



UNITED STATES MARINE CORPS  
MARINE CORPS BASE HAWAII  
BOX 63002  
KANEHOE BAY HAWAII 96863-3002

MCBHO 11320.6F Ch 1

BSD

7 FEB 25

MARINE CORPS BASE HAWAII ORDER 11320.6F Ch 1

From: Commanding Officer  
To: Distribution List

Subj: FIRE REGULATIONS

1. Situation. Changes to the basic Order are required due to updated safety requirements.

2. Execution

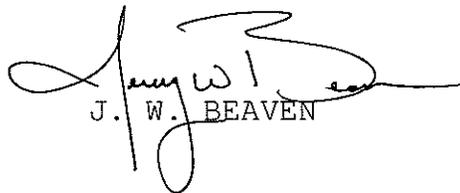
a. Correct the RDC phone number in Chapter 9, paragraph 1, to "(808) 474-2222".

b. Replace Chapter 9, paragraph 8a, with the following:  
"Outdoor fire places in campgrounds shall use approved clean burning wood, such as kiawe and oak, and be equipped with covers to mitigate the possibility of flying embers."

c. In Chapter 9, after paragraph 8d add the following new paragraph as paragraph 8e: "Outdoor fire places in family housing are only authorized to use propane or approved clean burning wood, such as kiawe and oak, and be equipped with covers to mitigate the possibility of flying embers."

d. In Chapter 9, after paragraph 8e add the following new paragraph as paragraph 8f: "Outdoor fire places are prohibited in the barracks."

e. In Chapter 9, after paragraph 8f add the following new paragraph as paragraph 8g: "Outdoor fire places, including fire rings, are prohibited on all beaches."

  
J. W. BEAVEN

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MCBHO 11320.6F Ch 1  
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5 DEC 2023

MARINE CORPS BASE HAWAII ORDER 11320.6F Ch 1

From: Commanding Officer  
To: Distribution List

Subj: FIRE REGULATIONS

Ref: (a) DoDI 6055.06, "DoD Fire and Emergency Services (F&ES) Program, October 3, 2019  
(b) OPNAVINST 11320.23 Series  
(c) Unified Facilities Criteria (UFC) 3-600-01  
(d) National Fire Protection Association (NFPA) National Fire Codes  
(e) Unified Facilities Criteria (UFC) 3-601-02  
(f) MCO 11000.11A  
(g) BO P11010.3  
(h) NAVAIR 00-80R-14  
(i) NAVMC DIR 5100.8

1. Situation. To promulgate an Order for Fire Reporting, Fire Suppression, Fire Inspection, and Fire Prevention procedures for Marine Corps Base Hawaii (MCBH), and all tenant organizations.

2. Cancellation. MCBH Order 11320.6E.

3. Mission. This Order is the basic directive for MCBH concerning operation of the Fire Prevention and Suppression programs. Reference (a) refers to the Department of Defense (DoD) Fire and Emergency Services Program. References (b) and (d) contain policy and guidance for fire protection services provided by the Federal Fire Department (FFD). FFD is responsible for structural firefighting, wildland firefighting, and fire prevention services aboard MCBH. Reference (c) provides design construction criteria for fire protection engineering. Reference (e) sets codes, standards, and recommended practices for fire prevention and equipment maintenance. Reference (f) contains Marine Corps policy and guidance for Fire Protection programs. Reference (g) refers to the MCBH Maintenance, Repair, Reference Alteration, or Construction Approval Form. Reference (h), refers to U.S. Navy Aircraft and Firefighting procedures. Reference (i) refers to the Marine Corps Occupational Safety and Health Program.

4. Execution. This Order contains a substantial number of changes with new procedures and must be reviewed in its entirety.

a. Commander's Intent. To provide guidance to all MCBH elements and all tenant commands in order to achieve a fire safe environment that will protect life and property.

b. Concept of Operations. Each activity/organization occupying a facility or building will comply with this Order. The Base Safety Department (BSD) in coordination with FFD Fire Prevention Division will provide fire inspections, fire safety training, and assist with building evacuation drills

5 DEC 23

per the agency's Emergency Action Plan. The FFD, under the agreement set forth in reference (b), will be responsible for fighting all structural, vehicular, and wildland fires. The Marine Corps Air Station (MCAS), Kaneohe Bay, Aircraft Rescue and Firefighting (ARFF) unit is responsible for aircraft firefighting and inspection/training of flight line firefighting equipment and personnel. Both FFD and ARFF will provide mutual assistance to each other when requested.

#### 5. Administration and Logistics

a. This Order applies to all Service Members and civilians who are attached to, stationed at, residing within, employed on, or visiting any government property administered by the Commanding Officer, MCBH.

b. This Order may be accessed online via the MCBH SharePoint site at <https://eis.usmc.mil/sites/mcbhmpa/Adjutant/Base/20Directives/20and/20Policies/Forms/MCBH/20Forms.aspx>.

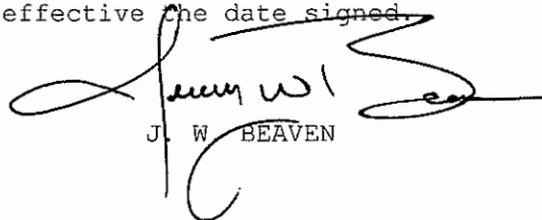
c. Records created as a result of this Order shall be managed according to the National Archives and Records Administration approved dispositions, in accordance with SECNAV M-5210.1 and SECNAV Notice 5210 to ensure proper maintenance, use, and accessibility and preservation, regardless of format or medium.

d. Privacy Act. Any misuse or unauthorized disclosure of Personally Identifiable Information (PII) may result in both civil and criminal penalties. The Department of the Navy (DON) recognizes the privacy of an individual is a personal and fundamental right that shall be respected and protected. The DON's need to collect, use, maintain, or disseminate PII about individuals for purposes of discharging its statutory responsibilities will be balanced against the individuals' right to be protected against unwarranted invasion of privacy. All collection, use, maintenance, or dissemination of PII will be per the Privacy Act of 1974, as amended (5 U.S.C. 552a) and implemented per SECNAVINST 5211.5F.

#### 6. Command and Signal

a. Command. This Order is applicable to MCBH and tenant commands.

b. Signal. This Order is effective the date signed.



J. W. BEAVEN

DISTRIBUTION: A

MCBHO 11320.6F  
5 Dec 2023

FIRE REGULATIONS

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Subj: FIRE REGULATIONS

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**FIRE REGULATIONS**

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## Chapter 1

### Responsibilities

1. General. The Commanding Officer (CO), Marine Corps Base Hawaii (MCBH), has overall responsibility for fire prevention and protection measures. He has delegated this responsibility and authority to the Director, Base Safety Department (BSD), MCBH. The Fire Protection Specialist (FPS) assists the Director, BSD in carrying out his Fire Safety Program responsibilities. In this capacity, the FPS acts as the liaison officer between MCBH and the Federal Fire Department (FFD).
2. Mission. To eliminate the causes of fire and help prevent death, injuries, and property damage due to fire.
3. Goals. The goals of the MCBH BSD are to increase fire safety awareness, maintain and improve the reliability and adequacy of all fire protection services and equipment, and to ensure reasonable fire safety throughout all MCBH buildings. The BSD is responsible for the technical development and execution of the MCBH Fire Safety Program.
4. Federal Fire Department. The FFD, under the overall direction of the Commander Navy Region Hawaii, is responsible for Fire Operation and Prevention responsibilities to include structural firefighting, fire prevention training, and fire inspection procedures. The FFD is also responsible for wildland fire response for MCBH training areas. The FFD will provide mutual assistance, as requested, to the ARFF Officer for airfield emergency operations.
5. Aircraft Rescue and Firefighting. The ARFF Officer, MCAS Kaneohe Bay, is responsible for aircraft rescue and firefighting services, and the flight line extinguisher program to include inspection, maintenance, and flight line personnel training. The ARFF Officer will provide mutual aid assistance, as requested, to support FFD emergency operations.
6. Fire Protection Specialist (FPS). The MCBH FPS is the technical and administrative advisor to the CO, MCBH, concerning all firefighting and fire prevention matters. The FPS will advise and assist the CO, MCBH in the development and administration of an effective Fire Safety Program. Additional responsibilities include:
  - a. Direct liaison between the FFD and MCBH BSD on all fire issues.
  - b. Provide support for wildland fire operations such as wildland fire training, and inspection of ranges for fire breaks and fire hydrants.
  - c. Maintaining current fire prevention directives.
  - d. Exercising cognizance over fire wardens, supplies, and equipment to ensure effective and economical operations.
  - e. Ensuring compliance with fire and life safety code requirements.

7. Building Tenants

a. In accordance with reference (f), each activity/organization occupying a facility or building will comply with the MCBH Fire Prevention Program. To effectively manage and execute the program, all Department Heads/Unit Commanders will appoint a designated primary and alternate Fire Warden/Safety NCO in writing. All designated primary and alternate Fire Warden/Safety NCOs will attend initial Fire Warden Training provided by BSD. This training is mandatory and completion of training will be noted in the designation letter. The Fire Warden Program is designed to provide commands with an "in-house representative" capable of identifying fire safety deficiencies on a daily and monthly basis. The Fire Warden provides onsite observations to prevent fire safety hazards from becoming life and property losses. The web-based annual Fire Warden Refresher training on Enterprise Safety Application Management System (ESAMS) is an annual refresher requirement.

b. Fire Safety is everybody's responsibility. All employees working on a Department of Defense (DoD) installation shall take necessary steps to limit injury, loss of life and/or property within their work areas and homes due to fire.

8. Fire Warden/Safety Non-Commissioned Officer (NCO). Duties and responsibilities include:

a. Ensure assigned facility(ies) are safe from fire mishaps by inspecting areas and training all personnel working in these areas on fire safety matters:

- (1) Ensure wastepaper, trash, and other debris are emptied daily.
- (2) Enforce smoking only in designated areas outside of the facility.
- (3) Check food warming appliances and coffee makers for cleanliness, proper location, and excessive grease. Ensure no flammable or combustible materials are stored near the appliances.
- (4) Check for proper stands or rests for clothes irons. Extension cords are not to be used with irons. Irons must only be plugged directly into wall receptacles when in use and disconnected when not in use.
- (5) Ensure all metal containers used for storage of oil, paint, soaked rags, steel wool, etc., have tight fitting metal covers.
- (6) Ensure prohibited open flame devices such as candles, incense, and heat producing devices such as plug in aroma diffusers are not used inside any DoD facilities.
- (7) Ensure all flammable materials are stored in an approved flammable storage cabinet.
- (8) Ensure stacked material on shelving is not within 18 inches of fire sprinkler heads.

(9) Ensure facility evacuation plans are posted in hallways and stairways in all facilities.

(10) Ensure all fire exits, stairwells, means of egress, and exits are clear of obstructions.

(11) Ensure storage stacks have a clearance of at least 18 inches from fluorescent lights.

b. Ensure all exit lights and emergency lighting is operational. Any exit lights and emergency lights found in non-working order shall be reported to S-4, Base Facilities via [kbaz-hqbn-g4-facilities-service-desk@usmc.mil](mailto:kbaz-hqbn-g4-facilities-service-desk@usmc.mil).

c. Conduct a monthly inspection using Appendix C of this Order. Include amplifying guidance as follows:

(1) Ensure circuit breakers are not taped open and free of anything that will hamper it from tripping off.

(2) Ensure extension cords or convenience outlets are not overloaded.

(3) Ensure frayed or taped/spliced extension cords or electrical wiring are taken out of service and replaced. A single extension cord may be used in a temporary setting, if it is not damaged, one end is connected to the wall outlet, and the opposite end is connected to the equipment being used.

(4) Ensure cover plates are installed on wall receptacles, switches, fuse boxes, and circuit breakers.

(5) Ensure outlets, electrical switches, and equipment are free of grease and dust, and are not broken or cracked.

(6) Ensure all areas within 15 feet around buildings are free of fire hazards.

(7) Ensure rubbish has not accumulated around buildings, outside trash cans have lids on them, and trash cans are located at least 15 feet away from buildings.

(8) Ensure fire evacuation alarm signaling devices are free of encumbrances and have not been tampered with. Any evidence of damage to these systems will be immediately reported to BSD.

(9) Ensure combustible materials are not stored in mechanical, electrical, and boiler rooms.

d. Orient new personnel within five days after reporting for duty as to procedures for reporting fires, location of fire exits, evacuation plans and meeting places.

e. Escort FFD and BSD personnel during inspections.

f. The Fire Warden Designation letter will be made available to the FFD Fire Prevention Inspector or BSD Safety Specialist during scheduled/unannounced inspections.

g. Promptly respond to the FFD Deficiency Notices. FFD personnel utilize ESAMS to communicate deficiencies identified, codes and standards violated, and actions required to correct deficiencies. The unit Ground Safety Officer (GSO), Ground Safety Manager (GSM) or Fire Warden is required to register in ESAMS to execute these duties.

h. Prepare and post a fire bill and fire evacuation plan for each building floor and ensure they are posted in a conspicuous location. Prefabricated fire bills are available at BSD.

i. Contact the MCBH FPS for matters related to this Order and the assigned unit BSD Safety Specialist for other safety matters.

j. Arrange for routine or seasonal training requirements such as safety stand downs, back in the saddle, five-minute safety talks, etc.

k. Conduct monthly inspections on fire extinguishers per Chapter 4, paragraph 6. Include the inspection of exit doors, hallways, and electrical/mechanical rooms to ensure they are clear of obstructions. The Fire Warden Monthly Inspection Checklist is attached as Appendix C in this order.

l. The FPS or assigned Base Safety Representative is available to assist Fire Wardens with ensuring deficiencies are being corrected within the required response time.

m. Coordinate building evacuation drills with BSD Safety representative for occupancies that require building evacuation exercise.

n. Where two or more departments/sections use the same building/facility, ensure one individual is designated overall fire warden for that building. The unit occupying the largest portion of the building will provide this Fire Warden. Common areas within buildings (hallways, restrooms, corridors) will be the responsibility of the principal user.

#### 9. Fire Prevention Inspection Frequency

a. FFD shall inspect all facilities annually. FFD will, per reference (b), conduct facility inspections at a frequency other than annually for the following: Inspections shall be conducted quarterly with one of those being a comprehensive inspection for all Child and Youth Programs (CYP).

b. Annual and quarterly fire inspection results are documented in ESAMS or Risk Management Information.

(1) First issuance of the fire inspection report is delivered to the fire warden of the respective building, who shall correct/mitigate discrepancies or submit service tickets/work orders within seven days of receiving the report. All fire deficiencies will be assigned a Risk Assessment Code (RAC) based on probability/severity per Occupational Safety

and Health Administration (OSHA) standards. Required mitigation timelines associated with the respective RAC is as follows:

- (a) RAC 1            10 Days.
- (b) RAC 2            30 Days.
- (c) RAC 3            90 Days.
- (d) RAC 4            120 Days.
- (e) RAC 5            180 Days.

(2) If no action(s) were taken to address/mitigate the fire deficiencies within 30 days of notification, a follow-up fire inspection report shall be delivered to the fire warden, Installation fire/safety officer and Fire Inspector.

(3) Continued non-compliance to address/mitigate the fire deficiencies 60 days after notification will require a follow-up fire inspection report. This report will be delivered to the fire warden, Installation Fire/Safety Officer, Fire Inspector, Fire Chief, and Installation Commander for the Installation Commander's actions.

10. Director, S-4. During normal working hours, ensure a qualified electrician and plumber are available for dispatch. After normal working hours, facilities personnel may be dispatched by the Base Command Duty Officer (CDO) via (808) 496-7700 and the Officer of the Day (OOD) at Camp Smith via (808) 477-6377. Ensure electric shop personnel respond to short circuits and power interruptions, and to de-energize lines endangering emergency responders. Ensure FFD, via the Regional Dispatch Center (RDC) at (808) 474-2222, is notified of any deficiencies in water reservoir level or pressure, which could hamper firefighting operations.

11. Director, S-7. Plan military police patrol routes so all areas of MCBH are observed at regular intervals, especially at night, on weekends, and holidays. Ensure sentries and patrols are thoroughly instructed in steps to take should they discover a fire. Coordinate Criminal Investigation Division and Naval Criminal Investigative Service support for fire investigations as required.

12. Individual. All personnel aboard MCBH (including occupants of family housing) shall report all fires, regardless of size, smoke, or odors which could indicate a possible fire.

## Chapter 2

### Fire Reporting Procedures and General Firefighting Requirements

1. Fire Reporting Procedures. Any person who discovers a fire will give a verbal alarm (time permitting) and use the nearest fire manual pull station. This person will then dial 911, providing the exact location of the fire, including the base installation, building or house number, and should not hang up until the call has been acknowledged.

2. False Alarms. Military personnel who falsely report a fire are in violation of the Uniform Code of Military Justice and may be prosecuted accordingly. Civilian personnel, including dependents, who falsely report a fire, are in violation of Federal statutes, and may be prosecuted before a Federal Magistrate.

### 3. Command of Emergency Incidents

a. MCBH, in conjunction with the RDC located on Joint Base Pearl Harbor Hickam (JBPHH), utilizes an enhanced 911 communication system. When an emergency is reported, the RDC at JBPHH immediately notifies all respective agencies, to include FFD, Military Police, and Emergency Medical Services. The Military Police will, in turn, notify the CDO/OOD.

b. The FFD Officer in Charge or an authorized representative assumes command upon arrival at the scene of an emergency until relieved by a senior Fire Officer of the FFD. In the event ARFF fire resources are in the immediate vicinity when an emergency occurs, the senior ARFF person present will establish command until relieved by the FFD Officer in Charge or a designated FFD representative.

4. Assistance in Case of Fire. Contact the Facilities Department Trouble Desk during working hours (0700-1530) at (808) 496-2380 for electrician/plumber services, if utilities must be secured or emergency utilities must be provided.

a. If a Facilities response is necessary after duty hours, contact the MCBH CDO/OOD at (808) 496-7700/330-9636. The CDO/OOD at the scene of the fire will call upon additional activities as required by the FFD Officer in Charge or an authorized FFD representative.

b. The ARFF Branch telephone number is (808) 496-2786/7118/3212 and will be contacted to assist as required.

c. The Base CDO will assume military command at the scene of the fire until relieved by the CO or an authorized representative. Notify the Public Affairs Office in the event of a serious fire.

### d. Director, S-5

(1) The Communication Strategies and Operations (COMMSTRAT) Officer will ensure a duty photographer, with the necessary equipment and ability to obtain photographs of the fire, will be available upon request.

(2) A Consolidated Public Affairs Officer will provide news releases and civilian media escorts upon request.

5. General Firefighting Requirements

a. When the building fire alarm system is activated, audible and visible alarms will activate and sound throughout the building. Evacuation will be made without delay and will be done in an orderly manner.

b. Use exit stairwells in multi-story buildings. These stairwells, in most cases, are separated from the main parts of the building by construction and provide a higher degree of safety from smoke and fire. Never use building elevators during a fire emergency. Elevators may become inoperative due to power failure and may automatically go to the fire floor where heat actuated, and call buttons are provided. In addition, responding fire companies will need access to elevators to transport manpower and equipment to the fire.

c. Confinement of fire in a building is important. Whenever possible, and while evacuating, close doors and windows to limit fire spread. This action will tend to compartmentalize the interior, promote smoother evacuation, and control fire spread.

d. Do not, under any circumstances, silence a building fire alarm until a thorough investigation has been conducted and approval has been given by the responsible authority.

e. Never re-enter the building until instructed to do so by the FFD designated representative. Make every effort to ensure the accountability of all co-workers and visitors. If someone is not accounted for, report the information to the Fire Officer in Charge.

f. Be sure to move yourself and others away from building entrances, fire hydrants, and fire department sprinkler connections.

## Chapter 3

### Building Drills and Evacuation Plans

1. General Information. The Fire Bill and evacuation plans will be posted conspicuously by each unit, section, department, and organization on bulletin boards and at strategic locations throughout all buildings or departments. This includes the Family Child Care homes under the CYP. The Fire Bill is a required part of the overall fire evacuation plan and may be procured from BSD. The Fire Bill is not a substitute for an evacuation plan.

2. Evacuation Plans. A fire evacuation plan is a unit's fire instruction which contains additional information to those detailed in the Fire Bill. The evacuation plan should include duties and responsibilities regarding fire reporting, fire hazard control, and evacuation procedures. Evacuation plans also contain:

a. A graphic floor plan showing two evacuation routes (primary and secondary), locations of firefighting equipment, fire alarm pull stations, fire reporting telephone number 911, and place of assembly for personnel accountability.

b. Personnel shall only use fire extinguishers in a fire emergency situation to safely escape or exit a building. Evacuation of premises shall be done immediately upon notification of a fire.

3. Building Evacuation Drills. Building evacuation drills are conducted to ensure efficient and safe use of exit facilities. Building drills are held to ensure personnel perform these assigned duties as outlined in the unit's evacuation plan.

a. Frequency of building drills is as follows:

(1) Monthly for all childcare facilities, preschools, and schools (while in session).

(2) Quarterly for all Health Care Facilities.

(3) Annually for all other facilities.

(4) Critical Mission Facilities (CMF) in support of Mission Essential Functions may require more frequent drills as directed by the local Authority Having Jurisdiction. Contact the Regional Installation Protection Officer for a list of CMF.

b. Building evacuation procedures for drills and emergencies shall be the same and as follows:

(1) A verbal alarm shall be given and the first person to get to the manual fire alarm pull station shall activate the fire alarm and accomplish emergency reporting procedures.

(2) Evacuations shall be started immediately.

(3) All employees shall report to their designated safe assembly area located outside the facility for accountability.

(4) A minimum of two designated assembly areas are recommended for larger buildings.

c. Ensure the "Building Evacuation Drill Evaluation Checklist" is completed per the format/example provided in Appendix A. Maintain a copy in the 'Fire Wardens Continuity Binder'. The original will be maintained in the facility inspection folder.

d. If the building evacuation drill is unsatisfactory, troubleshoot the cause and conduct another building evacuation drill. If further assistance is needed, contact the BSD for guidance.

e. Fire Wardens are directed to ensure all personnel are familiar with building evacuation procedures and plans and to assist with the accountability of all section personnel at the designated assembly areas. Trial run building drills involving motorized fire apparatus are prohibited.

4. Building Evacuation Drill Procedures. The following procedures will be followed when conducting a building evacuation drill:

a. The Regional Dispatch Center at Pearl Harbor Naval Station via (808) 474-2222 will be notified by BSD or the Facilities Department prior to conducting building evacuation drills.

b. The requester will give the base installation, location or building number, call back number, date, and time of the evacuation drill.

c. The facility manager/supervisor or Fire Warden is responsible for ensuring a building evacuation drill is conducted. If assistance is required with conducting an evacuation drill, the BSD, Unit Assigned Safety Specialist can provide assistance.

d. Upon completion of each evacuation drill, a Building Evacuation Drill Evaluation Checklist, Appendix A, will be maintained onsite by the building Fire Warden and Unit Safety Representative.

5. Hangar Evacuation Drills. All aircraft will be removed from the hangar during fire emergencies. During drills, removal can be simulated by moving ground support equipment into tow position. Additionally, all hangar doors should be closed during the drill.

## Chapter 4

### Fire Protection Systems

1. General. Portable fire extinguishers are located throughout MCBH buildings and are for the use of building occupants. They are intended as a first line of defense against fires of limited size. Do not attempt to use extinguishers to fight a fire that has gained significant proportion or has spread beyond the area of origin. Most fire extinguishers are in paths of exit from buildings. This is to help assure that fire does not block the exiting of a person trying to extinguish a fire. If you attempt to extinguish a fire, be sure that you always have a safe means of escape available. Reference (d), NFPA 10 shall be used for the selection, installation, maintenance, and use of all portable fire extinguishers.

#### 2. Portable Fire Extinguisher Issue and Installation

a. Initial Issue. Fire extinguishers issued under this category will be at no cost to the tenant occupying the building. However, only the FFD and the BSD can make the determination if a fire extinguisher deficiency exists in a facility. When there is a justified need for an additional fire extinguisher, the designated BSD Safety Specialist assigned to the unit will prepare and sign the fire extinguisher request letter for the unit designated Fire Warden. The Fire Warden will pick up the request letter from BSD and contact Base Property Control Office (BPCO), building 209 (808) 496-2885 to schedule an appointment. Pick up/drop-off of fire extinguisher(s) must be with a government vehicle only. Additionally, not every building/occupancy type is required to have portable fire extinguishers. Only those buildings/occupancy types identified in reference (d) are required to have portable fire extinguishers installed. Fire extinguishers are costly to purchase and maintain, therefore it is essential that only the necessary quantity is acquired and installed.

b. Installation. Portable fire extinguishers shall be placed/installed per reference (d), NFPA 10. Confirmation of proper placement will be conducted during annual Fire Inspections.

c. Firefighting Equipment. Firefighting equipment will not be used or removed from its assigned location for any purpose other than firefighting, repair, and/or maintenance.

3. Fire Extinguisher Exchange/Replacement and Disposal. To maintain uniformity of fire extinguisher protection for buildings and facilities aboard MCBH, the BPCO will manage the inventory, procurement, stowage, and issue of ten-pound, ABC type fire extinguishers. All other fire extinguishers such as Potassium Bicarbonate type for operational/tactical vehicles and Carbon Dioxide (CO<sub>2</sub>) highly sensitive/high value equipment/special hazard extinguishers will be the responsibility of the overseeing unit/department. The FFD will conduct annual inspections to ensure compliance.

a. All qualifying portable fire extinguishers requiring replacement, exchange, or disposal will be turned into BPCO, building 209. One of the following criteria must be met to replace, exchange, or dispose of portable fire extinguisher at no cost:

(1) The fire extinguisher to be replaced was used to fight a fire. The fire will be substantiated with an incident report from FFD or Provost Marshal Officer.

(2) The fire extinguisher to be replaced is in expended mode (gauge pointer on red area), however the pin and seal are securely in place and has met the prescribed weight when fully loaded (minus one lb.). This situation occurs when the nitrogen gas inside the cylinder has escaped.

(3) The fire extinguisher to be replaced shows severe corrosion or defects around the cylinder, gauge, release mechanism, and hose attachments.

(4) The fire extinguisher to be replaced has reached either the 6 or 12 year (from manufacture date) required maintenance date. This date is normally printed on the instruction label or press stamped on the bottom of the cylinder.

b. The FFD or BSD Safety Specialist will validate these conditions and will refer the matter to the BSD, Unit Assigned Safety Specialist for replacement as described in Chapter 4, paragraph 3.

4. Expended/Inoperative/Condemned Fire Extinguisher. All fire extinguishers meeting the criteria of Chapter 4, paragraph 3a, qualify for free replacement and will be turned in to BPCO, building 209. Ensure they are firmly secured from accidental discharge (tape safety pins in position to prevent accidental removal). For BPCO service appointment, call (808) 496-2885, 0730-1500 each working day.

5. Cost Replacement. Replacement of fire extinguishers that were expended due to accidental discharge, neglect, or vandalism will be at the expense of the responsible unit, and be processed by the BPCO, building 209.

6. Fire Extinguisher Inspection and Maintenance. All fire extinguishers shall be maintained per reference (d). The designated Fire Warden, appointed in writing by the unit CO, Officer in Charge (OIC) or Director shall be responsible for the required monthly inspection of fire extinguishers within the area of assignment.

a. Monthly Inspection Procedures. Ensure all serviceable fire extinguishers have the inspection on a tag or label attached to the fire extinguisher, on file, or by an electronic method. Perform the following inspection procedures monthly:

(1) Installed securely in place at the designated location, visible, and unobstructed.

(2) Extinguishers are mounted where the top of extinguisher does not exceed five feet from the floor and the bottom no less than four inches from the floor.

(3) Pressure gauge is visibly clear, facing forward and showing appropriate charge level.

(4) Safety pin in place and secured with tamper seal to prevent accidental discharge.

(5) Hose is clipped in place, in good condition, and discharge nozzle is clear of obstruction and accumulated debris such as gum and insects.

(6) Cylinders and operating components (handle, gauge, and lever) are free of damage and corrosion.

(7) Sign inspection tag (initial, date).

b. Maintenance Procedure. Basic maintenance requirements on fire extinguishers that can be performed by the designated Fire Warden include:

(1) Replacement of broken seal (to lock pin in place).

(2) Replacement of inspection tag when completely filled.

(3) Wipe down fire extinguisher cylinder and components to prevent soil build-up.

(4) Adjust hook/bracket to ensure extinguishers are hung securely.

c. Maintenance Notes

(1) Do not remove the valve from the cylinder under any circumstances. All fire extinguishers are pressurized and can jettison dangerously when compressed nitrogen gas in the cylinder is released.

(2) An annual external visual examination of all fire extinguishers shall be made to detect obvious physical damage, corrosion, or nozzle blockage. Verify the operating instructions are present, legible, and facing forward, and the Hazardous Materials Identification System information is present and legible. Determine if an internal six-year maintenance or twelve-year hydrostatic test is due.

(3) Individuals conducting the internal six-year maintenance, and the hydrostatic testing of fire extinguishers shall be qualified, trained, and have available the appropriate manufacturer's servicing manual(s), the correct tools, recharge materials, lubricants, and manufacturer's replacement parts, or parts specifically listed for use in the fire extinguisher.

(4) Fire extinguisher maintenance intervals involving internal examination are as follows:

(a) Carbon Dioxide: five years.

(b) Wet Chemical: one year.

(c) Dry chemical/stored pressure: six years.

(5) Hydrostatic test intervals for fire extinguishers are as follows:

(a) Carbon Dioxide: five years.

(b) Wet Chemical: five years.

(c) Dry chemical/stored pressure: 12 years.

7. Fire Extinguisher Use. To operate a fire extinguisher, utilize the acronym PASS as described below.

- a. P-Pull the pin/ring. Hold the extinguisher upright.
- b. A-Aim at the base of the fire.
- c. S-Squeeze the lever slowly and evenly.
- d. S-Sweep the nozzle side-to-side.
- e. Ensure the fire is completely extinguished since there may not be enough chemical agent left in the extinguisher to combat any flare-ups.
- f. Notify FFD (911) even if the fire is completely extinguished.
- g. Fire Warden Training and Home Fire Safety Training are available through the BSD at (808) 496-1830.

8. Fixed Fire Protection Systems. Building fire protection systems where required by reference (d), will be inspected, tested, and maintained (ITM) per reference (e). ITM procedures shall only be performed by personnel trained or qualified in the maintenance and repair of the specific fire protection system or subsystem. Trained or qualified personnel are defined in reference (e), 1-10 Personnel Qualifications.

a. Cooking Facilities for Other than Dwelling Units. Hood and duct systems for commercial cooking equipment that produces smoke or grease-laden vapors must comply with reference (d), NFPA 96, Ventilation Control and Fire Protection of Commercial Cooking Operations. Kitchen fire extinguishing systems shall be either wet chemical or automatic sprinklers installed per reference (d), NFPA 13 & 96. Activation of fire extinguishment systems shall sound a general building fire alarm and transmit a signal to the Regional Dispatch Center, and automatically shut off all sources of fuel and electric power to the cooking equipment being protected by that unit.

b. Cooking Equipment in Facilities. Areas other than dwelling units, that are provided with residential type range top cooking surfaces, must either be equipped with an approved residential range top wet chemical fire extinguishing system, or the building must be provided with a supervised automatic sprinkler system. The range top wet chemical fire extinguishing system must be connected to the building fire alarm system to sound a general building fire alarm and must automatically shut off all sources of fuel and electric power to the cooking equipment being protected by that unit.

c. All newly proposed fire protection systems or modifications to existing fire protection systems shall be reviewed and approved by MCBH Facilities and the BSD FPS. If requested by MCBH Facilities Department, a Naval Facilities (NAVFAC) Fire Protection Engineer will review, sign, and schedule an acceptance test on new or modified fire protection systems. When an acceptance test is scheduled for modified or new fire protection systems, BSD will be contacted at (808) 496-1830 and notified at least a week prior to any test being conducted. NAVFAC Hawaii will only respond to new installation or maintenance on sprinkler systems when requested by the MCBH Facilities Department.

d. Director, S-4. The MCBH Facilities Department and/or NAVFAC Hawaii are responsible for the maintenance, testing, and inspection of all fixed fire protection systems. In addition:

(1) Fire detection systems will not be tampered with or disconnected. Individuals disabling fire alarms/smoke/heat detectors will be held liable for damages and cost to place system back in service. Report all malfunctions immediately to BSD at (808) 496-1830 and Facilities Trouble Desk at (808) 496-2380.

(2) Control valves for fire sprinkler distribution systems will not be tampered with or turned off/on without approval. Evidence of leakage or physical damage will be reported immediately to the BSD and MCBH Facilities Department.

(3) Fire hydrants, sprinkler connections and standpipes will be kept clear of weeds, trash, dirt, and obstructions to a depth of 18 inches below the discharge ports and within five feet. Fire hydrants and standpipes will not be used for purposes other than firefighting except for periodic testing and flushing by cognizant authority or use by a certified contractor with prior approval. Under no circumstances will outlets or hydrants be altered or have permanent type fittings attached thereto, except as directed by the Facilities Plumbing Shop and the FFD.

(4) Designated interior and exterior building or structure fire lanes will be clearly marked, posted, and unobstructed.

9. Fire Protection System Impairments. All fire protection system impairments shall be identified processed and repaired per reference (d). The Regional Dispatch Center at (808) 474-2222 and MCBH Facilities at (808) 496-1496 will be notified of any impairment to building fire protection systems or devices that are present for the protection of the building and occupants. Per reference (e), when the impairment will exist for more than 72 hours, the local maintenance activity, the local fire authority, the local safety authority, and the facility or area user shall jointly develop written compensatory measures to ensure personnel safety and, to the maximum degree possible, mission continuity. The assigned unit GSO or GSM will contact BSD to assist in creating and routing the compensatory measures plan (CMP). Building occupants, users, and the public shall be notified whenever any of the fire protection systems specified in reference (e) are either out of service or impaired to a degree that presents an increased risk to any occupants. Notification shall consist of the sign shown in Appendix F being posted by the facility owner, manager, or custodian at all principal public and employee entrances to the building. The sign shall be 7 inches high by 10 inches wide and printed/posted in color format.

10. Flight Line Extinguishers (FLE). The flight line has Halotron fire extinguishers at strategic locations per NAVAIR instructions. No other type of fire extinguisher is authorized for flight line protection without written approval from the ARFF OIC.

a. The ARFF Officer is responsible for the proper placement and timely inspection of all flight line extinguishers and providing training to flight line personnel in the use of FLE.

b. The ARFF Logistics Section will ensure maintenance of all FLE. Using units will conduct monthly inspections of all issued extinguishers and ensure all personnel engaged in duties incidental to aircraft operations attend annual training on use and care of FLE.

c. The point of contact for training, maintenance, and issuance of FLE is ARFF Logistics at (808) 496-2501.

Chapter 5

Care of Buildings and Grounds

1. Fire Inspections. FFD are required to conduct annual inspections of all MCBH facilities (except housing) per references (b). The unit Facility/Building Manager or the assigned Fire Warden/Safety Representative will accompany FFD personnel on inspections of their facilities and correct those discrepancies that can be corrected without service calls or work orders. In the absence of either individual, the unit Noncommissioned Officer-in-Charge (NCOIC) will accompany the Inspector. The objective of fire inspections is to identify fire hazards in buildings or areas and to ensure expeditious corrective action is initiated.

2. Restaurant and Commercial Cooking Operations. Commercial kitchen fires are preventable. Managers of facilities in which commercial or restaurant type cooking is performed will establish and enforce the following procedures:

a. Cooking equipment that produces grease-laden vapors and that might be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by an automatic wet chemical fire-extinguishing system.

b. Automatic fire-extinguishing systems shall comply with reference (d), NFPA 96, or other equivalent standards and shall be installed per the requirements of the listing.

c. Commercial cooking sites shall have portable class "K" fire extinguishers as a secondary means of extinguishing fires involving cooking media (fats, grease, and oils) per reference (d).

d. When a fire extinguishing system is out of service for any reason, cooking equipment protected by that system shall not be used. The BSD shall be notified immediately when a system is out of service.

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

f. The FPS shall be notified prior to and after completion of any maintenance on a wet/dry chemical system.

g. Wet chemical fire extinguishing systems will be ITM per references (d) and (e). All personnel performing ITM to commercial cooking fire extinguishing equipment will meet the definition of trained and qualified in reference (e).

h. Cooking appliances requiring protection shall not be moved, modified, or rearranged without prior re-evaluation of the wet chemical fire extinguishing system by the system installer or servicing agent, unless otherwise allowed by the design of the fire-extinguishing system.

i. The effectiveness of a pre-engineered wet chemical automatic extinguishing system is affected by the placement of the nozzles. For this reason, it is essential that cooking appliances are situated in the area in

which they were placed when the extinguishing equipment was designed and installed.

j. Kitchen range hoods exhaust ducts and fans will be commercially maintained and cleaned per reference (e) to prevent an excessive accumulation of grease. Cleaning frequencies will be established by references (d) and (e) or manufacturer's instructions. After the exhaust system is cleaned, the contractor shall post a certificate of completion in a conspicuous location.

k. Filter-equipped exhaust systems shall not be operated with filters removed. All installed grease filters and exposed surfaces of kitchen range hoods will be cleaned daily to prevent the accumulation of grease.

l. Exhaust systems shall be operated whenever cooking equipment is turned on.

m. Deep fat fryers shall be calibrated annually and properly documented to ensure the separate high limit control is properly functioning. Documents shall be made available upon request.

n. Managers will maintain the following information onsite for each range hood:

(1) A written report/certificate showing the name of the servicing company, the name of the person performing the work, and the date of the ITM or cleaning.

(2) The last two wet chemical fire extinguishing system ITM reports.

o. Owner's Inspection. Inspections shall be conducted monthly per the manufacturer's design, installation, and maintenance manual, or the owner's manual. If any deficiencies are found, appropriate corrective action shall be taken immediately. The monthly owner's inspection shall be recorded and include the date of inspection and the initials of the person performing the inspection. The records shall be retained onsite by the Manager for the period between the semi-annual maintenance inspections. At a minimum, the inspection shall include verification of the following:

(1) That the extinguishing system is in its proper location.

(2) That instructions for manually operating the fire extinguishing system are posted conspicuously in the kitchen and are reviewed periodically with employees by management.

(3) That the manual actuators are unobstructed.

(4) That the tamper indicators and seals are intact.

(5) The maintenance tag or certificate is in place.

(6) That no obvious physical damage or condition exists that might prevent operation.

(7) The pressure gauge(s), if provided, has been inspected physically or electronically to ensure it is in the operable range.

(8) The right nozzle blow-off caps, where provided, are intact and undamaged.

(9) The hazard has not changed, including replacement, modification, and relocation of protected equipment.

### 3. Combustible Storage and General Information

a. All buildings on MCBH will be properly identified by showing the MCBH Facilities assigned building number on the normal approach side of the building. The number will be 12 inches high with two-inch wide black block numbers painted on a 24-inch white background.

b. Dry weeds, grass, or any combustible materials will not be permitted to accumulate underneath or within 30 feet of MCBH structures. These areas will be regularly policed to keep them free from combustible material.

c. Doors, covers, and lids of all refuse containers will always be closed. Dumpsters will be located at least 15 feet away from all buildings.

d. Trash and refuse containers will be non-combustible, metal type, and provided with metal covers. Open office wastebaskets will be of metal construction.

e. All combustible rubbish or waste material will be removed from buildings at least once each working day.

f. Covered metal or other non-combustible receptacles with self-closing lids will be provided in all washrooms and other places where paper towels are dispensed.

g. Combustible storage is not permitted in fire exit corridors, stairwells, under stairs, or in any area which would hinder egress from buildings in the event of fire.

h. Attic spaces will be kept clean and never used for storage of combustible materials. Scuttles and other connecting openings will be fitted with covers equivalent in fire resistance to ceiling construction and will be kept closed.

i. Swabs, mops, cleaning gear, and materials subject to spontaneous ignition will be kept outside the building and away from paths of egress.

4. Housekeeping. Good housekeeping is a basic factor in maintaining an adequate fire prevention program. Specific instructions include:

a. All rags soiled or clean, and material contaminated with oil will be kept in metal containers with self-closing lids.

b. The lids for refuse dumpsters will be kept closed. Dumpsters will not be placed closer than 15 feet from the roofline of any building, tent, or hut.

c. Sweeping compounds will be non-combustible types.

d. Dryer ducts and vents will be kept free of dust, lint, and debris. Vents will be cleaned periodically to prevent lint buildup. Dryer lint traps/filters shall be cleaned after each load.

#### 5. Sleeping Quarters

a. The use of buildings other than approved barracks or quarters for sleeping purposes is prohibited, except when approved by the CO.

b. Whenever sleeping areas are changed, moved, added, or deleted, the FPS (MCBH BSD) will be notified in writing by the building occupant.

c. A smoke detector must be provided for each sleeping room regardless of occupancy or the presence of other detection or protection systems in the building. When activated, the affected detector must generate an audible signal in the room. Primary power for the smoke detectors can be either 120 VAC or 24 VDC. Detectors with a battery as the primary power source are not permitted.

6. Modifications of Buildings. Facilities will not be constructed, modified, or altered without written approval of the Facilities Director and the CO, per reference (g). When the occupancy use of a building, structure, or area is changed, the MCBH FPS and FFD shall be notified to ensure applicable Life Safety and NFPA codes and standards are being addressed, which will include the review of construction documents and shop drawings. The MCBH FPS, (808) 496-1830, will be notified about self-help projects prior to construction.

#### 7. Storage and Parking of Vehicles

a. Vehicles will not be stored inside buildings unless the structures were designed, constructed, protected, and operate as vehicle parking structures.

b. A minimum of three feet clear space shall be maintained to permit access to and operation of fire protection equipment, fire department inlet connections, or fire protection system control valves. The FFD shall not be deterred or hindered from gaining immediate access to fire protection equipment.

c. Fire hydrants, sprinkler connections and standpipes will be kept clear of weeds, trash, dirt, and obstructions to a depth of 18 inches below the discharge ports and within five feet.

d. Fire lanes will not be obstructed, blocked, or redesigned in any way without prior written approval by the MCBH BSD. Designated interior and exterior building or structure fire lanes will be clearly marked, posted, and unobstructed.

#### 8. Vehicle Maintenance Activities

a. Prior to performing hot work on fuel tanks that have contained flammable or combustible liquids, all vehicles will have the tanks drained, purged, and flushed with water. Atmospheric testing will be performed on these tanks to ensure a LEL and UEL reading of "0" and oxygen reading minimum of 19.5 and maximum of 23 percent.

b. Fuel tanks will be connected to an approved and tested static ground while undergoing maintenance.

c. Petroleum, oil, and lubricant trucks and tank trailers entering shops for service, maintenance, or repairs will have fuel and cargo tanks filled to 95 percent capacity (allowing space for normal expansion) or drained and purged as stated above.

d. Gasoline tanker drivers will always remain with the pump while a tank vehicle is being filled or discharged.

9. Vacating of Buildings. When it becomes necessary to vacate a building the following guidelines will apply:

a. Building will be thoroughly cleaned of all trash and debris, floors will be swept, and furniture neatly stacked in center of the rooms.

b. All points of entry will be locked or securely boarded up.

c. Signs will be posted prohibiting entry, except by order of the CO or authorized representatives.

d. The BSD will be notified in writing anytime a building is to be vacated. The Facilities Department will conduct an inspection prior to securing.

10. Smoking. MCBH, Base Order 5100.20B states that tobacco use, including electronic cigarettes, is only permitted outdoors and at least 50 feet away from windows, building entrances, and exits. Extra caution shall be exercised in proximity to fuel storage areas, fuel dispensing points, storage areas in warehouses, paint shops, carpenter shops, ammunition and explosive storage and handling areas, motor repair shops, and similar hazardous areas where the fire risk (flammable vapors, dusts, gases, and the type and value of supplies) justifies smoking restrictions. Appropriate "No Smoking" signs will be conspicuously posted. Authorized cigarette disposal devices will be located at all designated smoking locations.

11. Stage Performances. Prior to any stage performance in places other than public assembly facilities, BSD will be notified at (808) 496-1830 so that a special inspection may be conducted prior to the performance.

12. Aircraft Maintenance and Servicing. Fire protection at MCBH consists of two separate Fire Protection organizations: MCAS Airfield Rescue and Firefighting (ARFF) and the FFD. The ARFF OIC or designated representative thereof has authority over aircraft emergencies and the flight line extinguisher program. The FFD has authority over all structures and fire prevention activities excluding the flightline extinguishers. The ARFF branch will be guided in the performance of these duties as set forth in references (f), (g), and (h). Fires during maintenance and servicing (including fueling) create the greatest hazard of exposure to personnel and property. The following items are provided for general information:

a. Vehicles other than those required for direct use in maintaining aircraft are not permitted inside hangars unless equipped with spark arresters.

b. The use of gasoline or other volatile flammable liquids for cleaning is prohibited.

**\*\*CAUTION: Do not use carbon dioxide extinguishers for purging fuel tanks.\*\***

13. Decorations. Decorative material includes curtains, draperies, streamers, wall, ceiling, and floor coverings for acoustical or other effects, and all cloth, paper, and vegetation used for decorative effect.

a. No furnishings, decorations, or other objects will be placed where they will obstruct exits, access to exits, egress from exits, or visibility of exits. No furnishings, decorations, or other objects will be placed where they obstruct access to or visibility of fire alarms or firefighting equipment.

b. Furnishings or decorations of an explosive or flammable nature will not be used in any facility.

c. The use of open flame devices or the burning of candles for the purpose of light, fragrance, or decoration, to include heat producing devices such as plug in aroma diffusers are strictly prohibited in any building or structure on board MCBH.

d. In public assembly, educational, mercantile, and hotel or dormitory occupancies, natural cut Christmas trees will not be permitted unless the facility is protected by an approved automatic sprinkler system. All sites will be checked by a representative of the FFD.

(1) In occupancies where natural trees are permitted, the bottom end of the trunk will be cut off at an angle at least one to two inches above the end to help the tree absorb water. The tree will be placed in a suitable stand with adequate water. The tree will be removed from the building immediately upon evidence of dryness or after the holiday (whichever occurs first).

(2) Candles are prohibited on Christmas trees.

(3) No Christmas tree or decoration will be allowed to obstruct corridors, exit ways, any means of egress or to be attached to any fire detection or sprinkler system.

14. Fuels and Liquid Propane (LP) Gas Equipment in Building. Fuels and LP gas powered equipment will not be allowed inside any facility unless it is so designed and constructed for that purpose. LP gas equipment and/or tanks will not be refueled within 50 feet of any structure.

Chapter 6

Life Safety

1. Interior Finish. Interior finish is defined as the material of walls, ceilings, and other interior surfaces of a building, and includes surfacing materials applied to walls, movable partitions, floors, and ceilings. Interior finish, along with structural fire resistance and hazardous contents, is one of the principal elements in determining the building's fire potential. Interior finish will conform to the requirements of references (c) and (d).

2. Means of Egress and Exits. Every building or structure designed for human occupancy will be provided with exits sufficient to permit the prompt escape of occupants in case of fire or other emergency. The following features will be included to reduce life safety hazards to building occupants:

a. Exits will be arranged and maintained to always provide free and unobstructed egress from all parts of the building when occupied. No locks or fastening devices to prevent free escape from the inside of any building will be installed except as permitted by reference (d).

b. Means of egress will always be clear of obstructions.

c. Every exit will be clearly visible or the route to reach the exit will be conspicuously marked in such a manner that every occupant of every facility who is physically and mentally capable will readily know the direction of escape from any point. Each path of escape, in its entirety, will be arranged or marked so that the path to a place of safety is unmistakable. Any doorway or passageway not constituting an exit or way to an exit, but of such character as to be mistaken for an exit, will be marked "NOT AN EXIT" to minimize its possible confusion with an exit.

d. Exit doors will be operable from the inside without the need for more than one manual operation. Additional locking or latching devices which would create the necessity for more than one operation are prohibited. Exceptions to this requirement may be made to allow one additional device on the interior side of exit doors, in non-hazardous areas, where the number of occupants would not normally exceed ten and the room or area is normally occupied by the same persons. Continued use of these devices shall be re-evaluated when the occupancy of the room or area is changed. In no case will more than two locking or latching devices be installed on exit doors.

e. Personnel will not lock, block, or otherwise obstruct the normal operation of fire doors. This includes the prohibition on propping fire doors with self-closing devices in the open position.

f. Removal of door closures, i.e., self-closures, is prohibited.

g. The occupant load of a room or area will be based on the type of occupancy and square footage. A room or area with an occupant load of 50 or more requires a sign designating the maximum number of occupants. The sign will be conspicuously posted in the room or area.

h. No part of a stairway, whether interior or exterior, nor of a smoke proof enclosure, hallway, corridor, vestibule, or balcony, will be used in any way that would obstruct its use as an exit. Storage of any items, materials, or equipment under stairways is prohibited.

i. Per reference (d), doors equipped with panic hardware, no additional lock or other fastening device will be installed which might interfere with its operation.

j. Panic hardware will be installed on exit doors in places of public assembly having capacity of more than 100 persons. Panic hardware will not be equipped with any locking or dogging device, set screw, or other arrangement which can be used to prevent release of the latch when pressure is applied to the bar.

3. Exit Marking. Access to exits and exit facilities will be marked by readily visible signs. Illuminated exit signs will be installed at required exit doorways and where otherwise necessary to clearly indicate the direction of egress. Exit signs, illumination, size, and color will conform to reference (d) requirements.

4. Corridors. Every corridor serving an occupant load of 10 or more will be no less than 44 inches in width. Corridors will have a clear height of no less than seven feet.

5. Fire Doors. All fire doors will be self-closing or automatic closing. Door stopping devices cannot be added to fire rated doors, including doors leading to fire rated corridors. Self-closing devices will not be removed from fire rated door assemblies or rendered inoperative. Fire doors will always be kept closed, unless equipped with an approved automatic closing device. Damaged or defective fire doors will be reported to the Facilities Department Trouble Desk by the designated Fire Warden.

## Chapter 7

### Flammable and Combustible Liquids and Hazardous Materials

#### 1. Definitions

a. Authorized Use List. An approved list of hazardous material needed to meet the operational requirement of a work center.

b. Combustible Liquid. A liquid having a flash point at or above 100 degrees F. Combustible liquids may be subdivided as follows:

(1) Class II liquids will include those having flash points at or above 100 degrees F and below 140 degrees F.

(2) Class III-A liquids will include those having flash points at or above 140 degrees and below 200 degrees F.

(3) Class III-B liquids will include those liquids having flash points at or above 200 degrees F.

c. Control Area. A building or portion of a building within which liquids are allowed to be stored, dispensed, and used or handled in quantities that do not exceed the maximum allowable quantity (MAQ).

d. Flammable Liquid. A liquid having a flash point below 100 degrees Fahrenheit (F) and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 degrees F. Class I liquids will include those having flash points below 100 degrees and may be subdivided as follows:

(1) Class I-A will include those having flash points below 73 degrees and having a boiling point below 100 degrees F.

(2) Class I-B will include those having flash points below 73 degrees and having a boiling point at or above 100 degrees F.

(3) Class I-C will include those having flash points at or above 73 degrees F and below 100 degrees F.

e. Liquid (formerly Flammable) Storage Cabinet. A metal cabinet containing flammable liquids must be constructed of sheet iron and double-walled with 1½ inch of air space between each wall. Joints on the cabinet must be riveted, welded, or otherwise made tight, and the door must be given a three-point deadbolt locking mechanism and labeled with conspicuous lettering saying "Flammable -- Keep Fire Away."

f. Flash Point. The minimum temperature of a liquid at which sufficient vapor is given off to form an ignitable mixture with the air, near the surface of the liquid.

g. Hazardous Material or Hazardous Chemical. Material presenting dangers beyond the fire problems relating to flash point and boiling point. These dangers can arise from, but are not limited to, toxicity, reactivity, instability, or corrosiveness.

h. Hazardous Material Storage Locker. A movable, modular, prefabricated storage locker specifically designed for storage of hazardous material, not to exceed 1,500 square feet gross floor area.

i. Maximum Allowable Quantity (MAQ). The quantity of flammable and combustible liquid or hazardous material permitted in a control area.

j. Safety Can. A listed container of not more than 5.3-gal (20 L) capacity having a spring-closing lid and spout cover, and so designed that it will safely relieve internal pressure when subjected to fire exposure.

k. Safety Data Sheet (SDS). The SDS describes composition of a material, hazardous properties and hazard mitigation, and disposal information prepared per the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2. General. The storage, handling and use of flammable and combustible liquids and hazardous materials will be per reference (d), NFPA 30.

3. Sources of Ignition. All recognized sources of ignition are prohibited in areas where flammable and combustible liquids are stored or handled. There will be no smoking or open flames in areas used for refueling, servicing fuel systems for internal combustion engines, or receiving or dispensing of flammable or combustible liquids. Conspicuous and legible signs prohibiting smoking will be posted. Sources of ignition shall include, but are not limited to, the following:

- a. Open flames.
- b. Lightning.
- c. Hot surfaces.
- d. Radiant heat.
- e. Smoking.
- f. Cutting and welding.
- g. Spontaneous ignition.
- h. Frictional heat or sparks.
- i. Static electricity.
- j. Electrical arcs and sparks.
- k. Stray currents.
- l. Ovens, furnaces, and other heating equipment.
- m. Automotive vehicles.
- n. Material-handling equipment.

4. Gasoline. The use of gasoline, naphtha, thinners, or other highly flammable liquids for cleaning automotive parts, floors, decks, etc., is

prohibited. All cleaning operations will be performed with high flash point or non-flammable safety solvents. Additionally:

a. Flammable and combustible liquids will only be dispensed into and transported in Department of Transportation (DOT) approved plastic containers or approved safety cans. Storage of gasoline shall be in an approved safety can.

b. All gasoline-powered vehicles and equipment will be fueled outside.

c. Only Underwriters Laboratory (UL) listed automatic closing nozzles will be used for dispensing gasoline at any service station and each nozzle will be checked daily by an attendant for indications of wear or damage, and if found to be defective, removed from service until repaired.

d. During fueling of vehicles, the operators of vehicles will not smoke or utilize cellular devices. Vehicle engine and lights will be turned off during refueling. Drivers and passengers of government vehicles will disembark prior to refueling operations.

e. Vehicles transporting explosives will not be refueled except in an emergency, and then only after the engine is stopped, all lights are secured, and suitable ground for static electricity is attached.

f. The storage of approved flammable and combustible fuel containers in vehicles is prohibited unless the container is emptied and free of vapors.

g. Only authorized and qualified personnel will be permitted to operate fueling equipment.

5. Maximum Allowable Container Capacity. In buildings and structures where, flammable liquids are required and approved for use, only a one-day supply in approved safety containers will be permitted. Container size is limited to safety cans of two gallons for Class I-A liquids and five gallons for all other flammable and combustible liquids. Quantities in use will not exceed ten gallons total.

6. Storage Requirements. Placement of all flammable and combustible liquid storage cabinets and lockers will be approved by MCBH BSD, FFD, and MCBH Environmental Department. MCBH BSD will be the initial point of contact to initiate the site approval letter. General instructions for storage and handling of flammable and combustible liquids are as follows:

a. Flammable and combustible liquids in excess of authorized daily use quantities will be stored in an approved labeled, listed, flammable storage cabinet, hazardous material storage locker, or flammable storage room meeting the requirements of reference (d).

b. Materials which will react with water or other liquids to produce a hazard shall be segregated from flammable and/or combustible liquids.

c. Flammable aerosols will be treated as Class I-A liquids.

d. Empty containers previously used for the storage of flammable or combustible liquids, unless free of explosive vapors, will be stored as

required for flammable liquids. The fuel tanks of small gasoline engines will be emptied and free of vapors before being stored indoors.

e. Flammable and/or combustible liquids will not be stored near exit doorways, under stairways, in exit corridors, or in a location that would impede egress from a building.

f. Flammable and/or combustible liquids stored in the open, in a work area, or inside any building will be kept to the minimum necessary for the work being done and not exceed ten gallons.

g. Liquids used for building maintenance, painting, or other similar infrequent maintenance purposes shall be permitted to be stored in closed containers outside of storage cabinets or inside liquid storage areas, if limited to an amount that does not exceed a 10-day supply at anticipated rates of use.

7. Control Areas. The design and number of control areas allowed in a building shall be per reference (d), NFPA 30 table 9.7.2.

8. Maximum Allowable Quantity (MAQ)

a. The MAQ of flammable and combustible liquids stored in flammable liquid storage cabinets shall not exceed an aggregate quantity of 180 gallons per control area in special occupancies. Individual flammable storage cabinets shall not exceed 120 gallons. The following occupancies are identified by reference (d), NFPA Life Safety Code 101 and are limited to no more than two flammable storage cabinets per control area:

- (1) Assembly.
- (2) Ambulatory Care.
- (3) Business.
- (4) Day Care.
- (5) Detention and Correctional.
- (6) Educational.
- (7) Health Care.
- (8) Residential.

b. The MAQ of flammable and combustible liquids stored in flammable liquid storage cabinets for control areas shall not exceed the limits established in reference (d), NFPA 30.

c. All other occupancy classifications not mentioned above will be limited to a maximum number of three flammable storage cabinets per control area.

d. Units and operations requiring more than three flammable storage cabinets to perform their mission will contact the BSD at (808) 496-1830 and request a site survey.

e. The NFPA MAQ per control area will not be exceeded.

f. The maximum allowable quantity of hazardous materials that can be stored per control area is based on the occupancy classification of the building and shall not exceed the quantities identified in reference (d).

g. The volume of Class I, Class II, and Class IIIA liquids stored in an individual storage cabinet shall not exceed 120 gal.

(1) The total aggregate volume of Class I, Class II, and Class IIIA liquids in a group of storage cabinets shall not exceed the maximum allowable quantity (MAQ) of flammable and combustible liquids per control area based on the occupancy where the cabinets are located.

(2) Cabinets will be conspicuously labeled in red letters on contrasting background with "FLAMMABLE - KEEP FIRE AWAY".

(3) The minimum letter height for FLAMMABLE shall be 2.0 inches and the minimum letter height for KEEP FIRE AWAY shall be 1.0 inch. All letters shall be uppercase and in contrasting color to the background. The marking shall be located on the upper portion of the cabinet's front door(s) or frame.

9. Hazardous Storage Cabinets. When storage cabinets are used to increase MAQ per control area such cabinets shall be per reference (d), NFPA 400, Chapter 6. Contact BSD for further guidance.

10. Hazardous Material Storage Lockers. Lockers shall be located on a designated approved site on the property. The designated site shall be arranged to provide the minimum separation distances specified in reference (d) between individual lockers, from locker to property line that is or can be built upon, and from locker to nearest side of public ways or to important buildings on the same property.

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

b. Vertical stacking of lockers shall not be permitted.

c. Containers over 30 gal. (114 L) capacity storing Class I or Class II liquids shall not be stored more than two containers high.

d. Containers of liquid in their original shipping packages shall be permitted to be stored either palletized or solid piled.

e. Unpackaged containers shall be permitted to be stored on shelves or directly on the floor of the locker.

f. Warning signs for lockers shall be per reference (d), NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response.

g. Miscellaneous combustible materials, including but not limited to idle pallets, excessive vegetation, and packing materials, shall not be permitted within 5 feet of the designated site approved for lockers.

11. Separation of Incompatible Materials

a. Corrosives shall be separated from flammable and combustible liquids by at least 5 feet.

b. Oxidizers shall be separated from flammable and combustible liquids by at least 25 feet.

c. Materials that are water-reactive, as described in NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response, shall not be stored in the same control area with ignitable (flammable or combustible) liquids.

12. Handling and Dispensing. Class I liquids will not be stored or transferred from one vessel to another in any exit access. Transfer of flammable liquids to smaller containers may be accomplished provided:

a. Gravity discharge of flammable liquids from tanks or drums other than safety cans within a building is prohibited.

b. Flammable liquids will not be run into containers unless the nozzle and containers are electrically interconnected during filling operations by means of a bond wire.

c. Faucets used on drums for dispensing flammable liquids will be of the approved spring closed type. Such drums will be equipped with UL approved flame arrester plug vents. Locking faucets in the "open" position is prohibited. Metal drip pans will be placed under faucets and will be cleaned regularly.

d. The storage, handling, disposal, and dispensing of fuel is prohibited within 500 feet of any ammunition, demolition, pyrotechnics, or other explosive area.

13. Dip Tanks. Only commercially available UL or Factory Mutual (FM) listed dip tanks will be used. "No Smoking" signs will be conspicuously posted in the vicinity of the dip tanks. Covers will be so arranged to close automatically in the event of fire. Tanks with defective closing devices or missing covers will be placed out of service until repaired.

Chapter 8

Electrical Hazards

1. General. Except as modified herein, all electrical facilities provided and installed must meet the minimum requirements of reference (d).

a. Installation, replacement, or alteration of interior and exterior electrical wiring will be accomplished only by qualified personnel designated by the Director, Facilities Department.

b. All electrical appliances, cords, and materials will be listed and labeled by an approved nationally recognized testing agency such as UL or FM. Devices so listed have been tested for field use per the National Electrical Code and against UL safety standards. This procedure provides reasonable assurance the product will operate safely if used per manufacturer's recommendations.

c. Extension cords will not be used as a substitute for fixed wiring. Cords will never be run through holes in walls, ceilings, floors, doorways, windows, or similar openings. Cords will not be attached to building surfaces or concealed behind building walls, ceilings, or floors. Cords will not be placed under carpets, rugs, or other flooring.

d. When damaged, frayed, or worn, electrical cords will be immediately removed from service or professionally repaired. Cords will be used only in continuous lengths without splices.

e. Extension cords will not be used to energize air conditioners, refrigerators, microwaves, or other similar devices where an electric component operates a compressor or draws large amounts of current.

f. Extension cords are permitted only with portable appliances or fixtures, while in immediate use, per the following:

(1) Each extension cord will be plugged directly into an approved receptacle power tap, and except for approved multi-plug extension cords, serve only one portable appliance.

(2) Extension cords shall not be plugged into other extension cords or relocatable power taps (power strips/surge protectors) in series, known as daisy chaining or piggybacking.

(3) The current capacity of the cord will be no less than the rated capacity of the portable appliance or fixture supplied by the cord.

(4) The extension cord will be maintained in good condition without splices, deterioration, or damage.

(5) The extension cord shall be of a 3-wire grounding type when used in conjunction with devices equipped with 3-prong grounding type attachment plugs.

g. Relocatable power taps (power strips/surge protectors) are designed for a high concentration of low powered loads such as computers, printers, audio-visual equipment, radios, and peripheral equipment. They are not designed for appliances that draw large amounts of power such as, but not limited to, refrigerators, coffee pots, space heaters, microwave ovens, toaster ovens, and other high-powered loads. Relocatable power tap use shall comply with the following:

(1) Relocatable power taps shall be of the polarized or grounded 3-prong type, have overcurrent protection, and shall be listed by an approved nationally recognized testing agency.

(2) Relocatable power taps shall be directly connected to a permanently installed receptacle.

(3) Relocatable power taps shall not be plugged in series into other relocatable power taps or extension cords in series, known as daisy chaining or piggybacking.

(4) Relocatable power taps shall not extend through walls, ceilings, or floors; under doors or floor coverings; or be subject to environmental or physical damage.

(5) Relocatable power taps should be regularly inspected to ensure signs of overheating are not present, and the power indicator light is on. If any damage is evident or the power indicator light is no longer illuminated, discard the device.

h. Any electrical equipment, including portable equipment used or located in a classified hazardous location, will be of a type and design which provides protection from the hazards arising from the combustibility and flammability of vapors, liquids, gases, dusts, or fibers.

i. All electrical equipment, tools, and materials will be properly grounded per reference (d).

j. All electrical motors will be maintained in a manner free from accumulations of oil, dirt, waste, and other debris which will interfere with required motor ventilation or create a fire hazard.

k. No storage will be permitted in front of electrical panel boards. A minimum of 36 inches of clearance will be provided in front of panels. Each circuit breaker will be marked to indicate its purpose(s). Where no circuit breaker is installed, blank covers will be installed. The use of tape or other restraining devices to render a circuit breaker inoperative is prohibited.

l. When a circuit has been interrupted by a blown fuse or a tripped breaker, the source of the disturbance will be located and eliminated by an authorized Facilities Department Electrician before restoration of power.

2. Heat-Producing Appliances

a. The use of toaster ovens, hotplates, and similar heat producing appliances in barracks and other sleeping areas, administrative offices, warehouses, storehouses, and buildings or structures containing high value or critical material or equipment is prohibited.

b. Activity commanders may authorize the use of microwave ovens and coffee makers in their facilities, provided all safeguards are observed.

c. No electrical appliance, electrical drinking fountain, coffee mess, hot plate, or other device using electrical motors will be located in aircraft hangar bays, unless they are certified as explosive proof fixtures and approved by UL for installation in such areas.

d. All heat producing appliances will be disconnected from convenience outlets when not in use and at the end of the workday.

Chapter 9

Hazardous Operations

1. Welding and Cutting Operations. Welding, cutting, and other hot work operations shall comply with reference (d). All hot work operations require a permit before commencing. The BSD at (808) 496-1830 will be contacted 24 hours in advance of the need for a Hot Work Permit except under emergent circumstances. After hours, weekends, and holidays contact the RDC at (808) 474-2222. The RDC will dispatch an FFD engine company to perform the site inspection and issue the permit. MCBH Facilities supervisors and Unit Safety personnel can attend training at FFD for Permit Authorizing Individual (PAI). Individuals will be trained to issue a hot work permit in Low and Moderate fire hazard areas. The PAI training allows workers to perform needed hot work tasks immediately and eliminate the waiting period for a hot work permit. All hot work to be completed in High Hazard areas will still require a permit to be issued by FFD (fuel storage, heavy combustible storage, aircraft hangars, and hazardous storage). Contact BSD for assistance at (808) 496-1830. A copy of the permit will be maintained onsite. A competent supervisor will be in charge to see all safety and fire regulations are accomplished. Precautions during this hazardous operation will include:

a. A shield or cover of fire-resistant material will be used to protect combustible material.

b. Welding or cutting will not be performed on containers or piping previously used for flammable liquids or gases unless all flammable vapors have been purged or made inert per the procedures outlined in reference (d).

c. When welding and cutting is being performed in a confined space, the BSD Confined Space Program Manager shall be contacted, and a gas free condition must be met before any work is performed. A Gas-Free Engineer/Marine Chemist must provide a gas-free certificate signed by a qualified person for confined space operations. No hot work permit shall be issued until the confined space area has been checked by a Gas-Free Engineer/Marine Chemist and the BSD Confined Space Program Manager.

d. Welding or cutting within the MCAS boundary fence line area, to include inside aircraft hangars, requires a hot work permit issued by FFD. Units are not permitted to use a PAI to issue this permit. Units or contractors requiring a hot work permit must contact the BSD at (808) 496-1830 72 hours in advance to schedule a risk assessment. Base Safety will coordinate with FFD for issuance of a hot work permit.

e. When welding or cutting is being performed in any confined space the gas cylinders will be kept on the outside unless specifically authorized by FFD and the MCBH Confined Space Program Manager, BSD at (808) 496-1830.

f. During welding operations, acetylene and oxygen cylinders will be located away from the operator's position to prevent undue danger from radiation, sparks, slag, or misdirection of the torch flame. Acetylene and oxygen valves will be closed at the cylinder when equipment is left unattended or when work is stopped for more than 15 minutes.

g. All cylinders will be handled with care. Acetylene and liquefied fuel gas cylinders will be secured in the vertical position to prevent tipping.

h. Acetylene and oxygen cylinders, except where installed in a standard welding rig, will be stored detached from each other in well-ventilated locations, shielded from the direct sun. Cylinders will be segregated by a minimum distance of 20 feet or isolated by a barrier of noncombustible material at least five feet high having a minimum fire resistance rating of one-half hour. Smoking is prohibited within 50 feet of such areas.

i. A fire watch will be posted in the vicinity of the operation. Fire watches will have fire extinguishing equipment readily available and be trained in its use. A fire watch will be maintained for at least a half hour after completion of cutting or welding operations to detect and extinguish smoldering fires. Fire watches will be familiar with facilities and procedures for sounding an alarm in the event of a fire.

j. Torch-applied roofing operations require a fire watch for a minimum of two hours following such operations.

2. Annual Welding Shop Permit. Annual welding shop permits shall be required for all active welding shops/designated areas. These locations shall be inspected/approved by BSD.

3. Fireworks, Pyrotechnics, and Explosives. The use or ignition of fireworks is prohibited. Fireworks include toy cannons, firecrackers, torpedoes, skyrockets, roman candles, sparklers, or similar items capable of producing a visual or audible effect by combustion or detonation. All firework demonstrations handled by contractors will be coordinated with the MCBH Explosives Safety Officer at (808) 496-1830. All explosives will be handled and stored as required by the current edition of NAVSEA OP-5 Volume 1. Buildings used for processing or storing explosives will be identified or otherwise marked per requirements of the NAVSEA OP-5 Volume 1.

4. Spray Finishing Operations. Paint spraying and spray finishing operations shall conform to the requirements of reference (d). Additional requirements include:

a. No open flame or spark producing equipment is allowed within 25 feet of any spraying area.

b. Electrical motors driving exhaust fans will not be placed inside booths or ducts.

c. The use of solvents for cleaning operations will be restricted to those having flash points not less than 100° F.

5. Cleaning and Refinishing Floors. Only non-flammable liquids will be used for cleaning and refinishing floors.

6. Oxygen Systems and Storage. Precautions are as follows:

a. The use, handling, storage, repair, and maintenance of aircraft breathing oxygen systems will comply with current editions of Naval and Marine Corps directives and reference (e).

b. Except in an area specifically designated for such parking, no oxygen cart or oxygen trailer will be parked within 15 feet of any building.

c. Oxygen cylinders will be stored only in approved locations and will be protected against tampering. Cylinders will not be stored in aircraft servicing and maintenance areas of hangars near flammable materials or other readily combustible substances, or in the same fire area as other compressed gases. This regulation applies to trolleys, carts, or trailers carrying oxygen cylinders or tanks.

d. No open flame, spark producing equipment, or smoking is permitted within 50 feet of oxygen cylinders, tanks, or any breathing oxygen recharging operation.

e. Liquid oxygen servicing of aircraft will be accomplished only in an open area, on a concrete surface free of oil and flammable materials, and at least 50 feet away from vehicles, roadways, and sources of ignition.

f. No liquid oxygen service will be performed on an aircraft while it is being refueled, while maintenance work is being performed, or while the aircraft is in a hangar.

g. Oxygen carts will not approach or be parked within 100 feet of a fuel transfer operation while such operation is in progress, and will not approach any aircraft for oxygen servicing, until the tanker vehicles have left the vicinity.

h. Aircraft electrical system switches will not be operated, nor will ground power generators be connected or disconnected during oxygen servicing operations. The aircraft electrical power will be off during such servicing.

i. During oxygen servicing operations, the aircraft will be electrostatically grounded, and the oxygen cart or cylinders and/or liquid oxygen converter bonded to the aircraft.

j. Liquid oxygen will not be allowed to drain or spill on pavement. If a spill does occur, call 911 and immediately evacuate the area. DO NOT attempt to clean or mop-up liquid oxygen.

7. Battery Charging. Smoking, open flames, matches, and spark-producing devices are not allowed in the vicinity of charging batteries. Battery charging shops will be well ventilated and segregated from other areas by non-combustible construction. Battery vent caps will be in place before attaching or detaching charger cables. Warning signs will be posted.

#### 8. Open Flames

a. Outdoor fire places in campgrounds shall use approved clean burning wood, such as kiawe and oak, and be equipped with covers to mitigate the possibility of flying embers.

b. The use of portable barbecue grills in open areas is permitted, provided a 10-foot distance is maintained between the nearest structure and other combustibles. Any grill in use will be always attended, until all flames, coals, and embers have been extinguished and all ashes discarded.

c. Turkey fryers must be approved by BSD. Call (808) 496-1830 to coordinate site evaluation and approval for an open flame permit.

d. Open flames to include any heat producing device, smoking, or barbecue grills are prohibited within the MCAS boundary fence line. Appropriate signage delineates this area. Unit Commanders are responsible for the enforcement of this Order within their respective commands. For issues such as aircraft welding, commands must contact BSD for a hot work permit.

e. Outdoor fire places in family housing are only authorized to use propane or approved clean burning wood, such as kiawe and oak, and be equipped with covers to mitigate the possibility of flying embers.

f. Outdoor fire places are prohibited in the barracks.

g. Outdoor fire places, including fire rings, are prohibited on all beaches.

9. Tar Pots. Melting kettles or tar pots used in the application of tar, asphalt, and similar material will not be operated inside, on the roof, or within 25 feet of any building or combustible material. When in use, the melting kettle or tar pot shall be attended to by a competent operator. In addition:

a. A minimum of one 20 lb. ABC fire extinguisher shall be provided and maintained within 30 feet travel distance of every kettle while in operation.

b. The BSD (808) 496-1830 will be contacted prior to commencement of work for an inspection and review of fire safety procedures.

c. Melting kettles will be placed on level surfaces and protected against traffic, accidental tipping, or similar hazards.

d. Kettles for heating the material will be equipped with proper operating lids, heat/fuel controls, operating thermometer, and means of agitation to assure controlled uniform temperatures through contents to prevent spot heating.

e. The material will not be heated above the temperature necessary to produce workable fluidity and in no case above its flash point.

f. Surfaces on which the material is to be flooded, mopped, or otherwise applied will be free of dust, and ventilation will be provided to completely remove smoke and fumes.

g. When the material is applied within buildings or other enclosed areas, the atmosphere will be free of dust, and ventilation will be provided to completely remove smoke and fumes.

h. All smoking, flame producing devices, and other sources of ignition are prohibited in or around the area of application of the material including the kettle itself.

i. Mops, brushes, and other applicators, when not in use, will be stored in a safe area according to the contractor or operators Standard Operating Procedures.

10. Aircraft Hangars

a. Aircraft in hangars will always be properly grounded. Grounding points will be kept clean. Grounding cables and clamps will be maintained in good repair.

b. Grounding cables, when not in use, will be removed from the hangar decks to prevent the cable and grounding clamps from becoming damaged.

c. Hangar sliding door wells will not be used for storage purposes nor will they be blocked by vehicles, trash containers, or other material.

d. No automotive vehicles or equipment will enter inside a hangar except for such time as may be required for actual loading and unloading operations of equipment or materials. Line vehicles, line equipment, and ground support equipment will not enter or remain inside hangars except when used for direct support of aircraft maintenance and servicing.

e. Vehicles, equipment, or aircraft will not be parked in front of hangar doors, nor will they be parked outside the hangar in such a position as to restrict firefighting operations or the evacuation of aircraft from the hangar in the event of an emergency.

f. Combustible storage, maintenance vans, or structures of any kind are not permitted on hangar decks.

Chapter 10

General Storage Requirements

1. General. The standards, as set forth by references (c) and (d), are applicable to the layout and usage of all storage spaces within MCBH facilities.
2. Material Storage. Storage in buildings will be orderly. Storage rooms will be maintained in a closed and locked condition. The following additional provisions apply to the storage and handling of supplies:
  - a. Boiler rooms, mechanical rooms, and electrical rooms will not be used for the storage of combustibile materials.
  - b. Oily rags, sawdust, lint, clothing, etc., are subject to spontaneous heating and considered very dangerous. Store small amounts in metal waste cans with self-closing covers, and large amounts in heavy noncombustible barrels with covers.
  - c. Excelsior, straw, plastics, and other highly combustibile packing materials will be stored in metal bins equipped with fusible links and automatic closing lids.
  - d. A minimum clearance of 36 inches will be maintained between stored materials and walls.
  - e. An 18-inch minimum clearance will be maintained below automatic sprinkler heads and/or deflectors.
  - f. When stack heights exceed 15 feet, a 36-inch minimum clearance below sprinkler heads shall be maintained.
  - g. For stacks in buildings not equipped with sprinkler systems, regardless of height, a 36-inch clearance will be maintained below rafters and/or ceilings.
  - h. A minimum 18-inch clearance will be maintained between light fixtures and stored material.
  - i. Fire door openings will not be obstructed, nor will storage be allowed within 24 inches of automatic doors and/or mounting tracks.
  - j. Firefighting equipment, sprinkler valves, electrical panels, and related building service equipment will not be obstructed. A minimum 36-inch clear space will be maintained around all such equipment.
  - k. Access aisles will be provided at least every 50 feet. Aisles will be maintained to retard transfer of fire from one pile to another, and to permit convenient access for fire suppression, salvage, and removal of stock.
  - l. Wooden pallets will not be stored in buildings without a sprinkler system. In buildings with sprinklers, the maximum height will not exceed six

feet. Each pallet pile will be limited to four stacks, separated by at least eight feet between stacks.

m. Storage is not permitted in:

- (1) Attics above false ceilings, under raised floors.
- (2) Furnace rooms.
- (3) Battery charging rooms.
- (4) Crawl spaces.

3. Powered Material Handling Equipment (MHE). Gasoline powered vehicles or MHE will not be parked or stored overnight in buildings or sheds except as follows:

a. Electric powered hand pallet lift trucks and electric forklifts may be left in buildings provided they are located a safe distance from combustible materials.

b. Gasoline powered cargo handling equipment will not be housed inside the warehouse during non-working hours. Separate, detached storage will be provided for such equipment.

4. Storage of Compressed Gas Cylinders. Only containers designed, constructed, and tested, per U.S. DOT specifications and regulations, will be used for the storage of compressed or liquefied gases. Any cylinder showing evidence of excessive rust, corrosion, dents, or other surface defects, will be bled down to atmospheric pressure, and removed from service. The following general storage requirements for compressed gas cylinders will be observed:

a. Fire exit corridors and exit stairwells will not be used for the storage of compressed gas cylinders.

b. The preferable method of cylinder storage is a separate room or enclosure reserved exclusively for that purpose, having a fire resistance rating of at least one hour and proper ventilation.

c. All cylinders will be labeled or marked with the name and properties of the contents. Empty cylinders will also be marked and identified accordingly.

d. Cylinders will always be chained or otherwise secured in place whether in use, empty, or stored. Cylinders will be secured during transit.

e. The cylinder protective metal cap will be kept securely in place during transfer and storage. Never lift cylinders by the cap.

f. Do not use cylinders without a regulator.

g. Non-compatible or reactive gases stored within buildings will be separated by gas tight partitions. When stored in the open, cylinders of

such gases will be separated by a well-ventilated clear space of at least 20 feet or isolated by a barrier of noncombustible material at least five feet high, having a minimum fire resistance rating of one-half hour. Gas cylinders stored in the open will be protected from direct sunlight by suitable means.

h. Oxygen cylinders will be stored away from any oil, grease, or highly flammable material.

i. Facilities that store cylinders must be identified by markings or placards listed in the Standard System for the Identification of the Hazards of Materials for Emergency Response, NFPA 704.

5. Lithium Batteries. Where lithium batteries are approved for use within the Marine Corps, installations must package, handle, store, transport, use, and dispose of them in a manner that will minimize the dangers of fire, explosion, and adverse impacts to human health caused by hazardous substance releases to the environment. Tenant commands shall have a central control point for lithium battery storage, issue, and collection.

#### 6. Lithium Battery Hazards

a. Explosion. Lithium batteries provide greatly increased shelf life and specific energy over lead acid or Nickel Cadmium (NiCad) batteries. Lithium batteries contain much higher energy content, sometimes in pressurized cells. Because these pressurized cells can rupture, under no circumstances should the battery be deliberately opened, crushed, punctured, disassembled, or mutilated. These batteries should also not be heated or incinerated, as overheating may produce internal pressure exceeding their venting capacity causing them to explode. Primary (non-rechargeable) lithium batteries shall never be recharged. Such action could cause venting, rupturing, and fire.

b. Fire. Lithium is a reactive metal that burns extremely hot when ignited and is difficult to extinguish without proper training and equipment.

(1) Use an approved Class-D fire extinguisher (i.e., National Stock Number (NSN) 4210-01-303-3999 or equivalent, Lith-X extinguishers, Navy 125 (S)) to extinguish a fire in lithium battery storage areas. Large amounts of water may be used to cool a fire fueled by lithium batteries or cool lithium batteries near a fire. A Class-D extinguisher may be required to completely extinguish exposed lithium. Never use water if a shock hazard exists from high voltage electrical equipment in the immediate vicinity of the fire.

(2) Do not use MET-L-X (for use on metal fires) fire extinguishers to extinguish a fire in lithium battery storage areas. MET-L-X fire extinguishers (i.e., NSN 4210-00-580-9191) will not extinguish a lithium battery fire due to its extremely high temperature, and they may fuel the fire with a violent reaction.

(3) Do not use halon fire extinguishers to extinguish fire in lithium battery storage areas.

c. Toxic Gases. Lithium batteries will release toxic gases if they vent. These gases are highly corrosive and may injure personnel at concentrations as low as 10 parts per million in ambient air (equivalent to a one-second inhalation).

d. Hazardous Waste. In general, lithium batteries should be considered hazardous waste when no longer suitable for use and disposed of accordingly.

e. Chemical Burn. Lithium batteries will release toxic chemicals if they leak, vent, or rupture from internal overpressure due to short-circuiting, voltage reversal, or heat. These chemicals are highly corrosive and may cause grave injury to personnel. When handling batteries that have leaked, vented, or ruptured, use personal protective equipment (e.g., chemical resistant gloves, eyewear, etc.).

## 7. Lithium Battery Storage Requirements

a. Lithium batteries suitable for use shall be stored in command-approved storage facilities or areas. Only lithium batteries will be stored in these facilities or areas. BSD, FFD, and Environmental must approve each facility or area selected for lithium battery storage. The criteria for a lithium battery storage facility or area include:

(1) Ease of access for emergency response equipment.

(2) Distance from other structures.

(3) Inaccessibility to unauthorized personnel.

(4) Distance from bodies of water, canals, or ditches that could allow heavy metal released from batteries during a fire to enter the bodies of water.

b. New lithium batteries will be stored separately from "used" batteries that remain suitable for use. All batteries will be stored at least two inches from facility walls and have at least two inches between stacks to promote air circulation for cooling. Stacks will be no higher than three boxes high. Batteries will be protected from crushing, puncturing, or short-circuiting by storing them in the original or equivalent packaging. All batteries will be inspected daily for evidence of leakage, excessive heat, or exposure to water.

c. Lithium batteries suitable for use may become unstable at temperatures greater than 130° F. Thermometers will be placed within each battery storage facility or area to monitor the temperature control. Should the temperature exceed 130° F, the unit safety officer shall be notified.

d. Lithium batteries shall not be exposed to direct sunlight or water during storage or while discharging.

e. If personnel suspect a lithium battery is venting (e.g., noxious or irritating odor, hissing sound, smoke, or flames), all personnel shall immediately leave the battery storage facility or area and call 911. No one, other than properly trained and equipped emergency response personnel, shall

re-enter the battery storage facility or area. SDSs shall be maintained and made available at the battery storage facility or area for emergency response personnel.

f. Appropriate fire suppression equipment shall be readily accessible at the battery storage facility or area. This and any other fire equipment on site will be inspected at least annually as required by reference (d).

g. Eating, drinking, and smoking in or around a battery storage facility or area is prohibited due to the risk of contaminating food or drink. Signs shall be placed on all four sides of each battery storage facility or area. These signs will prohibit open flames, eating, drinking, and smoking. Each battery storage facility or area will also be conspicuously marked to warn emergency service personnel of lithium battery contents.

h. Units shall inspect battery storage facilities and areas at least quarterly to assess their serviceability.

Chapter 11

Family Housing

1. Fire Prevention. Family sponsors occupying Base Housing (PPV) will implement the fire prevention actions set forth in Appendix D. Per reference (f), fire prevention training will be provided to all residents of PPV housing within 30 days of assignment and upon request by PPV. Residents will be provided the Community Handbook, which addresses Fire Prevention. Completion of fire prevention training will be verified by PPV via their attendance roster for New Resident Orientation. The following responsibilities are established for successful execution of the program:

a. Residents will follow the instructions as outlined in their lease agreement/amendment "Community Handbook".

b. The Family Housing Office will inform new residents of the requirement during in-processing with a complete review of the Community Handbook.

2. Family Housing Fire Plan. Each member of the family old enough to walk should be drilled in the elements of self-preservation in the event of a fire emergency. Important elements suggested for inclusion in a housing emergency evacuation plan are contained in Appendix E and the Community Handbook provided by PPV Housing for all occupants.

APPENDIX A

BUILDING EVACUATION DRILL EVALUATION CHECKLIST

ACTIVITY & LOCATION:		DATE:		
REQUESTOR NAME:		TELEPHONE:		
NUMBER OF PARTICIPANTS:		EVACUATION TIME:		
<b>EVALUATION CHECKLIST</b>		<b>YES</b>	<b>NO</b>	<b>N/A</b>
<b>ADMINISTRATIVE REQUIREMENTS:</b>				
1. Does activity have an established Emergency Action Plan?				
2. Are there adequate fire evacuation plans posted?				
3. Are occupants familiar with emergency evacuation procedures?				
<b>FIRE DETECTION &amp; NOTIFICATION SYSTEMS:</b>				
1. Did a person notify the Regional Dispatch Center (RDC)?				
2. Was a fire alarm system used for the scheduled building evacuation drill?				
3. Was the fire alarm received by the RDC?				
<b>BUILDING EVACUATION DRILL EVALUATION</b>				
1. Did occupants evacuate the facility in an orderly manner?				
2. Are doors being closed while evacuating the facility?				
3. Are there established assembly areas for occupants?				
4. Was there a roll call or head count taken for accountability?				
5. Did a person meet the arriving firefighters?				
DRILL RATING:		ACCEPTABLE	UNACCEPTABLE	
REMARKS:				
FIRE WARDEN SIGNATURE:			DATE:	

APPENDIX B

FIRE BILL

# FIRE BILL

**BUILDING NO.** \_\_\_\_\_  
**Fire Warden Name:** \_\_\_\_\_  
**Contact No.:** \_\_\_\_\_

## IN CASE OF FIRE

1. **USE NEAREST FIRE ALARM BOX AND TELEPHONE.**



**DIAL: 9-1-1**

Know the location of the nearest alarm box and the nearest telephone in your area. When using the telephone, **REPORT BUILDING NUMBER & INSTALLATION SITE.** Have a designated individual to direct Fire Department to the scene of the fire.

2. **EVACUATE THE BUILDING BY ACTIVATING THE ALARM ---- PASS THE WORD.**

**All personnel shall clear the building**

3. **IF TIME PERMITS, CLOSE DOORS AND WINDOWS TO CONFINE THE FIRE AND PREVENT DRAFTS. DO NOT ENDANGER YOURSELF OR OTHERS IN THIS EFFORT.**
4. **USE PROPER EQUIPMENT AT HAND TO EXTINGUISH THE FIRE, IF SAFE TO DO SO.**

APPENDIX C

FIRE WARDEN MONTHLY INSPECTION CHECKLIST

Building/Area inspected \_\_\_\_\_ Date \_\_\_\_\_

Fire Warden Name and Signature \_\_\_\_\_

1. **Fire Extinguishers:** Each type of portable fire extinguisher(s) has been inspected for the following:

	Y	N	NA	COMMENTS
Is the fire extinguisher shell clean and free of corrosion, leakage, and damage?				
Has maintenance been performed within six years?				
Is the safety pin and tamper detection seal intact?				
Is the discharge orifice clear and unobstructed?				
Is the hose, shell, and nozzle connections secure?				
Extinguishers are mounted in their designated location where the top of the extinguisher does not exceed five feet from the floor and the bottom is no less than four inches above the floor?				
Are extinguishers free of obstructions and readily accessible?				
Is the pressure gauge or indicator in the operable range or position?				
Are inspection tags present and current?				
Are identification signs properly posted?				
Are employees trained in the use of extinguishers and fire protection procedures?				

2. **Facility:** Exits, Exit signs, Emergency lights, Stairs, Corridors, Passageways, Aisles, Ramps, Electrical/Mechanical Rooms, and Closets have been inspected for the following:

	Y	N	NA	COMMENTS
Are fire lanes maintained and clear?				
Does each Emergency light illuminate when the test button is pressed?				
Are Exit signs unobstructed from view and illuminates when the test button (if equipped) is pressed?				
Are exits and egress areas free from obstructions?				
Are emergency exits unlocked while the building is occupied?				
Do exits function properly and without any obstructions, tools, or special knowledge?				
Are all ceiling tiles in place?				
Are flammable and combustible materials removed from under stairwells?				
Are Electrical and Mechanical rooms clean, unobstructed, and free from storage?				
Are the aisles, corridors, hallways, stairwells, under stairwells, passageways, and ramps free and clear of obstructions and combustible material?				

**3. Flammables and Storage Cabinets:** Have been checked for the following:

	Y	N	NA	COMMENTS
Are all flammable liquids kept in closed containers when not in use?				
Only flammable liquids and aerosols are stored in the flammable storage cabinets?				
Flammables are properly labeled and in the proper containers?				
Is liquified petroleum gas stored, handled, and used per safe practices and standards?				
Are batteries (equipment/vehicle) in large quantities, stored in a well-ventilated area and away from any ignition sources?				
Are combustibile scrap, debris, and waste materials (oily rags, etc.) stored in covered noncombustible containers and promptly removed from the worksite?				

**4. Electrical Fire Hazards:** The workplace/facility have been checked for the following:

	Y	N	NA	COMMENTS
Are extension cords being used in lieu of permanent wiring?				
When extension cords are in use, are they plugged directly into an outlet?				
Are any cords running through doors, windows, walls, or under carpet?				
Are extension cords in serviceable condition?				
Do all electrical outlets and switches have face plates on them?				
Are power strips and surge protectors plugged directly into an outlet and used properly?				
Are appliances plugged directly into electrical outlets?				
Is a three-foot clearance provided around all circuit breaker panels?				
Are unused spaces in each circuit breaker panel properly covered with a blank?				
Is all electrical equipment listed or approved?				
Is heat producing devices de-energized or unplugged when not in use?				

**5. Housekeeping, Fire Alarms Control Panels, Sprinklers, Detectors, and Notification Devices:** The following have been checked:

	Y	N	NA	COMMENTS
Housekeeping is in good order i.e., eliminate unwanted fuels, removing obstructions, controlling sources of ignition, and improving safety for firefighting and emergency response personnel?				
Is there accumulation of unused pallets or other combustibile material inside and outside of the building?				
Are the Fire alarm panels in the building operational and unobstructed?				
Is the Fire alarm panel outside of the building (green Kingfisher panel) operational and unobstructed?				
Are Smoke detectors operational?				
Are fire alarm pull stations clearly visible and unobstructed?				
Is there always at least 18 inches of clearance maintained from all sprinkler heads?				

**6. Fire Warden Responsibilities:** The following have been inspected or performed as required.

	Y	N	NA	COMMENTS
Is the Fire Warden designated in writing and has attended Fire Warden Training?				
Is a current copy of Marine Corps Base Hawaii Order 11320.6F Fire Regulations readily available?				
Are Fire Bills properly posted?				
Is the Fire Evacuation Diagram current and properly posted?				
Are building evacuation drills conducted on an annual basis or more frequently if required?				
Are all employees familiar with and have read the Fire Evacuation Plan?				

**Problems/Action Taken:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Note:** For questions pertaining to this checklist, call the Base Safety Department at (808) 496-1830.

APPENDIX D

FIRE PREVENTION ACTIONS FOR FAMILY HOUSING

1. Before retiring each night:
  - a. Ensure all smoking material is extinguished.
  - b. Ensure all heat-producing appliances are off or unplugged.
  - c. Close bedrooms, or hall doors, if possible.
2. Review the following fire prevention tips and correct or eliminate as necessary.
  - a. Locate all possible exits from a room and/or floor and discuss escape routes with family members. Select a meeting place for all family members once they are clear of the home. Hold a fire drill for your home to practice the family escape plan.
  - b. Do not disable smoke alarms. Test all smoke alarms monthly and replace batteries annually.
  - c. Do not permit grease to accumulate on or around stoves and keep combustible items away from cooking surfaces. Do not put food on the stove to cook and go to sleep or leave your home.
  - d. When you leave your home for any length of time, make sure the stove, clothes dryer, or any other electrical appliance is turned off.
  - e. Check electrical cords for cracks, breaks, or damage.
  - f. Do not leave electrical cords where children can reach them or use extension cords as a permanent connection. Electrical and extension cords should not be run under carpets, tacked to the wall, or run between doorways, through door holes in the walls, or in ceilings.
  - g. Do not overload electrical outlets or circuits.
  - h. If a circuit breaker continuously trips, contact your respective housing agency to have it repaired. Do not secure circuit breaker in "on" position.
  - i. Keep matches and lighters out of the reach of children.
  - j. Storage of flammable liquid, such as gasoline, is restricted to one gallon and should be properly stored in a secure area.
  - k. Do not keep or accumulate oily or paint rags.
  - l. Dryer lint traps should be cleaned before each use of the dryer.
3. Window air conditioning units will not be installed by occupants in family housing unless the Family Housing Department gives prior approval.

Information regarding criteria for installation may be obtained from the Housing office.

4. The dispensing and storage of flammable liquids will be handled per the following:

a. Flammable and combustible liquids will only be dispensed into and transported and stored in DOT approved plastic containers or approved safety cans.

b. Plastic or glass bottles, screw top cans, or similar devices will not be used for the storage or dispensing of flammable and combustible liquids.

APPENDIX E

HOUSING EMERGENCY EVACUATION PLAN

1. Gather your family together and carefully explain the vital fire escape principles described below.
2. Every family should have a pre-arranged fire escape plan. Two exits or escape routes must be considered for every bedroom, one being the normal exit through a door, the other being a window used as an emergency exit. As part of the fire escape/evacuation plan, a window exit should be selected that would allow fire ladders to be raised, in case of second story or higher. Windows should also be considered as sources for breathing air in a smoke-filled room while trapped occupants are awaiting rescue.
3. Smoke detectors installed in family housing operate from the regular household electrical system and have a battery backup. In the event of power loss or electrical system damage, smoke detecting capability will still exist, if the battery is replaced annually, at a minimum.
4. Warn your family that, whether they see flames or not, do not waste time getting dressed or gathering valuables. Seconds are precious in escaping. Remember, smoke and gases kill more people than fire itself. Do not delay just because there are no flames.
5. If feasible, sleep with the bedroom or hall door closed. A closed door will assist in keeping fire out of the room long enough to allow escape through your emergency route.
6. Intense heat, deadly smoke, and flames may be on the other side of a door. Test the door before opening it. To test the door, feel the panels to see if they are hot; if the panels are hot or smoke is leaking through the door edges, do not open the door, instead use the emergency escape route. If you think it is safe, open the door cautiously, but brace your shoulder against the door (keeping your head to one side), open the door slightly, but be ready to slam it shut if either heat or smoke rushes in.
7. Designate a safe meeting place outside your home. Upon hearing a smoke detector alarm or other manual emergency signal/alarm, safely evacuate and go to that designated location at once. Check for all family members; once out of the house, stay out.
8. Call 911 using a cell phone, the telephone at the nearest neighbor's house, or fire alarm box. Remember, don't stall, call 911. Give 911 the installation location, street address, and/or building number.
9. Conduct an exit drill in your home at least once a year.

APPENDIX F

SYSTEM OUT-OF-SERVICE OR IMPAIRED SIGN

