

**DATE:** July 31, 2023 – Updated and Reviewed

**SUBJECT:** Salisbury University Fire Prevention Plan

**REGULATORY STANDARDS:** OSHA - 29 CFR 1910.39; NFPA 1 & 101; and Maryland State Fire Code

**BASIS:** Over 150 major fires occur in workplaces on an annual basis. Fire is the third leading cause of accidental deaths in the United States. The Occupational Safety and Health Administration (OSHA), estimates that most of these accidents can be prevented if proper safety precautions at job sites are initiated. This poses a serious problem for exposed workers and their employer. The OSHA Fire Prevention Standards establish uniform requirements to ensure that fire hazards in U.S. workplaces are evaluated, safety procedures implemented, and that the proper fire prevention information is transmitted to all affected workers.

**GENERAL:** Salisbury University will ensure that potential fire hazards within our facility are evaluated. This standard practice instruction is intended to address the issues of: evaluating and identifying potential fire hazards, providing proper exits, firefighting equipment, emergency plans, written procedures, and communicating information concerning these hazards to employees.

**RESPONSIBILITY:** Environmental Safety Manager is responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Manager is authorized to amend these instructions and halt any operation at the University where there is danger of serious personal injury.

**1. Facility/Building Evaluation.** Salisbury University will evaluate our facility by building to determine where the potential for fuel and ignition sources is high and where ignition sources are present. When these two components are present the criteria required for designation as a high-risk fire hazard area exists.

**1.1 Information program.** Those areas/jobs meeting the criteria for a high-risk fire hazard area or having a known potential to pose a hazard will be designated as high risk fire hazard areas. Salisbury University will inform exposed employees, by posting danger signs, conducting awareness training, or by any other equally effective means, of the existence and location of the hazard and the danger posed.

**1.2 Equipment program.** Suitable fire protection equipment will be provided, worn, and used where machines, operations, or processes present a fire hazard. Any situation that could provide an ignition source, fuel, or a combination of these hazards will be reviewed. When information indicating limitations or precautions are received from the manufacturer concerning fire hazards associated with equipment used by or belonging to Salisbury University, they will be immediately

transmitted to employees and care taken to see that such limitations and precautions are strictly observed.

**1.3 High risk fire hazard area listing:**

<u>Department</u>	<u>Area/Job</u>	<u>Ignition Source</u>	<u>Date Evaluated</u>
<u>Art</u>	<u>Theater Shop</u>	<u>Welding + Cutting</u>	<u>7/31/2023</u>
<u>Art</u>	<u>Glass Shop</u>	<u>Kilns+ welding Burners and</u>	<u>7/31/2023</u>
<u>Chemistry Labs</u>	<u>Henson 3<sup>rd</sup> fl</u>	<u>Chemicals Burners and</u>	<u>7/31/2023</u>
<u>Biology Labs</u>	<u>Henson 2<sup>nd</sup> and 3<sup>rd</sup> fl</u>	<u>Chemicals</u>	<u>7/31/2023</u>
<u>Physics Lab</u>	<u>Henson 3<sup>rd</sup> fl</u>	<u>Burners and Electronics</u>	<u>7/31/2023</u>
<u>Dining services</u>	<u>Kitchen</u>	<u>Stoves + fryers</u>	<u>7/31/2023</u>

**2. Means of Egress.** All facilities belonging to Salisbury University will meet, as a minimum, the basic building codes required for safety and health. This section details general fundamental requirements essential to providing a safe means of egress from fire or other emergencies.

**2.1 Fundamental requirements.**

2.1.1 Basic egress premise. Every building or structure, new or old, designed for human occupancy at Salisbury University will be provided with exits sufficient to permit the prompt escape of occupants in case of fire or other emergencies. The design of exits and other safeguards will be such that reliance for safety or life in case of fire or other emergencies will not depend solely on any single safeguard. Where required, additional safeguards will be provided for life safety in case any single safeguard is ineffective due to some human or mechanical failure.

2.1.2 Design criteria. All buildings or structures will be so constructed, arranged, equipped, maintained, modified, and operated as to avoid undue danger to the lives and safety of our employees, residents, and the public, from fire, smoke, fumes, or resulting panic during the period of time reasonably necessary for escape from the building or structure in case of a fire or other emergencies.

2.1.3 Exit requirements. All buildings or structures will be provided with exits of type, number, location and capacity appropriate to the individual building or structure, with due regard to the character of the occupancy, the number of persons exposed, the fire protection available and the height and type of construction of the building or structure, to afford all occupants convenient facilities for escape.

2.1.4 All exits will be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure at all times when it is occupied. It is understood that no lock or fastening device designed to prevent free escape from the inside of any building will be installed.

2.1.5 Egress marking. Every exit will be clearly visible or the route to reach it will be conspicuously indicated in such a manner that every occupant of every building or structure who is physically and mentally capable will readily know the direction of escape from any point, and each path of escape, in its entirety, will be so arranged or marked that the way to a place of safety outside is unmistakable. Any doorway or passageway not constituting an exit or way to reach an exit, but of such a character as to be subject to being mistaken for an exit, will be so arranged or marked as to minimize its possible confusion with an exit and the resultant danger of persons endeavoring to escape from fire finding themselves trapped in a dead-end space, such as a cellar or storeroom, from which there is no other way out.

2.1.6 Illumination requirements. In every building or structure equipped for artificial illumination, adequate and reliable illumination will be provided for all exit locations. Exit signs will be installed at the point of exit from the building.

2.1.7 In every building or structure of such size, arrangement, or occupancy that a fire may not itself provide adequate warning to occupants, fire alarm facilities will be provided where necessary to warn occupants of the existence of fire so that they may escape, or to facilitate the orderly conduct of fire exit drills.

2.1.8 Every building or structure, section, or area thereof of such size, occupancy, and arrangement that the reasonable safety of numbers of occupants may be endangered by the blocking of any single means of egress due to fire or smoke, will have at least two means of egress remote from each other, so arranged as to minimize any possibility that both may be blocked by any one fire or other emergencies.

2.1.9 It is understood that compliance with these requirements will not be construed as eliminating or reducing the necessity for other provisions for

safety of persons using a structure under normal occupancy conditions, or requiring or permitting any condition that may be hazardous under normal occupancy conditions.

2.1.10 Protection of employees exposed by construction and repair operations.

2.1.10.1 No building or structure owned by Salisbury University under construction will be occupied in whole or in part until all exit facilities required for the part occupied are completed and ready for use.

2.1.10.2 No existing building will be occupied during repairs or alterations unless all existing exits and any existing fire protection are continuously maintained, or in lieu thereof other measures are taken which provide equivalent safety.

2.1.10.3 No flammable or explosive substances or equipment for repairs or alterations will be introduced in a building of normally low or ordinary hazard classification while the building is occupied, unless the condition of use and safeguards provided are such as not to create any additional danger or handicap to egress beyond the normally permissible conditions in the building.

**2.2 Maintenance.** All required exits, ways of approach thereto, and ways of travel from the exit into the street or open space, will be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergencies.

2.2.1 Every automatic sprinkler system, fire detection and alarm system, exit lighting, fire door, and other item of equipment, where provided, will be continuously in proper operating condition.

**2.3 Discharge from exits.**

2.3.1 Salisbury University will ensure that all exits will discharge directly to the street, or to a yard, court, or other open space that gives safe access to a public way. The streets to which the exits discharge will be of width adequate to accommodate all persons leaving the building. Yards, courts, or other open spaces to which exits discharge will also be of adequate width and size to provide all persons leaving the building with ready access to the street.

2.3.2 Stairs and other exits will be so arranged as to make clear the direction of egress to the street. Exit stairs that continue beyond the floor

of discharge will be interrupted at the floor of discharge by partitions, doors, or other effective means.

**2.4 Headroom.** Means of egress will be so designed and maintained as to provide adequate headroom, but in no case will the ceiling height be less than 7 feet 6 inches nor any projection from the ceiling be less than 6 feet 8 inches from the floor.

**2.5 Changes in elevation.** Where a means of egress is not substantially level, such differences in elevation will be negotiated by stairs or ramps.

**2.6 Maintenance and workmanship.**

2.6.1 Doors, stairs, ramps, passages, signs, and all other components of means of egress will be of substantial, reliable construction and will be built or installed in a workmanlike manner.

2.6.2 Means of egress will be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergencies.

2.6.3 Any device or alarm installed to restrict the improper use of an exit will be so designed and installed that it cannot, even in cases of failure, impede or prevent emergency use of such exit.

**2.7 Furnishings and decorations.**

2.7.1 No furnishings, decorations, or other objects will be so placed as to obstruct exits, access thereto, egress there from, or visibility thereof.

2.7.2 No furnishings or decorations of an explosive or highly flammable character will be used in any occupancy.

**2.8 Automatic sprinkler systems.** All automatic sprinkler systems will be continuously maintained in reliable operating condition at all times, and such periodic inspections and tests will be made as are necessary to assure proper maintenance. Inspections will be conducted as required by fire code.

**2.9 Fire alarm signaling systems.** Salisbury University will assure that fire alarm signaling systems are maintained and tested in accordance with the requirements of 29 CFR 1910.165(d). The system will be tested as required by fire code. A different actuation device will be used in each test of a multi-activation device system so that no manual pull box is used for two consecutive tests.

**2.10** Fire retardant paints. Fire retardant paints or solutions will be renewed at such intervals as necessary to maintain the necessary flame-retardant properties.

**2.11** Exit marking.

2.11.1 Exits will be marked by a readily visible sign. Access to exits will be marked by readily visible signs in all cases where the exit or way to reach it is not immediately visible to the occupants.

2.11.2 Any door, passage, or stairway which is neither an exit nor a way of exit access, and which is so located or arranged as to be likely to be mistaken for an exit, will be identified by a sign reading "Not an Exit" or similar designation, or will be identified by a sign indicating its actual character, such as "To Basement," "Storeroom," "Linen Closet," or the like.

2.11.3 Every required sign designating an exit or way of exit access will be so located and of such size, color, and design as to be readily visible. No decorations, furnishings, or equipment which impair visibility of an exit sign will be permitted, nor will there be any brightly illuminated sign (for other than exit purposes), display, or object in or near the line of vision to the required exit sign of such a character as to so detract attention from the exit sign that it may not be noticed.

2.11.4 Every exit sign will be distinctive in color and will provide contrast with decorations, interior finish, or other signs.

2.11.5 A sign reading "Exit", or similar designation, with an arrow indicating the directions, will be placed in every location where the direction of travel to reach the nearest exit is not immediately apparent.

2.11.6 Every exit sign will be suitably illuminated by a reliable light source giving a value of not less than 5 foot-candles on the illuminated surface. Artificial lights giving illumination to exit signs other than the internally illuminated types will have screens, discs, or lenses of not less than 25 square inches area made of translucent material to show red or other specified designating color on the side of the approach.

2.11.7 Each internally illuminated exit sign will be provided in all occupancies where reduction of normal illumination is permitted.

2.11.8 Every exit sign will have the word "Exit" in plainly legible letters not less than 6 inches high, with the principal strokes of letters not less than three fourths of an inch wide.

**3. Portable Fire Suppression Equipment.** The requirements of this section apply to the placement, use, maintenance, and testing of portable fire extinguishers provided for the use by selected and trained employees of Salisbury University (this section does not apply to extinguishers provided for use on the outside of workplace buildings or structures).

**3.1** General requirements. Salisbury University shall provide portable fire extinguishers and shall mount, locate and identify them so that they are readily accessible to selected and trained employees without subjecting the employees to possible injury.

**3.2** Only approved portable fire extinguishers shall be used to meet the requirements of this section.

**3.3** Salisbury University shall not provide or make available in the workplace portable fire extinguishers using carbon tetrachloride or chlorobromomethane extinguishing agents. Any employee finding such an extinguisher should report the find to the Physical Plant for replacement.

**3.4** Salisbury University shall assure that portable fire extinguishers are maintained in a fully charged and operable condition and kept in their designated places at all times except during use.

**3.5** Salisbury University shall permanently remove from service all soldered or riveted shell self-generating soda acid or self-generating foam or gas cartridge water type portable fire extinguishers which are operated by inverting the extinguisher to rupture the cartridge or to initiate an uncontrollable pressure generating chemical reaction to expel the agent. Any employee finding such an extinguisher should report the find to the Physical Plant for replacement.

**3.6** Selection and distribution. Portable fire extinguishers shall be provided for only selected and trained employee use and selected and distributed based on the classes of anticipated workplace fires and on the size and degree of hazard which would affect their use.

3.6.1 Class A fires. Class A fires are classed as ordinary combustibles or fibrous material, such as wood, paper, cloth, rubber and some plastics. Portable fire extinguishers for use by selected and trained employees on Class A fires will be distributed so that the travel distance to any extinguisher is 75 feet (22.9 m) or less.

3.6.2 Class B fires. Class B fires are classed as flammable or combustible liquids such as gasoline, kerosene, paint, paint thinners and propane. Portable fire extinguishers for use by selected and trained employees on Class B fires will be distributed so that the travel distance from the Class B hazard area to any extinguisher is 50 feet (15.2 m) or less.

3.6.3 Class C fires. Class C fires are classed as energized electrical equipment, such as appliances, switches, panel boxes and power tools. Portable fire extinguishers for use by selected and trained employees on Class C fires will be distributed so that the travel distance from the Class C hazard area to any extinguishing agent is 50 feet (15.2 m) or less.

3.6.4 Class D fires. Class D fires are classed as certain combustible metals, such as magnesium, titanium, potassium and sodium. Portable fire extinguishers or other containers of Class D extinguishing agent used by selected and trained employees will be distributed so that the travel distance from the combustible metal working area to any extinguishing agent is 75 feet (22.9 m) or less.

**3.7** Inspection, maintenance and testing. Salisbury University shall be responsible for the inspection, maintenance and testing of all portable fire extinguishers used by this facility.

3.7.1 Monthly inspections. Portable extinguishers will be visually inspected monthly and documented.

3.7.2 Annual maintenance check. Portable fire extinguishers will be subjected to an annual maintenance check and documented.

3.7.2.1 Salisbury University shall record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less.

3.7.3 Hydrostatic testing. Salisbury University shall assure that hydrostatic testing is performed by trained persons with suitable testing equipment and facilities. Alternate equivalent protection will be provided when portable fire extinguishers are removed from service for maintenance and recharging.

3.7.3.1 Test records. Salisbury University shall maintain and provide upon request, evidence that the required hydrostatic testing of fire extinguishers has been performed at the time intervals shown in Table 1. Such evidence shall be in the form of a certification record which includes the date of the test, the signature of the person who performed the test and the serial number, or other identifier, of the fire extinguisher that was tested. Such records shall be kept until the extinguisher is hydrostatically retested at the time interval specified in Table 1 or until the extinguisher is taken out of service, whichever comes first.



3.7.4 Dry chemical extinguishers. Salisbury University shall assure that stored pressure dry chemical extinguishers that require a 12 year hydrostatic test are emptied and subjected to applicable maintenance procedures every 6 years. Dry chemical extinguishers having non-refillable disposable containers are exempt from this requirement. When recharging or hydrostatic testing is performed, the 6 year requirement begins from that date.

3.7.5 In addition to an external visual examination, an internal examination of cylinders and shells will be made prior to being tested or subjected to hydrostatic tests.

3.7.6 Portable extinguishers will be hydrostatically tested at the intervals listed in Table 1 of this section, except under any of the following conditions:

3.7.6.1 When the unit has been repaired by soldering, welding, brazing, or use of patching compounds.

3.7.6.2 When the cylinder or shell threads are damaged.

3.7.6.3 When there is corrosion that has caused pitting, including corrosion under removable name plate assemblies.

3.7.6.4 When the extinguisher has been burned in a fire.

3.7.6.5 When a calcium chloride extinguishing agent has been used in a stainless steel shell.

**Table 1**

<b><u>Type of Extinguishers</u></b>	<b><u>Test Interval (years)</u></b>
Soda acid (soldered brass shells) (until 1/1/82)	1
Soda acid (stainless steel shell)	5
Cartridge operated water and/or antifreeze	5
Stored pressure water and/or antifreeze	5
Wetting agent	5
Foam (soldered brass shells) (until 1/1/82)	1
Foam (stainless steel shell)	5
Aqueous Film Forming foam (AFFF)	5
Loaded stream	5
Dry chemical with stainless steel	5
Carbon dioxide	5
Dry chemical, stored pressure, with mild steel, brazed brass or aluminum shells	12
Dry chemical, cartridge or cylinder operated,	

with mild steel shells	12
Halon 1211	12
Halon 1301	12
Dry powder, cartridge or cylinder operated with mild steel shells	12

**3.8 Training and education.** Where portable fire extinguishers for selected employee use are provided in the workplace, Salisbury University will also provide an educational program to familiarize these selected employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.

3.8.1 Training intervals. Salisbury University shall provide the education upon initial employment to a selected employee position and at least annually thereafter.

**4. Salisbury University Fire Prevention Safety Policy.** Salisbury University's Fire Prevention Safety Policy is designed to ensure that all reasonable steps are taken to preserve life and property from exposure to fire hazards. The requirements listed here identify the basic elements of our fire prevention plan. They should be a part of every supervisor's and department heads day-to-day responsibilities.

Fire prevention is one of the considerations that must receive first priority in the design of a new building, or in the occupancy of an existing building. Safety and fire prevention specialists make a study of the building and the materials used in its construction. All necessary steps should be taken to ensure that fire prevention is an integral part of the design and construction of a new building or of an existing structure. The same scrutiny regarding potential fire hazards should be exercised in any future changes to the structure.

This policy is not intended to deal with the complexities of fire prevention in building design, fire protection systems, high-hazard exposures, compliance with legal ordinances, or the many technical details of fire prevention. It is meant to serve as an outline of the various aspects of our fire prevention plan and as a helpful resource for supervisors who must carry out the program's specific procedures.

#### **4.1 General Fire Prevention Rules**

- 4.1.1 Call 911 in the event of an emergency.
- 4.1.2 Establish a warning system for fire or similar-type emergencies. A written record of alarm tests shall be maintained.
- 4.1.3 Periodic self-inspections shall be conducted to identify and correct recognizable fire hazards.

- 4.1.4 Inspections of fire extinguishers shall be conducted monthly and documented.
- 4.1.5 Exit doors, approved hardware and lock devices, exit signs, passageways, and means of emergency exit shall be inspected periodically to ensure their working condition and unobstructed access. Padlocking of a designated fire exit door is prohibited.
- 4.1.6 Interior fire doors which are part of the building design to limit the spread of fire shall be inspected and tested periodically to insure their working condition. Holding fire doors open by use of chocks, door wedges, or similar means is prohibited.
- 4.1.7 Emergency lighting shall be inspected and tested at periodic intervals to assure good operating condition.
- 4.1.8 Sprinkler system control valves shall be wire "sealed" in the open position. All riser and valve locations shall be maintained free of storage and protected against damage by barrier or enclosures.
- 4.1.9 Safety and fire prevention requirements shall be followed in any required shutdown or impairment of automatic sprinkler protection systems.
- 4.1.10 Procedures for a fire permit system shall be established to control flame- or spark-producing equipment.
- 4.1.11 Procedures shall be established to control the receipt, storage, handling, and use of flammable liquids. The use of safety cans for handling separate storage of flammables, minimizing concentrations, and proper identification of containers are typical procedures which shall be enforced.
- 4.1.12 Regulations shall be established to control smoking in hazardous areas.
- 4.1.13 Procedures shall be established for reporting and investigating fire and other incidents.
- 4.1.14 The training of selected personnel in the use of fire extinguishers shall be accomplished on a periodic schedule.
- 4.1.15 Procedures to accomplish after-hours notification of key personnel when the facility is operating at less than normal complement or shutdown shall be maintained and kept current.
- 4.1.16 Access of emergency vehicles shall be considered in regard to facilities' layouts. Parking of cars or other obstructions shall be restricted as necessary.

4.1.17 Fire drills shall be carried out in accord with a regular yearly schedule.

4.1.18 Proposed changes in facilities' layouts, materials, operations, and constructions shall be reviewed by safety and fire prevention personnel as early in the planning stage as possible in order to establish the necessary fire prevention measures.

## **4.2 Sprinkler System Shutdowns**

4.2.1 Planned impairment of automatic sprinkler systems shall be permitted only upon approval of the environmental safety office by request of the physical plant personal responsible for the operations involved and shall be of the minimum possible durations.

4.2.2 Any person initiating or performing any action affecting sprinkler protection will determine that all of the following have been accomplished:

4.2.2.1 Advanced notification of the intended shutdown to maintenance supervision, approval by the environmental safety office, and notification of supervision of the area affected.

4.2.2.2 Fire protection procedures during shutdown have been reviewed and are satisfactory.

4.2.2.3 Equipment is on hand for emergency restoration of service.

4.2.2.4 All additional notifications of system shutdown are completed, including notice to the fire insurance company where applicable.

## **4.3 Fire (Hot Work) Permit Requirements**

4.3.1 A fire permit is required in operations involving flame- or spark-producing equipment when the degree of fire hazard is above normal due to the possible presence of flammable liquids, vapors, gases, combustible materials, and physical conditions of contraction.

4.3.2 Under no circumstances shall fire permits be authorized by other than the University's environmental safety office.

4.3.3 The Safety Manager or her assistant in the environmental safety office issuing fire permits will explain the requirements to the personnel involved, including any outside contractor, at the time the permit is issued and before the work is started.

- 4.3.4 Departments shall duplicate and use the fire permit form included in this standard and must be approved by the environmental safety office.
- 4.3.5 Cutting or welding will not be done while sprinklers are out of service. Any exceptions must be approved by environmental safety office.
- 4.3.6 The fire permit must be visible at the work site.
- 4.3.7 Additional fire protection equipment such as fire extinguishers will be required. A fire watch will be necessary and must remain for one half hour after hot work is completed.
- 4.3.8 Floors and surrounding areas should be swept clean and may be wetted down as necessary.
- 4.3.9 A fire permit does not authorize smoking privileges in any area.

**4.4 Fire Drills and Emergency Evacuation Procedures.** It is the responsibility of every supervisor and department head in the University to ensure that the employees under their supervision know how to get out of the building in the event of a fire or other emergencies. An orderly evacuation depends on both an early warning and employee awareness of the proper procedures to follow. While the procedures below apply to all University facilities, supervisors in small locations with few employees must use their own judgment in implementing them.

- 4.4.1 Each location shall establish procedures to be followed regarding the evacuation of buildings in emergencies.
- 4.4.2 Each location shall have an alarm system or other suitable means to alert the occupants of the need for evacuation.
- 4.4.3 Concise emergency instructions shall be posted at strategic locations throughout the premises, including a floor plan drawn to indicate the emergency exits, the procedure for sounding an alarm, and evacuation instructions.
- 4.4.4 Fire drills shall be held in accordance with a regular schedule. In general, all locations should have not less than one fire drill annually.
- 4.4.5 Emergency exits and routes leading to them shall be clearly identified by signs. Current standards on construction, dimensions, lighting, and number of exits required by safety codes shall apply in designating exits.
- 4.4.6 As applicable, location procedures should include the following minimum personnel actions after the alarm has sounded:

## **All Personnel**

- Evacuate immediately when told to do so.
- Take whatever immediate steps are necessary and feasible to minimize any hazard in leaving the work area unattended.
- Do not use elevators for evacuation purposes.
- Assemble at a predetermined safe zone.
- Do not reenter building until the "all clear" signal sounds or similar verbal instructions are given by responsible authority.

## **Supervisors**

- Direct the evacuation of your area.
- Advise the responding authority of the situation and warn of potentially hazardous conditions.

### **4.5 Fire Extinguishers.** Fire extinguishers are classified on the basis of what types of fires they are most effective in handling:

CLASS A extinguishers should be used for fires involving ordinary combustible materials such as paper, wood, and textiles.

CLASS B extinguishers should be used for fires in flammable materials such as gasoline, oils, lacquer, thinner, paints, and greases.

CLASS C extinguishers should be used for fires in electrical equipment.

CLASS D extinguishers should be used for fires involving metals.

Fire extinguishers are provided for use within specific areas and are considered "first aid" to control fire in the early stages.

### **4.6 Fire Alarm Systems**

4.6.1 Fire alarm systems are used to warn employees of emergency conditions and to trigger an orderly evacuation of the building. Such systems also provide the means to activate fire control equipment and notify the fire department and other emergency services. Statutory regulations, fire codes, and other local building codes normally specify the requirements for alarm system installations.

4.6.2 Fire alarm systems can be either manual or manual-automatic in operation. Manual systems must be activated by persons at the location. Manual-automatic systems detect a predetermined condition and activate the alarm system automatically, in addition to being manually operated by personnel at the location.

## **4.7 Terminology**

**LOCAL SYSTEM:** Sounds an alarm on the premises only.

**AUXILIARY SYSTEM:** Sounds a local alarm and is connected to a municipal fire department or other emergency organization location.

**CENTRAL STATION SYSTEM:** Sounds a local alarm and is connected to a constantly manned location off the company property. Signals transmitted to the central station result in specified actions.

**SUPERVISORY SYSTEM:** Signal only systems which are installed to monitor temperatures, water pressure, water flow, controls, instruments, fire equipment, flame failure, overexposure, and similarly selected events. Depending on conditions, supervisory systems are independent installations or can be incorporated as part of the fire alarm system.

**CLOSED-CIRCUIT CODED SYSTEM:** Provides alarm on activation in selected areas, such as emergency headquarters and the identified fire location by signal code.

**MULTIPLEX SYSTEMS:** Modern electronic alarm systems using radio transmission or combinations of wire, cable, and radio to receive and communicate simultaneous and/or multiple signals.

**DETECTION DEVICES:** Devices incorporated in alarm systems which act in response to selected stimuli and, in turn, activate the alarm system. These include such devices as smoke detectors, heat detectors, thermostats, photoelectric ionization detectors, and similar devices.

**CODED ALARM SIGNAL:** Audio or visual/audio signals which by assignment indicate the section of the alarm system activated.

## **4.8 Fire Alarm System Regulations**

4.8.1 Each location shall have a system to warn building occupants in the event of fire or emergency so as to give them ample warning notice and enough time for escape in an orderly manner.

- 4.8.2 Safety and fire prevention personnel shall provide counsel on installation of fire alarm systems in accord with the occupancy, size use exposures, company experience, statutory regulations and the need to avoid undue danger to the lives and safety of the occupants from fire, smoke, fumes, or other possible emergency situations.
- 4.8.3 Alarm system signals shall be selected in accord with the ambient noise conditions existing in the location and located so as to be distinctively audible to all personnel under normal operating conditions.
- 4.8.4 Control panels for alarm system installations which indicate the location of detectors, circuits, or otherwise identify the area of the emergency, should be located in the most likely avenues of approach by fire fighters or emergency personnel, and be readily accessible.
- 4.8.5 All systems shall have one primary and one secondary source of power. The second source shall have the capacity to operate maximum normal loads in accordance with recognized installation standards.