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Safety

BILLETING OPERATIONS



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The criteria in this standard are the Air Force's minimum safety, fire prevention, and occupational health requirements. Major commands (MAJCOM), direct reporting units (DRU), and field operating agencies (FOA) supplement this standard when additional or more stringent safety, fire prevention, and health criteria are required. Refer to Air Force Instruction (AFI) 91-301 *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*, for instructions on processing supplements or variances. Report conflicts in guidance between this standard, federal standards, or other Air Force directives through MAJCOM, DRU, or FOA ground safety offices to Headquarters Air Force Safety Center, Ground Safety Division, Safety Engineering and Standards Branch (HQ AFSC/SEGS), 9700 G Avenue, SE, Kirtland AFB NM 87117-5670.

This standard applies to all billeting operations and facilities including permanent party dormitories, transient facilities, visiting officer quarters, visiting airman quarters, temporary lodging facilities, aerial port quarters, unaccompanied officer quarters, and unaccompanied enlisted quarters, plus housing supply and linen exchange functions managed by billeting. It covers Air Force and contractor-operated billeting services and military and civilian employees including nonappropriated fund (NAF) employees. This standard applies to all US Air Force organizations, including all US Air Reserve personnel and when Air National Guard personnel are on federal service. It implements regulatory portions of applicable Occupational Safety and Health Administration (OSHA) standards and other national safety consensus standards listed in the 'references' section of attachment 1. **NOTE:** AFOSH 127-series standards are being converted to 91-series standards and the 161-series to 48-series standards. However, not all standards have been converted as of the effective date of this standard. To help you locate these documents, references to AFOSH standards are stated in the updated series and standard number, with the outgoing series and standard number stated as "formerly designated as" in the 'references' section of attachment 1.

SUMMARY OF REVISIONS

Administrative changes have been made to update this standard to electronic format. Paragraphs have been renumbered and references updated as required. Minor changes will be annotated by a | .

Chapter 1

HAZARDS AND HUMAN FACTORS

1.1. General billeting operations present a variety of hazards requiring care and attention on the part of both worker and supervisor to prevent injuries and loss of property. Multifloor units present hazards inherent in climbing stairs. Other hazards are present when cleaning equipment is located in hallways when adequate storage does not exist. Older facilities have high walls and ceilings requiring stretching or the use of ladders. Facilities are usually geographically dispersed from the central office location creating a problem with snow or ice removal from sidewalks and entrances. Convenience items in billeting areas, such as linens and towels, are often found lying loose. Damp slick floors are present where tile is cleaned using water and wax mixture. Other inherent hazards include uneven stairs and sidewalks and natural landscape hazards.

1.2. Equipment used in billeting activities is predominately hand-held and operated. Electrical mishaps can occur when appliance plugs are not properly grounded. Frayed cords and broken plugs which go uncorrected can produce shocks and burns or cause fires. Injuries can occur when changing belts on appliances or doing minor maintenance work. Failure to turn off equipment and to disconnect the power source after use may result in injury.

1.3. Cleaning agents can cause skin and eye irritation and respiratory problems if improperly used:

1.3.1. Ammonia solution is frequently used as a cleaning agent. Ammonia gas is released from the solution and prolonged breathing of the vapors in confined spaces can be harmful.

1.3.2. Drain cleaners can cause skin burns and damage to the eyes. Caustic solutions are often used for cleaning bathroom, latrine, shower, and kitchen facilities. Soaps and detergents may cause dermatitis (skin rash) and throat and respiratory irritation may occur from inhalation of soap dust.

1.4. Microwave ovens are used in some facilities. Hinges and catches may loosen through use permitting microwave radiation to escape. Spilled food can prevent oven doors from closing properly. If the interlock system fails, the unit may not shut off when the door is opened. Low intensity ultraviolet radiation sources are present in sun lamps found in some distinguished visitor quarters.

1.5. Landscaping or ground maintenance equipment presents hazards due to their ability to grind, mulch, or cut. Equipment of this nature can throw out debris (rocks, wire, nails) hidden in the grass and bystanders and (or) the operator can be struck and severely injured. Fingers have been severed when operators failed to turn off and disconnect the spark plug wire before reaching under mowers to clean out lodged debris. Personnel attempting to refuel gasoline powered mowers with the engine running or while the manifold is still hot can be badly burned or catch the mower on fire.

1.6. Furnishings are generally heavy and bulky requiring frequent movement for cleaning or rearrangement. Improper lifting, moving, and carrying may result in backstrains and extremity abrasions and cuts. Trash receptacles may contain sharp objects, cans, or broken glass. Vacuum cleaning bags may also contain sharp objects.

1.7. Loading dock injuries can occur when an individual steps off an open dock or the dock is not the same height as the back of the vehicle. This factor causes employees to have to jump down or up and can

be a cause of back or knee sprain or other injuries. Vehicle mishaps, especially those involving backing into narrow areas, occur when the operator fails to use the proper procedures.

1.8. Fire hazards exist when personnel store flammable liquids, such as cleaning solvents, in unauthorized areas.

1.9. The danger of falling objects is present in most billeting facilities. Items improperly stacked or stored can fall. Falling debris and flaking paint can get into eyes when janitorial personnel clean items above eye level. Improperly positioned or lifted furniture items can also fall.

1.10. Frostbite can occur when skin is exposed to severe weather conditions.

1.11. Billeting personnel are exposed to the potential of burns in kitchen areas when burners are left on and the employee touches these areas.

1.12. While most powered industrial trucks have four wheels on the ground and a steering wheel, their handling characteristics are different from those of an automobile. They have a short wheel base and a relatively high center of gravity which adversely affects their stability. Conditions impacting on their stability include surface, grade, load height, and the dynamic forces generated by maneuvering. They are susceptible to tipping and are difficult to control on turns. They are usually steered with one hand while the operator has the other hand on the load-carrying controls. One of their peculiarities is the “free turn” phenomena. Once started in a turn, they tend to turn ever more tightly in the same direction unless steering wheel correction is applied. To further complicate matters, industrial trucks are driven in reverse almost as frequently as they are driven forward. Most Air Force industrial trucks are powered by gasoline engines, but there are also electrically powered trucks in use.

Chapter 2

GENERAL REQUIREMENTS

2.1. Employee Training . Since billeting facilities are of various designs, types, and styles, many hazards are present which cannot be individually addressed. Consequently, the singularly best approach to reducing mishaps is a good local educational program, coupled with appropriately marked hazards and warnings. The administrative control established by this standard shall be specifically included in job safety training required by AFI 91-301.

2.1.1. Commanders will ensure supervisors and employees who handle, use, or are potentially exposed to hazardous materials in the course of official Air Force duties, are provided information and training on the Air Force Hazard Communication Program (AFHCP) and the specific hazards in their work area. This training will be conducted upon initial work area assignment and whenever a new hazard is introduced into their work area. This initial training will occur before employees are exposed to hazardous materials. If a new material, process, operation, or condition has hazards on which employees have already been trained, retraining is not required. With respect to federal civilian employees, their applicable collective bargaining agreement may contain procedures addressing labor's involvement with safety and health training. (Refer to AFOSH Standard 161-21, *Hazard Communications*.)

2.1.2. Each billeting employee shall receive a thorough indoctrination and orientation in the facility and environment where they work. This orientation shall include as a minimum:

2.1.2.1. Design and layout of the facility.

2.1.2.2. Ground irregularities adjacent to the facility and walkway or passageway hazards.

2.1.2.3. Facility entrances, fire exits, fire prevention, and the location of installed fire protection equipment and fire extinguishers.

2.1.2.4. Proper procedures for handling and storage of cleaning agents.

2.1.2.5. Stairwell hazards and proper methods of ascending or descending stairs with loads.

2.1.2.6. Hazards of the job tasks they will do.

2.1.2.7. Hazards of the work areas to include physical and chemical hazards.

2.1.2.8. OSHA and (or) AFOSH requirements that apply to their job and workplace.

2.1.2.9. Personal protective clothing and equipment they will need, how to use it, and how to maintain it.

2.1.2.10. Location and use of emergency and fire prevention equipment and how to report a fire.

2.1.2.11. Emergency procedures that apply to their job and workplace, including building evacuation procedures, fire reporting procedures, and location of fire alarms.

2.1.2.12. How to identify and report hazards.

2.1.2.13. How to report work-related injuries and illnesses.

2.1.2.14. Their personal rights and responsibilities under the AFOSH Program.

2.1.2.15. How to lift properly (refer to paragraph 3.2.3).

2.1.3. Supervisors may supplement this training by using the 35 millimeter slide and (or) tape presentation titled, “Occupational Series — Common Sense In House Keeping — Billeting.” It is available by request through the Joint Visual Information Services Distribution Activity, USAVIA/JUIA, Attn: SAM/OPV/J/AS, Bldg 3, Bay 3, 11 Hap Arnold Blvd, Tobyhanna, PA 18466-5102..

2.2. Walking and Working Surfaces, Aisles, and Passageways. Essential regulatory AFOSH and OSHA 29 Code of Federal Regulations (CFR) 1910 Subpart D, *Walking-Working Surfaces*, requirements are included in this standard (refer to AFOSH Standard 127-22, *Walking Surfaces, Guarding Floor and Wall Openings and Holes, Fixed Industrial Stairs, and Portable and Fixed Ladders*, and National Fire Protection Association [NFPA] 101, *The Life Safety Code*, for more detailed information).

2.2.1. Every open-sided floor or platform 4 feet or more above adjacent floor or ground level shall be guarded by a standard railing on all open sides, except where there is an entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a toeboard beneath the open sides.

2.2.2. Every stairway floor opening will be guarded on all exposed sides, except the entrance to the stairway.

2.2.3. Every ladderway floor opening will be guarded by a standard railing and toeboard on all sides, with passage through the railing constructed so a person is prevented from walking directly into the opening.

2.2.4. Every runway or ramp will have railings on all open sides 4 feet or more above ground or floor level.

2.2.5. All passageways and storage areas will be maintained clean, dry, orderly, and in sanitary condition. Spills will be promptly cleaned up.

2.2.6. Areas which are constantly wet will have nonslip surfaces where personnel normally walk or work. Signs will be posted stating “Caution Wet Floors.”

2.2.7. Every floor, work area, aisle, and passageway will be maintained free from protruding nails, splinters, holes, loose boards, and (as much as possible) in a dry condition.

2.2.8. Where mechanical handling equipment such as lift trucks are used, sufficient safe clearance will be provided for aisles at loading docks, through doorways and passageways. Obstructions that could create hazards will not be permitted in aisles. Aisles will be marked at least 2 feet wider than the widest vehicle used.

2.2.9. Nonslip surfaces and handrails shall be provided for ramps with excessive slope.

2.2.10. Aisles will be at least 30 inches wide to permit free movement of workers, equipment, and supplies.

2.2.11. Covers or guardrails will be used to protect people from the hazards of open pits, tanks, vats, ditches, etc.

2.2.12. The following requirements apply to flights of stairs having four or more risers:

2.2.12.1. A stair railing is required on each open side.

2.2.12.2. If the stairway is less than 44 inches wide and both sides are enclosed, at least one hand-rail is required, preferably on the right side descending.

2.2.12.3. If the stairway is greater than 44 inches wide, a handrail is required on each enclosed side and a handrail on each open side.

2.2.12.4. If the stairway is greater than 88 inches wide, an intermediate handrail located midway is required.

2.2.13. Riser height and tread width will be uniform throughout any flight of stairs (1/8-inch tolerance).

2.2.14. All treads will be reasonably slip-resistant and free of projections or lips that could cause a tripping hazard.

2.2.15. Vertical clearance above any stair tread to any overhead obstruction will be at least 7 feet, measured from the leading edge of the tread.

2.2.16. Sidewalk ramps will be installed where heavy equipment, for instance cleaning carts, are used.

2.3. Electrical Installation and Equipment. NFPA 70, *The National Electrical Code (NEC)*, and NFPA 70E, *Electrical Safety Requirements for Employee Workplaces*, are the source documents for electrical installation and equipment and shall be complied with.

2.3.1. Circuit breakers and fuse boxes will be legibly marked to indicate their purpose.

2.3.2. Frames of electrical motors, regardless of voltage, shall be grounded.

2.3.3. Wherever wires are joined, such as at outlets, switches, junction boxes, etc., they shall be covered. Flexible cords shall not be used as a substitute for fixed wiring, run through holes in walls, ceilings, or floors, or attached to building surfaces.

2.3.4. Equipment connected by flexible cords shall be grounded either by a 3-wire cord or by a separate groundwire. Metal-based plugs are prohibited unless specifically authorized by the NEC.

2.3.5. Splices, joints, and the free ends of conductors shall be properly insulated and installed by a qualified electrician (refer to NFPA 70, Article 400-9 for further guidance). Power cords that are frequently placed under tensile stress, e.g., vacuum cleaner cords, shall be used only in continuous length without splices or tapes, fastened so there is no pull on joints or screws, and replaced when frayed or when insulation has deteriorated.

2.3.6. Portable or fixed electrical tools installed in billeting shall be able to function at full rating without developing surface temperatures high enough to ignite vapors from flammable and combustible liquids present in the area.

2.3.7. Electrical outlets shall be located away from kitchen and bathroom sinks, and should be located as close to counter space as possible.

2.3.8. All electrical receptacles (125 volt, single phase, 15 and 20 ampere) installed in bathrooms, will have Ground-Fault Circuit-Interrupter (GFCI) protection.

2.3.9. All electrical receptacles, as in paragraph 2.3.8., installed within 6 feet of a kitchen sink to serve countertop surfaces, will have GFCI protection.

2.4. Machinery, Shop Equipment, Machine Guarding, and Power Transmission. Minimal coverage is included because of the few number of machines in billeting (refer to AFOSH Standard 91-12, *Machinery*, for further information and guidance).

2.4.1. Some billeting operations have small minor maintenance shops. Machinery and shop equipment will be maintained and operated by qualified personnel. A sign reading “Unauthorized Use of Equipment Not Permitted” will be posted. Billeting operations machinery, such as buffers and vacuum cleaners, are generally portable and require minimal instructions. Buffers and vacuum cleaners used in wet areas will be specifically approved for such use and inspected before use to ensure safe integrity of wiring, grounds, etc.

2.4.2. Face shields or safety glasses will be worn when operating fixed or portable equipment, such as: key-making machines, mowers, edgers, grinders, weed cutting machines, and hedge trimmers, which may produce flying debris.

2.4.3. Rings or wristwatches will not be worn when operating shop machinery (refer to AFOSH Standard 91-66, *General Industrial Operations*, for further guidance).

2.4.4. Loose fitting clothing, neckties, or other apparel that may become entangled in moving machinery will not be worn. Hairnets, snoods, or caps will be worn to keep long hair away from machinery (refer to AFOSH Standard 91-31, *Personal Protective Equipment*).

2.4.5. One or more methods of machine guarding shall be provided to protect the residents, operator, and other employees in the machine areas from hazards such as those created by the point of operation, rotating parts, flying parts or chips, sparks, and power transmission apparatus.

2.4.5.1. Certain guarding methods are preferable to others. The type of operation, size or shape of stock, method of handling stock, physical layout, type of material, and production requirements or limitations are important considerations. As a general rule, power transmission apparatus can be protected by fixed enclosure guards.

2.4.5.2. Manufactured guards will be attached to the machine. The guard will prevent the operator from having any part of the body in the danger zone during the operating cycle of the machine. Guards will not be installed in a way that creates a hazardous situation. Machines designed for fixed locations will be securely anchored to prevent “walking” or tipping .

2.4.6. All hazards located 7 feet or less above the ground, floor, or working platform will be guarded to prevent accidental contact.

2.4.7. If machines require undervoltage protection, AFOSH Standard 91-12 will be consulted..

2.5. Fire Protection and Prevention. Billeting personnel shall receive fire prevention training as part of their general orientation. Most billeting fires are caused by careless use of smoking materials, ignition of combustible materials left in storage areas, ignition of accumulated grease in kitchens, overheating of appliances left in the “on” position while the occupant is absent, or use of unauthorized cooking and heating appliances.

2.5.1. Billeting facilities are constructed to comply with the standards of Department of Defense (DOD), Military Handbook 1008, *Fire Protection for Facilities — Engineering, Design, and Construction*, Air Force directives, and NFPA 101 that are in effect at the time of construction. It is the responsibility of the base civil engineer to ensure the applicable provisions of these governing direc-

tives are included when contracting for the construction of new billeting facilities or renovation of existing facilities.

2.5.2. The use of fuels such as gasoline to clean floors and clothing or to use cigarette lighter fluid as a solvent is prohibited. Open solvent or gasoline containers will not be kept near electrical equipment.

2.5.3. Fire extinguishers will be installed in and around billeting facilities. The number, type, and location of extinguishers depends upon the size and layout of the facility, the number of floors, and whether the facility is equipped with sprinklers. Refer to AFOSH Standard 91-56, *Fire Protection and Prevention*, for information on installation, inspection, maintenance, and hydrostatic testing of portable fire extinguishers.

2.5.4. Fire extinguishers will meet OSHA 29 CFR 1910.157, *Portable Fire Extinguishers*, requirements:

2.5.4.1. Be kept fully charged and in their designated places.

2.5.4.2. Be located along normal paths of travel.

2.5.4.3. Not be obstructed or obscured from view.

2.5.4.4. Be inspected by management or a designated employee at least monthly to ensure:

2.5.4.4.1. They are in their designated places.

2.5.4.4.2. They have not been tampered with or actuated.

2.5.4.4.3. They do not have corrosion or other impairments.

2.5.4.4.4. The area is accessible and not obstructed.

2.5.4.4.5. They are examined at least yearly or recharged or repaired to ensure operability and safety.

2.5.4.4.6. They are placed so the maximum travel distances, unless there are extremely hazardous conditions, do not exceed 75 feet for Class A fires or 50 feet for Class B fires. (All kitchens will have a dry chemical fire extinguisher or equivalent installed to combat grease or electrical fires.)

2.5.4.5. All employees will be trained in the use of these extinguishers.

2.5.4.6. Flammable liquids, when not in use, will be stored in an approved flammable storage locker.

2.5.4.7. Each month a building custodian will ensure correct phone numbers for the fire department, security police, and medical facility are posted on telephones.

2.6. Exits and Exit Markings . Essential regulatory OSHA 29 CFR 1910 Subpart E, *Means of Egress*, and NFPA 101 information is included below:

2.6.1. Fire exits will be clearly marked and the path of exit will be kept clear of equipment and materials, emergency lighting will be provided, and all employees will be trained in proper evacuation procedures for patrons and themselves.

2.6.2. Doors, passageways, or stairways which are neither exits nor ways to an exit but may be mistaken for an exit, will be clearly marked “NOT AN EXIT” or a sign indicating their actual use, for example, “STORAGE ROOM” or “BASEMENT”.

2.6.3. Exit access will be arranged so it is unnecessary to travel toward any area of high hazard potential in order to reach the nearest exit (unless the path of travel is effectively shielded by suitable partitions or other physical barriers).

2.6.4. Nothing will impair the visibility of the exit sign.

2.6.5. No lock or fastening device will be used to prevent escape from inside the building.

2.6.6. Areas around exit doors and passageways shall be free of obstructions. The exit route shall lead to a public way.

2.6.7. The floors or means of egress shall be illuminated at all points, including angles and intersections of corridors and passageways, stairways, landings of stairs, and exit doors, to values of not less than 1 footcandle measured at the floor.

2.7. Personal Protective Equipment (PPE). PPE will be used whenever there are hazards that can do bodily harm through absorption, inhalation, or physical contact. This equipment includes respiratory and hearing protective devices, special clothing, and protective devices for the eyes, face, head, and extremities. All PPE will be approved for the work performed and will be maintained in satisfactory condition. The base ground safety and bioenvironmental engineering (BE) officials will be consulted. (Refer to AFOSH Standards 91-31, 48-1, *Respiratory Protection Program*, and 48-20, *Hearing Conservation Program*.)

2.7.1. There are different types of eye protection designed for specific operations and supervisors will ensure their employees have and wear the proper type. A good example of this is the eye protection (designed to prevent liquids from entering the eye) required where there is the possibility of splashing caustic cleaning materials. Another type of eye protection is designed to keep small particles of dust and flying debris from striking the eye during operations like landscaping maintenance work (mowing, mulching, edging, etc.). (See AFOSH Standards 91-31, 48-1, and 48-20 for recommended types of PPE.)

2.7.2. Appropriate hearing protection will be used where employees are exposed to noise levels in excess of 85 decibels (dB). Such levels may be present in rooms located near boilers and in air handling (central air conditioning) rooms. Also, some lawn maintenance equipment may produce sound levels in excess of 85 dB. (Consult the base bioenvironmental engineer [BEE] for further assistance.)

2.7.3. When employees must use chemicals, the supervisor will ensure the proper PPE listed on the Material Safety Data Sheets (MSDS) for those chemicals is available and worn.

2.7.4. Non-skid shoes will be worn in all service areas where floors may become wet or slippery. Where there is a reasonable probability of foot or toe injury from impact and compression forces, safety footwear will be provided (refer to AFOSH Standard 127-31 for additional guidance).

2.7.5. If an employee requires or requests respiratory protection, management will contact the BEE for assistance.

Chapter 3

SPECIFIC APPLICATIONS

3.1. First Aid. Supplies needed to administer first aid should be readily available in housekeeping rooms or offices. These supplies should be in sanitary containers with individual sealed packages for material such as gauze, bandages, and dressings that are sterile. Other items often needed are adhesive tape, scissors, and mild soap for cleansing of wounds or abrasions.

3.2. Lifting and Carrying. The predominate mishap in billeting operations involves failure to lift or carry objects properly. Physical capabilities of individuals are different and knowing limitations and practicing proper lifting and carrying techniques will reduce the possibility of injury. Some items are too heavy, bulky, or awkward to be carried by hand. Many tasks that personnel accomplish could be made safer by applying the basic principles of ergonomics. Mechanical lifting and (or) carrying devices should be used whenever possible. Maintaining good physical health, such as routinely stretching, exercising, and keeping oneself in good physical condition, can reduce the likelihood of injury.

3.2.1. Managers should brief personnel on the benefits of staying in shape and healthy and establish a policy to have employees stretch and practice proper lifting techniques prior to the start of each work-day.

3.2.2. Supervisors will ensure personnel receive thorough instruction on proper lifting and carry techniques and the use of mechanical lifting devices that are available. Additional information on preventing back injuries can be found by contacting agencies such as base safety or hospital physical therapy department, etc.

3.2.3. Proper lifting instructions follow:

3.2.3.1. Position feet correctly. Place feet far enough apart for balance with one foot to the rear of the object and the other foot slightly ahead of the other and to the side of the object (refer to figure 3-1).

3.2.3.2. Crouch close to the load (refer to figure 3-1). Crouching is preferred to squatting. Stay close to the load to minimize strain on the muscles.

3.2.3.3. Pick up materials with a full palm grip. Do not attempt to pick up weights with a fingertip grip. Ensure the load is free of grease or sharp points which could cause injury. Use suitable gloves when necessary.

3.2.3.4. Always keep the back as straight as possible (refer to figure 3-1). It may not be possible to keep the back in the vertical plane but avoid arching the back. Bend from the hips and not from the middle of the back.

3.2.3.5. With the arms, slide the object toward the body to give it some motion (kinetic energy). At the same time, use the legs to lift the object and bring the back to a vertical position.

3.2.4. Points to remember:

3.2.4.1. Use gloves to protect the hands and safety shoes to protect the feet.

3.2.4.2. Inspect objects for slivers, sharp edges, rough surfaces, or slippery surfaces before attempting to lift.

3.2.4.3. Keep fingers away from pinch and shear points.

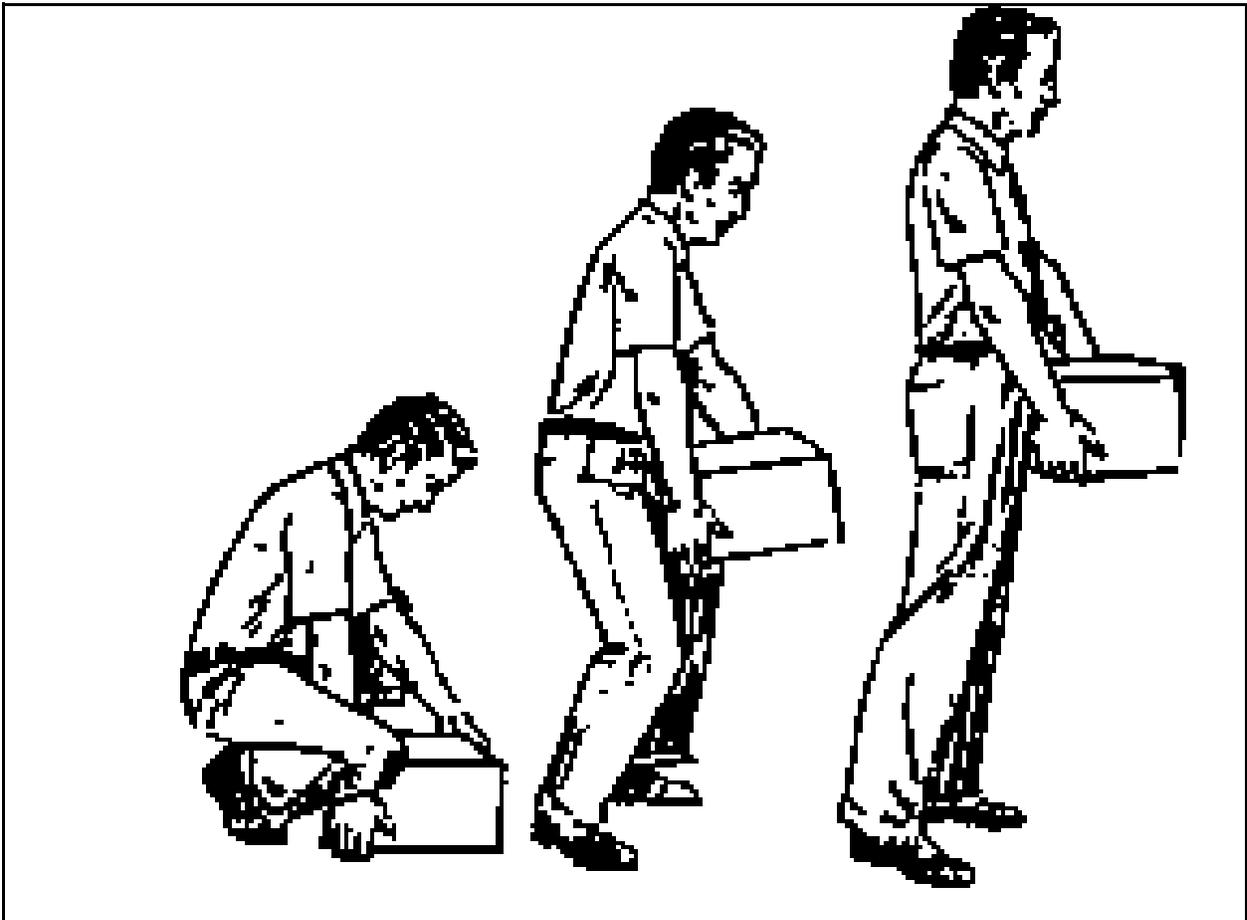
3.2.4.4. Do not carry a load that obstructs the view of the direction of travel. Make sure that the path of travel is clear.

3.2.4.5. Do not turn at the waist to change direction or to put an object down. Turn the whole body and crouch down to lower the object.

3.2.4.6. When carrying items up or down stairways:

3.2.4.6.1. Try to reduce the bulk or size of the object carried to allow for maximum visibility.

Figure 3.1. How to Lift Properly.



3.2.4.6.2. Use assistance when required and available.

3.2.4.6.3. If at all possible, carry broken glass in a container other than a plastic trash bag or enclose the broken piece in cardboard or protective shield before placing in a bag. This will reduce the possibility of cuts from glass protruding from bags.

3.2.5. Hand trucks and dollies or other mechanical devices shall be used to lift and (or) carry bulky or heavy items whenever possible. This equipment should be checked daily for satisfactory operating condition.

- 3.2.5.1. Tip the load to be lifted forward slightly so the tongue of the truck goes under the load.
 - 3.2.5.2. Push the truck all the way under the load to be moved.
 - 3.2.5.3. Keep the center of gravity of the load as low as possible. Place heavy objects on the bottom of the load. Keep feet clear of the wheels.
 - 3.2.5.4. Place the load well forward so the weight will be carried by the axle, not by the handles.
 - 3.2.5.5. Place the load so it will not slip, shift, or fall. Load only to a height that will allow a clear view ahead.
 - 3.2.5.6. When a two-wheeled truck is loaded in a horizontal position, raise it to traveling position by lifting with the leg muscles, keeping back straight. Observe the same lifting principles as explained in the previous section.
 - 3.2.5.7. Let the truck carry the load. The operator should only balance and push.
 - 3.2.5.8. Never walk backwards with a hand truck.
 - 3.2.5.9. For extremely bulky items, strap or chain the item to the truck.
 - 3.2.5.10. When going down an incline, keep the truck ahead of you.
 - 3.2.5.11. Move the truck at a safe speed. Do not run. Keep the truck constantly under control.
 - 3.2.5.12. Secure and store unused trucks in a designated area where they will not be a tripping hazard or traffic obstruction.
- 3.2.6. When lifting or turning mattresses and beds or moving bulky refrigerators, get sufficient assistance so one individual isn't overstressed. Heavy furniture that must be moved frequently for cleaning should have rollers or casters installed.
- 3.2.7. Some housing supply operations require forklift trucks. Essential regulatory OSHA 29 CFR 1910.178, *Powered Industrial Trucks*, information applicable to warehousing operations is covered below (refer to DOD 4145.19-R-1, *Storage and Materials Handling*, for additional guidance).
- 3.2.7.1. General Operating Guidelines:
 - 3.2.7.1.1. Safeguard the pedestrian at all times. Do not drive a truck up to anyone standing in front of a bench or other fixed object.
 - 3.2.7.1.2. Do not allow anyone to stand on or pass under the elevated portion of the truck, whether loaded or empty.
 - 3.2.7.1.3. Do not put any part of the body between uprights of the mast or outside the running lines of the truck.
 - 3.2.7.1.4. Do not pass another truck traveling in the same direction at intersections or where there are blind spots. Stay at least three lengths behind another truck moving in the same direction.
 - 3.2.7.1.5. Slow down and sound horn at intersections, when entering buildings, and in other situations where vision is obstructed. Stop at blind corners. Stop before going through doorways.

3.2.7.1.6. Operate at a controlled speed and be able to stop within the clear distance in front of the truck. Avoid quick starts, jerky stops, and quick turns.

3.2.7.1.7. Do not leave a gas engine idling in an enclosed space.

3.2.7.1.8. Be careful not to hit overhead objects such as sprinkler heads and electrical fixtures. Protect critical equipment (electrical panels, fire equipment, load-supporting columns) with barriers or posts.

3.2.7.1.9. Do not raise or lower the load while moving and carry the load as low as possible.

3.2.7.1.10. Cross railroad tracks at a 90 degree angle wherever possible.

3.2.7.1.11. Never refuel vehicles inside.

3.2.7.1.12. Be sure to clean oil spots immediately if forklifts are operated inside buildings.

3.2.7.2. Common Operator Errors:

3.2.7.2.1. Jerky starts and stops.

3.2.7.2.2. Failure to give proper signals when turning.

3.2.7.2.3. Turning too sharp.

3.2.7.2.4. Failure to sound horn at intersections.

3.2.7.2.5. Turning too wide on corners.

3.2.7.2.6. Cutting corners too sharply.

3.2.7.2.7. Carrying load too high when traveling.

3.2.7.2.8. Lowering the load too fast.

3.2.7.2.9. Failure to ensure a pallet load is properly balanced and stacked.

3.2.7.2.10. Failure to ensure forks are under the load all the way before lifting.

3.2.7.2.11. Striking the pallet or the floor with the forks.

3.2.7.2.12. Driving across bridge plates too fast and failure to observe load-carrying capacity on bridge plates.

3.2.7.2.13. Driving too fast for conditions.

3.3. Housekeeping and Material Storage . Loose sheets, linens, and unattended carts present slipping and falling hazards. Mishaps of this nature can be reduced by applying care and attention to daily tasks.

3.3.1. Visually scan each work area for loose objects lying in piles or in pathways.

3.3.2. Always place soiled linens on shelves or in bags or containers on the maid cart; do not throw these items on the floor.

3.3.3. Move carts, vacuums, pails, and other housekeeping equipment to an area where customers and employees will not trip or fall over them.

3.3.4. Always ensure lamp shades are on lamps. Avoid light bulb contact with combustible materials because when lit, light bulbs generate sufficient heat to ignite combustible materials.

3.3.5. Ensure that there are no exposed flames in storage areas.

3.4. Receiving and Loading Docks. The area around loading docks can be particularly hazardous. Uneven matchups between vehicle docks present hazards. The movement of vehicles and materials in a relatively small area requires care and attention. Brakes shall be set, wheels blocked, and gear shift placed in park to prevent movement of trucks or trailers while loading or unloading.

3.4.1. Use mechanized equipment when appropriate.

3.4.2. Stack unused pallets in a safe area. Do not stack higher than 12 pallets.

3.4.3. Keep floor surfaces, platforms, and ramps clean and in good condition.

3.4.4. Ensure that dockboards are in a secure position and have substantial contact with the dock (or loading platform) and the vehicle. Lower or slip into place; do not drop. Dockboards used in trailer and rail car loading and unloading should be capable of holding four times the expected load and be wide enough to permit easy maneuvering. Store them in a safe place when not in use.

3.4.5. Ensure that workers wear safety-toe shoes, gloves, and other PPE as necessary while handling material. Be extremely careful of projecting nails, jagged hoops, metal bands, ends of wires, and splinters on materials being handled.

3.4.6. Do not permit smoking in loading and (or) receiving area.

3.5. Cleaning of Rooms and Suites or Other Common Use Areas:

3.5.1. Place smoking materials in approved containers rather than mixing with combustible trash. Container should be emptied at the end of each duty day.

3.5.2. Visually scan a work area for loose objects lying in pathways.

3.5.3. Visually scan for out-of-position furniture or obstacles before entering the room.

3.5.4. Use approved ladders and stepstools. Do not use chairs or other furniture for climbing.

3.5.5. Brace ladders that lean so they cannot slip.

3.5.6. Keep people away from the area immediately below overhead fixtures while cleaning the fixtures so dirt, dust, flaking paint, and objects in or around them will not injure personnel. Use a face shield to protect the eyes from dust and dirt.

3.5.7. Wear shoes rather than slippers.

3.6. Cleaning of Bathrooms and Latrines:

3.6.1. Ensure the room or area being cleaned with chemical cleaners is well ventilated. Bathroom ventilating fans and open windows serve this purpose.

3.6.2. Always wear protective gloves when handling chemicals.

3.6.3. Use a face shield (whenever possible) to protect the eyes when chemicals are poured or sprayed.

3.6.4. Visually check to ensure infrared heat lamps are turned off when working in bathrooms.

3.7. Cleaning of Kitchens:

3.7.1. Clean accumulated grease from burners and ranges to prevent grease fires. Wear eye protection when foreign material might enter the eye.

3.7.2. Unplug high energy appliances such as irons and coffee makers when not in use.

3.7.3. Clean microwave ovens daily. Disconnect the power source if doors do not latch or are broken so personnel will not be exposed microwave energy. Place an AF Form 981, ***Out of Order Tag***, on it and remove the equipment from service until repaired. (Refer to AFOSH Standard 91-45, *Hazardous Energy Control and Mishap Prevention Signs and Tags*.) Consult with the BEE after repairs are made to ensure no leakage of microwave radiation is occurring.

3.7.4. Avoid burns and injuries by:

3.7.4.1. Turning off all appliances and allowing them to cool down before cleaning.

3.7.4.2. Using gloves to handle or touch burners, chassis, and appliance elements that may produce burns or cuts.

3.8. Furniture Repair Operations and Warehouses. Some billeting furnishing and (or) housing supply operations have small-furniture repair operations and maintenance shops. Information on hand tools most frequently used in these operations is included below:

3.8.1. Standard, straight-blade screwdrivers will be maintained with their working edges square and free from chipped areas. If it is not possible to regrind a working edge, the screwdriver will be turned in and a new tool obtained. Screwdrivers with cracked or loose handles will be turned in for new units. Screwdrivers will not be used as a prying tool or struck with a hammer. In using the screwdriver the blade will be matched to the fastener slot size. Personnel will avoid using too large or too small a blade. Phillips screwdrivers will be used in the correct size relative to the fastener. Worn Phillips or special fastener screwdrivers will not be used.

3.8.2. Chisels will be kept sharp, with the edge ground true. Chisels and punches with mushroom heads will not be used. A chisel or punch-holding device will be used when working space permits. The angle of cut will be away from the body. Chipping goggles (refer to AFOSH Standard 91-31) will be worn when using a chisel, punch, tapered or straight file, or alignment punch.

3.8.3. Damaged, bent or broken wrenches, or wrenches with sprung jaws will not be used. Wrenches should not be struck with a hammer unless the wrench is designed for this purpose. Worn box wrenches or sockets will be exchanged for new tools. When excessive pressure is required to free a nut or cap-screw, the pressure should be applied away from the face and body of the packing and crating personnel. Care should be taken to avoid being in a position where the hand will strike any part of the cargo should the wrench slip or the fastener break.

3.8.4. A hammer of suitable size and weight for the job will be used. Nail hammers are designed for driving unhardened common and finishing nails and nail sets, using the center of the hammer face. Ballpeen hammers are designed for striking chisels and punches and for riveting, shaping, and straightening unhardened metal. Hammers with loose or damaged handles will not be used. A hammer will be discarded if it shows dents, cracks, chips, mushrooming, or excessive wear. Redressing is not recommended.

3.8.5. Hand saws should be selected for the specific job. Saws with broken teeth or cracked handles will not be used. Saw teeth should be kept sharp and well set to prevent binding. When not in use, saws should be wiped off with an oil-moistened rag and kept in racks or hung by the handle to prevent

damage to the teeth. Nails will not be sawed. Saws will not be dropped. Saws with dull teeth can usually be sharpened and returned to use, but if the saw cannot be restored, it will be returned to supply for replacement.

3.8.6. The proper size and type of crowbar for the job will be used. Crowbars should have a point or toe to grip the object to be moved and a heel to act as a pivot or fulcrum. In some cases, a block of wood under the heel will prevent the crowbar from slipping and injuring the hand. Crowbars should be returned to the tool bin when not in use. Damaged crowbars will not be used. A crowbar will not be used as a hammer.

3.8.7. The right kind of file for the job will be selected. Files should never be cleaned by being struck against a vise or other metal object because they chip and break easily. They will not be used as a pry bar. Broken files should be discarded and not made into a center punch chisel, or any other type of tool since the hardened steel may fracture in use. A wooden or plastic handle will always be used on a file.

3.9. Vehicles Used for Transporting Furniture and Supplies. To avoid vehicle mishaps common in billeting areas:

3.9.1. Use spotters when backing and visibility is limited or impaired, especially into narrow or confined spaces.

3.9.2. Load for maximum visibility.

3.9.3. Drive defensively since the bulk of the vehicle can block the vision of pedestrians and vehicles.

3.9.4. Ensure workers do not ride in truckbeds with unsecured supplies or furniture.

3.10. Warehousing:

3.10.1. Stack all furnishings as prescribed in AFI 32-6004, *Furnishings Management*.

3.10.2. When moving large bulky items that can tip or fall, get assistance to stabilize the item. Straps and fastening devices will be used.

3.10.3. Use a step ladder to reach boxes and other items stored in high places.

3.11. Portable Appliances . Most equipment in the billeting area is hand-held electric powered cleaning and buffing equipment found in household or commercial establishments.

3.11.1. Only use equipment with a three-prong grounding plug or equipment which is double insulated.

3.11.2. When power cords are frayed or damaged, remove from service and tag until repaired.

3.11.3. Always disconnect equipment from its power source prior to removing filters, bags, or devices or cleaning moving parts.

3.11.4. After using the appliance, wind the power cord carefully and return the appliance to its storage area.

3.12. Trash Removal:

3.12.1. Wear appropriate gloves when picking up glass, jagged metal, or potentially injurious trash.

3.12.2. Place jagged items in a protective wrapping or solid container. Items placed in a plastic trash bag can pierce the bag and cause injury.

3.13. Landscape Maintenance:

3.13.1. Before mowing grass or edging with powered mowers or edgers, visually check areas for loose objects such as rocks, bricks, or wire that can be thrown out or ejected by mower or edger blades.

3.13.2. Do not operate walk-behind mowers when wearing sandals. Always wear protective shoe guards or safety-toe shoes. **NOTE:** For operations involving lawn mowers equipped with installed rear drag plates designed to protect the operator's feet, or edgers with nylon filament line cutters, the use of safety-toe shoes or metal-toe shoes is optional. In all instances, personnel operating these pieces of equipment will wear shoes of sturdy design (open sandals, cloth or tennis shoes, etc., are not considered to be substantial footwear.)

3.13.3. Before attempting to clean grass clippings from the mower housing, remove the spark plug wire or disconnect the electrical power cord.

3.13.4. Remember that gasoline is a highly flammable liquid. Fill the mower carefully and avoid spills. Never refuel gasoline mowers while they are running or when the manifold is hot.

3.13.5. Never operate the mower without either the entire grass catcher or the guard and (or) deflector in place.

3.13.6. Store fuel for landscape maintenance equipment in an outside storage facility that meets the local fire department's requirements.

3.13.7. Refer to OSHA 29 CFR 1910.243, *Guarding of Portable Powered Tools*, American National Standards Institute (ANSI) B71.1, *Safety Specifications for Power Lawn Mowers, Lawn and Garden Tractors, and Lawn Tractors*, and Technical Order (TO) 47C-1-1, *Technical Manual Safety Instructions for Lawn Care Equipment*, for further guidance for operation and operator maintenance of powered lawn mowers.

3.14. Ice and Snow Removal. Slippery sidewalks and entryways can contribute to slips and falls.

3.14.1. Wear protective nonslip boots or rubbers when walking on glazed areas.

3.14.2. Use sand, salt, or other material to assist in reducing the hazard.

3.14.3. Remove excess snow as soon as possible to prevent a melt and refreeze of the walkway.

3.14.4. Promptly remove snow and ice from all exterior stairs, ramps, exit discharges (doors used for emergency or normal exits) and paths from those points to a public way.

3.15. Laundry Rooms and Facilities:

3.15.1. Check for gas leaks and immediately ventilate the room if gas is detected. Block the room to preclude entry and call emergency repair service.

3.15.2. Tag defective equipment and remove from service until repaired.

3.15.3. When water is present on floors or near machinery, turn off the power source before touching electrical plugs or connections.

3.15.4. Ensure dryers are vented to the outside.

3.15.5. Make sure area is clean and free of spills or debris.

3.16. Rodent, Insect, and Vermin Control. Every enclosed workplace and personal service room shall be constructed, equipped, and maintained, as reasonable as practicable, to prevent the entrance of rodents, insects, and vermin. Control of these pests is a responsibility of the base civil engineer (refer to AFI 32-1053, *Pest Management Program*, for policies to be followed).

3.17. Elevators. Permanent elevators under the care and custody of the billeting supervisor, and used by employees for work covered by this standard, shall comply with the requirements of ANSI A17.1, *Safety Code for Elevators and Escalators*. Elevators will be inspected according to ANSI A17.2, *Inspectors' Manual for the Inspection of Elevators and Escalators*. (Refer to OSHA 29 CFR 1926.552, *Material Hoists Personnel Hoists, and Elevators*, for additional guidance.)

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Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

References

Air Force Instruction (AFI) 32-1053, *Pest Management Program*.

AFI 32-6004, *Furnishings Management*.

AFI 32-6005, *Unaccompanied Housing Management*.

AFI 91-301, *The Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*.

Air Force Occupational Safety and Health (AFOSH) Standard 48-1, *Respiratory Protection Program*.

AFOSH Standard 48-20, *Hearing Conservation Program* (formerly designated as AFOSH Standard 161-20).

AFOSH Standard 91-12, *Machinery* (formerly designated as AFOSH Standard 127-12).

AFOSH Standard 91-22, *Walking Surfaces, Guarding Floor and Wall Openings and Holes, Fixed Industrial Stairs, and Portable and Fixed Ladders* (formerly designated as AFOSH Standard 127-22).

AFOSH Standard 91-31, *Personal Protective Equipment* (formerly designated as AFOSH Standard 127-31).

AFOSH Standard 91-45, *Hazardous Energy Control and Mishap Prevention Signs and Tags* (formerly designated as AFOSH Standard 127-45).

AFOSH Standard 91-56, *Fire Protection and Prevention* (formerly designated as AFOSH Standard 127-56).

AFOSH Standard 91-66, *General Industrial Operations*.

AFOSH Standard 161-21, *Hazard Communication*.

American National Standards Institute (ANSI) A17.1, *Safety Code for Elevators and Escalators*.

ANSI A17.2, *Inspectors' Manual for the Inspection of Elevators and Escalators*.

ANSI B71.1, *Safety Specifications for Power Lawn Mowers, Lawn and Garden Tractors, and Lawn Tractors*.

Department of Defense (DOD) Regulation. DOD 4145-19-R-1, *Storage and Materials Handling*.

Occupational Safety and Health Association (OSHA) Standards 29 Code of Federal Regulations (CFR) 1910 Subpart D, *Walking--Working Surfaces*.

OSHA Standard 29 CFR 1910 Subpart E, *Means of Egress*.

OSHA Standard 29 CFR 1910.157, *Portable Fire Extinguishers*.

OSHA Standard 29 CFR 1910.178, *Powered Industrial Trucks*.

OSHA Standard 29 CFR 1910.243, *Guarding of Portable Powered Tools*.

OSHA Standard 29 CFR 1926.552, *Material Hoists, Personnel Hoists, and Elevators*.

National Fire Protection Association (NFPA) 70, *The National Electrical Code (NEC)*.

NFPA 70E, *Electrical Safety Requirements for Employee Workplaces*.

NFPA 101, *The Life Safety Code*.

Military Handbook (Mil Hdbk) 1008, *Fire Protection for Facilities--Engineering, Design, and Construction*.

Technical Order (TO) 47C-1-1, *Technical Manual Safety Instructions for Lawn Care Equipment*.

Abbreviations and Acronyms

AFHCP—Air Force Hazard Communication Program

AFI—Air Force Instruction (new designation)

AFOSH—Air Force Occupational Safety and Health

AFSC—Air Force Safety Center

ANSI—American National Standards Institute

BE—Bioenvironmental Engineering

BEE—Bioenvironmental Engineer

C—Celsius

CFR—Code of Federal Regulations

dB—Decibels

DOD—Department of Defense

DRU—Direct Reporting Unit

F—Fahrenheit

FOA—Field Operating Center

GFCI—Ground-Fault Circuit-Interrupter

HQ—Headquarters

MAJCOM—Major Command

MSDS—Material Safety Data Sheet

NAF—Nonappropriated Fund

NEC—National Electric Code

NFPA—National Fire Protection Association

OSHA—Occupational Safety and Health Administration

PDO—Publishing Distribution Office

PPE—Personal Protective Equipment

psia—Pounds Per Square Inch, Absolute

TO—Technical Order

WWW—World-Wide Web

Terms

Backstrain—An injury to the back muscles caused by improper lifting, carrying, turning, or lowering.

Cleaning Agents—Those items found in most households including but not limited to oven cleaners, lye, chlorinated powders, bleaches, chemical detergents, and ammonia (which may cause injuries from contact or when mixed together react to create toxic gases).

Combustible Liquid—A liquid with a flashpoint at or above 100 degrees Fahrenheit (F) (37.8 degrees Celsius [C]).

Fire Hazard—Act or condition which, when allowed to exist, may cause or contribute to a fire.

First Aid—Immediate, temporary treatment given in the event of mishap or illness.

Flammable Liquid—A liquid with a flashpoint below 100 degrees F (37.8 degrees C) with a vapor pressure not exceeding 40 pounds per square inch, absolute (psia) at 100 degrees F.

Grounded—A procedure for providing an electrical path from some object to ground (or earth).

Housekeeping—Vacuuming, dusting, mopping, moving, rearranging of furnishings, bathroom and latrine cleaning, kitchen cleaning, drapes and furniture cleaning, plus other tasks required to maintain quarters at an acceptable standard of cleanliness and appearance.

Improper Lifting—Errors committed when lifting, carrying, turning, or lowering objects.

Loading Docks—Raised platforms designed to allow vehicles to back up to a warehouse or building and move items from the vehicle to the dock or vice versa.

Maid and Janitorial Carts—Vehicles used to carry linen and cleaning supplies from room to room.

May—Indicates an acceptable or satisfactory method of accomplishment.

NAF Employees—Personnel paid from the revenues generated by the activity itself. In the case of billeting, this includes but is not limited to managers, clerks, janitors, maids, and grounds keepers.

Obstacles—Obstructions or conditions which, if left uncorrected, may cause slips, falls, or other mishaps.

Shall—Indicates a mandatory requirement.

Should—Indicates a preferred method of accomplishment.

Smoke Detectors—Photoelectric or ionizing devices designed to alert room occupants when smoke is present in the atmosphere above a predetermined level.

Ventilation—The movement of air either by natural or mechanical means.

Will—Is also used to indicate a mandatory requirement and in addition is used to express a declaration of intent, probability, or determination.

Attachment 2

ALL PURPOSE CHECKLIST

This is not an all-inclusive checklist. It simply highlights some critical items in this standard. Other requirements exist in the standard that are not included in the checklist. Where appropriate, MAJCOMs, DRUs, and FOAs, local safety offices, and supervisors will add to this checklist to include command or individual shop-unique requirements or situations.

A2.1. Employee Training. Do all billeting employees receive a thorough indoctrination and orientation in the facility and (or) environment where they work? (Refer to paragraph 2.1.2.)

A2.2. Walking and Working Surfaces, Aisles, and Passageways. Is every open-sided floor or platform 4 feet or more above adjacent floor or ground level guarded by a standard railing on all open sides, except where there is an entrance to a ramp, stairway, or fixed ladder? (Refer to paragraph 2.2.1.)

A2.2.1. Is the railing provided with a toeboard beneath the open sides? (Refer to paragraph 2.2.1.)

A2.2.2. Are all stairway floor openings guarded on all exposed sides, except the entrance to the stairway? (Refer to paragraph 2.2.2.)

A2.2.3. Are all ladderway floor openings guarded by a standard railing and toeboard on all sides, with passage through the railing constructed so a person is prevented from walking directly into the opening? (Refer to 2.2.3.)

A2.2.4. Do all runways or ramps have railings on all open sides 4 feet or more above ground or floor level? (Refer to paragraph 2.2.4.)

A2.2.5. Are all passageways and storage areas clean, dry, orderly, and in sanitary condition? Are spills promptly cleaned up? (Refer to paragraph 2.2.5.)

A2.2.6. Are work areas that are constantly wet coated with nonslip surfaces? Are “CAUTION WET FLOOR” signs posted? (Refer to paragraph 2.2.6.)

A2.2.7. Are floors, work areas, aisles, and passageways maintained free from protruding nails, splinters, holes, loose boards, and in a dry condition? (Refer to paragraph 2.2.7.)

A2.2.8. Where mechanical handling equipment is used, is sufficient safe clearance provided through aisles, doorways, and passageways? Do employees abstain from placing obstacles in aisles? Are aisles marked at least 2 feet wider than the widest vehicle used? (Refer to paragraph 2.2.8.)

A2.2.9. Are nonslip surfaces and handrails provided for ramps with excessive slope? (Refer to paragraph 2.2.9.)

A2.2.10. Are aisles at least 30 inches wide to provide free movement of workers, equipment, and supplies? (Refer to paragraph 2.2.10.)

A2.2.11. Are covers or handrails used to protect people from the hazards of open pits, tanks, vats, ditches, etc.? (Refer to paragraph 2.2.11.)

A2.2.12. Are all the requirements applying to flights of stairs having four or more risers adhered to? (Refer to paragraph 2.2.12.)

A2.2.13. Are riser height and tread width uniform throughout the flight of stairs? (Refer to paragraph 2.2.13.)

A2.2.14. Are all treads reasonably slip-resistant and free of projections or lips that could cause a tripping hazard?

(Refer to paragraph 2.2.14.)

A2.2.15. Are vertical clearances above stair tread to overhead obstruction no less than 7 feet? (Refer to paragraph 2.2.15.)

A2.3. Electrical Installation and Equipment. Are circuit breakers and fuse boxes legibly marked to indicate their purpose (unless the purpose is evident)? (Refer to paragraph 2.3.1.)

A2.3.1. Are the frames of electrical motors grounded? (Refer to paragraph 2.3.2.)

A2.3.2. Are all wires that are joined, covered? Are flexible cords prohibited from use as a substitute for fixed wiring? (Refer to paragraph 2.3.3.)

A2.3.3. Is the equipment connected by flexible cords grounded? (Refer to paragraph 2.3.4.)

A2.3.4. Are metal plugs prohibited unless specifically authorized by the NEC? (Refer to paragraph 2.3.4.)

A2.3.5. Are splices, joints, and the free ends of conductors properly insulated and installed by a qualified electrician? (Refer to paragraph 2.3.5.)

A2.3.6. Are flexible cords used only in continuous length without splices or tapes? (Refer to paragraph 2.3.5.)

A2.3.7. Are flexible cords fastened so there is no pull on joints or screws? (Refer to paragraph 2.3.5.)

A2.3.8. Are wires replaced when frayed or when insulation has deteriorated? (Refer to paragraph 2.3.5.)

A2.3.9. Are electrical outlets located away from kitchen and bathroom sinks? (Refer to paragraph 2.3.7.)

A2.3.10. Are all electrical receptacles (125 volt, single phase, 15 and 20 ampere) installed in bathrooms equipped

with GFCI protection? (Refer to paragraph 2.3.8.)

A2.3.11. Are electrical outlets within 6 feet of kitchen or bathroom sinks equipped with GFCI protection? (Refer to paragraph 2.3.9.)

A2.4. Machinery, Shop Equipment, Machine Guarding, and Power Transmission. Are the machines and shop equipment maintained and operated by qualified personnel? (Refer to paragraph 2.4.1.)

A2.4.1. Are signs reading “Unauthorized Use of Equipment Not Permitted” posted? (Refer to paragraph 2.4.1.)

A2.4.2. Are buffers and vacuum cleaners that are used in wet areas specifically approved for such use and inspected before use to ensure safe integrity of wiring? (Refer to paragraph 2.4.1.)

A2.4.3. Do workers wear face shields or safety glasses when operating equipment which may produce flying debris? (Refer to paragraph 2.4.2.)

A2.4.4. Are rings, necklaces, or wrist watches prohibited from being worn when shop machinery is operated? (Refer to paragraph 2.4.3.)

A2.4.5. Are personnel prohibited from wearing loose fitting clothing, neckties, or other apparel that may become entangled in moving machinery? (Refer to paragraph 2.4.4.)

A2.4.6. Are one or more methods of machine guarding provided to protect personnel in the machine area from hazards? (Refer to paragraph 2.4.5.)

A2.4.7. Are machines designed for fixed locations securely anchored to prevent “walking” or “tipping?” (Refer to paragraph 2.4.5.2.)

A2.4.8. Are all required machines equipped with undervoltage protection? (Refer to paragraph 2.4.7.)

A2.5. Fire Protection and Prevention. Do all billeting employees receive fire prevention as part of their general orientation? (Refer to paragraph 2.5.)

A2.5.1. Are workers trained to NOT use flammable products to clean floors clothing, etc., nor to use open solvent or gasoline containers near electrical equipment? (Refer to paragraph 2.5.2.)

A2.5.2. Are fire extinguishers installed in and around billeting facilities? (Refer to paragraph 2.5.3.)

A2.5.3. Do the fire extinguishers meet OSHA 29 CFR 1910.157 requirements? (Refer to paragraph 2.5.4.)

A2.6. Exits and Exit Markings. Are all exits and exit markings according to OSHA 29 CFR 1910 Subpart E and NFPA 101? (Refer to paragraph 2.6.)

A2.7. Personal Protective Equipment (PPE). Do employees use PPE whenever there are hazards that can do bodily harm through absorption, inhalation, or physical contact? (Refer to paragraph 2.7.)

A2.7.1. Is all PPE approved for the work performed and maintained in satisfactory condition? (Refer to paragraph 2.7.)

A2.8. First Aid. Are supplies available in housekeeping rooms or offices to administer first aid? (Refer to paragraph 3.1)

A2.9. Lifting and Carrying. Do employees use proper lifting techniques? (Refer to paragraph 3.2.)

A2.9.1. Do employees seek additional help or use mechanical assists when lifting and carrying heavy objects? (Refer to paragraph 3.2.)

A2.9.2. Do supervisors ensure employees receive thorough instructions in proper lifting and carrying procedures and in the use of appropriate PPE? (Refer to paragraph 3.2.2.)

A2.9.3. Are hand trucks, dollies, or other mechanical devices checked daily for satisfactory operating condition? (Refer to paragraph 3.2.5.)

A2.10. Housekeeping and Material Storage. Do workers ensure lamp shades are on lamps? (Refer to paragraph 3.3.4.)

A2.10.1. Are open flames in storage areas prohibited? (Refer to paragraph 3.3.5.)

A2.10.2. When personnel from housing supply require use of forklift trucks, do they adhere to the general operating guidelines? (Refer to paragraph 3.4.)

A2.10.3. Are brakes set, wheels blocked, and gearshift placed in park to prevent movement of trucks or trailers while loading or unloading at the loading dock? (Refer to paragraph 3.4.)

A2.11. Is mechanized equipment used when appropriate? (Refer to paragraph 3.4.1.)

A2.11.1. Are unused pallets stacked in a safe area and not stacked higher than 12 pallets? (Refer to paragraph 3.4.2.)

A2.11.2. Are floor surfaces, platforms, and ramps clean and in good condition? (Refer to paragraph 3.4.3.)

A2.11.3. Do workers wear safety-toe shoes, gloves, and other appropriate PPE when handling material? (Refer to paragraph 3.4.5.)

A2.12. Cleaning of Rooms and Suites or Other Common Use Areas. Do employees place smoking materials in approved containers and are the containers emptied at the end of each duty day? (Refer to paragraph 3.5.1.)

A2.12.1. Do employees use only approved ladders and stepstools and not chairs or other furniture for climbing? (Refer to paragraph 3.5.4.)

A2.12.2. Do employees brace ladders that lean so they cannot slip? (Refer to paragraph 3.5.5.)

A2.12.3. Do employees wear shoes rather than slippers? (Refer to paragraph 3.5.7.)

A2.13. Cleaning of Bathrooms and Latrines. When cleaning the room with chemical cleaners, is the room well ventilated? (Refer to paragraph 3.6.1.)

A2.13.1. Are protective gloves worn when handling chemicals? (Refer to paragraph 3.6.2.)

A2.14. Cleaning of Kitchens. Are microwave ovens cleaned daily? Are they removed from service when repairs are required? (Refer to paragraph 3.7.3.)

A2.14.1. Do supervisors consult with the bioenvironmental engineer after repairs to microwave ovens are made, to ensure no leakage of radiation is occurring? (Refer to paragraph 3.7.3.)

A2.15. Furniture Repair Operations and Warehouses. Are the proper tools used for the job on hand? Are the tools used in serviceable condition? (Refer to paragraph 3.8.)

A2.16. Vehicles Used for Transporting Furnishings and Supplies. To avoid vehicle mishaps common in billeting areas do workers:

A2.16.1. Use a spotter when backing and visibility is limited or impaired? (Refer to paragraph 3.9.1.)

A2.16.2. Load for maximum visibility? (Refer to paragraph 3.9.2.)

A2.16.3. Drive defensively? (Refer to paragraph 3.9.3.)

A2.16.4. Prevent workers from riding in truck beds with unsecured supplies or furniture? (Refer to paragraph 3.9.4.)

A2.17. Warehousing. Do employees stack all furnishings as prescribed in AFI 32-6004? (Refer to paragraph 3.10.1.)

A2.17.1. When moving large bulky items that can tip or fall, are straps and fastening devices used? (Refer to paragraph 3.10.2.)

A2.18. Portable Appliances. Is only equipment with a three-prong grounding plug or double insulated equipment used? (Refer to paragraph 3.11.1.)

A2.18.1. Are power cords that are frayed or damaged removed from service and tagged until repaired? (Refer to paragraph 3.11.2.)

A2.18.2. Is the equipment disconnected from its power source prior to removing filters, bags, or devices or cleaning moving parts? (Refer to paragraph 3.11.3.)

A2.19. Trash Removal. Do employees wear appropriate gloves when picking up glass, jagged metal, or potentially injurious trash? (Refer to paragraph 3.12.1.)

A2.20. Landscape Maintenance. Prior to mowing grass or edging, is the area checked for loose objects? (Refer to paragraph 3.13.1.)

A2.20.1. When required, are protective shoe guards or safety-toe shoes worn when operating walk-behind mowers? (Refer to paragraph 3.13.2.)

A2.20.2. Are employees trained not to refuel gasoline mowers while the mower is running or when the manifold is hot? (Refer to paragraph 3.13.4.)

A2.21. Ice and Snow Removal. Are employees trained to remove snow and ice promptly from all exterior stairs, ramps, exit discharges, and paths from those points to a public way? (Refer to paragraph 3.14.4.)

A2.22. Laundry Rooms and Facilities. Are employees trained to block the room and call emergency repair services whenever a gas leak is detected? (Refer to paragraph 3.15.1)

A2.22.1. Is defective equipment tagged and removed from service until repaired? (Refer to paragraph 3.15.2.)

A2.22.2. When water is present on floors or near machinery, is the power source turned off before touching electrical plugs or connections? (Refer to paragraph 3.15.3.)

A2.22.3. Are dryers vented to the outside? (Refer to paragraph 3.15.4.)

A2.23. Rodent, Insect, and Vermin Control. Are all enclosed work places and personal service rooms constructed, equipped, and maintained, as reasonable as practicable, to prevent the entrance of rodents, insects, and vermin? (Refer to paragraph 3.16.)

A2.23.1. Is base civil engineering contacted for control of rodents, insects, and vermin? (Refer to paragraph 3.16.)

A2.24. Elevators. Are the permanent elevators under the care and custody of the billeting supervisor and used by employees for work covered by this standard, in compliance with the requirements of ANSI AI7.1? (Refer to paragraph 3.17.)

A2.24.1. Are the elevators inspected according to ANSI A17.2? (Refer to paragraph 3.17.)