

Study Session

3

2018 SBC 801 Chapters 3, 4 and 5

General Requirements, Emergency Planning and Preparedness, and Fire Service Features

OBJECTIVE: To gain an understanding of the issues, requirements and procedures related to general precautions against fire, emergency planning and preparedness and fire service features.

REFERENCE: Chapters 3, 4 and 5, 2018 *Saudi Fire Code*

- KEY POINTS:**
- What is the scope of Chapter 3 of the *Saudi Fire Code*, and how is its purpose best summarized?
 - What and where are some of the key definitions related to general precautions against fire?
 - How does the *Saudi Fire Code* deal with what might commonly be called *trash*? What are some of the specific requirements regarding types and amounts of materials?
 - Where can additional information and details be found about the regulation of motion picture projection and the use and storage of cellulose nitrate film?
 - How are bonfires and other types of open burning regulated in the *Saudi Fire Code*?
 - What are some of the uses of open flame that are regulated, and where can details be found?
 - What are the provisions regarding the storage, use and repair of forklifts?
 - In what areas is smoking prohibited, and how is this enforced?
 - Are there regulations for the maintenance of abandoned or vacant premises?
 - How are indoor displays of highly combustible materials and vehicles or boats regulated?
 - What are the requirements for indoor storage of combustible materials? Outdoor storage?
 - Which types of activities are regulated by Chapter 4 of the *Saudi Fire Code*?

KEY POINTS:
(Cont'd)

- What types of security devices are prohibited in a means of egress system?
- Under what circumstances is the fire code official authorized to require a fire watch or crowd managers?
- Which occupancy groups require the provision of a fire safety and evacuation plan?
- Which facilities are required to provide employees with training in fire emergency procedures?
- What are some of the more specific emergency planning requirements for certain uses and occupancies?
- Which uses are required to make an announcement regarding the location of exits?
- How often are emergency evacuation drills to be conducted in an assisted living facility?
- What is a lockdown plan, and how is it prepared and implemented?
- Which types of buildings require the preparation and maintenance of a lease plan?
- What is the scope of Chapter 5 of the SBC 801 and what types of issues does it regulate?
- When do required fire apparatus roads and water supplies need to be installed for a new building or development that is being constructed?
- Under what circumstance is a fire apparatus access road allowed to exceed 45 meters in length?
- When is the fire code official authorized to require the installation of a key box?
- Which *Saudi Fire Code* provision prohibits the installation of booby traps in buildings?
- How are fire-flow requirements for buildings and facilities to be determined?
- What is the required clear space around a fire hydrant?
- When is emergency responder radio coverage required?
- Which code section requires that rooms containing fire protection equipment be identified by readily visible signs?
- When are crowd managers required and what are their responsibilities?

Topic: Scope

Category: General Precautions

Reference: SBC 801-301.1

Subject: General

Code Text: *The provisions of this chapter shall govern the occupancy and maintenance of all structures and premises for precautions against fire and the spread of fire and general requirements of fire safety.*

Discussion and Commentary: There are a number of situations or activities that are widely known to either cause fires or exacerbate the spread of fires. As an example, the use of charcoal grills on balconies of apartment buildings that are constructed either partially or entirely of combustible materials has been the cause of countless fires that typically spread to the remainder of the building and threaten other occupants. The purpose of Chapter 3 is to identify common causes for the ignition and spread of fire, and to provide regulations to guard against them.

GENERAL REQUIREMENTS:

- **PERMITS** (required as listed in SBC 801 Sec. 105.6)
- **ASPHALT KETTLES** (transport, fuel containers, attendant, etc.)
- **COMBUSTIBLE WASTE MATERIAL** (trash, weeds, under bleachers, oily rags, containers, dumpsters, etc.)
- **IGNITION SOURCES** (clearances, hot ashes, flares, etc.)
- **MOTION PICTURE PROJECTION ROOMS** (See SBC 801 Sec. 306, NFPA 40, SBC 201 Sec. 409)
- **OPEN BURNING, RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES** (permits, prohibitions, clearances, attendance)
- **OPEN FLAMES** (cooking, candles, lanterns, heaters, candelabra, etc.)
- **POWERED INDUSTRIAL TRUCKS** (forklifts, etc.)
- **SMOKING** ("No Smoking" areas, signs, ash trays, discarding materials)
- **VACANT PREMISES** (abandoned, vacant, empty tenant spaces, fire protection and separations, removal of combustibles and hazardous materials, etc.)
- **FUELED EQUIPMENT** (motorcycles, lawn care, portable cooking)
- **INDOOR DISPLAYS** (unobstructed exits, fueled vehicle requirements)
- **ROOFTOP GARDENS AND LANDSCAPED ROOFS** (vegetation, fire fighting, etc.)
- **LAUNDRY CARTS** (combustibility, sprinkler protection, etc.)
- **HAZARDS TO FIRE FIGHTERS** (shafts, pits, rooftop obstructions, etc.)

VEHICLE IMPACT PROTECTION:

- Motor fuel dispensing, above-ground tanks, SBC 801 Sec. 2306.4
- LP-gas motor fuel-dispensing, above-ground tanks, SBC 801 Sec. 2307.6.4, 6109.13
- Compressed gas vaults, SBC 801 Sec. 5303.16.6
- Flammable & combustible liquid vaults, SBC 801 Sec. 5704.2.8.6
- Flammable & combustible liquids, above-ground tanks, SBC 801 Sec. 5704.2.9.6.5

MISCELLANEOUS COMBUSTIBLE MATERIALS STORAGE:

- In buildings (ceiling and sprinkler clearance, equipment rooms, etc.)
- Outdoors (distance to lot lines, maximum height, etc.)

NFPA Standard 550, Guide to the Fire Safety Concepts Tree, published by the National Fire Protection Association, is a good source for additional information regarding the prevention of fire ignition and the management of fire impacts.

Topic: Container Capacity Exceeding 0.15 m³

Category: General Requirements

Reference: SBC 801-304.3.2

Subject: Combustible Waste Materials

Code Text: *Containers with a capacity exceeding 0.15 m³ shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.*

Exceptions: Wastebaskets complying with Section 808.

Discussion and Commentary: Containers used for collecting soiled linens or waste material are commonly constructed of plastics, and these containers can represent a large fuel load inside of a building. The SBC 801 requires plastic containers be manufactured from resins that have a limited heat-release rate to ensure that the rate of fire development is controlled.



(Photograph courtesy of the Rubbermaid Corporation)

The SBC 801 also requires wastebaskets in Groups I-1, I-2 and I-3 occupancies to be noncombustible or have a heat-release rate of 300 kW/m² or less.

Topic: Where Prohibited

Category: General Requirements

Reference: SBC 801-308.1.1

Subject: Open Flames

Code Text: *A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.*

Discussion and Commentary: This section prohibits several different uses of open flames. Where an open flame is present, an ignition source is available. All that is necessary to create a dangerous situation is to provide the fire with more fuel. Thus, the provisions of SBC 801 Section 308 limit the amount of fuel that is available and keep the flames separated from the fuel sources.



This provision is intended to regulate a readily available ignition source.

Code Text: *Powered industrial trucks using liquid fuel, LP-gas or hydrogen shall be refueled outside of buildings or in areas specifically approved for that purpose. Fixed fuel-dispensing equipment and associated fueling operations shall be in accordance with Chapter 23. Other fuel-dispensing equipment and operations, including cylinder exchange for LP-gas-fueled vehicles, shall be in accordance with Chapter 57 for flammable and combustible liquids or Chapter 61 for LP-gas.*

Discussion and Commentary: Refueling of industrial trucks using LP-gas, compressed natural gas or conventional fuels such as gasoline or diesel fuel must comply with the requirements of Chapter 23. This is an important provision because of the hazards associated with the dispensing of fuels. SBC 801 Section 309.5 requires fueling of industrial trucks and equipment be performed outside of the building to minimize the hazards to the occupants, or in an area that has been approved for a refueling by the fire code official.



Forklifts operated inside this building are driven outside to replace the empty LP-gas cylinder with a full cylinder.