

## Property-Fire Exposure Assessment

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The following information can be used to assess the fire exposures of a college or university. ]

### ***Facility Design and Construction***

- Is the facility in compliance with local building and fire prevention codes?
- Have any renovations and/or alterations been made since the last inspection?
- Are concealed spaces properly fire stopped, or otherwise protected?
- Are there fire exposures from adjacent buildings or structures?
- Are stairways, elevator shafts, escalator openings, or other vertical openings enclosed with fire barriers or protected with approved automatic sprinkler systems?
- Do buildings classified as assembly occupancies, such as large lecture rooms, dining facilities, and common spaces, meet the requirements of Chapter 12, New Assembly Occupancies, or Chapter 13, Existing Assembly Occupancies, of NFPA 101, Life Safety Code, published by the National Fire Protection Association (NFPA)?
- Do buildings classified as business occupancies, such as small classrooms, offices, and data processing facilities, meet the requirements of Chapter 38, New Business Occupancies, or Chapter 39, Existing Business Occupancies, of NFPA 101?
- Do dormitories meet the requirements of Chapter 28, New Hotels and Dormitories, or Chapter 29, Existing Hotels and Dormitories, of NFPA 101?
- Do buildings classified as mercantile occupancies, such as bookstores and mini convenience stores; meet the requirements of Chapter 36, New Mercantile Occupancies, or Chapter 37, Existing Mercantile Occupancies, of NFPA 101?
- Do storage occupancies, such as garages, meet the requirements of Chapter 42, Storage Occupancies, of NFPA 101?
- Is the facility separated from other occupancies by walls, floors, and ceilings having a minimum fire resistance rating, as required in Table 6.114.4.1 of NFPA 101?
- Are at least two fire exits provided for each smoke compartment?
- Are fire exits provided with panic hardware and not locked, such as by chains or padlocks?
- Are the locations of fire exits indicated by clearly visible signs?
- Is an emergency lighting system provided in means of egress?
- Does the travel distance to a fire exit or a separate smoke compartment meet the minimum requirements for the occupancy classification, as provided for in NFPA 101?
- Are the building's furnishings and decorations fire retardant?

### ***Building Services***

- Does the electrical system appear to be in good-working condition?
- Is the electrical system adequate to handle the expected loads?
- Are electrical appliances that are used in areas where flammable atmospheres are present listed/approved for such use by a nationally recognized testing laboratory, such as Underwriters Laboratories Inc. (UL)?

- ❑ Are electrical systems that are installed where flammable liquids are stored or dispensed listed/approved for Class I, Division 2 locations?
- ❑ Is electrical equipment that is used in wet areas, such as restrooms and outside locations, provided with ground fault protection?
- ❑ Are appliances listed by a nationally recognized testing laboratory, such as Underwriters Laboratories Inc. (UL)?
- ❑ Are air circulation systems designed to automatically shutdown in the event of a fire?
- ❑ Are furnaces and boilers for heating systems located in a separate area that has a minimum fire resistance rating of two-hours and which has no openings within 10 ft (3 m) of flammable liquids storage areas?
- ❑ Is the return air vents for heating systems at least 18 in (45.5 cm) above the floor and the return air not drawn from areas where solvents are used or stored?
- ❑ Are boilers that produce steam for heating provided with a manually-operated, emergency shutoff valve for the fuel supply?
- ❑ Is gas- and oil-fired equipment maintained according to the manufacturers' recommendations?

### ***Fire Suppression and Alarm Systems***

- ❑ Are buildings protected by a fire alarm system that provides both manual and automatic initiation devices?
- ❑ Are smoke detection and fire alarm systems provided for each enclosed room or area?
- ❑ Are fire suppression and alarm systems covered by maintenance and service contracts?
- ❑ Does the alarm system include both manual and automatic initiation devices that provide immediate evacuation notification to the occupants?
- ❑ Are audible and visual alarms provided in dormitory facilities, classroom facilities, laboratory facilities, etc.?
- ❑ Is a voice communication system installed to notify customers of an emergency and provide directions, as necessary?
- ❑ Does the activation of the alarm system cause the release of hold-open devices on smoke compartment doors?
- ❑ Are fire suppression systems for commercial cooking equipment equipped with alarms that are integrated into the building alarm system?
- ❑ Are processing equipment, including boilers, equipped with process alarms that provide warning when system temperatures, pressures, or operational parameters are exceeded?
- ❑ Are large, walk-in freezers and coolers equipped with a refrigerant leak detection and alarm system?
- ❑ Are audible and visual alarms located inside refrigeration equipment rooms and outside each room adjacent to the room entrance?
- ❑ Does the building have a sprinkler system that is installed and maintained in conformance with NFPA 13, Standard for Installation of Sprinkler Systems, published by the National Fire Protection Association (NFPA)?
- ❑ Are commercial-grade ranges, fryers, and related equipment protected by an automatic extinguishing system that is listed/approved for the exposure?
- ❑ Are buildings that are located in areas without public water systems provided with alternate water sources, in accordance with NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting?
- ❑ Is the fire department notified when service, repair, or maintenance activities will impede the sprinkler system for more than four hours (in a 24-hour period)?
- ❑ Are there a sufficient number of listed/approved portable fire extinguishers, and are they properly located, as required in NFPA 10, Standard for Portable Fire Extinguishers?
- ❑ Are kitchens or cooking areas provided with portable fire extinguishers listed/approved for the area?

- Are fire extinguishers properly maintained?
- Are employees trained in the use of portable fire extinguishers?

## **Storage Practices**

- Are consumable supplies, such as glues, office paper, work uniforms, and cleaning supplies, stored in conformance to local fire code requirements?
- Are supplies stored on stable surfaces, in stable configurations, and not blocking access to fire and emergency exits?
- Are supplies and stock located at least 3 ft (0.9 m) from heating units and ductwork?
- Are storage rooms, trash rooms, and similar areas separated from other areas by one-hour fire barriers or protected by automatic sprinklers?
- If there are aboveground or underground storage tanks for flammable/combustible liquids on site, is the access to storage tanks restricted by fencing, location, or other means to ensure that unauthorized persons cannot enter the area?
- Is all piping, filling, and off-loading equipment for storage tanks protected from physical damage by either their arrangement or location, or by physical barriers?
- Are aboveground fuel storage tanks provided with lightning protection?
- Are business records stored onsite in records protection equipment?
- Are corrosive liquids stored separately from flammables, either in corrosive-liquids' cabinets or in a room specifically designed for that purpose?
- Are compressed gas cylinders stored in a separate area, away from ignition sources, and secured to prevent tipping and damage?
- When compressed gas cylinders are stored in multiple storage locations, are they separated by at least 300 ft (91.4 m)?
- Is equipment using gasoline or diesel fuel stored in a separate, detached building or in a room segregated from storage areas by firewalls or fire barriers and automatic closing fire doors?
- Are flammable liquids stored in a protected area that is separated from the rest of the facility?
- Are flammable liquids stored in containers that are listed/approved for such use?
- Is the inside storage of flammable or combustible liquids limited so that not more than 120 gal (454 L) of such liquids are stored in any one cabinet, and not more than three cabinets located in the same storage area?
- Is paper in storage limited so that the fire loading does not exceed the capacity of the sprinkler system?

## **Operations**

- Is there auditorium or theater?
- Is there a bookstore or campus store?
- If there are cooking facilities, such as a cafeteria, are cooking appliances inspected on a regular basis?
- Are there small convenience type stores?
- Is there a central copy center?
- Are retail display arrangements configured to maintain at least 36-in (91.4-cm) clearance from ignition sources?
- Are displays limited to materials with a flame spread of 25 or less (Class A), in accordance with NFPA 701, Standard Methods of Fire Tests for Flame-Resistant Textiles and Films?
- Are college or university vehicles (fleet) serviced on site?
- Are there dedicated lawn care facilities?
- Are there laundry facilities?

- Is the electrical service in maintenance shops of sufficient capacity to handle the heavy loads from the types of electrical equipment used?
- Is the electrical equipment properly grounded to prevent the generation of sparks?
- Is a hot-work permit system required for all cutting, welding, and soldering operations?
- Are cutting and welding equipment, including torches and fuel/gas cylinders, regularly inspected and serviced, and provided with the proper safety mechanisms?
- Is proper bonding and grounding used when flammable liquids are transferred between containers?
- Is smoking prohibited whenever refueling of equipment is being performed?
- Are multi-purpose, portable fire extinguishers kept nearby whenever hot-work operations are undertaken?
- Is a fire watch provided during hot-work operations and for at least one hour after operations have been completed?
- Is there an infirmary or dedicate medical facility?
- If smoking is allowed on the premises, is it restricted to certain areas?
- Is there a sports complex or gymnasium?
- Is there a swimming pool or aquatics center?

### **Emergency Preparedness**

- Do employees check the exit doors and exit paths on a daily basis to ensure egress during an emergency?
- Are emergency evacuation drills conducted on a semi-annual basis?
- Are employees assigned to assist with the evacuation of occupants?
- Are separate signals used to recall the occupants to return to the building, such as voice commands, distinct alarms, or flags?
- Is there an emergency action plan for the facility?
- Is a safety officer designated to develop and implement a plan for the containment and cleanup of accidental releases of hazardous materials, such as fuel oil?
- Are salvage and recovery procedures in-place to help to reduce the severity of the loss and maintain business continuity?
- Is there smoke removal equipment, including mechanical air-handling systems, powered exhaust fans, roof-mounted gravity vents, or perimeter gravity vent?

### **Incendiarism and Arson**

- Are all exterior areas of the property illuminated?
- Are exterior doors and windows of the property secured from unauthorized access?
- Does a fence protect the perimeter of the property?
- Is there a closed-circuit television (CCTV) system?
- Is there a guard patrol service?