**Title: P.8. Fire Prevention & Control Practices**

1. Purpose: The purpose of this program element is to assure that there are documented practices for the prevention and control of fires and their related causal factors. These practices also include methods for responding to fires should they occur, employee evacuation procedures and other applicable techniques for protecting life.

1. Introduction: This directive contains the minimum requirements to protect employees from workplace fires, prevent such occurrences, and to limit the loss of life and property as a result of a fire.
2. Procedure Elements:
3. Hazard Assessment. Conduct an assessment to determine if fire prevention plan and control procedures are required for the agency. Many of the agencies may be covered by a combination of their required hazard identification and emergency action plan program elements. Depending on the hazards and type of work performed, additional fire prevention and control practices may be required. The assessment should include the following:
4. Evaluate all agency work locations to identify materials or operations that may pose a fire hazard or may require procedures beyond standard safety inspections and emergency preparedness procedures.
5. Maintain the assessment for recordkeeping purposes.
6. Areas that may need to be addressed by this program element include, but are not limited to, the following:
	* 1. General storage areas.
		2. Warehouses.
		3. Indoor and outdoor flammable and combustible storage areas.
		4. Maintenance and trade workshops.
		5. Manufacturing and assembly areas.
		6. Garage, vehicle, and equipment servicing or storage locations.
		7. Indoor and outdoor storage tanks
		8. Packaging areas and materials including cardboard, foam compositions, and paper.
		9. Egress routes, stairwells, and fire doors.
		10. Fire detection, fire suppression, and personal protection equipment.
		11. Smoking areas.
		12. Heating, ventilating, and air conditioning systems (including the ductwork).
		13. Switches, wiring, and boiler controls.
		14. Electrical equipment, including wiring and controls and extension cords.
		15. Forklift fueling and servicing.
		16. Hot work.
		17. Waste storage and removal.
7. Applicable Standards: Numerous safety standards and regulations pertain to fire prevention and control practices. The following list includes several of the possible standards that may apply, but it is not inclusive.
8. OSHA 29 CFR [1910 Subpart E - Exit Routes, Emergency Action Plans, and Fire Prevention Plans](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10113)
9. OSHA 29 CFR [1910 Subpart H - Hazardous Materials](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10117)
10. OSHA 29 CFR [1910 Subpart L - Fire Protection](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10123)
11. OSHA 29 CFR 1910.39 Fire Prevention Plans
12. OSHA 29 CFR [1910 Subpart Q - Welding, Cutting, and Brazing](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10133)
13. There are numerous NFPA standards that apply to fire protection requirements concerning PPE, operations, detection equipment, and suppression equipment.
14. NFPA 101-2000, the Life Safety Code.
15. International Fire Code or other appropriate fire codes adopted by the authority having jurisdiction.
16. Management Directive 205.19 Smoking in Commonwealth Buildings and Facilities.
17. Management Directive 720.5 Energy Conservation and Electrical Devices in Commonwealth Owned or Leased Buildings.
18. Written Procedure: Develop a written plan containing fire prevention and control procedures that adequately address the hazards present in the workplace and are consistent with industry regulatory standards. The plan shall include the following elements, at a minimum.
19. Identify and list all major fire hazards.
20. The National Fire Protection Association (NFPA) has classified five general types of fires, based on the combustible materials involved and the kind of extinguisher needed to put them out. The five fire classifications are A, B, C, D, and K. Each classification has special markings, and A through D have special symbols and color identification. The five are as follows:
21. *Class A -* This type of fire is the most common. The combustible materials are wood, cloth, paper, rubber and plastics. The common extinguisher agent is water, but dry chemicals are also effective. Carbon dioxide extinguishers and those using sodium or potassium bicarbonate chemicals are not to be used on this type of fire.
22. *Class B -* Flammable liquids, gases and greases create class B fires. The extinguishers to use are foam, carbon dioxide and dry chemical. Also, water fog and vaporizing liquid extinguishers can be used.
23. *Class C -* Class C fires are electrical fires and a non-conducting agent must be used. Carbon dioxide and dry chemical extinguishers are to be used. Never use foam or water-type extinguishers on these fires.
24. *Class D -* Combustible metals, such as magnesium, titanium, zirconium and sodium fires are class D. These fires require specialized techniques to extinguish. None of the common extinguishers should be used since they can increase the intensity of the fire by adding an additional chemical reaction.
25. *Class K -* Class K fires involve cooking appliances and combustible cooking media (vegetable or animal oils and fats). Wet chemical-based extinguishers are recommended.
	* + 1. Only multi-purpose ABC dry chemical extinguishers, either stored pressure or cartridge operated, can be used on A, B, or C fires.
			2. It is important to know what type of fire is in progress. If you use a fire extinguisher, be sure to use one only on fires for which that fire extinguisher is designed. Using the wrong agent on a fire may increase the intensity of the fire. Check the label on the fire extinguisher; it should list the fire class or classes it is meant to put out.
26. Identify potential ignition sources and develop the proper control procedures (e.g., welding, cutting, brazing, smoking, portable heating equipment, etc.).
27. Develop procedures and safe work practices for all cutting, welding, or brazing along with a system for the issuance of hot work permits when necessary.
28. Develop a policy for smoking consistent with the Commonwealth’s Management Directive 205.19 Smoking in Commonwealth Buildings and Facilities.
29. Develop procedures and criteria for the procurement and proper usage of portable heating equipment and electrical devices consistent with the Commonwealth’s Management Directive 720.5 Energy Conservation and Electrical Devices in Commonwealth Owned or Leased Buildings.
30. Develop proper handling and storage procedures for flammable/combustible materials.
31. Develop the proper procedures, design requirements, protective systems, and quantity limits for all flammable and combustible storage areas (indoor, outdoor, and portable containers).
32. Develop procedures to ensure compliance with applicable standards for storage of flammable and combustible materials in underground or aboveground storage tanks.
33. Develop methods to control static electricity by bonding and grounding equipment or through the use of special flooring designed to eliminate static electricity.
34. Develop safe procedures for refueling and servicing forklifts.
35. Identify the existing and necessary types of fire protection (detection, alarm, and suppression) equipment or systems to control the identified hazards. Examples include, but are not limited to, smoke/heat detectors, alarms, fire extinguishers, fire hydrants, standpipe systems, and sprinkler systems.
36. Identify the warning alarms and other communication methods that will be used to notify employees in the event of a potential fire situation.
	* 1. Describe the alarm and communication systems, how the systems function, and how that information is communicated to employees.
		2. Describe methods used to evaluate the alarm systems including the capability of the alarm being perceived above ambient noise levels.
37. Develop procedures for the use, maintenance, and training required for fire protection (detection, alarm, and suppression) equipment.
38. Develop appropriate methods to inspect and test all fire detection, alarm, suppression, and protective equipment.
39. Develop procedures for the regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials.
40. List the names or job titles of those responsible for inspection, testing, and maintenance of equipment and systems installed to detect, communicate, prevent, or control ignitions/fires.
41. List the names, addresses and phone numbers of all organizations or companies contracted to maintain fire protection equipment.
42. Establish housekeeping procedures as part of the fire prevention plan to control accumulations of flammable and combustible waste material and residues so that they do not contribute to a fire emergency.
43. List the names or job titles of those responsible for the control of accumulation of flammable or combustible waste materials.
44. Develop fire prevention and inspection procedures for areas where the general safety inspection procedures and forms are not adequate to address or identify the hazards.
45. Work areas or locations with identified fire hazards must be inspected on a monthly or quarterly basis depending on the degree of hazard, type of work being performed, or type of materials being stored.
46. Perform inspections to ensure sufficient safe clearances for aisles, loading docks, through doorways, and wherever turns or passage must be made.
47. List the names or titles of individuals responsible for the inspections of work areas that may have fire hazards present.
48. Develop procedures and define responsibilities to ensure compliance with the applicable local building and fire codes.
49. Develop procedures to investigate all fires to determine causes, effects on materials/equipment, persons involved, whether proper procedures were followed, and if preventive/corrective actions were taken.
50. List the names or titles of individuals responsible for investigating the cause of fires.
51. Define the procedures, equipment, and training required for employees on an agency fire brigade if deemed necessary.
52. List the names of the fire brigade.
53. Document training provided to fire brigade.
54. Describe equipment that will be used by a fire brigade and identify the location of the equipment.
55. Training: Develop, provide, and document orientation training for all employees and annual training for all affected employees.
56. The training program content and frequency of training is dependent upon and must address the type of fire hazards contained in the workplace and assigned program responsibilities.
57. Inform employees of the fire hazards of the materials and processes to which they are exposed. This may include, but not be limited to, training, a review of emergency response procedures, use of personal protective equipment, and other relevant activities.
58. Ensure employees receive a review of those parts of the fire prevention plan they need to know in order to protect him/her self in the event of an emergency.
59. Educate employees on the alarm and communication systems to include alarm recognition and what information is communicated during an emergency.
60. The written plan shall be kept in the workplace and made available for employee review at normal work hours.
61. If applicable, training in the proper use of fire extinguishers.
62. Checklists and Forms: Develop the necessary forms to ensure compliance with the requirements of this standard operating procedure. The forms may include, but are not limited to, the following:
63. Hot work permits.
64. Fire detection / suppression equipment inspection, testing, and maintenance forms.
65. Fire protection equipment and PPE inspection forms.
66. Fire investigation report form.
67. Fire drill report form.
68. Training rosters and tracking forms.
69. Program Effectiveness Review and Response: The effectiveness of this program in preventing workplace hazards, injuries, and illnesses should be evaluated at least annually with appropriate actions taken to address any program deficiencies found.
70. Document dates of review.
71. Document names of reviewers.
72. Document any areas in need of improvement.
73. Describe methods to communicate program changes to all affected work locations.