

I. Purpose

Fire and Life safety involves numerous safety issues including fire prevention, fire suppression and emergency evacuation/response. Fire and life safety is everyone's responsibility.

II. Emergency access and escape

1) Emergency Access and Egress

- a) Emergency access and egress are critical during an emergency situation such as a fire, chemical release or explosion. During a fire, timing and quick response are essential to save lives and property. Effective emergency access ensures that fire trucks can reach a building in time to extinguish the fire. Unobstructed emergency egress ensures that building occupants can exit a building to safety. These definitions help clarify the concept of emergency access and egress:
 - i) **Emergency Access:** Permanent facilities and equipment remain available and unobstructed at all times to ensure effective fire detection, evacuation, suppression and response.
 - ii) **Emergency Egress:** A continuous and unobstructed way to travel from any point in a public way. A means of egress may include horizontal and vertical travel routes, including intervening rooms, doors, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, courts and yards.
- b) **IMPORTANT:** *Each location within a building must have a clear means of egress to the outside.*

2) Corridors, Stairways and Exits

- a) An exit corridor and/or stairway is a pedestrian pathway that allows direct access to the outside of a building and/or allows access to a building entrance and subsequent pathways to the outside of a building (i.e., an exit corridor is the quickest, easiest and most direct pathway for leaving a building.) Because exit corridors or passageways are the primary means of egress during an emergency, employees must follow the safety guidelines outlined in this section.
- b) **IMPORTANT:** *There must be at least 44 inches clear width of unobstructed, clutter-free space in all corridors, stairways and exits.*
- c) Follow these guidelines to promote safe evacuation in corridors, stairways and exits:
 - i) Keep all means of egress clean, clutter-free, and unobstructed.
 - ii) Do not place hazardous materials or equipment in areas that are used for evacuation.
 - iii) Do not use corridors or stairways for storage or office/laboratory operations. Corridors may not be used as an extension of the office or laboratory.

3) Fire Lanes

- a) A fire lane is an area designated for emergency personnel only. It allows them to gain access to building and/or fire protection systems. Although most fire lanes on campus

are clearly marked, not all fire lanes are easy to distinguish. K-State has a program in place to clearly mark all fire lanes.

- b) **IMPORTANT:** *Do not park in fire lanes or within 15 feet of fire hydrants and other fire equipment.*

4) Fire Doors

- a) A fire door serves as a barrier to limit the spread of fire and restrict the movement of smoke. Unless they are held open by the automatic systems, fire doors should remain closed at all times. Do not tamper with fire doors or block them with equipment, potted plants, furniture, etc.
- b) Fire doors are normally located in stairwells, corridors and other areas required by Fire Code. The door, doorframe, locking mechanism and closure are rated between 20 minutes and three hours. A fire door rating indicates how long the door assembly can withstand heat and a water hose stream.
- c) Always keep fire doors closed. If it is necessary to keep a fire door open, have a special automatic closure installed. This closure will connect the fire door to the building's fire alarm system and will automatically close the door if the alarm system activates.
- d) **IMPORTANT:** *Know which doors are fire doors and keep them closed to protect building occupants and exit paths from fire and smoke. Never block a fire door with a non-approved closure device such as a doorstop, block of wood, or potted plant. For fire doors with approved closure devices, make sure that nothing around the door can impede the closure.*
- e) Doors to offices, laboratories and classrooms help act as smoke barriers, regardless of their fire rating. Keep these doors closed whenever possible. Never alter a fire door or assembly in any way. Simple alterations such as changing a lock or installing a window can lessen the fire rating of the door.
- f) **REMEMBER:** *A closed door is the best way to protect your path to safety from the spread of smoke and fire.*

III. Emergency Evacuation

1) Academic Classrooms

- a) Instructors are responsible for seeing that their students are evacuated from the building.
- i) Review evacuation routes, 'Area of Rescue Assistance' and assembly points with students during the first class each semester.
 - ii) When the alarm sounds, have the students evacuate the room and count them as they leave.
 - iii) Make sure that blind and visually impaired persons are escorted to the assembly point; ask the escort to remain with them to escort them back after reentry is permitted.
 - o If you are not on the ground floor, announce to students who cannot use stairs that you will escort them to an 'Area of Rescue Assistance' to await evacuation.
 - o Turn out the light and close (but do not lock) the door behind you.

- Do not use elevators.
 - If you have persons in the class who use wheelchairs, crutches, canes, walkers, etc. that cannot walk downstairs between floors, escort them to the nearest 'Area of Rescue Assistance' and remain with them until emergency personnel arrive for evacuation.
 - Emergency personnel will check 'Area of Rescue Assistance' immediately upon arrival.
- iv) Assembly points outside of the building must be at least 50 feet from the building and not in roadways.
 - v) Once safe, report the alarm by calling 911. Not all of the building alarm systems will notify the KSUPD automatically. This station can also be used to report individuals not accounted for by your recount.
 - vi) Permission to reenter must be received from emergency response personnel (Police or Fire Department) before returning to the building. A silenced alarm does not indicate that it is safe to reenter the building.
- 2) Offices, Research Laboratories and Other Non-Academic Areas**
- a) Each office and other non-academic area should have someone designated to ensure the area is evacuated and that an accounting of all personnel is taken.
 - b) That person should remain in the area and should have an alternate designee when absent.
 - i) Be sure that everyone knows the evacuation routes, 'Areas of Rescue Assistance' and assembly point.
 - ii) Check offices to ensure everyone has evacuated. Count the number of people leaving the office and arriving at the assembly point.
 - iii) Follow steps iii-vi as above.
 - c) NOTE: Persons with disabilities must notify Disability Support Services and the KSUPD in writing of any special needs not covered in these guidelines.
- 3) Residence Halls and Apartments**
- a) In the event of a fire or a fire drill getting out of your residence hall or apartment must be your Number 1 concern. Each residence hall has specific rules for evacuation and points of assembly.
 - b) Notify the KSUPD at 911 once you are aware of a fire. They will assess the situation, respond, and contact the Fire Department. In the event of a fire alarm (or a fire drill) all residents must leave the building immediately.
 - c) EVACUATION IS MANDATORY!
 - d) NOTE: A fire drill in each phase will occur before the end of each semester.
- 4) Residents with Disabilities and Guests with Disabilities:**
- a) Residents with disabilities may request that a special sign be placed on their door and/or window to alert evacuation personnel to their apartments; this is highly recommended for all residents with vision, hearing, anxiety and mobility impairments and for those who are prescribed any sedating medications.

- b) Hearing impaired persons should report any concerns with warning lights or buzzers immediately to management.
- c) Residents who have guests or roommates with disabilities should assist or obtain assistance for them.
- d) Persons with disabilities living in the residence halls or apartments must notify management and the KSUPD in writing of any special evacuation needs not covered in this notice.

IV. Fire Detection and Notification

Kansas State University uses several types of fire detection and notification systems including heat detectors, smoke detectors, pull stations, horns, and lights. The following sections discuss these components.

1) Heat and Smoke Detectors

- a) Fire detectors at K-State are linked to the University Emergency Reporting System. Once a building alarm system is activated, the Reporting System alerts the Emergency Operator who initiates emergency response. Heat detectors and smoke detectors are the two types of fire detection devices used at K-State. Please note the location of the detectors in your area and prevent damage and accidental activation.
 - i) Heat Detectors: Heat detectors respond to the convected energy in hot smoke and fire gases(i.e., heat). Heat detectors are normally located in laboratories, mechanical rooms, storage areas and areas that could produce high levels of dust, steam, or other airborne particles.
 - ii) Smoke Detectors: Smoke detectors respond to the solid and liquid aerosols produced by a fire(i.e., smoke). Since smoke detectors cannot distinguish between smoke particles and other particles such as steam, building occupants must be aware of detector locations and be considerate when working around them. Smoke detectors are normally found in exit corridors, office areas, assembly areas and residence halls.
 - iii) If your work produces steam, dust or an environment that could damage or activate a detector, protect the detector with some type of covering such as a plastic bag. Remember to remove the protective covering at the end of the day or as soon as your work is done. Notify EHS prior to covering any detectors.

2) Alarm Systems and Pull Stations

- a) Fire alarm manual pull stations are installed to manually activate a building's alarms in addition to the automatic fire sensing devices. When pulled manually, a pull station activates the fire alarm system and notifies University personnel that an emergency exists. Pull stations are located near exit stairways and/or building exits.

IMPORTANT: *Not all building alarm systems are tied into Police Dispatch. Someone must always call 911 to report an alarm.*
- b) If you smell smoke or if you see smoke or a fire, complete these steps:
 - i) Pull a manual pull station to evacuate the area.

- ii) Call 911 to report the smoke or fire.
- iii) If you are trained in firefighting and it is reasonably safe to do so, attempt to extinguish the fire.

3) Horns and Lights

- a) Emergency horns/bells and lights are located throughout University buildings with fire alarm systems. They are typically found near emergency pull stations. Do not block emergency horns or lights. Report damaged or defective horns and lights to EHS.

V. Materials Storage

1) Combustible Storage

- a) By storing excess combustible materials improperly, employees not only increase the potential for having a fire; they increase the potential severity of a fire. To reduce the hazards associated with combustible storage follow these guidelines:
 - i) Eliminate excess combustible materials such as wood, paper, and cardboard.
 - ii) Do not store combustible materials in hallways, stairwells, or mechanical rooms.
 - iii) When stacking combustible materials, leave at least 18 inches between the top of the stack and the ceiling or sprinkler head.

2) Portable Liquefied Petroleum Gas (LPG)

- a) The Kansas State Fire Marshals Office regulates the sale and use of Liquefied Petroleum Gas (LPG), including butane and propane. These regulations govern several types of LPG-powered equipment including the following:
 - i) Forklifts
 - ii) Floor buffers
 - iii) Cooking and heating equipment
 - iv) Laboratory equipment
- b) Exhaust fumes may contain carbon monoxide, which can present a health hazard. Exhaust can also create smoke, which may activate a smoke detector. Take special precautions to ensure adequate ventilation when using these machines indoors.
- c) Because LPG is extremely flammable, it is a potential fire hazard. Do not store LPG near heat, flame or other ignition sources. In addition, do not use or store portable LPG containers larger than 16 oz. in a building. Instead, place portable LPG containers and LPG equipment outside in a storage area that is at least 25 feet away from other buildings, combustible materials, roadways, railroads, pipelines, utility lines and the property line. This storage area should prevent unauthorized entry and have access to a portable fire extinguisher (within 25 feet). Containers of LPG used for engine fuel systems shall be designed and used in accordance with NFPA 58.

3) Hazardous Materials Storage

- a) There are building and fire code limitations on the quantity of hazardous materials stored within buildings. Storage within approved cabinets (e.g., flammable cabinets or gas cabinets) allows for additional storage, but limits vary by various factors such as whether the building is equipped with fire suppression. These limitations are assessed

based on quantities within control area. Control areas are areas within buildings that are separated from the rest of the building by fire-rated construction. This creates compartments that will resist the spread of fire to the rest of the structure. Each of these compartments is treated as a separate storage area in regard to flammable liquids. These compartments, or fire areas, are known as 'control areas' because they are intended to control the spread of fire through the building.

- i) **Control Area** - Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used, or handled. (2018 IFC, Section 202)
- ii) **Fire Area** - The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls, or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above. (2018 IFC, Section 202)

VI. Special Considerations

1) Open Burning

- a) K-state must comply with KDHE regulations and local rules for open burning. Follow these steps before burning anything outside:
 - i) Only natural ground cover may be burned. It is not acceptable to store items for burning at a later date. Open burning must only be used as a way to remove brush and other acceptable items if no alternate removal can be used.
 - ii) Smoke and flying debris may not cross or contact public thoroughfares.
 - iii) Responsible persons must be present during the entire burn, be equipped with adequate fire fighting agents and be able to quickly communicate with emergency response personnel.
- b) Please contact EHS for additional information on open burning, alternative methods of disposal and obtaining permits.

2) Holiday Decorations

- a) Holiday decorations are often fire hazards. Follow these guidelines to improve fire safety during the holidays:
 - i) Live Christmas trees in University buildings are prohibited by State law. Only fire resistant artificial trees are permitted.
 - ii) Do not place holiday decorations where they may block emergency egress (stairways, corridors, near doors, etc.).
 - iii) Do not wrap or cover the entire door with decorations.
 - iv) Only use decorations that are flame retardant.
 - v) Practice good housekeeping by minimizing paper and other combustible decorations.

- vi) Avoid using extension cords. If you must use an extension cord, use a heavy gauge, grounded cord and place it in plain view. Make sure the cord does not pose a tripping hazard or pass through doors or windows.
- vii) Use FM or UL labeled electrical decorations.
- viii) Do not light candles or use other decorations with open flames.
- ix) Turn off lights when the room is unoccupied.

VII. Questions

Direct questions to EHS by phone: 785-532-5856 or email: safety@ksu.edu