

## CHAPTER 33

# FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

### SECTION 3301 GENERAL

**3301.1 Scope.** This chapter shall apply to structures in the course of construction, *alteration* or demolition, including those in underground locations. Compliance with NFPA 241 is required for items not specifically addressed herein.

Construction, alteration and demolition of fixed guideway transit and passenger rail systems tunnels shall comply with NFPA 130 as amended and WAC 296-155, Part Q, Underground Construction.

#### **3301.1(A) Point of Information**

Adopted local amendments to NFPA130 can be accessed at:

<http://www.seattle.gov/fire/FMO/firecode/nfpaAmendments.htm>

Construction, alteration and demolition of road tunnels shall comply with NFPA 502 as amended and WAC 296-155, Part Q, Underground Construction.

#### **3301.1(B) Point of Information**

Adopted local amendments to NFPA 502 can be accessed at:

<http://www.seattle.gov/fire/FMO/firecode/nfpaAmendments.htm>

**3301.2 Purpose.** This chapter prescribes minimum safeguards for construction, *alteration* and demolition operations to provide reasonable safety to life and property from fire during such operations.

### SECTION 3302 DEFINITIONS

**3302.1 Terms defined in Chapter 2.** Words and terms used in this chapter and defined in Chapter 2 shall have the meanings ascribed to them as defined therein.

### SECTION 3303 TEMPORARY HEATING EQUIPMENT

**3303.1 Listed.** Temporary heating devices shall be *listed* and *labeled* in accordance with the *International Mechanical Code* or the *International Fuel Gas Code*. Installation, maintenance and use of temporary heating devices shall be in accordance with the terms of the listing.

**3303.2 Oil-fired heaters.** Oil-fired heaters shall comply with Section 603.

**3303.3 LP-gas heaters.** Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 61 and the *International Fuel Gas Code*.

**3303.4 Refueling.** Refueling operations for liquid-fueled equipment or appliances shall be conducted in accordance with Section 5705. The equipment or appliance shall be allowed to cool prior to refueling.

**3303.5 Installation.** Clearance to combustibles from temporary heating devices shall be maintained in accordance with the *labeled* equipment. When in operation, temporary heating devices shall be fixed in place and protected from damage, dislodgement or overturning in accordance with the manufacturer's instructions.

**3303.6 Supervision.** The use of temporary heating devices shall be supervised and maintained only by competent personnel.

### SECTION 3304 PRECAUTIONS AGAINST FIRE

**3304.1 Smoking.** Smoking shall be prohibited except in *approved* areas. Signs shall be posted in accordance with Section 310. In *approved* areas where smoking is permitted, *approved* ashtrays shall be provided in accordance with Section 310.

**3304.2 Waste disposal.** Combustible debris shall not be accumulated within buildings. Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless *approved*.

**3304.3 Open burning.** *Open burning* shall comply with Section 307.

**3304.4 Spontaneous ignition.** Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a *listed* disposal container.

**3304.5 Fire watch.** When required by the *fire code official* for building demolition, or building construction during working hours that is hazardous in nature, qualified personnel shall be provided to serve as an on-site fire watch. Fire watch personnel shall be provided with at least one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.

**3304.6 Hot work** (~~Cutting and welding~~). Operations involving hot work (~~(the use of cutting and welding)~~) shall be done in accordance with Chapter 35.

**3304.7 Electrical.** Temporary wiring for electrical power and lighting installations used in connection with the construction, *alteration* or demolition of buildings, structures, equipment or similar activities shall comply with NFPA 70.

**SECTION 3305  
FLAMMABLE AND COMBUSTIBLE LIQUIDS**

**3305.1 Storage of flammable and combustible liquids.** Storage of flammable and *combustible liquids* shall be in accordance with Section 5704.

**3305.2 Class I and Class II liquids.** The storage, use and handling of flammable and *combustible liquids* at construction sites shall be in accordance with Section 5706.2. Ventilation shall be provided for operations involving the application of materials containing flammable solvents.

**3305.3 Housekeeping.** Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste materials. Such storage areas shall not be used for the storage of combustible materials.

**3305.4 Precautions against fire.** Sources of ignition and smoking shall be prohibited in flammable and *combustible liquid* storage areas. Signs shall be posted in accordance with Section 310.

**3305.5 Handling at point of final use.** Class I and II liquids shall be kept in *approved* safety containers.

**3305.6 Leakage and spills.** Leaking vessels shall be immediately repaired or taken out of service and spills shall be cleaned up and disposed of properly.

**SECTION 3306  
FLAMMABLE GASES**

**3306.1 Storage and handling.** The storage, use and handling of flammable gases shall comply with Chapter 58.

**SECTION 3307  
EXPLOSIVE MATERIALS**

**3307.1 Storage and handling.** *Explosive* materials shall be stored, used and handled in accordance with Chapter 56.

**3307.2 Supervision.** Blasting operations shall be conducted in accordance with Chapter 56.

**3307.3 Demolition using explosives.** *Approved* fire hoses for use by demolition personnel shall be maintained at the demolition site whenever *explosives* are used for demolition. Such fire hoses shall be connected to an *approved* water supply and shall be capable of being brought to bear on post-*detonation* fires anywhere on the site of the demolition operation.

**SECTION 3308  
OWNER'S RESPONSIBILITY  
FOR FIRE PROTECTION**

**3308.1 Program superintendent.** The *owner* shall designate a person to be the fire prevention program superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of this chapter and other

provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.

**3308.2 Prefire plans.** The fire prevention program superintendent shall develop and maintain an *approved* prefire plan in cooperation with the fire chief. The fire chief and the *fire code official* shall be notified of changes affecting the utilization of information contained in such prefire plans.

**3308.3 Training.** Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

**3308.4 Fire protection devices.** The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with this code. The quantity and type of fire protection equipment shall be *approved*.

**3308.5 Hot work operations.** The fire prevention program superintendent shall be responsible for supervising the permit system for hot work operations in accordance with Chapter 35.

**3308.6 Impairment of fire protection systems.** Impairments to any *fire protection system* shall be in accordance with Section 901.

**3308.7 Temporary covering of fire protection devices.** Coverings placed on or over fire protection devices to protect them from damage during construction processes shall be immediately removed upon the completion of the construction processes in the room or area in which the devices are installed.

**SECTION 3309  
FIRE REPORTING**

**3309.1 Emergency telephone.** Readily accessible emergency telephone facilities shall be provided in an *approved* location at the construction site. The street address of the construction site and the emergency telephone number of the fire department shall be posted adjacent to the telephone.

**SECTION 3310  
ACCESS FOR FIRE FIGHTING**

**3310.1 Required access.** *Approved* vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

**3310.2 Key boxes.** Key boxes shall be provided as required by Chapter 5.

**SECTION 3311  
MEANS OF EGRESS**

**[B] 3311.1 Stairways required.** Where a building has been constructed to a *building height* of 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in *building height* is altered, at least one temporary lighted *stairway* shall be provided unless one or more of the permanent *stairways* are erected as the construction progresses.

**3311.2 Maintenance.** Required *means of egress* shall be maintained during construction and demolition, remodeling or *alterations* and additions to any building.

**Exception:** *Approved* temporary *means of egress* systems and facilities.

**SECTION 3312  
WATER SUPPLY FOR FIRE PROTECTION**

**3312.1 When required.** An *approved* water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site.

**SECTION 3313  
STANDPIPES**

**3313.1 Where required.** In buildings required to have standpipes by Section 905.3.1, not less than one standpipe shall be provided for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department vehicle access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

**3313.2 Buildings being demolished.** Where a building is being demolished and a standpipe is existing within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.

**3313.3 Detailed requirements.** Standpipes shall be installed in accordance with the provisions of Section 905.

**Exception:** Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes comply with the requirements of Section 905 as to capacity, outlets and materials.

**SECTION 3314  
AUTOMATIC SPRINKLER SYSTEM**

**3314.1 Completion before occupancy.** In buildings where an *automatic sprinkler system* is required by this code or the *International Building Code*, it shall be unlawful to occupy

any portion of a building or structure until the *automatic sprinkler system* installation has been tested and *approved*, except as provided in Section 105.3.4.

**3314.2 Operation of valves.** Operation of sprinkler control valves shall be allowed only by properly authorized personnel and shall be accompanied by notification of duly designated parties. When the sprinkler protection is being regularly turned off and on to facilitate connection of newly completed segments, the sprinkler control valves shall be checked at the end of each work period to ascertain that protection is in service.

**SECTION 3315  
PORTABLE FIRE EXTINGUISHERS**

**3315.1 Where required.** Structures under construction, *alteration* or demolition shall be provided with not less than one *approved* portable fire extinguisher in accordance with Section 906 and sized for not less than ordinary hazard as follows:

1. At each *stairway* on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and *combustible liquids*.

**SECTION 3316  
MOTORIZED CONSTRUCTION EQUIPMENT**

**3316.1 Conditions of use.** Internal-combustion-powered construction equipment shall be used in accordance with all of the following conditions:

1. Equipment shall be located so that exhausts do not discharge against combustible material.
2. Exhausts shall be piped to the outside of the building.
3. Equipment shall not be refueled while in operation.
4. Fuel for equipment shall be stored in an *approved* area outside of the building.

**SECTION 3317  
SAFEGUARDING ROOFING OPERATIONS**

**3317.1 General.** Roofing operations utilizing heat-producing systems or other ignition sources shall be conducted in accordance with Sections 3317.2 and 3317.3 and Chapter 35.

**3317.2 Asphalt and tar kettles.** Asphalt and tar kettles shall be operated in accordance with Section 303.

**3317.3 Fire extinguishers for roofing operations.** Fire extinguishers shall comply with Section 906. There shall be not less than one multipurpose portable fire extinguisher with a minimum 3-A 40-B:C rating on the roof being covered or repaired.

