

University of Pittsburgh Safety Manual	EH&S Guideline Number: 02-002	
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FIRE SAFETY AND FIRE PREVENTION

These guidelines are intended to prevent fires and to maintain University environments in a condition that is optimal for life safety.

1. No Smoking

University policies prohibit smoking in all University owned and leased facilities. Smoking should be limited to designated areas only. Interior loading dock areas, foyers and vestibules near entrances are not designated smoking areas. See University Policy CS 21 Smoking (formerly 04-05-03).

2. Building Features

2.1 Do not tamper with fire detection notification devices, smoke or heat detectors, sprinkler heads or other fire protection devices.

2.2 Sprinkler heads should not be obstructed and at least an 18-inch clearance should be maintained below the level of sprinkler heads.

2.3 Do not prop open fire or smoke doors (e.g., doors to stairways, doors at building subdivisions, and doors to labs) with wedges or other hold-open devices.

2.4 Fire Extinguishers

The University provides and maintains over 5000 fire extinguishers throughout University properties. EH&S provides for the inspection of all fire extinguishers annually. The fire extinguishers are selected by type and location due to the hazards involved, as outlined in applicable City Codes and the National Fire Protection Association (NFPA) Code 10.

2.4.1 No one on campus is required to use a fire extinguisher during a fire emergency. Designated staff members are trained and authorized to use portable fire extinguishers to fight fires. All other staff, faculty and students must evacuate the area immediately when the alarm sounds. General fire extinguisher use and demonstrations are available annually during the University's Fire Safety Day. A fire extinguisher may be used under the following conditions:

2.4.1.1 The individual is trained in the use of fire extinguishers.

2.4.1.2 It can be determined exactly what is burning, and that the proper type and classification of fire extinguisher is available.

2.4.1.3 The fire is small (i.e. any fire that is isolated to a container or very small area such as a trash can), has not spread to other materials and can be extinguished with one local extinguisher. There should be no attempt to use a portable extinguisher on a fire that involves flammable solvents, has spread to other materials, is partially hidden behind a wall, ceiling or equipment, or cannot be reached from a standing position.

2.4.1.4 The air is safe to breathe (i.e. sufficient oxygen and no toxic fumes), the room is not hot or smoke filled, and there is a clear evacuation path maintained behind you.

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2.4.2 Never enter a room that is smoke filled. Never enter a room containing a fire. Never enter a room if the top half of the door is warm to touch.

2.4.3 The following is offered as a reminder to personnel trained in the operation of a fire extinguisher: Keep your back to an unobstructed exit and stand six to eight feet away from the fire. Follow the four step **PASS** procedure:

Pull the pin: This unlocks the operating lever and allows the operator to discharge the extinguisher. (NOTE: Some extinguishers may have other release mechanisms.);

Aim low: Point the extinguisher nozzle at the base of the fire;

Squeeze the lever: This discharges the extinguishing agent. Releasing the lever will stop the discharge. (Some extinguishers have a button instead of a lever.);

Sweep from side to side: Moving carefully toward the fire, keep the extinguisher aimed at the base of the fire and sweep back and forth until the flames appear to be out. Watch the fire area--if the fire re-ignites, repeat the process.

2.5 Fire Hose

Fire standpipe systems with hose valves, hose lines or hose cabinets are prominently located throughout University buildings. Fire hose is only to be used for emergency purposes by responding fire fighters. Fire hose cabinets are intended for the storage of fire equipment only.

3. Corridor Utilization Guidelines

3.1 The storage or use of chemicals, hazardous waste, radioactive material, biological material, compressed gas cylinders, workstations, tables, desks, chairs and any equipment used for active laboratory procedures is strictly forbidden in egress corridors and stairwells.

3.2 Certain storage equipment such as refrigerators and filing cabinets may be *temporarily* placed in a corridor if a clear path of egress is maintained (minimum 44" clear width) and the equipment can be locked.

3.3 Any storage of combustible items (paper, cardboard boxes, cloth, etc.) in egress corridors must be in fully enclosed cabinets.

3.4 At no time can any egress corridor be reduced in width by stored items to less than 44 inches.

4. Holiday Decorating Guidelines

4.1 Fire codes prohibit live cut decorations such as trees, holly and evergreen branches inside University buildings. Use artificial trees and decorations.

4.2 Artificial trees, displays or other decorations should not obstruct emergency showers, utility access panels, exit doors, fire doors, EXIT signs, hose cabinets, fire extinguishers, fire alarm notification devices (horns, strobes, bells), fire alarm pull stations, smoke and heat detectors, or sprinkler systems.

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4.3 Avoid placing electrical decorations near sources of water or on anything made of metallic materials due to potential shock hazards. Be sure that all electrical decorations are UL approved. Avoid using extension cords. No more than three (3) sets of lights or decorations should be on one electrical circuit. Turn off all decorative lighting when unattended.

4.4 Lit candles or other open flames for decorative purposes are prohibited inside University buildings. General guidelines on open flames during religious or commemorative services are provided below.

5. Candles

Candles, incense and open flames are not permitted in University buildings. With prior approval by EH&S and adherence to guidelines below, candles or open flames may be permitted for ceremonies or religious events:

5.1 Should the use of candles require any portion of the fire detection system to be placed on hold during the event, a Fire Watch (see Section 11.2) must be provided during that time and coordinated with appropriate Facilities Management or Housing personnel.

5.2 The event should include personnel who are knowledgeable regarding the proper use of portable fire extinguishers and the nearest extinguisher location.

5.3 Lit candles must never be unattended. The above assigned personnel should remain monitoring the room during any breaks and to extinguish all candles when the event is over.

5.4 The location of the candles should not block any emergency equipment or exit.

5.5 Keep candles away from items that can catch fire such as clothing, books, paper, curtains, combustible wall coverings, or decorations.

5.6 Ensure candles are placed on stable furniture or in sturdy holders that will not tip over. Candles should fit in the holders securely and holders should be made from material that cannot burn. Make sure the candleholder is big enough to collect dripping wax.

5.7 Extinguish taper and pillar candles when they get within 2 inches of the holder or decorative material. Votives and container candles should be extinguished before the last ½ inch of wax starts to melt.

5.8 Avoid candles with combustible items embedded in them.

6. Luminaries

6.1 Candle type luminaries should not be used indoors.

6.2 Electrical luminaries may be used indoors as follows:

6.2.1 The devices are UL approved and they are operated according to the manufacturers recommended guidelines.

6.2.2 Avoid locations near sources of water or on anything made of metallic materials due to potential shock hazards.

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6.2.3 Use of extension cords should be avoided and no more than three (3) sets of lights or decorations should be on one electrical circuit.

6.2.4 Turn off when unattended and upon completion of the ceremony.

6.3 Candle and electrical luminaries can be used outdoors as follows:

6.3.1 Candles must have at least 2" of sand (or like non-combustible material) in the bottom of the bag. The candle must be of a size that will allow adequate space between the candles and bag so as not to ignite the bag.

6.3.2 Candles will not be placed within five (5) feet of combustible material, such as leaves, paper or decorations.

6.3.3 An individual should be designated to supervise and manage the luminaries and ensure that luminaries are properly extinguished and discarded.

6.3.4 Candles must be extinguished at the end of the event unless the area is supervised.

6.3.5 Electrical luminaries and associated extension cords must be rated for outdoor use.

6.3.6 Electrical cords and extension cords will not be placed so as to cause a tripping or fire hazard.

Portable Heaters

6.4 Portable heaters are not designed for continuous use and should not be used as a primary heating source for any room or area.

6.5 Only UL approved portable heaters with an automatic safety switch and tip-over protection should be used. Portable heaters with exposed heating elements should be avoided.

6.6 Portable heaters must be plugged directly into an electrical outlet (do not use extension cords) and the cords should not be located across doorways, aisle ways, under rugs or in areas where the cord may be exposed to wet conditions or physical damage.

6.7 Maintain at least a 3-foot minimum clearance between the heater and any combustible materials (e.g. trash and/or recycling containers, furniture, files, curtains, combustible wall coverings).

6.8 Nothing should be placed on the heaters and the ventilation openings of the portable heater cannot be blocked or obstructed.

6.9 Portable heaters should be turned off and unplugged when not in use or when the area is not occupied.

6.10 Portable heaters are not designed for use in areas where flammable/combustible liquids or gases are used or stored, or where dust may be present (e.g. labs and workshops).

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7. Outdoor and Indoor Cooking Appliances

- 7.1 Outdoor cooking appliances such as charcoal, electric or gas grills are only permitted on University property if the following conditions are strictly adhered to. Due to potential storage and use hazards associated with charcoal, lighter fluid and propane tanks (20 pound capacity), use of these type of grills are intended for single occurrence events. For more frequent events, electric grills or camping style propane grills (up to 2.5 pound capacity) should be used.
- 7.1.1 Outdoor grills must be located on a hard, noncombustible flat surface (not on grass or wood decking).
 - 7.1.2 Grills should be at least 10 ft. from any building's door, window or air intake. Grills should not be located under building overhangs or areas of combustible construction.
 - 7.1.3 Grills, tables, chairs, and other material associated with an event must not obstruct a means of egress.
 - 7.1.4 All outdoor cooking appliances must be constantly attended while in use. The event should include personnel who are knowledgeable regarding the proper use of portable fire extinguishers. A 10 lb ABC type extinguisher should be provided in an accessible location within 10 ft. of the grill.
 - 7.1.5 Upon completion of the event, all burner controls should be turned off. For charcoal grills, the coal should be thoroughly extinguished with water. In addition, it is recommended that the coal remain in the grill with the lid tightly secured until the following day at which time the coal and ash can be emptied into an appropriate trash container.
- 7.2 Indoor cooking (or any other forms of open flame) is prohibited, except in designated and properly arranged and protected kitchens with ventilation systems. As an exception to this general rule, special events can proceed provided the following guidelines are strictly adhered to.
- 7.2.1 The area for the proposed cooking should be reviewed by EH&S and a University Electrician knowledgeable in the buildings fire alarm system operation and detection device locations to determine if the planned cooking has the potential to activate any of the detection devices. If that is the case, the devices can be temporarily placed on hold or bypassed during the event. Immediately after the event, the fire alarm system must be promptly returned to normal operation.
 - 7.2.2 Even if the detection devices are not disabled, a Fire Watch must be provided for the duration of all events with temporary use/approval of indoor open flames.
 - 7.2.3 Where possible, all food preparation and/or warming devices shall be electric and U.L. Approved. The use of extension cords should be limited and ideally all devices plugged directly into wall outlets. As an exception, the use of Sterno or portable, U.L. Approved butane/propane fueled appliances may be used.
 - 7.2.4 All open flame food preparation cooking equipment or warming devices shall be placed on a sturdy, noncombustible, flat surface and kept a safe distance (at least 15 ft.) away from combustible materials, wall coverings, curtains, and decorations.

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- 7.2.5 All cooking, warming or other preparation devices shall be isolated from the public by not less than 4 feet, or a minimum 18-inch non-combustible shield shall be provided which extends across the front and sides of the food preparation area/booth to prevent accidental contact and injury.
- 7.2.6 Demonstration cooking or food preparation shall not create an excessive amount of grease-laden vapors and the use of deep fat fryers is prohibited. City Fire Codes require an exhaust hood and fixed fire suppression systems if excessive grease laden vapors exist.
- 7.2.7 All heat producing food preparation equipment or warming devices shall be constantly attended. The assigned personnel should remain monitoring the room during any breaks and to extinguish all open flames and turn off all burner controls when the event is over.
- 7.2.8 The event shall include a person(s) knowledgeable in the proper use of portable fire extinguishers and the nearest extinguisher location. If an extinguisher is located more than 10 ft. away from the cooking area, the closest extinguisher can be temporarily relocated and returned to its designated location when the event is over.
- 7.2.9 The location of the cooking equipment, tables, booths, and chairs shall not block, restrict or obstruct any emergency fire protection equipment, fire alarm devices, or emergency exits and aisles.
- 7.2.10 Propane is prohibited inside university buildings, unless approval is granted by EH&S. For temporary cooking, a container with a maximum water capacity of 2.5 pounds may be used. Additional guidance on propane use is found below.
- 7.2.11 For cooking, food or beverage preparation that will produce high flames ("flambé"), the following conditions per the City Fire Code (IFC, Section 308.6) must be followed:
- 7.2.11.1 Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following: A 1-ounce (29.6 ml) container; or a container not exceeding 1-quart (946.5 ml) capacity with a controlled pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.
 - 7.2.11.2 Containers not in use shall be secured to prevent spillage.
 - 7.2.11.3 The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.
 - 7.2.11.4 The location of flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.
 - 7.2.11.5 The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

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8. Propane

Propane is prohibited inside university buildings, unless approval is granted by EH&S. Propane tanks should not be used if they have dents, damage, rust or leaks. The following guidelines for propane use must be followed:

- 8.1 When not in use, the propane cylinder valve must be closed and the threaded connection capped in accordance with the manufacturer's instructions.
- 8.2 Do not smoke while handling the propane cylinder.
- 8.3 Do not use, store, or transport propane cylinders where the cylinder would be exposed to high temperatures. Do not store spare cylinders under or near cooking equipment.
- 8.4 Refer to the 'Storage and Handling of Flammable and Pyrophoric Gasses section of this manual for additional detail regarding propane safeguards.

9. Pyrotechnics

Approval for the use of pyrotechnics must be obtained from the City of Pittsburgh's Bureau of Fire, or the local authority having jurisdiction. EH&S shall be contacted prior to the proposed use of any pyrotechnics, as this may also impact fire detection devices and provision of a Fire Watch.

10. Residence Halls and Fraternity Houses

In addition to the above fire safety guidelines, the following items are NOT permitted in University-owned residence facilities (residence halls, University fraternity houses, University-owned apartment buildings).

- 10.1 Cooking devices with grease or open heating elements such as toaster ovens, waffle irons, hot plates, deep fryers, or propane stoves with tanks attached.
- 10.2 Halogen lamps.
- 10.3 Only UL Approved multi-outlet plug strips or surge suppressers (125V AC, 60Hz, 1875 watt or less) should be used. No more than one multi-outlet plug strip may be plugged into each duplex outlet.
- 10.4 All weapons, "weapon-like projectiles," air guns, paint guns, stun guns, starter pistols, firearms, or ammunition.
- 10.5 Flammable and combustible liquids. Fireworks, sparklers, flares, or any type of flammable or combustible novelty; and explosives or incendiary devices such as blasting caps, percussion caps, fertilizers, black powder, and any other type of material used in the manufacturing of explosives.

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11. Maintaining Fire Alarm and Fire Protection Systems

11.1 Testing of Fire Alarms and Fire Protection Systems

The fire alarm and fire protection systems of each building are tested by the Building Engineer or other University staff to verify its operational condition. Prior to the test or during repair of the system, a notice is posted on the entrance doors to the building and/or an announcement is made to notify occupants. Occupants need not evacuate the building during a fire alarm test. Building occupants should listen for the fire alarm signal during the test and notify EH&S if not detected. If fire or smoke is detected during the test or outage, follow the above Emergency Evacuation Procedures and call 911.

11.2 Maintenance and Impairments to the Fire Alarm and Protection Systems (“Fire Watch”)

Maintenance and repair of building fire alarm and protection systems are required to provide a safe and consistent level of defense against fire. During these repairs and maintenance, it may be necessary to temporarily disable the building fire alarm or fire protection systems. Detailed procedures have been developed by EH&S to help manage these impairments.

A fire watch is the process in which a building is physically monitored by designated University personnel (building engineers, security or other adequately trained individuals) during periods when fire alarm or fire protection systems are disabled. See EH&S Guideline 02-006 for details on a fire watch and on maintenance and impairments to the fire alarm or fire protection systems.