# VIII. Fire & Life Safety

Fire and life safety at Texas A&M University (TAMU) is governed by federal, state and local, standards including System Regulations and University Rules and University Standard Administrative Procedures. Ultimate jurisdiction for fire safety lies with the Texas State Fire Marshal and with the local Authority Having Jurisdiction (AHJ) as designated by the President of Texas A&M University. The President has designated the Manager for Fire and Life Safety in Environmental Health and Safety to be the local AHJ and to be responsible for the day to day fire prevention, inspection, and program oversight. However, each and every individual, whether faculty, staff, student, or visitor on our campus shares a role in fire safety.

TAMU is committed to providing a safe environment for building occupants and emergency response personnel.

## 1.0 Program Requirements

1.1 The basis for the fire and life safety program at TAMU is provided for by TAMU System regulation - 24.01.01 *Supplemental Risk Management Standards* **http://www.tamus.edu/offices/policy/policies/pdf/24-01-01.pdf** and a TAMU Rule – 24.01.04.M7 - *Fire and Life Safety Compliance*

1.2 http://rules-saps.tamu.edu/PDFs/24.01.04.M7.pdf

## 2.0 Applicable Codes & Standards

2.1 The Texas State Fire Marshal's Office has adopted the National Fire Protection Association *Life Safety Code*© and all referenced codes and standards as the primary guide for fire and life safety. It is important to note that this code is not all inclusive, is not a building code, and that other codes and standards may also apply. Some of these include, but are not limited to:

2.1.1 International Building Code
2.1.2 International Fire Code
2.1.3 International Mechanical Code
2.1.4 Americans with Disabilities Act
2.1.5 Texas Accessibility Standards Act

## 3.0 Fire and Life Safety Program

3.1 The fire and life safety program at TAMU involves numerous activities, programs, and procedures to help ensure that our campus is a safe place to work, live, and play. These program areas include fire prevention, fire suppression, emergency preparedness, preplanning, education, and response. The following information is provided as a general guideline for activities associated with fire and life safety. Additional information may be obtained by contacting

Environmental Health and Safety or by going to our website for the latest information. Links are provided throughout this document.

## 4.0 Appliances

4.1 An appliance can be defined as any instrument or piece of equipment or device designed for a particular use and powered by electricity. (i.e. computers, copy machines, refrigerators, freezers, space heaters etc.) Use the following guidelines when using appliances on campus.

4.1.1 Always use appliances that are UL or FM labeled.
4.1.2 Adequate space should be given around appliances to allow for air circulation.
4.1.3 Clothes dryers should have the lint removed after each load and excess build up of lint around the dryer should be cleaned regularly.
4.1.4 Large appliances such as refrigerators and freezers should be plugged directly into wall outlets.
4.1.5 Frequently inspect the electrical connection of appliances to ensure a good connection with the receptacle
4.1.6 Frequently inspect the condition of appliances. If appliances begin to spark or produce an electrical smell, turn power off immediately and discontinue using the appliance.

## 5.0 Arson

5.1 If arson is suspected, no matter how small the incident, contact the University Police Department or Environmental Health & Safety. Do not alter the fire scene in any way, unless you are trying to extinguish a live fire. The UPD will investigate any possible arson.

## 5.0 Building Evacuation Plans/Drills

5.2 Every facility at TAMU is required to have a written emergency evacuation plan as specified in the TAMU Crisis Management Plan. Each department or building proctor is responsible for developing and maintaining a comprehensive plan for emergency evacuations drills. The best way to develop this plan is to form an implementation committee with members from each building floor and each department.

5.3 To ensure that building occupants are prepared for an emergency evacuation, drills must be conducted on a regular basis. Evacuation drills may be used to vacate a building for several reasons such as fires, gas leaks, chemical spills, bomb threats or other similar emergencies and emphasis should be placed on orderly evacuation rather than on speed.

5.4 These drills should:

5.4.1 Involve all occupants. Everyone should leave the building when the fire alarm sounds. A person may be exempt from an evacuation drill if it will cause undo hardship (e.g., interrupt an experiment or procedure that can not be halted); however, exemptions are strongly discouraged without permission.

5.4.2 Occupants should close (not lock) doors as they leave the work area, provided this does not violate security procedures. Items that require security may be placed in a locking file cabinet or desk drawer on the way out.

5.4.3 Floor proctors should check all rooms and close doors on their way out.

5.4.4 All building occupants should gather in the preplanned meeting place.

5.4.5 Floor proctors should take a "head count" to determine if all occupants have left the building.

5.5 Upon completion of the drill, an evaluation of the drill shall be conducted and filed with EHS to identify any areas for improvement and to document the drill.

5.6 More information, including a template for developing an emergency evacuation plan can be found on the EHS website – http://ehsd.tamu.edu

## 6.0 Candles & Incense

6.1 The use of candles, incense burners, oil lamps and other items are governed by a University Standard Administrative Procedure (http://rules-saps.tamu.edu/PDFs/24.01.04.M7.02.pdf). General guidelines include:

6.1.1 Candles, incense burners, oil lamps or other personal items that have open flames or that smolder, are prohibited in work areas (individual or group), conference rooms, restrooms, etc. in all campus buildings. This restriction applies to such items regardless of whether the item has been lit.

6.1.2 Candles, flame effects, or pyrotechnics used for banquets, ceremonies, science demonstrations, theatrical productions, indoor fireworks or other entertainment are addressed in a separate SAP 24.01.04.M7.01: Use of Pyrotechnics or Flame Effects.

6.1.3 This use of candles does not apply to such devices used in the course and scope of University or Agency sponsored research or activities necessary to conduct business operations. If the burning of a candle(s) is permitted under the above mentioned exemption, the candle must be in a glass or similar container and kept away from combustible materials.

6.1.4 Students living in residence halls and University-owned apartments are governed by similar but separate rules as set forth by the Division of Student Affairs.

6.2 More information on the use of candles can be found at the EHS website – http://ehsd.tamu.edu.

## 7.0 Combustible Storage

7.1 One of the most common violations of general fire safety practices is that of improper or excessive storage of combustible material 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:

7.1.1 Eliminate excess combustible materials such as paper and cardboard.
7.1.2 Never store combustible materials in hallways, stairwells, or mechanical rooms.
7.1.3 When stacking combustible materials, leave at least 24" from the top of the storage to the ceiling

## 8.0 Compressed Gas Cylinders

8.1 Compressed gas cylinders, in service or in storage, shall be adequately secured (chained) to prevent falling or being knocked over. Ropes, cords, rubber and other combustible material are not approved for this purpose. Compressed gas cylinders shall have their caps in place except when they are in use or are being serviced or filled.

## 9.0 Construction and Renovation

9.1 EHS serves the role of Authority Having Jurisdiction (AHJ) for all TAMU owned property and any buildings or structures on that property. All proposed construction, structural changes, or changes in the use, or any change effecting egress from a space within a building on the TAMU campus, regardless of facility ownership, must be reviewed and approved by the EHS and Physical Plant in order to address fire and life safety issues in accordance with TAMU Rule 24.01.04.M7.

## 10.0 Decorations

10.1 When decorating your area, there are several things that you must be aware of:

10.1.1 Never hang anything from fire sprinkler piping or heads
10.1.2 Never obstruct fire alarm devices
10.1.3 Any combustible decorations such as curtains or drapes must be of a fire resistant material

10.1.4 Never obstruct an exit or the visibility thereof
10.1.5 Never staple or tack light strings
10.1.6 Decorations should not be placed in exit corridors or stairways

10.2 Holiday Decorations

10.2.1 Holiday decorations are often fire hazards if not utilized properly. Follow these guidelines to improve fire safety during the holidays:

10.2.1.1 Do not use live cut Christmas trees in University buildings. Use an artificial tree that is fire resistant.
10.2.1.2 Do not place holiday decorations where they may block emergency egress (e.g., stairways, corridors, near doors, etc.)
10.2.1.3 Only use decorations that are fire retardant.
10.2.1.4 Practice good housekeeping by minimizing paper and other combustible decorations.
10.2.1.5 Avoid using extension cords. If you must use an extension cord, use a heavy gauge cord and place it in plain view. Make sure the cord does not pose a tripping hazard.
10.2.1.6 Use FM or UL labeled electrical decorations.
10.2.1.7 Do not light candles or use other decorations with open flames
10.2.1.8 Turn off lights when the room is unoccupied.

## 11.0 Electrical Safety

11.1 Extension Cord and Power-Strip Use

11.1.1 Many times it is necessary to use extension cords or power strips (surge protectors) to reach a work area or to provide additional outlets. It is important not to overload outlets, protect cords, and follow the manufacturer's recommendation. Additionally, the following guidelines should be used while utilizing these items:
11.1.2 Extension cords are for temporary use (defined as an 8-hour work day or less)
11.1.2.1 Unplug and properly store cords when not in use
11.1.2.2 Install permanent code compliant wiring for long term use
11.1.3 Extension cords or power strips must be plugged directly into a wall receptacle – no daisy chaining is permitted
11.1.4 Extension cords should be used for portable equipment
11.1.5 Extension cords and power strips should be examined regularly for damage and removed from service if damage is found
11.1.6 Extension cords and power strips should be UL listed
11.1.7 Extension cords shall not be run above ceiling or under carpet or other similar materials

11.2 Electrical Panel Access

11.2.1 A working space of not less than 30” wide (or width of equipment), 36” deep and 78” high shall be provided in front of electrical service equipment. No storage shall be permitted within this designated work space.

## 12.0 Emergency Access and Egress

12.1 Emergency access and egress are critical during an emergency situation such as a fire. 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.

12.2 Emergency access helps ensure that facilities and equipment remain available and unobstructed at all times to ensure effective fire detection, evacuation, suppression, and response. Emergency egress is defined as a continuous and unobstructed way to travel from any point in a public building to 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.

12.3 Corridors, Stairways, and Exits

12.3.1 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.

12.3.2 Follow these guidelines to promote safe evacuation in corridors, stairways, and exits:

12.3.2.1 Keep all means of egress clean, clutter-free, and unobstructed

12.3.2.2 Do not place hazardous materials or equipment in areas that are used for evacuation

12.3.2.3 Do not use corridors or stairways for storage or office/laboratory operations

12.3.2.4 Do not place locks, chains, or other devices that can defeat or obstruct an exit without prior written permission form EHS

12.3.2.5 Corridors may not be used as an extension of the office or laboratory

## 13.0 Flammable and Combustible Liquids

13.1 Definitions:

13.1.1 Flash Point – The lowest temperature at which vapors above a volatile combustible substance will ignite in air when exposed to a spark or flame.

13.1.2 Flammable Liquid - Any liquid that has a closed cup flash point below 100° F.

12.1.3 Combustible Liquid – Any liquid that has a closed cup flash point at or above 100° F.

13.2 Flammable Liquids are further classified as Class I, Class IA, IB and IC liquids. Combustible liquids are further classified as Class II, Class III, Class IIIA and Class IIIB liquids. You can identify if you are working with flammable or combustible materials by referencing the flash point on the product label or MSDS sheet.

13.3 When working with these materials, precautions should be taken to prevent the ignition of flammable vapors by sources such as the following: open flames, hot surfaces, radiant heat, smoking, cutting and welding, sparks, static electricity. Make sure you are in a well ventilated and/or exhausted area to allow dangerous vapors to dissipate or escape the area. Only acceptable containers that meet the requirements set forth in the Flammable and Combustible Liquids Code published by the National Fire Protection Association (NFPA) should be used with flammable and combustible liquids. The allowable size of these containers is dependant upon the class of liquid and the container type and is specified in the Flammable and Combustible Liquids Code (NFPA 30). Flammable and combustible liquids should be stored inside a flammable liquids storage cabinet with an aggregate amount of liquid stored in an individual storage cabinet not to exceed 120 gallons.

## 14.0 Fire Detection and Notification

14.1 Most occupied buildings on the TAMU campus have automatic fire detection/notification systems installed in them. These systems are monitored at the Physical Plant Radio Room and the University Police Department. These systems utilize several different types of detection devices including heat, flame, and smoke detectors, relays from suppression/extinguishing systems, and manual pull stations to activate the notification portion of the system.

14.2 Detection Devices

14.2.1 Heat Detectors

14.2.1.1 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, break rooms, and areas that could produce high levels of dust, steam, or other airborne particles.

14.2.2 Smoke Detectors

14.2.2.1 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 sleeping areas.

14.2.3 Flame Detectors

14.2.3.1 Flame detectors respond to the presence of a flame. Flame detectors may be found in specific areas where a fire will develop rapidly and the hazard is greater than what is expected in normal locations within buildings such as chemical storage rooms. These devices are most commonly used in conjunction with a fire extinguishing system.

14.2.4 Manual Pull Stations

14.2.4.1 Manual pull stations, when activated, will initiate the buildings fire alarm notification system. Pull stations are generally located near exit stairways, near building exits, or in long corridors. Occupants should be familiar with the location of these devices should one need to initiate a building evacuation.

14.3 Building Notification

14.3.1 The building notification system may consist of horns, bells, speakers, strobes, or a combination of these devices. It is important to maintain a clear line of sight to any of these devices to ensure they can be seen and/or heard.

## 15.0 Fire Doors

15.1 Fire doors serve as a barrier to limit the spread of fire and restrict the movement of smoke. Unless these doors are held open and released by the building fire alarm system fire doors should remain closed at all times. Do not tamper with fire doors or block them with equipment, potted plants, furniture, etc.

15.2 Fire doors are normally located in stairwells, corridors, and other areas required by Fire Code. The door, door frame, 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. All fire doors will have a label affixed to the door indicating the manufacturer, rating, serial # of the door and other information. It is important to not remove, paint, or in any way damage or destroys the label.

15.3 For your safety and to maintain the integrity of fire doors there are several important items to remember:

15.3.1 Know which doors are fire doors and keep them closed to protect building occupants and exit paths from fire and smoke.
15.3.2 Never block a fire door with a non-approved closure device such as a door stop, blocks of wood, or potted plant.
15.3.3 For fire doors with approved closure devices, make sure that nothing around the door can impede the closure.
15.3.4 Never alter a fire door or assembly in any way. Simple alterations such as changing a lock or installing a window can lessen or completely void the fire rating of the door.
15.3.5 Doors to offices, laboratories, and classrooms help act as smoke barriers regardless of their fire rating. Keep these doors closed whenever the room is unoccupied.
15.3.6 A closed door is the best way to protect your path to safety from the spread of smoke and fire.

## 16.0 Fire Extinguishers

16.1 Fire Extinguishers, when used properly, play a vital role in containing and/or extinguishing small fires. Portable fire extinguishers are designed to be used on small, contained fires, by properly trained individuals. Lives could be saved, and property damage reduced, when fire extinguishers are used correctly.

16.2 Know the location of the closest extinguisher. A quick response is crucial to effectively put out a fire. You should not have to travel any farther than 75 feet to get to an extinguisher. This distance may be reduced in labs and other high hazard areas.

16.3 There are five classifications for fires. These are:

16.3.1 **Class A**: Fires involving ordinary combustibles, such as paper, wood, plastic, cloth, and trash.

16.3.2 **Class B**: Fires that involve flammable or combustible liquids, such as gasoline, solvents, oil, paint, and thinners.

16.3.3 **Class C**: Fires that involve energized electrical equipment or appliances.

16.3.4 **Class D**: Fires involving flammable metals, such as magnesium and sodium.

16.3.5 **Class K**: Fires that involve cooking media, such as vegetable oils.

16.4 There are fire extinguishers designed for each type of fire. Some extinguishers can be used on more than one type of fire.

16.5 Class A extinguishers are to be used only on Class A fires. This extinguisher contains only water and compressed air and is not to be used on B, C, D, or K fires.

16.6 Carbon Dioxide extinguishers are recommended for Class B and C fires. Halon or other similar type fire extinguishers are also rated to be used on B and C fires.

16.7 Dry Chemical extinguishers come in two types. One type is rated for B-C fires, and the other is rated for A-B-C fires. The ABC or multipurpose extinguisher is the most common extinguisher found on the TAMU Campus.

16.8 Class D extinguishers are specialized to be used only on flammable metals. Never attempt to extinguish a Class D fire with anything other than a CLASS D extinguisher.

16.9 Class K extinguishers are designed to be used on flammable cooking oils. They are to be used in conjunction with a commercial fire suppression system.

16.10 There is no extinguisher that is designed to be used on all types of fires. It is important to know your fire extinguisher and its limitations

16.11 Inspection and Maintenance

16.11.1 EHS conducts regular inspections of fire extinguishers. The department also services extinguishers that have been used, and also performs the required maintenance and testing of extinguishers. Once used, fire extinguishers must be serviced or replaced. If an extinguisher has been used, is missing, needs to be relocated, or any other type of service, contact EHS for assistance.

16.12 Portable fire extinguishers are located throughout buildings across the campus. They are installed according to National Fire Protection Association codes and standards. Extinguishes are readily accessible in hallways, near exits, and in areas containing high fire hazards. Never block access to an extinguisher.

16.13 Using an extinguisher

16.13.1 To use a fire extinguisher you must remember the *PASS*-word.

16.13.1.1 **P**ull the ring-pin (held in place by a plastic seal) to "un-lock" the operating lever.
16.13.1.2 **A**im the nozzle at the base of the fire
16.13.1.3 **S**queeze the lever completely
16.13.1.4 **S**weep the extinguishing agent from side to side until the fire is extinguished

16.14 The normal operating distance of different extinguishers will vary considerably. A dry chemical extinguisher will have a discharge range of 8-10 feet, while a Carbon Dioxide extinguisher may only reach 5-6 feet.

16.15 Remember:

16.16.1 Only attempt to extinguish small, contained fires
16.16.2 Make sure you are properly trained, and capable of fighting the fire
16.16.3 Be certain that you have the correct extinguisher for the type of fire
16.16.4 Always keep a clear, unobstructed exit
16.16.5 Never turn your back on a fire
16.16.6 Fires may re-ignite, so be prepared

16.16 Training

16.16.1 Learn how to use a fire extinguisher before an emergency occurs. EHS provides hands on training in the use of portable fire extinguishers. Participants will learn about the different types of extinguishers, how to use each type, and will have the opportunity to extinguish a real fire. Make sure you have the correct extinguisher for the type of fire to be extinguished. All extinguishers have a label that states what type of fire they can be used on and this will be explained to further assist occupants in selecting the proper type of extinguisher. For information or to register for a class, visit the EHS website at http://ehsd.tamu.edu

## 17.0 Fire Hydrants

17.1 Fire hydrants are located throughout the campus and play a vital role in fire suppression operations. It is important to maintain a clear path to all hydrants and allow clear distances around hydrants to allow uninhibited operation should an emergency occur. It is also important that vehicles are not parked within 15 feet of fire hydrants or other fire safety equipment.

## 18.0 Fire Lanes

18.1 A fire lane is an area designated for emergency personnel only. It allows them to gain access to building and/or fire protection systems. Parking in or blocking any fire lane is prohibited.

## 19.0 Fire and Life Safety Inspections

19.1 Fire and life safety inspections are conducted at least annually in TAMU facilities. The goal of these inspections is to help identify potentially unsafe practices and conditions in TAMU facilities. These are not surprise inspections. EHS will notify the building proctor or facility coordinator prior to inspecting a facility. We want to work with building occupants to help ensure a fire safe environment in which to work.

19.2 Some of the items that our inspectors will be looking for include but are not limited to:

19.2.1 Access to the facility for emergency responders
19.2.2 Means of egress and verifying that egress components are unobstructed and in working condition
19.2.3 Electrical safety (extension cords, power strips etc.)
19.2.4 Storage of materials (24” from ceiling, 18” from sprinkler heads)
19.2.5 General Housekeeping
19.2.6 Presence of ignition sources

19.3 At the conclusion of the inspection a report is generated and sent back to the building proctor or facility coordinator to be disseminated to the building occupants for them to take necessary actions to remediate any inspection deficiencies.

19.4 In addition to regular facility fire and life safety inspections, EHS conducts inspections in our residence halls and apartment complex as well. Residence hall inspections are conducted during the first few weeks of the fall semester while apartment inspections are conducted during the early spring and late summer semesters.

## 20.0 Fire Prevention

20.1 Fire Safety is everyone's responsibility. In fact you are your office's best fire inspector. The following section will provide ways you can help prevent fires.

20.1.1 Fire prevention starts with good house keeping. Loose papers, trash and other combustible items such as cardboard boxes are a fuel source for fire. If these combustible items are stored neatly and properly the risk of fire can be greatly reduced. Here are some things to be mindful of when it comes to combustible items:

20.1.1.1 Never store combustible items within 24 inches of the ceiling.
20.1.1.2 If you have sprinkler heads in your building keep ALL storage at least 18 inches below the sprinkler heads.
20.1.1.3 Keep combustible items away from electrical sources that may produce heat and/or sparks. (Outlets, multiple adapters, etc.)
20.1.1.4 Keep quantities of combustible items to a minimum.
20.1.1.5 Never store combustible items in an exit corridor or stair enclosure.
20.1.1.6 Combustible items should not be stored in mechanical equipment rooms or electrical rooms.

## 21.0 Fire Reporting

21.1 If you discover a fire in a facility on campus you should

21.1.1 Locate and activate the nearest manual pull station (Pull stations should be located near building exits) to initiate a building evacuation
21.1.2 Call 9-911 from any campus phone or 911 if calling from a cell or off campus phone to report the fire and provide any information such as:

21.1.2.1 Building Name
21.1.2.2 Room Number
21.1.2.3 Type of Fire
21.1.2.4 Any injuries
21.1.2.5 Any other information requested by the emergency operator

21.1.3 If you are trained in the proper use of portable fire extinguishers and are not in immediate danger you may attempt to extinguish the fire (see Fire Extinguishers)

## 22.0 Fire Suppression

22.1 TAMU uses various types of fire suppression equipment including portable fire extinguishers, water sprinklers, special gas extinguishing systems, cooking hood

systems, and fire hose/standpipe systems. The following sections discuss each type of fire suppression equipment.

22.2 Sprinkler Systems

22.2.1 The purpose of a water sprinkler system is to contain and to minimize the spread of a fire, but is often successful in extinguishing fires. Sprinkler heads are normally activated by heat. Generally, if one is activated not all of the sprinklers in a building will discharge. Only in specialized sprinkler systems are they connected to smoke detectors or manual pull stations.

22.3 To ensure that sprinklers are effective in the event of a fire:

22.3.1 Maintaining a minimum of 18 inches of clearance below the sprinkler head is required to any equipment or stored items.
22.3.2 Do not hang drapes, curtains, tarps, etc that will interfere with the spray pattern of the sprinkler.
22.3.3 Never attach or hang anything from sprinkler piping or sprinkler heads
22.3.4 Do not paint or damage sprinkler heads in any manner.

22.4 Fire Extinguishing Systems

22.4.1 Special work areas such as computer server rooms or bulk chemical storage rooms may contain specialized gaseous fire extinguishing systems such as carbon dioxide ($CO_2$), FE 13, FM 200, or Halon 1301 in lieu of water based fire suppression systems. These systems work by displacing the oxygen in the room to a level that will no longer support a fire. To ensure that the system operates as designed, the area or room(s) protected must have its structural integrity preserved in order to maintain the required concentration level of the gas. There should be no penetrations through walls, ceilings, or floors and doors should be kept in the closed position.

22.4.2 Once a system is activated, the low level of oxygen is also dangerous to humans. Caution should be used when working in areas where these oxygen-depriving extinguishing agents are used. Manually operated systems, such as a pull-station or push button, should have signs posted indicating it will activate the agent. ***Do not*** enter a room that has discharged an oxygen-depriving agent until it has been ventilated and appropriate tests of the atmosphere have verified it is safe to enter.

22.5 Fire Hoses and Standpipe Systems

22.5.1 A standpipe system is an arrangement of piping, valves, hose connections and allied equipment installed in a building or structure for the purpose of manually extinguishing a fire. Fire hose cabinets are located in several buildings near or in the exit stairwells and in corridors. TAMU holds the stance that employees should only attempt to extinguish a fire with a portable fire extinguisher. Local fire department responders will use the standpipe system in the event of a fire in a building. Access to these systems should be maintained at all times and should not be blocked by any equipment, chairs, desks, etc.

## 23.0 Liquefied Petroleum Gas (LPG)

23.1 The Texas Railroad Commission regulates the sale and use of LPG, including butane and propane. In addition, the Liquefied Petroleum Gas Code (NFPA 58) provides regulations on the use of LPG as well. These regulations govern several types of LPG-powered equipment and procedures including the following:

23.1.1 Forklifts
23.1.2 Floor buffers
23.1.3 Cooking and heating equipment
23.1.4 Laboratory equipment

23.2 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.

23.3 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 leave portable LPG containers larger than 16 oz. in a building overnight. 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 a portable fire extinguisher within 25 feet.

23.4 When using portable LPG containers the requirements listed below shall be followed:

23.4.1 Inspect containers for excessive denting, bulging, gouging, and corrosion and check hoses for cracks and deterioration; containers displaying any of these signs shall be removed from service
23.4.2 Label all containers as Flammable and as LP-Gas, Propane, or Butane
23.4.3 Cylinders shall be located to minimize exposure to excessive heat, and physical damage

23.4.4 Cylinders shall be stored away from exits, stairways, or areas normally used or intended for the use of egress for occupants

23.4.5 The maximum allowable quantity of LPG stored in a building shall not exceed 2 pounds

23.4.6 Quantities in excess of this amount shall be stored outside in a lockable ventilated enclosure of metal exterior construction; protection against vehicle impact shall be provided

23.5 LPG powered Industrial Trucks

23.5.1 Use of LPG powered industrial trucks shall follow the guideline for containers in the previous section, in addition to the following:

23.5.1.1 LPG cylinders shall be refueled outdoors

23.5.1.2 The number of cylinders on an industrial truck shall not exceed 2

23.5.1.3 The size of a cylinder on an individual truck shall not exceed 45 pounds

23.5.1.4 Cylinder pressure relief valve discharge shall be directed upward within 45 degrees of vertical and shall not impinge on the cylinder, exhaust system, or any other part of the truck

23.5.1.5 The discharge opening shall be provided with a protective cover

23.5.1.6 Trucks shall not be parked or left unattended without the cylinder shutoff valve being closed

23.5.1.7 Do not park truck near areas of excessive heat or near sources of ignition

## 24.0 Open Burning

24.1 TAMU must comply with all Texas Commission on Environmental Quality (TCEQ) guidelines for any open burns. In order to be able to conduct such a burn, several criteria must be met prior to EHS issuing an authorization to burn. These general guidelines include:

24.1.1 Only natural occurring materials may be burned

24.1.2 Only materials from on the site may be burned (no materials may be brought in from other locations)

24.1.3 A responsible person must be present during the entire burn and be equipped with adequate fire fighting agents, and be able to quickly communicate with emergency response personnel.

24.2 For additional information or to request an authorization to burn please refer to the EHS website at http://ehsd.tamu.edu or the TAMU Standard Administrative Procedure 24.01.04.M7.03

## 25.0 Pyrotechnics/Open Flames

25.1 The use of pyrotechnics or open flames on the TAMU Campus is regulated and requires a permit issued by EHS prior to any performance or use. The use of consumer fireworks on campus is prohibited.

25.2 For further information on the use of pyrotechnics or open flames or to obtain an application, visit the EHS website http://ehsd.tamu.edu

## 26.0 Smoking

26.1 Smoking is prohibited in all university buildings, vehicles, and in all University owned and leased housing (apartments, residence halls), and all indoor air space of University owned athletic facilities and outdoor public seating areas in athletic arenas. Where smoking is allowed, it is important to fully extinguish any smoking material or dispose in an appropriate disposal container.

## 27.0 Space Heaters

27.1 Some general guidelines to remember when using space heaters are:

27.1.1 Always use appliances that are UL or FM labeled.
27.1.2 Space heaters must never be left on unattended, even if you are just going to step out for a moment.
27.1.3 Space heater must be equipped with an automatic shut off feature.
27.1.4 Space heaters should be unplugged when not in use.
27.1.5 A minimum of 36” should be maintained from any combustible materials
27.1.6 Adequate space should be provided around space heaters to allow for air circulation.
27.1.7 Space heater should be plugged directly into wall receptacles
27.1.8 Frequent inspections of electrical cords for damage and to ensure a tight connection of the cord into the receptacle
27.1.9 If heater begins to spark or produce an electrical smell, turn power off immediately and discontinue using the appliance.

## 28.0 Tents

28.1 Erection of tents on the TAMU campus shall be in accordance with the University’s Rule 21.99.09.M3 and with the requirements as outlined in the Life Safety Code and the International Building Code. For more information, contact EHS or go to the EHS website at http://ehsd.tamu.edu