

**CALIFORNIA STATE UNIVERSITY,
LOS ANGELES**

Fire Protection Program

April 2016

PROGRAM APPROVAL AND AUTHORIZATION

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Date

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APPENDIX A: Portable Fire Extinguisher Check Sheet

1.1 The purpose of the Fire Protection Plan is to:

1.1.1 Heighten awareness and responsiveness to fire program elements

1.1.2 Maximize equipment effectiveness

1.1.3 Ensure workers safety by providing annual training toward the use, maintenance and testing of portable fire equipment.

2.0 ORGANIZATIONS AFFECTED:

2.1 This program applies to all California State University, Los Angeles employees that have been determined as having the potential for occupational exposure to fire equipment use, maintenance and testing.

3.0 REFERENCES:

3.1 Title 8, California Code of Regulations, Fire Protection, Section 6150

3.2 Title 8, California Code of Regulations, Fire Protection, Section 6151

4.0 POLICY:

4.1 It shall be the policy of Cal State LA to maintain a standard system in providing appropriate annual training toward methods of operation, maintenance and testing portable fire equipment to those potentially affected Cal State LA campus occupants.

5.0 DEFINITIONS:

5.1 **Automatic Fire Detection Device** – A device designed to automatically detect the presence of fire by heat, flame, light, smoke or other products of combustion.

5.2 **Carbon Dioxide** – A colorless, odorless, electrically nonconductive inert gas (chemical formula CO₂) that is a medium for extinguishing fires by reducing the concentration of oxygen or fuel vapor in the air to the point where combustion is impossible.

5.3 **Dry Chemical** – An extinguishing agent composed of very small particles of chemicals such as, but not limited to, sodium bicarbonate, potassium bicarbonate, potassium chloride, or mono-ammonium phosphate. These chemicals are specially treated to provide resistance to packing and moisture absorption and enhance flow.

5.4 **Dry Powder** – A compound used to extinguish or control Class D combustible metal fires.

5.5 **Extinguisher rating** – The numerical rating given to an extinguisher which indicates the extinguishing potential of the unit based on standardized tests developed by Underwriters Laboratories, Inc.

5.6 **Fire Extinguisher, Portable**

5.6.1 **Portable fire extinguishers** – are classified for use on certain classes of fires and rated for extinguishing effectiveness at a temperature of 70 degrees F by nationally recognized testing laboratories such as Underwriters Laboratories, Inc. and Underwriters Laboratories of Canada.

5.6.2 **Classification and rating** – is a system that determines the way fires must be put out and rates that method of extinguishment to a common standard such as pounds of water for Class A, or pounds of CO₂ for Class B within standard test conditions.

5.7 Types of Fires:

- 5.7.1 **Class A** – fires in ordinary combustible materials such as wood, paper, cloth, rubber and many plastics. These fires have the ability to surface char and burn inward underneath the charred layer.
- 5.7.2 **Class B** – fires in flammable or combustible liquids, gases, greases and similar materials and some rubber and plastic material. These fires require the extinguishing medium to float on and seal off the surface of the burning liquid.
- 5.7.3 **Class C** – fires which involve energized electrical equipment where the electrical non-conductivity of the extinguishing media is of importance. When electrical equipment is de-energized, extinguishers for Class A and B fires may be used safely.
- 5.7.4 **Class D** -- fires in combustible metals, such as magnesium, titanium, zirconium, sodium and potassium.

Special note for Class D: Combustible metal fires are unaffected by non-Class D extinguishers. Conversely, Class D extinguishers are not effective for extinguishing Class A and B fires.

- 5.8 **Fixed Extinguishing System** – a permanently installed system that either extinguishes or controls a fire at the location of the system.
- 5.9 **Foam** – A stable aggregation of small bubbles which flow freely over a burning liquid surface and form a coherent blanket which seals combustible vapors and thereby extinguishes the fire.
- 5.10 **Gaseous Agent** – A fire extinguishing agent which is in a gaseous state at normal room temperature and pressure. It has low viscosity, can expand or contract with changes in pressure and temperature, and has the ability to diffuse readily and to distribute itself uniformly throughout an enclosure.
- 5.11 **Halon 1211** – A colorless, faintly sweet smelling, electrically nonconductive liquefied gas (chemical formula $CBrClF_2$) which is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen. It is also known as bromochlorodifluoromethane.
- 5.12 **Halon 1301** – A colorless, odorless, electrically nonconductive gas (chemical formula $CBrF_3$) which is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen. It is also known as bromotrifluoromethane.
- 5.13 **Inspection** – A visual check of the fire protection systems and equipment to ensure that they are in place, charged and ready for use in the event of a fire.
- 5.14 **Local application systems** – A fixed fire suppression system which has a supply of extinguishing agent, with nozzles arranged to discharge extinguishing agent directly on the burning material to extinguish or control a fire.
- 5.15 **Maintenance** – The performance of services on the fire protection equipment or systems to assure that they will perform as designed in the event of a fire. Maintenance differs for inspection in that maintenance requires the checking of internal fittings, devices and agent supplies.
- 5.16 **Multipurpose Dry Chemical** – A dry chemical which is approved for use on Class A, Class B and Class C fires.

- 5.17 **Pre-Discharge Employee Alarm** – An Alarm which will sound at a set time prior to the actual discharge of an extinguishing system so that employees may evacuate the discharge area prior to system discharge.
- 5.18 **Sprinkler Alarm** – A local alarm unit is an assembly of apparatus approved for the service and so constructed and installed that any flow of water from a sprinkler system equal to or greater than that from a single automatic sprinkler will result in an audible alarm signal on the premises.
- 5.19 **Sprinkler system** – An integrated system of piping designed in accordance with fire protection standards. The installation includes a water supply, such as a gravity tank, fire pump, reservoir or pressure tank and/or connection to a city water main. The network of distribution piping is designed by a fire engineer, includes a controlling valve and an alarm that activates when it senses water flow. The system is usually activated by a valve that opens when sensing sufficient temperature allowing water to discharge over the fire.

6.0 RESPONSIBILITIES:

- 6.1 The President is responsible for the administration, implementation and provisions of the Fire Protection Program. The president will meet this responsibility by providing continuing support for the execution of the fire protection program, along with other administrators.
- 6.2 Risk Management/Environmental Health and Safety (RM/EHS) will:
 - 6.2.1 Be responsible for program development, coordination of training, records, and identification of fire extinguisher resources for building and University sponsored events.
 - 6.2.2 Schedule fire extinguisher annual servicing and surveillance and fire system biannual maintenance.
 - 6.2.3 Provide portable fire extinguisher checks on a monthly basis per Appendix A.
- 6.3 Public Safety will:
 - 6.3.1 Serve as first responders to emergencies and criminal events as necessary. Report fire incidents to the RM/EHS for investigation.
- 6.4 Department Managers / Supervisors will:
 - 6.4.1 Ensure employees are trained in what to do in emergencies.
 - 6.4.2 Ensure staff maintains housekeeping that does not provide a hazard for evacuation and keep offices from hazardous accumulations/storage of combustible and flammable materials.
- 6.5 University employees will be responsible for adhering to the procedures outlined in this document.
- 6.6 Building Administrators will:
 - 6.6.1 Check that storage or other obstructions are at least 18 inches below the level of fire extinguishers.
 - 6.6.2 Check that storage areas allow 24-inch aisle way clearance for firefighter's access.

7.0 PROCEDURES:

7.1 RM/EHS will:

- 7.1.1 Investigate all fire events in order to improve the existing program.
- 7.1.2 Follow up on complaints and other situations that can contribute to a potential fire incident.
- 7.1.3 Control all outside contractor activity in support of the university fire extinguisher program to test and maintain portable fire extinguishers and fire systems.
- 7.1.4 Provide oversight of monthly inspections of portable fire extinguishers.

7.2 Placement

- 7.2.1 Portable fire extinguishers will be located, mounted, and identified so that they are readily accessible to persons without subjecting the individuals to possible injury.
- 7.2.2 Portable dry chemical fire extinguishers for general use by employees for Classes A, B, and C fires at locations that can be reached within seventy-five (75) feet of any occupied space.
- 7.2.3 Portable Carbon Dioxide extinguishers will be placed in laboratory settings at locations that are no more than fifty (50) feet from where there is likelihood of Class BC fires.
- 7.2.4 Approved halon portable fire extinguishers may be used in places where there is a high likelihood of damage to computer equipment.
- 7.2.5 Class D fire extinguishers will be placed where combustible metals are handled or stored on request of a laboratory manager or supervisor.
- 7.2.6 The following fire extinguisher types are not allowed:
 - 1. Soldered or riveted tanks.
 - 2. Carbon tetrachloride extinguishing agent
 - 3. Chlorobromomethane extinguishing agent
- 7.2.7 Portable fire extinguishers shall be subjected to an annual maintenance check. Stored pressure extinguishers do not require an internal examination.
- 7.2.8 The University will shall ensure a date of maintenance is attached to portable extinguishers as evidence of required annual servicing. The record is provided by service vendors tag, attached to the fire extinguisher. If an extinguisher's tag is missing, the fire extinguisher will be removed and replaced with one having an appropriate servicing tag.
- 7.2.9 Extinguishers that are being serviced will be accomplished one floor at a time so that areas covered by removed extinguishers are covered by those doing the servicing. If extinguishers are removed for extended periods, more than two hours, alternate protection shall be provided. This situation will arise if the extinguisher is removed for hydrotesting.

7.3 Portable Fire Extinguisher Inspection

- 7.3.1 Provide monthly inspections according to the following attributes using the Portable Fire Extinguisher Check Sheet (Appendix A).
 - 1. On a hook or in a cabinet
 - 2. Accessible, not blocked

3. Pressure gage in the green
4. Pin secured by plastic tie
5. Tag indicates test date less than one year previous

7.4 Fire Extinguisher Hydrotesting

7.4.1 RM/EHS will ensure extinguisher hydrotests are performed by trained persons with suitable testing equipment and facilities meeting the general requirements of 8 CCR 6151(f).

7.4.2 Extinguishers will be hydrotested with a frequency as follows:

<u>Type of Extinguisher</u>	<u>Test Interval (years)</u>
Soda Acid (stainless steel shell)	5
Cartridge operated water and/or antifreeze	5
Stored pressure water and/or antifreeze	5
Wetting agent	5
Foam (stainless steel shell)	5
Aqueous film forming foam	5
Loaded steam	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

8.0 TRAINING:

8.1 Training will be provided to all University employees in initial employee safety training on the proper selection and use of portable fire extinguishers. It is not expected that employees use portable fire extinguishers merely because they are employees of Cal State LA.

8.2 Training will be provided to Facilities Services workers on an annual basis to ensure familiarization for use and hazards of using portable fire extinguishers.

8.3 RM/EHS will provide a minimum of quarterly hands-on portable fire extinguisher training.

8.4 Familiarization and hazard

9.0 APPENDICES:

Appendix A: Portable Fire Extinguisher Check Sheet