

General Safety & Health Standards
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Fire Safety 060

060. FIRE SAFETY

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060. FIRE SAFETY (7-1-97)

01. Scope: (7-1-97)

a. This Section prescribes policies consistent with nationally recognized good practice for the safeguarding to a reasonable degree of life and property from the hazards of fire and explosion arising from the storage, handling and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the use or occupancy of facilities, buildings, or premises. (7-1-97)

02. Definitions: For definitions of other terms used in this section, see sub-section 010 of this standard. (7-1-97)

a. Combustible material is any material that will readily ignite when heat sources are present. (7-1-97)

b. High Piled Combustible Storage are combustible materials in closely packed piles or combustible materials on pallets or in racks more than twelve (12) feet in height. For certain special hazard commodities such as rubber tires, plastics, some flammable liquids, idle pallets, etc., the pile height may be as low as six (6) feet. (7-1-97)

03. General Requirements: (7-1-97)

a. The employer shall develop a fire prevention plan. The fire prevention plan as a minimum shall include the following: (7-1-97)

i. A list of major workplace fire hazards and their proper handling and storage procedures. (7-1-97)

ii. Housekeeping procedures. (7-1-97)

iii. Potential ignition sources such as welding, smoking, etc. and their control procedures. (7-1-97)

iv. Evacuation procedures. (7-1-97)

v. The type of fire protection equipment and systems installed which can control a fire. (7-1-97)

vi. Fire reporting procedures, (7-1-03)

vii. Site plans with assembly points, location of fire hydrants, normal routes for fire department vehicle access. (7-1-03)

viii. Floor plan identifying the location of the following: exits, primary evacuation routes, secondary evacuation routes, accessible egress routes, areas of refuge, manual fire pull stations, portable fire extinguishers, and fire alarm controls. (7-1-03)

b. The fire safety and evacuation plan shall be reviewed or updated annually or as necessitated by changes in staff assignments, occupancy, or the physical arrangement of the building. (7-1-03)

c. The fire prevention plan shall be kept in the workplace and made available for employee review. (7-1-03)

d. The employer shall control accumulations of flammable and combustible waste material and residues so that they do not contribute to a fire emergency. (7-1-97)

e. The employer shall provide training to employees to cover the following as a minimum: the fire hazards of the materials and processes to which employees are exposed; review those parts of the fire prevention plan which the employees must know to protect the employee in the event of an emergency, (This shall be accomplished upon initial assignment and annually.).

f. The employer shall regularly and properly maintain equipment and systems installed on heat producing equipment to prevent accidental ignition of combustible materials. (7-1-97)

g. The employer shall ensure that all fire alarm systems, fire suppression equipment and systems are regularly and properly maintained and are available for immediate use. (7-1-97)

h. Fire drills shall be conducted according to occupancy as follows: (7-1-97)

- ii. Group A shall be conducted quarterly and shall be for employees only. (7-1-97)
- iii. Group E shall be conducted at least once each month during school sessions and shall include the complete evacuation of all persons from the building or portion thereof used for educational purposes (EXCEPTION: During severe weather, fire drills may be postponed). (7-1-97)
- iv. Group I shall be conducted quarterly for each shift, shall include staff members only, and shall be initiated by either the activation of the fire alarm system or a coded public announcement. (7-1-97)
- v. Group R (Division 1) shall be conducted quarterly for each shift and shall be for staff members only. (7-1-97)
- vi. Group R (Division 4) shall be conducted at varying times and under varying conditions to simulate conditions that could occur during a fire or other emergency. (7-1-97)
- vii. For all other occupancy groups, fire drills shall be conducted at least annually. (7-1-97)
- i. Records shall be maintained for fire evacuation drills and will include the following: (7-1-03)
 - i. Identity of the person conducting the drill. (7-1-03)
 - ii. Date and time of the drill. (7-1-03)
 - iii. Notification method used. (7-1-03)
 - iv. Staff members participating. (7-1-03)
 - v. Special conditions simulated. (7-1-03)
 - vi. Problems encountered. (7-1-03)
 - vii. Weather conditions when occupants were evacuated. (7-1-03)
 - viii. Time required to accomplish complete evacuation. (7-1-03)

04. General Fire Safety Precautions: (7-1-97)

- a. Storage of combustible materials shall be orderly and maintained two (2)-feet from the ceiling and not less than eighteen (18)-inches below sprinkler head deflectors. (7-1-97)
- b. Combustible or flammable materials shall not be stored in exit corridors or exit enclosures. (7-1-97)

- c.** Combustible or flammable material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms. (7-1-97)
- d.** Combustible or flammable material shall not be stored in attics, in under floor spaces, or in concealed spaces unless such areas are protected by one (1) hour fire resistive construction or fire sprinkler system. (7-1-97)
- e.** Combustible material shall not be used as wall or ceiling decorations where they may contribute to the spread of fire within a room or area. (7-1-97)
- f.** Combustible materials shall not be placed where they may contribute to the spread of fire or toxic smoke within a room, space, or area. (10-1-06)
- g.** Textile wall coverings, to include carpeting and similar materials, when used as an interior wall finish, including materials such as those having a napped, tufted, looped, non-woven, woven, or similar surface shall comply with the following: they shall have a flame spread of twenty-five (25) or less (Uniform Building Code Standard 8-1) and shall be protected by automatic fire sprinklers; or the wall coverings shall meet the acceptance criteria of NFPA 265. (7-1-03)
- h.** Refrigerators/freezers shall be defrosted periodically to prevent ice build up that could cause the compressor to heat up and cause a motor/compressor fire. (10-1-06)
- i.** Fueled equipment, including but not limited to motor cycles, mopeds, lawn care equipment, and portable cooking equipment shall not be stored, operated, or repaired within a facility, building, or structure unless that facility, building, or structure meets the requirements for such use. (7-1-97)
- j.** Combustible or flammable rubbish kept or accumulated within or adjacent to facilities, buildings, or structures shall be stored in approved containers, in rooms, or vaults constructed of noncombustible materials. (7-1-97)
- k.** Oily rags and similar materials shall be stored in metal, metal lined, or other approved containers equipped with tight-fitting covers. (7-1-97)
- l.** Combustible or flammable rubbish stored in containers shall be removed from facilities, buildings, or structures not less than once each working day. (7-1-97)
- m.** Dumpsters and rubbish containers with an individual capacity of one-point-five (1.5)-cubic yards or more shall not be stored in buildings or placed within five (5)-feet of combustible walls, wall openings, or combustible roof eave lines. (7-1-97)
- n.** Cut or uncut weeds, grass, vines, and other vegetation shall be removed when determined to be a fire hazard. When the total removal of growth is impractical due to size or environmental factors, approved fuel breaks shall be established. Designated areas shall be cleared of combustible vegetation to establish the fuel breaks. (7-1-97)

o. Lighted matches, cigarettes, cigars, or other burning objects shall not be discarded in such a manner that could cause ignition of other combustible materials. (7-1-97)

p. Hot ashes, cinders, smoldering coals, greasy or oily materials shall not be deposited in a combustible receptacle or a receptacle used for or containing combustible materials. EXCEPTION: The separation distance to other combustible materials is allowed to be reduced to two (2) feet when the dangerous material is deposited in covered metal or noncombustible receptacles which are placed on a noncombustible floor, ground surface, or stand. (7-1-97)

q. Chimneys used with fireplaces, incinerators, or other heating appliances in which solid or liquid fuel is burned shall be maintained with a spark arrester. EXCEPTION: Chimneys which are located more than two-hundred (200) feet from any mountainous, brush-covered, or forest-covered areas. (7-1-97)

r. Appliances shall be installed and maintained, as per their listing, so as not to create a hazard. Heating appliances shall have tip over protection. Flammable/combustible materials shall be kept away from appliances or other like items that produce heat or flames during their normal operation. (10-1-06)

s. Vacant facilities, buildings, structures, and properties shall be free of accumulations of combustible or hazardous materials. Vacant facilities, buildings, and structures shall be maintained, securely locked or barricaded to prevent entry by unauthorized persons. (7-1-97)

t. Above ground gas meters, regulators, piping, or tanks exposed to vehicular damage due to proximity to alleys, driveways, parking areas, or work areas shall be appropriately protected. (7-1-97)

u. Above ground fixed tanks used to store propane or other LPG products, flammable liquids, or other flammable gases shall have signs stating "**NO OPEN FLAMES WITHIN 75 FEET**". (7-1-03)

v. Where there are three (3) or more dust producing woodworking machines in an area, a dust collection system is required. The dust collection system shall activate whenever any of the dust producing woodworking machines are running. (7-1-00)

w. Foam plastic insulation inside buildings or facilities shall be covered with a fire resistive barrier. (10-1-06)

x. The combustible paper covering of insulation inside buildings or facilities shall be covered with a fire resistive barrier. (10-1-06)

05. Protection of and Access to Fire Appurtenances: (7-1-97)

a. Fire hydrants and other fire protection equipment, when exposed to vehicular damage, shall be suitably protected. (7-1-97)

b. Posts, fences, vehicles, growth, trash, storage, and other materials shall not be placed or kept near fire hydrants, fire department inlet connections, or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately visible. A three (3) foot minimum clear space shall be maintained around the circumference of fire hydrants, fire department inlet connections, and fire protection system control valves. (7-1-97)

c. The fire department shall not be hindered from gaining immediate access to fire protection equipment or fire hydrants. (7-1-97)

d. Fire lanes/access roads shall not be obstructed in any manner including parking of vehicles. The minimum required widths and clearances shall be maintained at all times. (7-1-97)

06. Open Flames:

a. Prior to commencement of open burning the fire department shall be notified. (7-1-97)

b. Open burning of rubbish containing paper products is prohibited. (7-1-97)

c. Open burning shall not be conducted within fifty (50) feet of any facility, building, structure, or other combustible material. Conditions which could cause a fire to spread to within fifty (50) feet of a facility, building, or structure shall be eliminated prior to ignition. (7-1-97)

d. Recreational fires shall not be conducted within twenty-five (25) feet of a facility, building, structure, or combustible unless contained in an approved barbecue pit. Conditions which could cause a fire to spread to within twenty-five (25) feet of a facility, building, or structure shall be eliminated prior to ignition. (7-1-97)

e. Display fires within a facility, building, or structure shall be contingent upon the approval of the local fire jurisdiction. (7-1-97)

f. A hose connected to a water supply or other approved fire extinguishing equipment shall be readily available for use. (7-1-97)

g. Burning materials, recreational fires, or display fires shall be constantly attended by a person knowledgeable in the use of the provided fire extinguishing equipment. An attendant shall supervise the burning material until the fire has been extinguished. (7-1-97)

h. Candles, incense, and similar open-flame producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies. (10-1-06)

07. DELETED (7-1-03)

08. Commercial Cooking Equipment Protection: (7-1-97)

a. Commercial cooking equipment and domestic cooking appliances used for commercial purposes that are used in processes producing smoke or grease-laden vapors shall be equipped

with a Type I exhaust hood. Commercial cooking or heat shall be equipped with a Type II exhaust hood (after July 1, 2002). The exhaust system shall be equipped with an exhaust system complying and maintained in accordance with sub-sections 060.08.a. through 060.08.k of this section. (10-1-06)

b. A hood constructed of stainless steel or other approved material of equivalent strength, fire, and corrosion resistant with all seams, joints, and penetrations of the hood enclosure to its lower outer most perimeter that directs and captures smoke, grease-laden vapors, and exhaust gases having a liquid-tight continuous external weld, (Internal hood joints, beams, filter support frames, and appendages need not be welded but shall be sealed or otherwise made grease tight.) Hoods shall be sized and configured to provide for the capture and removal of smoke and grease-laden vapors, fumes, steam, odor, or heat. (7-1-03)

c. A ducting system constructed of and supported by carbon steel or stainless steel of suitable strength and fire and corrosion resistance. [Ducts shall not pass through fire walls or fire partitions. EXCEPTION: The use of rated shaft enclosure construction.] All ducts shall lead, as directly as possible, to the exterior of the facility, building, or structure. Duct systems shall not be interconnected with any other building ventilation or exhaust system. All ducts shall be installed without forming dips or traps that might collect residues. All interior surfaces of ducts shall be accessible for cleaning and inspection. A sign shall be placed on all access panels stating "**ACCESS PANEL - DO NOT OBSTRUCT**". The duct system shall be designed, constructed, and installed to provide an air velocity of not less than one-thousand-five-hundred (1,500) feet per minute nor more than two-thousand-five-hundred (2,500) feet per minute. (7-1-97)

d. Grease removal devices such as liquid grease filters, baffles, or other approved grease removal devices for use with commercial cooking equipment shall be provided. Mesh filters shall not be used. Grease removal devices shall be protected from combustion gas outlets and from direct flame. Filters shall be tight fitting and firmly held in place. Filters shall be easily accessible and removable for cleaning. Filters shall be installed at an angle not less than forty-five (45) degrees from the horizontal. Filters shall be equipped with a drip tray beneath the lower edge of the filters. The tray shall be kept to the minimum size needed to collect the grease and be pitched to drain to an enclosed metal container having a capacity not to exceed one (1) gallon. (7-1-97)

e. The exhaust system with Type I exhaust hoods shall be equipped with fire extinguishing equipment that shall include both fixed automatic extinguishing systems and portable fire extinguishers. (7-1-03)

f. An inspection and servicing of the fire extinguishing system by properly trained and qualified persons shall be made at least every six (6) months. Maintenance on fire extinguishing systems shall be performed by a trained person who has undergone the training necessary to reliably perform the required maintenance procedures. (It is recommended that such training and qualification be by the manufacturer of the equipment being inspected and serviced). Fire extinguishing system maintenance shall be accomplished in accordance with appropriate manufactures service manuals. (7-1-97)

g. All actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators, etc., shall be checked for proper operation during the inspection in accordance with the manufacturer's listed procedures. In addition to these requirements, specific inspection requirements in the applicable NFPA Standard shall also be followed. (7-1-97)

h. Fusible links and automatic sprinkler heads shall be replaced at least annually or more frequently if necessary to assure proper operation of the system. Other detection devices shall be serviced or replaced in accordance with the manufacturer's recommendations. (7-1-97)

i. Certificates of cleaning, inspection and maintenance performed shall be kept on the premises. (7-1-03)

j. The exhaust system shall be operated during all periods of cooking. Filter protected exhaust systems shall not be operated with the filters removed. Openings provided for replacing air exhausted through ventilating equipment shall not be restricted by any means that would reduce the operating efficiency of the exhaust system. Cooking equipment shall not be operated while its fire extinguishing system for the exhaust system is non-operational or otherwise impaired. (7-1-97)

k. Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to bare metal at frequent intervals prior to surfaces becoming heavily contaminated with grease or oily sludge. They shall be inspected and cleaned at a minimum of every six (6) months. A record of cleanings shall be kept to include those areas or items not cleaned. Flammable solvents or other flammable cleaning aids shall not be used. Care shall be taken not to apply cleaning chemicals on fusible links or other detection devices of the automatic fire extinguishing system. (7-1-97)

09. Non-approved Fire Protection Equipment: (7-1-97)

a. Carbon-tetrachloride or Chlorobromomethane shall not be used as a fire suppressant agent in any fire extinguisher. Vaporizing liquid extinguishers are not recognized in this code and reference to them has thus been deleted. (7-1-97)

b. All inverting types of fire extinguishers utilizing soda-acid, foam, water cartridge, and loaded stream cartridge shall be discontinued from use. (7-1-97)

c. Inverting types of extinguishers are not pressure vessels, but because they are not under pressure at all times, they were not designated to meet pressure vessel codes, as are other extinguishers. (7-1-97)

d. Old inverting types of extinguishers are being stressed very close to their actual yield point, which means there is virtually no built-in reserve strength. (7-1-97)

10. Christmas Trees:

a. The use of natural or resin-bearing cut trees in public buildings shall be in accordance with this Subsection. (7-1-97)

b. Trees shall be properly treated with a flame retardant approved by the chief of the local fire jurisdiction. EXCEPTION: Live vegetation approved by the chief of the local fire jurisdiction. (7-1-97)

c. The support device that holds the tree in an upright position shall be of the type that: does not damage the tree stem base; hold the tree securely and is of adequate size to avoid tipping over of the tree; and is capable of containing a two (2) day minimum supply of water, covering the stem at least two (2) inches, and the quantity specified in Table 060.10-A. (7-1-97)

TABLE 060.10-A		
TREE HEIGHT (FEET)	MINIMUM SUPPORT STAND WATER CAPACITY (gallons)	TYPICAL DAILY WATER EVAPORATION AMOUNT (gallons)
Up to 6 1/2	1/2	1/8 to 1/4
6 1/2 to 10	1	1/4 to 1/2
Over 10	3	1/2 to 1 1/2

d. Prior to setting up a tree, the trunk shall have a fresh butt cut on a diagonal at least one (1) inch above the original cut. (7-1-97)

e. Hot tap water shall be used when first filling the tree support stand. The water, level when filled, shall be at least two (2) inches above the but of the tree. The water level shall not become lower than the but of the tree. If the water level should become lower than the but of the tree, the tree shall be removed immediately or the but recut as per sub-section 060.10.d of this section. (7-1-97)

f. Trees shall be checked for dryness using the following method: stand in front of a branch, grasp it with reasonably firm pressure and pull your hand toward you, allowing the branch to slip through your grasp. If the needles fall off readily, the tree does not have adequate moisture content and shall be removed immediately. (7-1-97)

g. Candles and open flames shall not be used on or near a tree. (7-1-97)

h. Electrical decorations used on trees shall be listed. (7-1-97)

i. Trees shall be inspected daily by a designated individual. Trees shall be tested for dryness in accordance with sub-section 060.10.f of this section and that adequate water level is maintained in accordance with sub-section 060.10.e of this section. (7-1-97)

11. Kilns: (7-1-00)

- a.** Kiln clearances from non-combustible surfaces shall be eighteen (18) inches minimum. (7-1-00)
- b.** Kiln clearances from combustible surfaces shall be thirty-six (36) inches minimum. (7-1-00)
- c.** Kilns shall be installed on non-combustible floors of solid masonry or concrete two (2) inches thick and extending at least twelve (12) inches beyond the base or supports. (7-1-00)
- d.** Kiln controls (electric or gas) shall have a thirty (30) inch minimum clear access. (7-1-00)
- e.** A canopy hood or downdraft exhaust shall be installed over or on the kiln. (7-1-00)
- f.** Canopy hoods shall be installed twelve (12) to thirty (30) inches directly above the kiln. (7-1-00)
- g.** The hood face opening area shall be equal to or greater than the top surface of the kiln (7-1-00)
- h.** The kiln hood shall be of twenty-four (24) gage galvanized steel or equivalent as a minimum. (7-1-00)
- i.** The kiln hood or downdraft exhaust shall be connected to ducting extending to the outdoors. (7-1-00)
- j.** The kiln room shall have a provision for make-up air. (7-1-00)