



Scope

This program¹ applies to all buildings and employees, and is intended to serve as a basis for ensuring the physical condition of those buildings on a continuing basis.

Purpose

The purpose of the fire prevention plan is to prevent a fire from occurring in a workplace by eliminating the causes of fire. It describes the fuel sources (hazardous or other materials) on site that could initiate or contribute to the spread of a fire, as well as the building systems and procedures in place, such as housekeeping procedures and fire extinguishing systems, to control the ignition or spread of a fire.

Member-Level Responsibilities

On the line below, list the job title of the person who has primary responsibility for oversight of this policy. _____

Managers and first line supervision are responsible for compliance with the procedure, ensuring their work areas have been evaluated to identify materials, situations, procedures, and equipment that could, under foreseeable conditions, increase the risk of a fire. Managers and first line supervisors will ensure that procedural controls for the risks have been developed, and specific responsibilities for implementing those controls has been assigned. Managers and first line supervisors will ensure that fire control equipment and systems are properly maintained, and that all employees have received all required training related to this procedure.

Employees have the responsibility to keep their work areas clean and clear of flammable and combustible material so far as possible. Employees responsible for maintaining specific controls identified by managers are responsible for ensuring those controls are maintained, and all employees are responsible for completing all required training related to this procedure.

General Program Requirements

A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard has been developed for each building and fixed work area. (See Attachment A - Fire Risk Survey)

¹ The content of this program is based upon the following regulations:

- Pennsylvania Title 34, Part VIII, Bureau of Workers' Compensation – Chapter 129, Subchapter D §129.452; Group Self-Insurance Fund's AIPP Requirements
- Federal Occupational Safety and Health Administration (OSHA) regulations for Fire Prevention Plans, 29 CFR 1910.39



Good House Keeping

To limit the risk of fires, the following precautions shall be taken:

- Minimize the storage of combustible materials.
- Make sure that doors, hallways, stairs, and other exit routes are kept free of obstructions.
- Dispose of combustible waste in covered, airtight, metal containers.
- Use and store flammable materials in well-ventilated areas away from ignition sources.
- Use only nonflammable cleaning products.
- Keep incompatible (i.e., chemically reactive) substances away from each other.
- Perform “hot work” (i.e., welding or working with an open flame or other ignition sources) in controlled and well-ventilated areas.
- Keep equipment in good working order (i.e., inspect electrical wiring and appliances regularly and keep motors and machine tools free of dust and grease.)
- Ensure that heating units are safeguarded.
- Report all gas leaks immediately. Supervisors shall ensure that all gas leaks are repaired immediately upon notification.
- Keep work areas free of dust, lint, sawdust, scraps, and similar material.
- Do not rely on extension cords if wiring improvements are needed, and take care not to overload circuits with multiple pieces of equipment.
- Turn off electrical equipment when not in use.

Storage of Flammable and Combustible Materials

When work areas are identified with an increased risk of fire due to material storage, all reasonable effort is directed to addressing these issues in as short a time as possible. In general, the following items will be considered as they relate to flammable and combustible materials:

- All flammable materials will be stored in designated areas specifically intended and cleared for storage of this type of material.
- Flammable liquids will be stored in either a flammable storage cabinet or a specially designed flammable storage room. Incidental quantities of flammable liquids, intended for immediate use can be in work areas as long as they are under the control/responsibility of a specific person (i.e. spray can of WD-40 stored at a shop workbench).
- Areas of the facility with natural gas or propane fired heaters, boilers, or water heaters will not be used for storage of excess combustible materials. Areas immediately around these types of equipment will be free from storage of any material.
- The accumulation of excess amounts of combustible materials will be avoided, and when not avoidable, then limited to as short a time as possible.



Sources of Ignition

Electrical Fire Hazards

Electrical system failures and the misuse of electrical equipment are leading causes of workplace fires. Fires can result from loose ground connections, wiring with frayed insulation, or overloaded fuses, circuits, motors, or outlets. To prevent electrical fires, employees shall:

- Make sure that worn wires are replaced.
- Use only appropriately rated fuses.
- Never use extension cords as substitutes for wiring improvements.
- Use only approved extension cords [i.e., those with the Underwriters Laboratory (UL) or Factory Mutual (FM) label].
- Check wiring in hazardous locations where the risk of fire is especially high.
- Check electrical equipment to ensure that it is either properly grounded or double insulated.
- Ensure adequate spacing around electrical panels while performing maintenance.

Portable Heaters

All portable heaters shall be approved by Responsible Person. Portable electric heaters shall have tip-over protection that automatically shuts off the unit when it is tipped over. There shall be adequate clearance between the heater and combustible furnishings or other materials at all times.

Office Fire Hazards

Fire risks are not limited to workshop areas of the facility. Fires in office areas have become more likely because of the increased use of electrical equipment, such as computers and fax machines. To prevent office fires, employees shall:

- Avoid overloading circuits with office equipment.
- Turn off nonessential electrical equipment at the end of each workday.
- Keep storage areas clear of rubbish.
- Ensure that extension cords are not placed under carpets.
- Ensure that trash and paper set aside for recycling is not allowed to accumulate.



Cutting, Welding, and Open Flame Work

The manager or supervisor will ensure the following:

- Cutting and welding are done by authorized personnel in designated cutting and welding areas whenever possible.
- Adequate ventilation is provided.
- Torches, regulators, pressure-reducing valves, and manifolds are UL listed or FM approved.
- Oxygen-fuel gas systems are equipped with listed and/or approved backflow valves and pressure-relief devices.
- Cutters, welders, and helpers are wearing the correct eye protection and protective clothing as appropriate.
- Cutting or welding is prohibited in sprinklered areas while sprinkler protection is out of service.
- Cutting or welding is prohibited in areas where explosive atmospheres of gases, vapors, or dusts could develop from residues or accumulations in confined spaces.
- Cutting or welding is prohibited on metal walls, ceilings, or roofs built of combustible sandwich-type panel construction or having combustible covering.
- Fire watch has been established before, during, and after welding operations have been conducted.

Fire Extinguishers

Portable dry chemical fire extinguishers have been provided through each building. Portable fire extinguishers will be visually inspected monthly for the following:

- The extinguisher is mounted on a wall or post at 42”.
- Materials and equipment is not stored within 36” in front and 30” to each side of the extinguisher, and there is unobstructed access to the extinguisher.
- The extinguisher is at the proper charge pressure, as indicated by observing the pressure gauge to ensure the needle is within the “Good” or green range.
- The discharge locking pin is in place and secured with a plastic retaining seal.
- There are no visible signs of damage to the valve, body, or hose of the extinguisher.
- The annual Maintenance inspection tag is attached securely and is current.
- For outdoor or exposed extinguishers, the nozzle is free of debris and/or insect nests that could impede the flow of extinguishing media.

Only employees that have been specifically trained on the use of portable fire extinguishers and authorized to do so may use a fire extinguisher. All other employees are to evacuate the facility according to the Emergency Action Plan.



Facility Inspections

Each fixed location will be inspected monthly to ensure that flammable and combustible materials are stored correctly, housekeeping is appropriate, ignition sources have been identified and there are proper controls in place for those sources of ignition, and that portable fire extinguishers have been inspected.

Training

This procedure will be reviewed with all employees initially upon hire, and when there is a change to a building or an employee's assignment area.

Employees who have been approved to use portable fire extinguishers in the event of an incipient stage fire will be trained initially upon assignment of those duties, and at least annually thereafter.

All employees will be trained on the Emergency Action Plan which identifies what actions they should take during an emergency.

Procedure Review and Revision

This procedure will be reviewed on a regular basis by the department supervisor to ensure it is accurate. Appropriate changes will be made as soon as the need is identified, or if there is a change to the building layout or the duties of personnel in those areas. If substantial changes are made to this procedure, employees will be trained on these changes.

Flammable Liquid Storage Guidance

Most workshops and garages have flammable liquids that are used on a regular basis as part of the operation. While necessary, these liquids can also be dangerous if not used and stored correctly. Proper storage of flammable liquids is not difficult, as long as the storage requirements are understood and followed. For clarification, *flammable liquid* means any liquid having a *flashpoint* at or below 199.4 °F (93 °C). This information can be found on the Safety Data Sheet (SDS) or label. The guidelines below represent the minimum requirements for flammable storage.

Containers - Flammable liquids can be purchased in drums, cans, plastic bottles, aerosol cans, etc. It is important that the information on the original container label is kept legible and is read and followed. In many cases, flammable liquids can be transferred from the original container into smaller, or secondary, containers. The secondary containers must be made of a material that will not be affected by the liquid, and should not be easily damaged or broken (no glass). The secondary container must be labeled with the name of the material, and the hazards associated with the material. Damaged containers must not be used and must be properly discarded.



Flammable Storage Cabinets - Specially designed cabinets are used when storing flammable liquids. These cabinets are designed to keep the contents from quickly heating during a fire, allowing more time to evacuate or contain/ extinguish a fire. Each cabinet can contain up to a maximum of 60 gallons of flammable liquids. If the facility has more than 60 gallons of flammable liquids in containers, then multiple cabinets are required. If the facility has a significant amount of flammable liquids, a flammable storage room may be a better option than multiple cabinets.

Note 1: Flammable Storage Cabinet Construction Specifications - established by the National Fire Protection Association (NFPA). Metal cabinets constructed in the following manner shall be deemed to be in compliance. The bottom, top, door, and sides of cabinet shall be at least No. 18 gage sheet iron and double walled with 1 1/2 - inch air space. Joints shall be riveted, welded or made tight by some equally effective means. The door shall be provided with a three-point lock, and the door sill shall be raised at least 2 inches above the bottom of the cabinet. Wooden cabinets constructed in the following manner shall be deemed in compliance. The bottom, sides, and top shall be constructed of an approved grade of plywood at least 1 inch in thickness, which shall not break down or delaminate under fire conditions. All joints shall be rabbeted and shall be fastened in two directions with flathead woodscrews. When more than one door is used, there shall be a rabbeted overlap of not less than 1 inch. Hinges shall be mounted in such a manner as not to lose their holding capacity due to loosening or burning out of the screws when subjected to the fire test (OSHA 29 CFR 1910.106 (d)(3)(ii)(a & b) and NFPA 30-2009: 4.3.3(b & c)).

Flammable Storage Rooms - When large quantities of flammable liquids need to be stored, a specially designed flammable storage room can be used. Flammable storage rooms essentially act as very large flammable storage cabinets. They are designed to contain and spilled materials, and to keep the contents of the room from being exposed to open flame or heating up to quickly from a fire. In addition to being of sturdy construction, the room must be liquid and vapor-tight. The door is raised slightly to prevent liquids from leaking out under it, and any holes in the walls are sealed to prevent vapors from escaping. The contents of the room must also be protected from sources of ignition. This means protection from flames as well as sparks. Sparks can be generated from regular electrical switches and equipment, so all switches and electrical equipment in the room must be specially designed for flammable areas. Flammable storage rooms should also have a reliable building ground or earth ground that is easily accessible, with an adequate number of grounding and bonding cables available for transferring liquids.



Specially Designed Aboveground Fuel Storage Tanks. Keeping the tanks and fuel dispensing equipment in proper working order is important not only to ensure the safety of employees, but also to protect against unnecessary fuel spills and costly cleanup. The fuel delivery service that fills the tanks should be informed of the requirement to ensure that the delivery truck and the aboveground fuel tank is bonded, and all minor spills are immediately cleaned up. The tanks, hose, and dispensing nozzle should be kept in good working order. A portable fire extinguisher (at least 10 pound ABC) should be located close to the dispensing area of the tank. A suitably sized fuel spill clean-up kit should also be readily available in case of a spill. This kit must be inspected on a regular basis to ensure that it is complete, and that the material in the kit is not expired, damaged, or missing. Note: Any aboveground fuel tank greater than 1100 gallons is regulated by the PADEP under the 25 PA Code, Chapter 245.

Transferring Flammable Liquids - When transferring flammable liquids from one container to another, the movement of the liquid can create a static charge, regardless of the material of the containers. This charge can result in a spark if the two containers come into contact, potentially causing the liquid to catch on fire or an explosion. To prevent a static charge from being created, the two containers must be connected together with a bonding wire or clips before the liquid is poured. The primary container should also be connected to a building ground (metal structure or water pipe) or an earth ground (a copper bar driven several feet into the ground) to prevent an electrical charge from accumulating.





Element 14.7 – Fire Prevention and Control

Flammable Storage General Inspection Checklist				
Date: Inspectors:	OK	NOT OK	NA	Date Done/ Initials
1. Flammable storage cabinets or ROOMS are identified in conspicuous lettering. Labeling should include warnings such as "Flammable - Keep Fire Away."				
2. Only flammable liquids are stored in flammable storage cabinets or ROOMS (no other liquids, tools, materials, etc.).				
3. Flammable liquids are only stored in approved containers and containers are kept tightly closed when not in use.				
4. Shelves are sturdy and adequately support the material being stored on them.				
5. Drums of flammable liquids inside flammable storage cabinets or ROOMS are bonded to the cabinet ground.				
6. Bonding cables are available for transferring flammables from primary containers to secondary containers.				
7. There is no evidence of open flames or smoking near flammable storage cabinets, ROOMS, or aboveground fuel tanks.				
8. Only 25 gallons or less of flammable liquids are stored outside of a flammable storage cabinet or flammable storage ROOM.				
9. Aboveground fuel tanks are clearly identified with type of fuel, and labeled with appropriate DOT labels, based on contents.				
10. Aboveground fuel tanks are located such that they are protected from accidental vehicle contact, or are protected by appropriate barriers/barricades.				
11. Aboveground fuel tanks are either double wall construction, or are located w/in secondary containment.				
12. Fuel nozzles and hoses on aboveground fuel tanks are not damaged, degraded, or dry rotted.				
13. There is no evidence of significant or continual fuel leakage around the aboveground fuel tank.				
14. Fuel suppliers have been instructed to ensure that the fuel delivery truck is bonded to the aboveground fuel tank before transferring fuel to the tank.				
15. Emergency shut-off switch is functional, clearly labeled, and located away from, but within view of, the aboveground fuel tank.				
16. An appropriately sized spill kit and fire extinguisher are placed near the aboveground fuel tank.				
Corrective Actions for each "NO" above:				



Element 14.7 – Fire Prevention and Control

Date:				Date Done/Initials
Inspectors:	OK	NOT OK	NA	
Flammable Storage Cabinets Inspection Checklist				
1. Flammable storage cabinets purchased or constructed must meet the requirements of NFPA 30: 4.3.3(b) and OSHA 29 CFR 1910.106 (d)(3)(ii)				
3. Less than 60 gallons of flammable liquids are stored in any one flammable storage cabinet.				
4. Flammable storage cabinets are properly grounded to a building or earth ground.				
5. The doors on flammable storage cabinets are in good repair and can fully close.				
6. A suitably sized dry chemical fire extinguisher (12-B units or higher) is located between 10 and 25 feet of the flammable storage cabinet.				
Flammable Storage Rooms Inspection Checklist				
7. Flammable storage ROOMS are clearly marked.				
8. Flammable storage ROOMS are used only for storing flammable liquids (no other liquids, tools, materials, etc.).				
9. Flammable storage ROOMS have an approved self-closing fire door				
10. Openings to flammable storage ROOMS have noncombustible liquid-tight raised sills or ramps at least 4 inches in height to prevent spills from leaving the room.				
11. Walls are liquid-tight where the walls join the floor and all wall penetrations are sealed.				
12. The flammable storage ROOM does not exceed the maximum allowable size (500 sq. ft. for a 2-hr rated room, 150 sq. ft. for a 1-hr rated room).				
13. The flammable storage ROOM does not exceed the maximum allowable storage density (5 gal/sq. ft. for 2-hr rated room, 2 gal/sq. ft. for 1-hr rated room).				
14. Electrical wiring, enclosures, and equipment (including ventilation equipment) inside the flammable storage ROOM is approved for Class I, Division 2 hazardous locations.				
15. The flammable storage ROOM's ventilation system is capable of at least six air changes per hour.				
16. The ventilation switch is tied to the light switch, has a pilot light, and is located outside the flammable storage ROOM near the entrance.				
17. Containers are stored such that a 3-foot wide aisle is maintained.				
18. A suitably sized dry chemical fire extinguisher (12-B units or higher) is located within 10 feet of the entrance to the flammable storage ROOM.				
Corrective Actions for each "NO" above:				