire detection or notification system is not functioning properly.

9.6.2. All flammable liquids will be stored in approved containers outside of the living areas. The storage of flammable liquids is prohibited in the MFH towers.

9.6.3. Decorations shall be limited to the requirements of **Paragraph 6.14**.

9.6.4. Unattended cooking is prohibited.

9.6.5. Exhaust fans installed over ranges will be cleaned when necessary to prevent excessive accumulation of grease.

9.6.6. Do not tamper, adjust, or turn any main gas control valves. If a gas leak is detected, immediately evacuate the building and then call the fire protection flight. Do not turn any switches on or off.

10. Fire Protection Engineering Review, and Consultation. All construction/renovation and alteration projects shall comply with this instruction, ETLs, UFCs, NFPA Codes, Life Safety Code, the IBC, applicable technical orders, and DoD Directives.

10.1. Engineering: The Civil Engineer Programs (CEP) flight manages fire protection engineering requirements as prescribed by the current edition of UFC 3-600-01. The CEP flight shall ensure the inclusion of the requirements in this instruction, UFC 3-600-01, ETL, IBC, and NFPA codes for all new construction, renovation and alteration. The fire chief provides consultation and design recommendations regarding fire and life safety features.

10.1.1. The Installation Fire Chief of Osan AB FES designates CEFP as primary liaison to provide consultation and design recommendations regarding fire and life safety features.

10.1.2. CEFP is not responsible for system design but coordinates on design drawings to signify review and that fire and life safety requirements are incorporated into the design. This coordination does not indicate fire protection engineering design acceptance.

10.2. New Construction, Renovation, and Modification Projects:

10.2.1. Renovations, alternations, modifications, and additions to facilities shall meet requirements for new construction IAW UFC 3-600-01.

10.2.2. All organizations on Osan AB (e.g. AAFES, DECA, Army Corps of Engineers, 51 CES, contract design and A&E firms, and using organizations) are responsible for coordinating all projects (new/upgrade) through CEFP.

10.2.2.1. Timely submittal of plans and specifications is crucial to allow adequate time for fire department review. For major projects 5 working days are required to ensure inclusion of life safety and fire protection features.

10.2.3. Alterations/modifications to fire protection systems shall be accomplished by qualified/certified personnel.

10.2.4. All new construction projects and renovation projects requiring the entire facility to be brought up to current new construction code shall include sprinkler protection coverage IAW UFC 3-600-01. This requirement may also apply to any special occupancy, regardless of size.

10.2.5. All mechanical rooms and boiler rooms for new construction projects are considered high hazard areas IAW Life Safety Code (LSC) and must be separated from the rest of the facility by a minimum of 1-hour rated construction.

10.2.6. Penetrations through and into fire walls, partitions, and floor/ceiling assemblies must be protected by a UL-approved or FM-listed fire stopping assembly, equaling or exceeding the rating classification of the assembly being penetrated IAW NFPA Standards and UFC. Through penetrations in any wall, partition, and/or floor/ceiling assembly shall be sealed by an approved, noncombustible material. This includes, but is not limited to, communications lines, conduit, pipes, ducts, etc. Any modifications or penetrations through or into vaults, secure rooms or open storage certified areas will first be coordinated with 51 FW/IP or through owning SSO for SCIFs.

10.2.7. Fire Alarm Control Panels (FACP) shall be installed in a climate-controlled environment which provides 24-hour access to firefighters (exterior accessible rooms utilizing 1-1 key). Existing FACPs that do not meet this requirement shall be relocated during upcoming renovation projects. Facility managers are responsible to provide the fire department with keys to rooms where FACP, sprinkler controls, etc., are located.

10.2.8. New wet-pipe sprinkler systems shall be equipped with appropriate flow switches (not pressure switches) and tamper switches. This is to reduce the number of false activations and is in compliance with AF false alarm reduction strategy. The tamper switch shall send a signal to the ECC when the device(s) supervised by the switch, is (are) manipulated out of the normal position.

10.2.9. New dry-pipe sprinkler systems shall be equipped with pressure switches and appropriate tamper switches.

10.3. Self-Help Projects:

10.3.1. All self-help projects must be approved by 51 CES in advance on AF Form 332.

10.3.2. All AF Form 332s must be coordinated with the 51 CES/CEFT to ensure fire safety is not compromised during construction, renovation, or structural alteration.

10.3.3. Unauthorized (not approved on an AF Form 332 or projects that violate fire/safety codes) projects shall be halted by CEFP personnel and reported to the base fire marshal.

10.3.4. Unauthorized self-help projects that create a life safety hazard, fire hazard, or deficiency will be identified on AF Form 1487 and will be corrected by the using organization at its expense.

10.3.5. The fire marshal may direct organizations to dismantle unauthorized self-help projects at user's expense.

10.3.6. Personnel accomplishing self-help work will not shutdown, disconnect, alter, modify, or in any way impede the operation of a fire alarm or suppression system without approval of 51 CES/CEF.

10.3.7. The facility manager will notify CEFP, at 784-4835, when approved self-help work begins so work can be inspected during and after completion.

10.3.8. The installation of false or lowered ceilings below sprinkler and/or detection systems is prohibited.

10.3.9. Any work that requires moving, installing, and/or adjusting alarm/suppression system components must be performed by licensed fire alarm/suppression technicians.

10.3.10. Cipher locks (e.g., security locks, etc.) shall not impede on egress flow, to include reentry from enclosed stairwells.

10.4. Final Acceptance Tests: Final acceptance test for new construction, renovation, or modification projects that include installing, adding, or altering any component of a fire alarm system, suppression system, and/or life safety component shall be conducted by CEFP, alarm shop, and systems personnel. Where required by code, inspections and tests shall be performed to verify the operation of the fire protection systems, in their final condition, for acceptance by the AHJ. Facilities shall not be occupied or turned over to the using organization until the final acceptance inspection/tests have been successfully completed. It is the using organization, contract inspector, and contractor's responsibility to schedule and give adequate notification to CEFP personnel. Failure to do so may cause occupancy delay.

11. Fire Detection, Suppression, and Alarm Systems: Fire detection, suppression, and alarm systems, including fire hydrants and water distribution systems, are subject to failure if not properly tested, inspected, and maintained. Inspection, test, and maintenance (ITM) programs are conducted IAW UFC 3-601-02.

11.1. The ECC shall be notified prior to shutting down any system for repairs or maintenance. The ECC shall also be notified of when the repairs/maintenance is complete and the system is returned to service.

11.2. The appropriate 51 CES shop shall ensure proper documentation of all systems maintenance is maintained IAW UFC 3-601-02. Provide copies to chief FES as appropriate.

11.3. When a fire protection system (fire alarm and/or suppression) is out of service for more than 4 hours in a 24-hour period, the fire department shall be notified by the facility manager or an alarm/systems shop technician. The facility shall be evacuated, or the user/occupant shall provide a fire watch for all areas left unprotected by the out-of-service system.

11.3.1. A fire watch should at least involve some special action beyond normal staffing, such as assigning additional trained individuals to continuously patrol the areas affected. These individuals shall be specially trained in fire prevention and in occupant and fire department notification techniques, and they shall understand the particular fire safety situation for public awareness purposes. CEFP will provide this training or train supervisors to brief/train their subordinates.

11.3.2. This fire watch shall remain in-place until the system has been returned to service or the facility is unoccupied.

11.3.3. Osan AB FES and Safety office shall determine the extent the facility may be used while repairs are being made.

11.4. Automatic alarm devices, wiring, automatic sprinkler systems, and system components shall not be adjusted, removed, obstructed, or otherwise disturbed except by authorized personnel.

11.5. Sprinkler heads, heat detectors, alarm bells/strobes, and smoke detectors will not be painted except as provided by the manufacturer. Paint coatings can reduce the sensitivity of these units and prevent proper operation.

11.6. The storage of material within 18 inches of sprinkler heads is prohibited.

11.7. The rules covering the hanging of sprinkler piping take into consideration the weight of water-filled pipe and safety factors. No allowance has been made for the hanging of non-system components from sprinkler piping; therefore, hanging anything (other than approved sprinkler system components) from sprinkler piping is prohibited.

11.8. Any changes, modifications, additions or disabling a fire alarm/suppression systems or any portion thereof, must be coordinated with CEFP and alarms/systems personnel at least 72 hours prior to starting work.

11.8.1. The supervisor in charge of the operation and/or project contract monitor must ensure this notification occurs.

12. Fire Investigations:

12.1. All fire incidents shall be investigated to determine the cause, estimate damage and collect data.

12.1.1. SFO on-scene shall conduct a preliminary investigation to collect and preserve evidence and to determine the cause, if possible.

12.1.2. Assistant Chief of Fire Prevention shall conduct a more thorough investigation if necessary. This individual shall ensure prompt and proper coordination with appropriate agencies.

12.2. All fire incident investigations shall be performed IAW AFI 91-204, *Safety Investigations and Reports*.

WILLIAM D. BETTS, Colonel, USAF
Commander

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

- AFPD 32-20, *Fire Emergency Service*, 10 July 2018
- AFI 32-2001, *Fire Emergency Services (FES) Program*, 28 September 2018
- AFI 32-7086, *Hazardous Materials Management*, 4 February 2015
- AFI 32-9005, *Real Property Accountability and Reporting*, 4 March 2015
- AFI 32-10141, *Planning and Programming Fire Safety Deficiency Correction Projects*, 5 February 2015
- AFI 40-102, *Tobacco Free Living*, 4 March 2015
- AFI 91-202, *The US Air Force Mishap Prevention Program*, 24 June 2015
- AFI 91-204, *Safety Investigations and Reports*, 27 April 2018
- AFMAN 33-363, *Management of Records*, 1 March 2008
- AFMAN 91-201, *Explosives Safety Standards*, 21 March 2017
- AFMAN 91-203, *Air Force Consolidated Occupational Safety Instruction*, 11 December 2018
- AFCESA AGRAM 11-04, *Range-Top Fire Prevention System for Residential-Type Kitchen Ranges*, October 2011
- 29 CFR 1910.252, *Occupational Safety and Health Standards: Welding, Cutting, and Brazing*, 1 July 2007
- ETL 99-4, *Fire Protection Engineering Criteria--Emergency Lighting and Marking of Exits*, 9 November 1999
- NFPA 1, *Fire Prevention Code*
- NFPA 10, *Standard for Portable Fire Extinguishers*
- NFPA 13, *Standard for the Installation of Sprinkler Systems*
- NFPA 30, *Flammable and Combustible Liquids Code*
- NFPA 51B, *Fire Prevention During Welding, Cutting, and Other Hot Work*
- NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*
- NFPA 58, *Liquefied Petroleum Gas Code*
- NFPA 70®, *National Electric Code®*
- NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*
- NFPA 99, *Health Care Facilities Code*
- NFPA 101®, *Life Safety Code®*

NFPA 291, *Recommended Practice for Fire Flow Testing and Marking of Hydrants*

NFPA 410, *Standard on Aircraft Maintenance*

NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*

NFPA 1123, *Code for Fireworks Display*

Federal Specifications A-F 695F, *Standard Deep-Fat Fryer*

OSHA 1910.109, *Explosives and blasting agents.*

T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 30 November 2012

T.O. 11A-1-33, *Handling and Maintenance of Explosives Loaded Aircraft*, 1 November 2012

UFC 3-600-01, *Fire Protection Engineering for Facilities*, 8 August 2016

UFC 3-601-02, *Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems*, 8 September 2010

Prescribed Forms

OSANAB Form 25, *Monthly Fire Extinguisher Inspection Record*

OSANAB Form 26, *Fire Extinguisher Checklist and Inventory*

Adopted Forms

AF Form 3, *Hazard Abatement Plan*

AF Form 55, *Employee Safety and Health Record*

AF Form 332, *Base Civil Engineer Work Request*

AF Form 592, *USAF Hot Work Permit*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1027, *Water Flow Test Record*

AF Form 1487, *Fire Prevention Visit Report*

AF Form 2047, *Explosive Facility License*

Abbreviations and Acronyms

ACES FD—Automated Civil Engineer System Fire Department

AFMAN—Air Force Manual

AFOSH—Air Force Occupational Safety and Health

AFRIMS—Air Force Records Information Management System

AHJ—Authority Having Jurisdiction

CA/CRL—Customer Account/Customer Requirements Listing

CAP—Corrective Action Plan
CEP—Civil Engineer Programs
COS—corrected on the spot
DTA—Designated Tobacco Areas
ETLs—Engineering Technical Letter
ECC—Emergency Communication Center
FACP—Fire Alarm Control Panels
FDC—Fire Department Connections
FES—Fire Emergency Service
FM—Factory Mutual
FSD—Fire Safety Deficiencies
IAW—In Accordance With
IBC—International Building Code
ITM—Inspection, Test, and Maintenance
KRES—Knox Rapid Entry System
LEL—Lower Explosive Limit
LOX—Liquid Oxygen
LPG—Liquid Petroleum Gas
LSC—Life Safety Code
MAJCOM—Major Command
MFH—military family housing
NFPA—National Fire Protection Association
NEC—National Electric Code
ODS—Ozone-Depleting Substance
OPR—Office of Primary Responsibility
ORM—Operational Risk Management
RAC—Risk Assessment Code
RDS—Records Disposition Schedule
PIV—Post Indicator Valves
RPT—Relocatable power taps
SFO—Senior Fire Official
UCMJ—Uniform Code of Military Justice

UFC—Unified Facilities Criteria

UL—Underwriters Laboratories

Attachment 2

MONTHLY FIRE EXTINGUISHER INSPECTION RECORD EXAMPLE (FOR USE ON INDIVIDUAL EXTINGUISHERS)

Figure A2.1. Monthly Fire Extinguisher Inspection Record Example (For Use on Individual Extinguishers).

The figure displays four identical sample forms of the 'MONTHLY FIRE EXTINGUISHER INSPECTION RECORD'. Each form is designed for use on individual extinguishers and includes the following structure:

- Title:** MONTHLY FIRE EXTINGUISHER INSPECTION RECORD (For use on individual extinguishers)
- Serial Number:** SERIAL NO.:
- Table:** A table with 'MONTH' as the primary column and 'YEAR' as the secondary header. The years listed are 2018, 2019, 2020, and 2021. The months listed are JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, and DEC.
- Regulatory Information:**
 - OSANAB Form 25 (YYYYMMDD) (Prescribed by: OSANABI 32-2001)
 - Supersedes 51FW Form 25, 20131223 that is obsolete

The four forms are arranged in a 2x2 grid, separated by dashed lines. A large 'SAMPLE' watermark is overlaid across the center of the grid.

