

THE SCRIPPS RESEARCH INSTITUTE

Fire Prevention Plan

June 2009

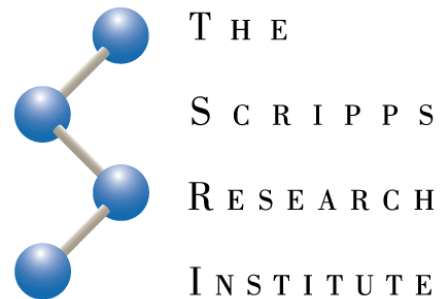


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References, Regulations, and Related Documents

California Code of Regulations, Title 24, Part 9, *2001 California Fire Code*

California Code of Regulations, Title 24, Part 2, *2001 California Building Code*

San Diego Fire Department, *Biotech/Life Science Facilities Handout*

San Diego Fire Department Policy P-08-10, *Containers allowed for Storage of Flammable and Combustible Liquids*

San Diego Fire Department Policy, H-08-2, *Hazard Identification Signs*

San Diego Fire Department Policy, FHPS Policy C-00-3, *Corridors: Storage Restrictions*

1.0 PURPOSE

The purpose of this document is to establish institute-wide guidelines that will reduce the possibility of occurrence of a fire and will minimize the risk to personnel should a fire occur.

2.0 SCOPE

This program applies to all TSRI departments and their employees and includes contract personnel hired by individual departments.

3.0 DEFINITIONS

Fire Protection System – Any approved device, equipment, system, or combination of systems used to detect a fire, actuate an alarm, extinguish or control a fire, or to control or manage smoke and products of a fire.

Fire Watch – Individual(s) provided to conduct constant patrols of areas where there exists an increased hazard from fire due to unusual conditions identified for the area. The Fire Watch personnel's sole responsibilities shall be to perform constant patrols of the area and keep watch for fire.

Flammable 1A Liquid – Liquids having a flash point below 73°F (22.8°C) and having a boiling point below 100°F (37.8°C).

Flammable 1B Liquid - Liquids having a flash point below 73°F (22.8°C) and having a boiling point at or above 100°F (37.8°C).

In-Use – Capable of liberating vapors to the atmosphere.

NFPA – National Fire Protection Agency. Provides a ranking system for hazardous materials. Provides information on Health, Flammability, and Reactivity of material on a 0 (low hazard) - 4 (high hazard) scale. See NFPA document #704 or contact Environmental Health and Safety for additional information.

OSHA – Occupational Health and Safety Administration

Portable Appliance/Equipment – A device operated by electricity which is capable of being hand-carried or easily moved from one place to another in normal use.

Open Burning - Open/exposed flame, whether located indoors or outdoors, that could cause a potential fire hazard. This does not include Bunsen burners, charcoal/gas grills, or fireplaces.

Ordinary Combustibles - Plasticware, boxes, paper products, and similar items, as used in this document. Not intended to include hazardous combustible material.

UL-listed/FM-approved - Item or equipment carries the UL (Underwriters Laboratory)- or FM (Factory Mutual)- designation on the label.

4.0 RESPONSIBILITIES

4.1 The Scripps Research Institute (TSRI) Administration

It is the responsibility of TSRI administration to ensure that all buildings occupied by TSRI employees are constructed and/or remodeled in compliance with all applicable codes, regulations, and standards.

4.2 Environmental Health and Safety (EH&S)

It is the responsibility of EH&S to conduct periodic audits of TSRI spaces and activities as they relate to this document.

4.3 Director, Facilities Services

The director, Facilities Services is responsible for maintaining all fire suppression systems and equipment.

4.4 Employees

It is the responsibility of each employee to be familiar with and comply with the Fire Prevention Plan guidelines. Supervisors shall ensure that individuals under their supervision are familiar with and adhere to this policy.

5.0 FIRE RESPONSE and REPORTING

5.1 In the Event of a Fire, Follow These Procedures:

- Evacuate individuals who are in immediate danger.
- Isolate the area by closing all doors and/or windows.
- Activate the alarm system for the building by pulling a fire alarm pull box or sounding the evacuation whistle **AND** by contacting Security by dialing “77.” Provide the security guard with the following information:
 - Location of fire -- building and room number
 - Extent of injuries (if applicable)
 - Extent of fire -- large, small, what is burning
 - Whether or not the immediate area has been evacuated
 - If there are chemical, biologic, or radioactive materials involved
 - Your name and the extension from which you are calling
- If you have been properly trained and it is safe and feasible, use a hand-held fire extinguisher to extinguish minor fires.
- Evacuate to the designated evacuation assembly area. See the TSRI *Emergency Response Plan* for additional information.

5.2 Memorize:

- Location of the nearest fire alarm pull box, fire extinguisher, and phone
- Building/facility-specific evacuation procedure
- Building/facility-specific assembly area

5.3 Remember:

- If in doubt, evacuate and close the door as you leave.
- Stay close to the floor to escape smoke and to minimize inhalation.
- Because heat rises, nearest to the floor will be the coolest area.
- Do not try to use the elevators! Use the stairs.
- Do not reenter a smoke-filled or burning room or building.
- Secure all heat-producing equipment prior to evacuating.
- Unplug non-essential equipment.
- Store flammable and temperature-sensitive chemicals.

6.0 NIGHTLY CLOSING CHECKS

At the end of each day, check specific items:

6.1 General

- All open flames (e.g., Bunsen burners) are extinguished.
- With the exception of experiments absolutely required to run overnight, all experiments are secured.
- Fume hoods are carefully checked for potential fire hazards.
- Fume hood sashes are closed.

6.2 Electrical

- Unplug all heat-producing devices such as coffee pots, toasters, space heaters, etc.
- Turn off all electrical equipment that does not require continuous power (i.e., radios, televisions, lab equipment, power equipment in maintenance shops)
- Ensure that all equipment that requires continuous power is operating properly (i.e., not over-heating)
- Ensure that combustible materials are not stored near any heat-producing equipment.
- Turn off all unnecessary lighting. If lighting is required for security or safety reasons, ensure that no combustible material is stored near or attached to the lighting device.

6.3 Trash

Unless the department has custodial services, ensure that all trash cans are emptied at the end of the day.

6.4 Cooking Equipment

- Ensure that all heat-producing cooking equipment is turned off.
- Ensure that portable cooking equipment is unplugged (i.e., hotplate/food warmer).

6.5 Chemicals

Ensure that all hazardous material and hazardous waste containers are properly sealed/closed and stored.

7.0 SMOKING

- Smoking is permitted only in designated smoking areas outside of the building. Information regarding TSRI's smoking policy is available at the following website:
http://www.scripps.edu/adminguide/hr/hrguide1_42.html
- Areas where smoking is **NOT** permitted:
 - Within all TSRI buildings
 - Within twenty (20) feet of ventilation intake locations and building entrances, exits, and operable windows
 - In rooms or areas where flammable or other hazardous materials are used or stored.
 - Within twenty-five (25) feet of outdoor hazardous material storage, dispensing, or use areas
 - Within any storage room
 - Anywhere "NO SMOKING" signs are posted
 - In TSRI-owned vehicles
- 'No Smoking' signs shall be posted at the entrances of all building where smoking is prohibited.
- A suitable ash tray/match receptacle shall be placed at all designated smoking areas.
- Directors and department chairs are responsible for ensuring compliance with TSRI smoking policy in their area of responsibility.

8.0 STORAGE

8.1 General Storage

This section pertains to any room or building used for the storage of ordinary combustibles for temporary, long-term, or permanent storage.

- Ordinary combustible materials must be separated from other hazardous materials such as flammables, corrosives, explosives, and oxidizers.
- Stored materials must be kept at least three (3) feet from any heat source.
- Storage areas must remain neat and orderly.
- Aisles in any room used for storage must have a minimum three (3) foot width to allow for evacuation and for firefighters to gain access to the most remote area of the room.
- Items stored on shelves must be maintained at least 18 inches below the sprinklers.
- Storage must not block fire extinguishers, fire alarm pull stations or visual indicators (strobes), emergency or exit lighting, access to evacuation routes, the exit door, emergency equipment, or entry of emergency personnel.
- Storage under stairs is not permitted unless prior approval is obtained from Environmental Health and Safety.
- Doors to storage rooms must remain closed except when entering or leaving the room.
- Smoking is not permitted in any storage area.
- Electrical equipment rooms, boiler rooms, and mechanical rooms shall not be used for storage.
- All storage areas and office spaces must be maintained in a neat and orderly fashion.

8.2 Flammable Material Storage

- Only the necessary amount of flammable material to conduct research shall be maintained outside of a flammable cabinet.
- The largest **glass** container in which flammable 1A liquids may be stored is 0.5 liters.
- The largest **glass** container in which flammable 1B liquids may be stored is one (1) liter. See exceptions to Flammable 1B storage requirements below.
 - Exception: Glass containers up to 4 liters may be used if they are protected at all times by a **fully encapsulated bottle jacket/caddy** or if the containers are **plastic safety-coated**. These containers must be stored in a flammable cabinet when not in use.
 - Exception: A 4-liter glass container from a chemical manufacturer can be used for storage of flammables if they are stored in an approved flammable liquid storage cabinet when not in use.
- The largest **plastic** container in which flammable material may be stored within the lab, including those in a flammable cabinet, is 16 ounces/500 ml. Larger containers must be stored in designated hazardous material storage rooms. Contact Environmental Health and Safety for additional information.
 - Exception:
 - (1) The plastic container is listed or FM-approved for the storage of flammable liquids and has a maximum capacity of 5 gallons (i.e., safety cans).
- 20-liter/5-gallon metal containers may be stored in the laboratory with Environmental Health and Safety's approval. Efforts must be made to maintain in-lab inventory of these containers to a minimum.
- Flammable material may NOT be stored in refrigerators or freezers unless the units are designed, approved, and clearly marked for the storage of flammable materials. This includes any amount of ethanol.
- Flammable material shall not be stored on the floor.
- Only flammable liquid storage cabinets meeting California Fire Code (FM-approved or UL-listed), OSHA, and NFPA standards shall be used for the storage of flammable material. Cabinets must be equipped with self-closing, self-latching doors. Contact Environmental Health and Safety prior to purchasing any cabinet.

- Ordinary combustibles must not be stored in flammable liquid storage cabinets.
- Flammable liquid storage rooms/H3-occupancies (rooms) are available in some buildings for the storage of larger quantities of flammable material. Contact Environmental Health and Safety for more information.
- Use and storage of flammable liquids next to heat sources (i.e., hot plates, vacuum pumps, and Bunsen burners) is prohibited.
- Flammable storage areas must be at least fifty (50) feet from open flames or other heat sources.

8.3 Hazardous Material Storage (including flammable material and hazardous waste)

When involved in a fire, hazardous material may produce a substantial amount of harmful inhalation hazards as well as react creating a more hazardous situation. The following guidelines apply to the storage of hazardous material:

- Proper storage and handling of hazardous materials is the responsibility of laboratory personnel. Common laboratory chemicals that have specific storage requirements include acids, bases, oxidizers, and pyrophorics. Environmental Health and Safety shall provide guidance to personnel to ensure hazardous materials are used and stored appropriately.
- Hazardous materials must not be stored within fifty (50) feet of any open flame or heat source.
- Hazardous materials must not obstruct evacuation routes or be stored under stairs.
- Smoking is not permitted within twenty-five (25) feet of outdoor hazardous materials storage.
- Hazardous materials stored on shelves must be separated according to compatibility. The shelves must be equipped with an adequate earthquake restraint to prevent chemicals from falling from shelves. Bungee cords, wires, and chains are not considered adequate restraints.
- Stacking of hazardous material on shelves is prohibited.
- All non-original flammable and hazardous material containers must be labeled with either an NFPA symbol or identifying information in plain English. Hazardous waste material must be labeled with a hazardous waste label. Labels are available from Environmental Health and Safety.
- All hazardous material and hazardous waste containers must be kept tightly closed when not in immediate use.
- Hazardous materials must be stored in separate cabinets, areas, or rooms according to compatibility. Incompatible material less than 5 lbs (2 kg) or 0.5 gallons (2 liters) may be stored together in an approved storage cabinet provided that Fire Marshal approval has been obtained and adequate secondary containment is provided for each material.
- Oily or grease-laden rags must be kept in UL-listed or FM-approved containers. Rags must be removed on a daily basis.
- All waste containers for equipment that generates flammable or hazardous waste require vapor tight fittings.
- Hazardous waste material will be kept to a minimum in the lab. Pickup of hazardous waste can be arranged by contacting the EH&S waste pickup line at 4-4093.
- Additional storage and use information may be obtained by contacting Environmental Health and Safety.

8.4 Compressed Gas Storage

- Compressed gas cylinders must be restrained with chains at all times. Two chains, at 1/3- and 2/3-cylinder height, are required. Cloth straps in lieu of chain restraints are **not** permitted. Cylinder stands may be used as an alternative to chain restraints.
- When not in use, cylinders must be fitted with protective caps. Regulators must be removed and the protective caps replaced unless the cylinder is actively in use.
- Compressed gas cylinders must be stored in an upright position.

- When supplying gas to equipment such as incubators, the cylinder(s) must be placed as close to the equipment as possible. If it is not possible to get the cylinders within six (6) feet of the equipment, contact Environmental Health and Safety for assistance.
- Compressed gas lines must not be draped across laboratory utilities or run through, under, or over doors, or pass through walls.
- Incompatible gases must be separated by twenty (20) feet.
 - Exception: Welding gases stored on a welding cart equipped with a fire extinguisher.

9.0 ELECTRICAL SAFETY

Only authorized and approved TSRI employees or contractors may work on electrical wiring or electrical equipment. TSRI personnel should contact Facilities Services (4-9010) for all electrical work requests.

9.1 Extension Cords/Multi-Plug Adapters/Power Cords

9.1.1 Extension Cords

Extension cords, with appropriate ratings for their intended use, are permitted under the following conditions:

- Cords are used only to power **portable** appliances/equipment.
- A grounded (3-prong) extension cord shall be used when powering grounded (3-prong) equipment.
- Cords are of sufficient capacity for the equipment to be powered.
- Cord use shall not exceed 90 days.
- Cords shall power only non-heat producing devices (i.e., radios, computers, and answering machines). Use of extension cords for heat producing or high voltage/current devices such as heaters, coffeepots, high wattage lamps, refrigerators, freezers, toaster ovens, and microwave ovens is prohibited.
- The cord must be in good repair and shows no sign of wear, defects, bulging, exposed wire, or other damage).
- Cords shall not be connected or spliced together.
- Cords do not create a trip hazard.
- Cords shall not be affixed to walls, run through walls, ceiling or floors, or run under doors.
- Cords are not located in areas or near any substance that could cause deterioration of the extension cord.

9.1.2 Power Strips

Power strips that incorporate overcurrent protection may be used provided that the device is UL-listed and plugged directly into a permanently installed receptacle.

9.1.3 Power Cords

- Power cords shall be inspected on a regular basis.
- Equipment with damaged power cords shall be immediately taken out of service until the cord has been repaired. Cords may not be repaired with electrical or other type of tape.

9.2 Electrical Panels

- Electrical panels must be located such that they are easily accessible if it becomes necessary to secure power to equipment in an emergency.
- Electrical Panels **must** meet the following requirements:
 - Be accessible to the area occupants in case of emergency.
 - At a minimum, be unobstructed 36 inches around the panel and 78" in height above the panel.
 - Have the panel cover and panel door securely in place and closed.

- Have all breakers and main switches clearly marked as to the equipment or area(s) that they serve.
- Have removed breakers or switches covered with an appropriate “blank.”
- Be clearly identifiable as an electrical panel. Do not cover or paint electrical panels.
- **Electrical Panels must not:**
 - Be locked (except when approved by Environmental Health and Safety and required to provide security or inadvertent equipment shutdown).
 - Have the breakers, disconnects, etc., taped or otherwise secured/locked in the ‘ON’ position (except when approved by Environmental Health and Safety).
 - Have any work performed on the panel unless the work is performed by an approved and authorized electrician or contractor.

9.3 Electrical Outlets, Wall Switches, and Junction Boxes

All electrical outlets, switches, and junction boxes must:

- Have an approved cover plate securely fastened to the outlet box, switch, or junction box.
- Have cover plates replaced when broken or missing.
- Be protected by a Ground Fault Circuit Interrupter (GFCI) if the device located within six (6) feet of a water source.

9.4 Electrical Equipment Rooms

- Electrical equipment rooms must be labeled ‘*Electrical Room.*’
- Electrical rooms shall not be used for storage.

10.0 HEATERS and FIREPLACES

10.1 Portable Space Heaters

The following guidelines pertain to space heaters:

- **Heater Type**
 - The heater must be listed by an approved agency such as Underwriters Laboratory (UL-listed).
 - Have a safety tip-over shutoff device.
 - Have thermostatic control.
 - Have an Environmental Health and Safety ‘approved’ sticker affixed to the device indicating that it meets the above requirements.
 - The heater must be in good repair and have a cord long enough to reach the electrical outlet. Extension cords must not be used with space heaters.
- **Heater Use**
 - The heater must be kept three (3) feet from any combustible material.
 - The placement of the heater must not create a tripping or evacuation hazard.
 - Fire/smoke-rated doors must not be blocked open in order to better distribute heat.
 - The heater must be unplugged when not in use or if the space will be left unattended.

10.2 Patio Heaters

- All patio heaters shall be UL-listed.
- Do not place heaters under building overhangs or soffits.
- Keep a minimum three (3) feet clearance around all tables and umbrellas.
- Follow all manufacturer’s instructions.
- Use only manufacturer recommended fuel.

10.3 Fireplaces

- Fireplaces must have spark screens or rated glass panels in front of the firebox while the fireplace is in use.
- Chimneys must be equipped with caps and spark screens to prevent material from restricting the chimney and to prevent sparks from exiting the chimney.
- Fireplaces must be attended at all times while a fire is burning in the firebox.

- Fire must be extinguished before leaving the building.
- All combustible material must be kept 36" from the firebox area.
- Liquid fuel may not be used to start any fire in a fireplace.

11.0 COOKING SAFETY

11.1 Permitted/Non-Permitted Areas

11.1.1 Permitted Areas

- Cooking is permitted only in areas approved by Environmental Health and Safety. With the exception of microwaves, toaster ovens, coffee pots, and espresso machines, no other cooking device, such as ovens, stoves, or barbecues are authorized for use unless specific permission has been obtained from Environmental Health and Safety. Requests to cook in areas other than those identified in this section for either normal or special occasions, must be submitted to Environmental Health and Safety at least two (2) weeks in advance of the event.
- Areas where cooking is normally permitted:
 - TSRI cafeteria areas
 - Employee break rooms where approved appliances, such as microwaves and toaster ovens, are available

11.1.2 Non-Permitted Areas

- Areas where cooking is **not** permitted are:
 - Laboratories
 - Storage areas
 - Engineering spaces
 - Near hazardous/radioactive/biohazardous material use/storage areas

11.2 Cooking Area Guidelines

- Keep all areas around cooking equipment (i.e., toaster ovens/coffee pots) free from combustible material, such as potholders, paper towels, and paper plates.
- Cooking appliances must not be powered by extension cords.
- An approved fire extinguisher must be located in or near the cooking area.
- Microwaves and toaster ovens must not be left unattended while in operation.
- All cooking appliances must be checked at the end of the day to ensure that they are "off" or unplugged.
- All coffee makers must have automatic shut-off features or be plugged into approved timers that will automatically shut off the unit at the end of the day.

11.3 Barbecue Grills (Gas and Charcoal)

- Barbecue grills are not permitted for use inside of any buildings.
- Barbecue grills must not be used within twenty (20) feet of a building when there is a door, window, air intake vent, or other means for smoke or flames to enter the building.
- All gas lines, valves, and connections on gas grills must be periodically checked for leakage. Contact Environmental Health and Safety for assistance in checking equipment. If a leak is detected, the grill must be immediately taken out of service until repaired.
- Prior to disposal, charcoal must either be left in the grill or be thoroughly soaked in water until cold to the touch. Contact Environmental Health and Safety for pick up. Do not place any used charcoal in a dumpster, compactor, or trash receptacle.
- Use of lighter fluid is not allowed. Use pre-soaked charcoal briquettes, if necessary.
- Never leave the grill unattended while there is a flame present or if the charcoal briquettes are still warm.
- Keep combustible materials at least twenty (20) feet from the grill.

- Do not use a grill within twenty-five (25) feet of outdoor hazardous material storage, dispensing, or use areas.
- A fire extinguisher must be immediately available at all times while the grill is in operation or the coals are still hot.

12.0 FIRE DETECTION, ALARM, and SUPPRESSION SYSTEMS

12.1 General

Facilities Services is responsible for maintenance of the Fire System. Building occupants are responsible for knowing the different components of the system that is in their particular space and how to respond to system alarms. Components of the system may include fire extinguishers, alarm pull stations, heat and smoke detectors, and special fire suppression systems such as Halon, Inergen, Ansul, or FM-200 systems.

12.1.1 Tampering

Installed systems must not be tampered with in any way. Tampering is defined as:

- Any intentional or malicious activation of a fire system when there is no emergency.
- The intentional deactivation of a fire system either by disconnecting, breaking or removing devices, wiring, or other components.
- Falsely reporting the activation of a fire system.

12.1.2 Obstructions

No part of the fire system must be obstructed at any time. Please note:

- The area around fire alarm pull stations must remain clear.
- Fire alarm bells/horns/strobes must not be visually blocked, muffled, or muted.
- Smoke/heat/beam detectors must not be covered during renovations or special operations unless specifically authorized by Environmental Health and Safety and Facilities Services.
- Storage must not come within 18 inches of sprinklers.
- Nothing may be hung from or wrapped around any fire system device or piping. This includes wires and cable.
- Fire Department connections/standpipes must not be obstructed at any time. A 36" clearance around the connections must be maintained at all times.
- Renovations that temporarily or permanently alter the system are not allowed unless prior approval is obtained from Environmental Health and Safety.

12.1.3 Prevention of False Alarms

Any operation that would activate the alarm system must be coordinated with Facilities Services.

Such operations include, but are not restricted to

- Welding or other heat producing work around sprinklers and/or heat detectors.
- Sanding or other work around smoke detectors, which would create dust.
- Use of smoke producing devices that could potentially set off smoke detectors.
- Steam cleaning or spray painting that could potentially set off detectors.
- Use of open flames near any heat or smoke-sensing device.

12.1.4 Testing

Only authorized Facilities Services personnel, or their designated contractor, may conduct testing, maintenance, or repair of fire systems.

12.2 Fire Extinguishers

12.2.1 Responsibility

Facilities Services is responsible for the installation, tracking, maintenance, and replacement of fire extinguishers at TSRI facilities.

12.2.2 Types

The type of extinguisher made available in a particular location is determined by the following factors:

- The type of hazard present (i.e., flammable liquid, electrical, combustible).
- The amount of combustible and/or flammable material in the area.
- The best agent to be used on the hazard(s) (i.e., dry chemical, carbon dioxide, halon).
 - “ABC” or multiple chemical fire extinguishers are found throughout the TSRI campus. ABC fire extinguishers can be used on wood, paper, flammable liquids, chemical, and electrical fires.
 - TSRI also uses “D” or reactive metals fire extinguishers in selected areas.
 - Special extinguishing agents (Halon, Inergen, FM-200) are used where sensitive electronic equipment is located.
 - All fire extinguishers are identified and labeled as to their type (i.e., type ABC or type D).
 - For more information on the types of fire extinguishers found around campus, please contact Environmental Health and Safety.

12.2.3 Location

- The extinguisher must be located at or near the exits in the normal path of travel to the exit.
- The maximum travel distance required to reach an extinguisher must not exceed 75 feet. Shorter travel distance between extinguishers may be required at certain locations.
- The extinguisher must be clearly visible and identifiable. When this is not possible, appropriate signage shall be posted directing the occupant to the location.
- The extinguisher must remain located in its designated location. Do not remove the extinguisher to use as a doorstop, to cover a welding operation, for barbecue activities, or other purposes.
- The extinguisher must be mounted such that the top of the extinguisher is no more than five (5) feet above the floor and at least 4 inches from the floor.

12.2.4 Inspection

Extinguishers must be inspected periodically. Facilities Services personnel must check each extinguisher at least once per month. This check shall include

- Ensuring that the extinguisher is in its designated location.
- Verifying that the extinguisher is not obstructed.
- Checking the needle is in the ‘green,’ indicating that the extinguisher is properly charged.
- Checking to see that the safety pin is in place and that the retaining clip is intact.
- Checking the extinguisher for any physical damage.
- Documentation of prior completed inspections.

12.2.5 Maintenance

Facilities Services is responsible for the periodic maintenance of fire extinguishers.

12.2.6 Fire Extinguishers

This maintenance includes

- Monthly inspections

- Annual service
- Hydrostatic testing
- Repair of damaged extinguishers
- Recharging of extinguishers
- Replacement of unusable extinguishers

12.2.7 Operation of Fire Extinguishers

- If safe to do so, employees trained in the operation and use of fire extinguishers may attempt to extinguish small fires.
- The basic steps to affectively use a fire extinguisher can be remembered by the acronym **PASS**:
 - **P**ull the safety pin from the handle. It will be necessary to break the plastic seal.
 - **A**im the extinguisher at the base of the flame.
 - **S**queeze the handle all the way down to release the agent.
 - **S**weep the agent across the base of the fire with a side-to-side motion. Be sure to cover the entire base of the fire.

12.2.8 Reporting of Discharged or Damaged Extinguishers

Upon discharge of an extinguisher:

- Notify Facilities Services (4-9010) to arrange for delivery of a charged, replacement extinguisher.
 - NEVER put a discharged extinguisher back after extinguishing a fire. If an extinguisher is discharged, even for a few seconds, or if it is damaged in any way, immediately contact Facilities Services to have the extinguisher replaced.
- Contact Environmental Health and Safety (4-8240) to report details of any incident that required discharge of an extinguisher.

12.2.9 Fire Extinguisher Training

All laboratory personnel are encouraged to attend annual fire extinguisher training. Contact Environmental Health and Safety for additional information or to schedule a training session.

12.3 Additional Fire Suppression Systems

Other fire extinguishing systems and components can be found on campus. Contact Environmental Health and Safety for additional information regarding these devices.

13.0 FIRE- and SMOKE-RATED DOORS

These doors are usually identifiable by the nameplate attached to the door and the presence of a plastic smoke barrier that is present around the entire door jamb. Most fire- and smoke-rated doors are equipped with a self-closing device designed to automatically close to prevent the spread of smoke and fire throughout a building.

The following apply to all fire- and smoke-rated doors:

- Fire/smoke-rated doors must not be kept or blocked open except when an approved automatic magnetic release device is used. This device will release the door when any emergency alarm device is activated.
- The self-closing devices on doors must not be disconnected or rendered inoperable.
- If the door must be held open for movement of furniture, equipment, or other large size or number of items, the person responsible for the move shall provide an individual at the door to ensure the door is not left open if the building is evacuated.
- "Door chocks" or "foot stops" must not be installed on any fire rated door. Furniture, appliances, etc., must not be used to block the door open.
- Obstructions that will prohibit fire/smoke-rated doors from closing and latching without human intervention are not permitted.

14.0 CORRIDORS and EGRESS ROUTES

Corridors, hallways, and exit routes are designed and constructed to allow people to leave the building in the safest and quickest route possible. Due to differences in construction between the TSRI buildings, corridor, and exiting requirements may vary building-to-building. Please contact Environmental Health and Safety if you have specific questions regarding corridor and exiting requirements.

14.1 Obstructions

No corridor, aisle way, or component of a means of egress may be obstructed at any time.

- At no time shall items be placed in hallways or corridors without specific permission from Environmental Health and Safety. This includes trash, boxes, empty chemical containers, equipment, equipment for disposal, equipment awaiting setup, carts, racks, dewars, and hazardous material or hazardous waste.
 - Exception: Where equipment alcoves exist and with Environmental Health and Safety's approval, certain equipment may be stored in the alcoves of these hallways and corridors.
- Furniture and other items in lobbies must not obstruct the minimum exit width of 44 inches, and must be arranged so there is a direct path of egress through the lobby to the exit. Contact Environmental Health and Safety for further assistance.
- Wires, cables, or extension cords must not be laid across corridors, aisles, or pathways.
- Exit doors must remain unlocked during hours in which the building is occupied. All special locking devices must be approved by Environmental Health and Safety.

14.2 Minimum Widths

- Required minimum width requirements may vary. Minimum aisle widths inside of laboratories shall be no less than 36 inches. Please contact Environmental Health and Safety for laboratory specific information.
- Furniture, art work, wall hangings, statues, etc., which protrude from the walls must not obstruct the minimum width nor present a tripping or other safety hazard.
- Minimum aisle widths must be maintained at all times.

14.3 Protrusions

Wires or cables hung from the ceiling must not present a safety hazard. For example, lines or wires hanging from ceilings must be secured such that they shall not interfere with the movement of personnel or equipment through the area.

15.0 DECORATIONS

15.1 General Guidelines

Decorations must meet fire code requirements for flame resistance, and they must not cover more than 10% of the existing wall space of an area. The amount of decorations used shall be limited by the following criteria:

- Decorations must not be attached to, affixed to, or obstruct any emergency or safety device (i.e., fire sprinkler piping, fire pull box).
- Decorations must not obstruct any corridor or exit.
- Combustible decorations must not be hung from ceilings in such a way that a fire could ignite the decorations.
- Decorations must not exceed the amount of combustible material that could be contained by any existing extinguishing system or quickly brought under control with a fire extinguisher.
- Unauthorized decorations shall be required to be immediately removed.
- At Environmental Health and Safety's discretion, the amount of decoration may be further limited if it is determined that the decorations prevent a fire or safety hazard.

15.2 Electrical Decorations

- Do not use electrical decorations or cords on combustible vegetation, dry trees, curtains, or any other combustible material which may be ignited by heat or a potential electrical short in the device.
- Extension cords may be used for decorations provided that the use does not exceed ninety (90) days. The extension cord must be of one (1) continuous length from the device to the electrical outlet.
- Multiple electrical devices may be plugged into an approved "power strip" which incorporates a circuit breaker, an on/off switch, and a surge protector. The power strip must be plugged directly into an outlet. Power strips cannot be plugged into an extension cord or another power strip.
- Electrical decorations must be turned off and unplugged at the end of the day or when the area will be unoccupied.
- Electrical decorations or cords must not be placed on or across floors in such a way that they create a trip hazard or interfere with emergency egress.
- Damaged or worn electrical decorations must immediately be taken out of service.

15.3 Candles

Use of candles within buildings is discouraged. Candles may be allowed for use inside buildings only under the following conditions and with Environmental Health and Safety approval:

- Candles must be in a "tip proof" container, designed to right itself when tipped to a 45 degree angle or be of a type to self-extinguish and limit wax spillage.
- If not a self-extinguishing type, the candle holder must be capable of containing the entire candle and flame and limit the amount of dripping wax.
- The candle must not be used within three (3) feet of any combustible materials.
 - Exception: Table candle displays in approved containers (see items above) that are maintained one (1) foot from combustible materials and continuously supervised.
- The container must be made of a non-combustible material (normally glass or metal).
- While candles are lighted, a designated individual must be present.
- All candles must be extinguished at the end of the event.
- In order to prevent inadvertent actuation, candles must not be used in close proximity to heat or smoke detectors or sprinkler heads.
- Candles are prohibited under tent structures, where occupants stand, in aisles, and in exit corridors or hallways.
- Additional requirements may apply. Contact Environmental Health and Safety.

15.4 Christmas Trees

- Only artificial trees that meet fire code requirements are authorized for use on TSRI property.
- Trees must be kept at a distance from any ignition source at least equal to the height of the tree.
- The support device for the tree must hold the tree securely and be of adequate size to prevent tipping over of the tree.

16.0 FIRE LANES

Fire lanes must remain clear at all times in order to allow unrestricted access by emergency services. Do not park, even temporarily, in any fire lane. Fire lanes have red-painted curbs or lines with the words, 'No Parking Fire Lane.'

17.0 FIRE WATCH

A Fire Watch may be required when any portion of a required fire protection system is out of service. The Fire Watch's only duty is to perform constant patrols of the protected areas and watch for fires.

18.0 HOT WORK PERMITS

Certain activities, by their nature, may cause a fire. Examples of these activities include welding, brazing, and soldering. A TSRI Hot Work permit may be required for these types of activities. Contact Environmental Health and Safety for additional information.

19.0 SAFETY EQUIPMENT

Safety equipment, such as fume hoods, flammable cabinets, and safety cans, shall not be modified without prior approval from Environmental Health and Safety.