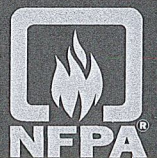
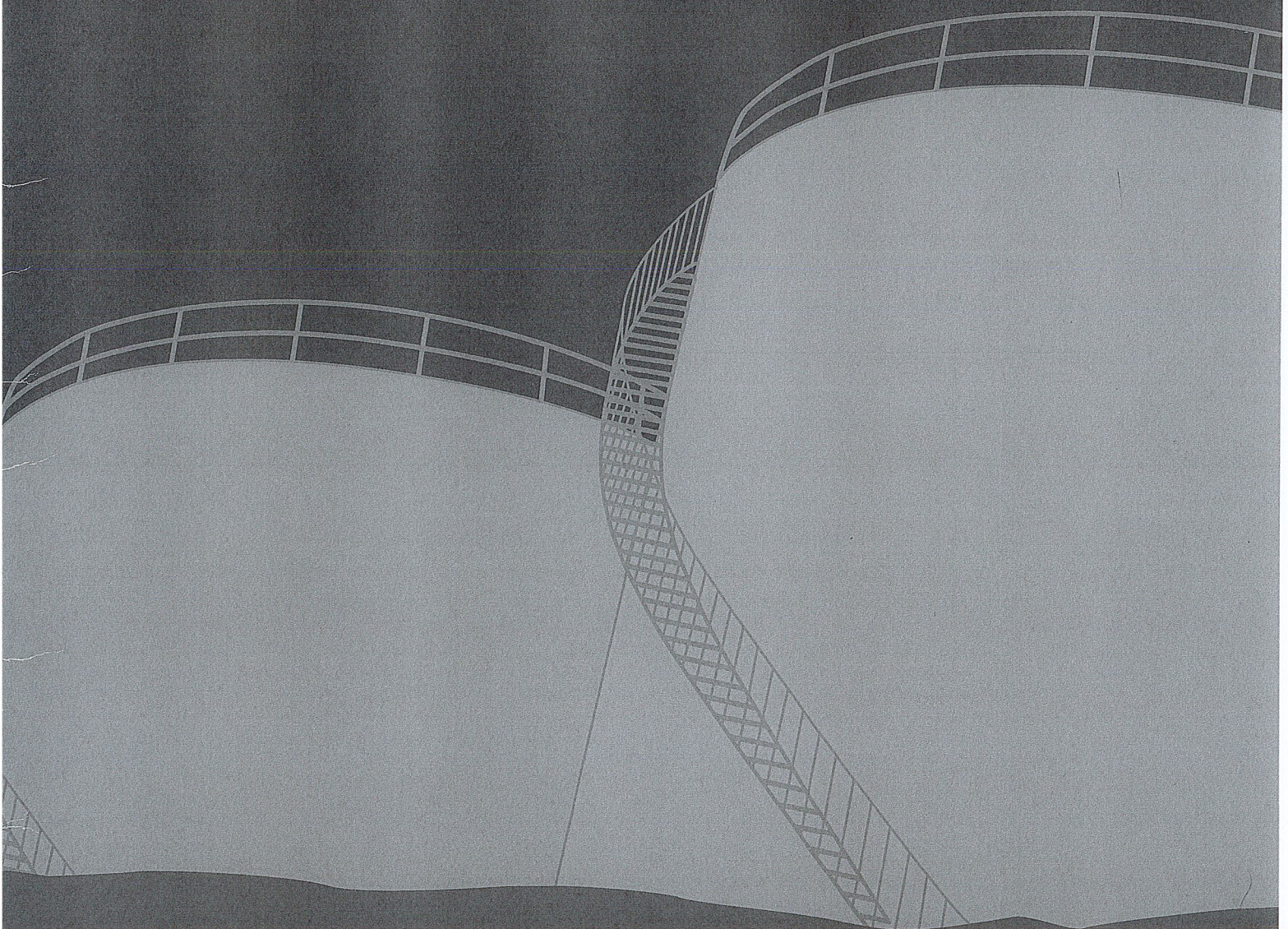


NFPA[®] 30A

**Code for Motor Fuel
Dispensing Facilities and
Repair Garages**

2008 EDITION



1.7.3.2 Combustible liquids shall be classified in accordance with the following: (1) Class II Liquid — Any liquid that has a flash point at or above 100°F (37.8°C) and below 140°F (60°C). (2) Class III Liquid — Any liquid that has a flash point at or above 140°F (60°C) (a) Class IIIA Liquid — Any liquid that has a flash point at or above 140°F (60°C), but below 200°F (93°C). (b) Class IIIB Liquid — Any liquid that has a flash point at or above 200°F (93°C). [30:4.3.2]

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this code and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2007 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2007 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2007 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2008 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment*, 2006 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials*, 2007 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2007 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 2003 edition.

NFPA 52, *Vehicular Fuel Systems Code*, 2006 edition.

NFPA 54, *National Fuel Gas Code*, 2006 edition.

NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*, 2005 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2008 edition.

NFPA 70, *National Electrical Code*[®], 2008 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2007 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*, 2004 edition.

NFPA 85, *Boiler and Combustion Systems Hazards Code*, 2007 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2007 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2002 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*, 2004 edition.

NFPA 101[®], *Life Safety Code*[®], 2006 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances*, 2006 edition.

NFPA 220, *Standard on Types of Building Construction*, 2006 edition.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, 2006 edition.

NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*, 2005 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, 2007 edition.

2.3 Other Publications.

2.3.1 API Publications. American Petroleum Institute, 1220 L Street, N.W., Washington, DC 20005-4070.

API 607, *Fire Test for Soft-Seated Quarter-Turn Valves*, 4th edition.

2.3.2 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D 5, *Standard Method of Test for Penetration of Bituminous Materials*, 1997.

ASTM D 323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*, 1999.

2.3.3 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 87, *Standard for Power-Operated Dispensing Devices for Petroleum Products*, 2001.

UL 842, *Standard for Valves for Flammable Fluids*, 1999.

UL 2080, *Standard for Fire Resistant Tanks for Flammable and Combustible Liquids*, 2000.

UL 2085, *Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids*, 1997, Revised December 1999.

UL 2245, *Standard for Below-Grade Vaults for Flammable Liquid Storage Tanks*, 1999.

2.3.4 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 30, *Flammable and Combustible Liquids Code*, 2008 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2006 edition.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this code. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3* Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.3 General Definitions.

3.3.1 Basement. Story of a building wholly below grade or partly below and partly above grade, located so that the vertical distance from grade to the floor below is greater than the vertical distance from grade to the floor above. [5000, 2006]

3.3.2 Bulk Plant or Terminal. That portion of a property where liquids are received by tank vessel, pipeline, tank car, or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank, or container.

3.3.3 Closed Container. A container as herein defined, so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures.

3.3.4 Combustible Liquid. See 3.3.9.1.

3.3.5* Container. Any vessel of 450 L (119 gal) or less capacity used for transporting or storing liquids. [30, 2008]

3.3.6* Dispensing Device, Overhead Type. A dispensing device that consists of one or more individual units intended for installation in conjunction with each other, mounted above a dispensing area typically within the service station canopy structure, and characterized by the use of an overhead hose reel.

3.3.7 Flammable Liquid. See 3.3.9.2.

3.3.8 Gas. A material that has a vapor pressure greater than 300 kPa absolute (43.5 psia) at 50°C (122°F) or is completely gaseous at 20°C (68°F) at a standard pressure of 101.3 kPa absolute (14.7 psia).

3.3.9* Liquid. Any material that (1) has a fluidity greater than that of 300 penetration asphalt when tested in accordance with ASTM D 5, *Standard Method of Test for Penetration of Bituminous Materials* or (2) is a viscous substance for which a specific melting point cannot be determined but that is determined to be a liquid in accordance with ASTM D 4359, *Standard Test for Determining Whether a Material is a Liquid or a Solid*. [30, 2008]

3.3.9.1* Combustible Liquid. Any liquid that has a closed-cup flash point at or above 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 1.7.

3.3.9.2* Flammable Liquid. Any liquid that has a closed-cup flash point below 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 1.7.

3.3.9.3 Flammable Liquid Classification.

3.3.9.3.1 Flammable Liquid Class I. Any liquid that has a closed-cup flash point below 100°F (37.8°C) and a Reid vapor pressure not exceeding an absolute pressure of 40 psi (276 kPa) at 100°F (37.8°C), as determined by ASTM D 323, *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)*. Flammable liquids are classified according to Section 1.7.

3.3.10 Low Melting Point Materials. Ductile materials such as aluminum, copper, and brass, nonductile materials such as cast

iron, and rigid and nonrigid polymeric materials such as plastic and fiberglass-reinforced plastic that soften on exposure to fire and that are partially or completely consumed by fire.

3.3.11 Motor Fuel Dispensing Facility. That portion of a property where motor fuels are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles or marine craft or into approved containers, including all equipment used in connection therewith.

3.3.11.1 Attended Self-Service Motor Fuel Dispensing Facility. A motor fuel dispensing facility that has an attendant or employee on duty whenever the facility is open for business. The attendant or employee on duty does not typically dispense motor fuels into fuel tanks or containers. The customer or vehicle operator usually conducts the dispensing.

3.3.11.2 Fleet Vehicle Motor Fuel Dispensing Facility. A motor fuel dispensing facility at a commercial, industrial, governmental, or manufacturing property where motor fuels are dispensed into the fuel tanks of motor vehicles that are used in connection with the business or operation of that property by persons within the employ of such business or operation.

3.3.11.3 Full-Service Motor Fuel Dispensing Facility. A motor fuel dispensing facility that has one or more attendants or supervisors on duty to dispense motor fuels into fuel tanks or containers whenever the facility is open for business.

3.3.11.4 Marine Motor Fuel Dispensing Facility. A motor fuel dispensing facility at or adjacent to shore, a pier, a wharf, or a floating dock where motor fuels are dispensed into the fuel tanks of marine craft.

3.3.11.5* Motor Fuel Dispensing Facility Located Inside a Building. That portion of a motor fuel dispensing facility located within the perimeter of a building or building structure that also contains other occupancies.

3.3.11.6 Unattended Self-Service Motor Fuel Dispensing Facility. A motor fuel dispensing facility that has no attendant or employee on duty. The customer or vehicle operator conducts the dispensing operation. This includes coin, currency, membership card, and credit card dispensing operations.

3.3.12 Repair Garages.

3.3.12.1 Major Repair Garage. A building or portions of a building where major repairs, such as engine overhauls, painting, body and fender work, and repairs that require draining of the motor vehicle fuel tank are performed on motor vehicles, including associated floor space used for offices, parking, or showrooms.

3.3.12.2 Minor Repair Garage. A building or portions of a building used for lubrication, inspection, and minor automotive maintenance work, such as engine tune-ups, replacement of parts, fluid changes (e.g., oil, antifreeze, transmission fluid, brake fluid, air conditioning refrigerants, etc.), brake system repairs, tire rotation, and similar routine maintenance work, including associated floor space used for offices, parking, or showrooms.

3.3.13 Safety Can. A listed container, of not more than 20 L (5.3 gal) capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

3.3.14 Submersible Pump. A pump that is located inside a storage tank and positioned near the bottom of the tank, below the liquid level.

6.5.3 Where hose are attached to a hose-retrieving mechanism, the listed emergency breakaway device shall be installed between the point of attachment of the hose-retrieving mechanism to the hose and the hose nozzle valve.

Exception: Such devices shall not be required at marine motor fuel dispensing facilities.

6.6 Requirements for Fuel Delivery Nozzles.

6.6.1 An automatic-closing-type hose nozzle valve, listed in accordance with UL 842, *Standard for Valves for Flammable Fluids*, with or without latch-open device, shall be provided on island-type dispensing devices used to dispense Class I or Class II liquids.

6.6.2* At any installation where the normal flow of product may be stopped other than by the hose nozzle valve, the system shall include listed equipment with a feature that causes or requires the closing of the hose nozzle valve before product flow can be resumed or before the hose nozzle valve can be replaced in its normal position in the dispenser.

6.6.3 Overhead-type dispensing devices shall be provided with a listed, automatic-closing-type hose nozzle valve without a latch-open device.

Exception: A listed, automatic-closing-type hose nozzle valve with latch-open device shall be permitted to be used if the hose nozzle valve will close automatically in the event the valve is released from a fill opening or upon impact.

6.6.4 Dispensing nozzles used at marine motor fuel dispensing facilities shall be of the automatic-closing type without a latch-open device.

6.7 Emergency Electrical Disconnects. Fuel dispensing systems shall be provided with one or more clearly identified emergency shutoff devices or electrical disconnects. Such devices or disconnects shall be installed in approved locations but not less than 6 m (20 ft) or more than 30 m (100 ft) from the fuel dispensing devices that they serve. Emergency shutoff devices or electrical disconnects shall disconnect power to all dispensing devices; to all remote pumps serving the dispensing devices; to all associated power, control, and signal circuits; and to all other electrical equipment in the hazardous (classified) locations surrounding the fuel dispensing devices. When more than one emergency shutoff device or electrical disconnect is provided, all devices shall be interconnected. Resetting from an emergency shutoff condition shall require manual intervention and the manner of resetting shall be approved by the authority having jurisdiction.

Exception: Intrinsically safe electrical equipment need not meet this requirement.

6.7.1 At attended motor fuel dispensing facilities, the devices or disconnects shall be readily accessible to the attendant.

6.7.2 At unattended motor fuel dispensing facilities, the devices or disconnects shall be readily accessible to patrons and at least one additional device or disconnect shall be readily accessible to each group of dispensing devices on an individual island.

6.8 Vapor Recovery Systems.

6.8.1 Dispensing devices that incorporate vapor recovery shall be listed.

6.8.2 Hose nozzle valves used on vapor recovery systems shall be listed for the purpose.

6.8.3 Means shall be provided in the vapor return path from each dispensing outlet to prevent the discharge of vapors when the hose nozzle valve is in its normal nondispensing position.

Chapter 7 Building Construction Requirements

7.1 Scope. This chapter shall apply to the construction of buildings and portions of buildings that are motor fuel dispensing facilities or repair garages.

7.2 General Requirements. (Reserved)

7.3 Motor Fuel Dispensing Facilities.

7.3.1 Occupancy Classification. The occupancy classification of a motor fuel dispensing facility that is located inside a building or structure shall be a low hazard industrial occupancy as defined in NFPA 101, *Life Safety Code*.

7.3.2 General Construction Requirements. (Reserved)

7.3.3 Means of Egress. In a motor fuel dispensing facility that is located inside a building or structure, the required number, location, and construction of means of egress shall meet all applicable requirements for special purpose industrial occupancies, as set forth in NFPA 101, *Life Safety Code*.

7.3.4 Drainage. Where Class I or Class II liquids are dispensed, provisions shall be made to prevent spilled liquids from flowing into the interior of buildings. Such provisions shall be made by grading driveways, raising door sills, or other equally effective means.

7.3.5 Fixed Fire Protection.

7.3.5.1* For an unattended, self-serve, motor fuel dispensing facility, additional fire protection shall be provided where required by the authority having jurisdiction.

7.3.5.2 Where required, an automatic fire suppression system shall be installed in accordance with the appropriate NFPA standard, manufacturers' instructions, and the listing requirements of the systems.

7.3.6 Fuel Dispensing Areas Inside Buildings.

7.3.6.1 The fuel dispensing area shall be separated from all other portions of the building by walls, partitions, floors, and floor-ceiling assemblies having a fire resistance rating of not less than 2 hours.

7.3.6.2 Interior finish shall be of noncombustible materials or of approved limited-combustible materials, as defined in NFPA 220, *Standard on Types of Building Construction*.

7.3.6.3 Door and window openings in fire-rated interior walls shall be provided with listed fire doors having a fire protection rating of not less than 1½ hours. Doors shall be self-closing. They shall be permitted to remain open during normal operations if they are designed to close automatically in a fire emergency by means of listed closure devices. Fire doors shall be installed in accordance with NFPA 80, *Standard for Fire Doors and Other Opening Protectives*. They shall be kept unobstructed at all times.

7.3.6.4 Openings for ducts in fire-rated interior partitions and walls shall be protected by listed fire dampers. Openings for ducts in fire-rated floor or floor-ceiling assemblies shall be protected with enclosed shafts. Enclosure of shafts shall be with wall or partition assemblies having a fire resistance rating

of not less than 2 hours. Openings for ducts into enclosed shafts shall be protected with listed fire dampers.

7.3.6.5 The fuel dispensing area shall be located at street level, with no dispenser located more than 15 m (50 ft) from the vehicle exit to, or entrance from, the outside of the building.

7.3.6.6 The fuel dispensing area shall be limited to that required to serve not more than four vehicles at one time.

Exception: At a fleet vehicle motor fuel dispensing facility inside a building, where only Class II and Class III liquids are dispensed, the number of vehicles serviced at any one time shall be permitted to be increased to 12.

7.3.6.7* A mechanical exhaust system that serves only the fuel dispensing area shall be provided. This system shall meet all of the following requirements:

- (1) The system shall be interlocked with the dispensing system so that airflow is established before any dispensing device can operate. Failure of airflow shall automatically shut down the dispensing system.
- (2) The exhaust system shall be designed to provide air movement across all portions of the floor of the fuel dispensing area and to prevent the flowing of ignitable vapors beyond the dispensing area.
- (3) Exhaust inlet ducts shall not be less than 76 mm (3 in.) or more than 305 mm (12 in.) above the floor. Exhaust ducts shall not be located in floors or penetrate the floor of the dispensing area. Exhaust ducts shall discharge to a safe location outside the building.
- (4) The exhaust system shall provide ventilation at a rate of not less than $0.3 \text{ m}^3/\text{min}/\text{m}^2$ ($1 \text{ ft}^3/\text{min}/\text{ft}^2$) of floor area, based on the fuel dispensing area.
- (5) The exhaust system shall meet all applicable requirements of NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*.

Exception: The provisions of 7.3.6.7 shall not apply to a fuel dispensing area located inside a building if two or more sides of the dispensing area are open to the building exterior.

7.3.6.8 The floor of the dispensing area shall be liquidtight. Where Class I liquids are dispensed, provisions shall be made to prevent spilled liquids from flowing out of the fuel dispensing area and into other areas of the building by means of curbs, scuppers, special drainage systems, or other means acceptable to the authority having jurisdiction.

7.3.6.9* Oil drainage systems shall be equipped with approved oil/water traps or separators if they connect to public sewers or discharge into public waterways.

7.4 Repair Garages.

7.4.1 Occupancy Classification. The occupancy classification of a repair garage shall be a special purpose industrial occupancy as defined in NFPA 101, *Life Safety Code*.

7.4.2 General Construction Requirements. In major repair garages, where CNG-fueled vehicles, hydrogen-fueled vehicles, LNG-fueled vehicles, or LP-Gas-fueled vehicles are repaired, all applicable requirements of NFPA 52, *Vehicular Fuel Systems Code*, or NFPA 58, *Liquefied Petroleum Gas Code*, whichever is applicable, shall be met.

7.4.3 Means of Egress. In a repair garage, the required number, location, and construction of means of egress shall meet all applicable requirements for special purpose industrial occupancies, as set forth in NFPA 101, *Life Safety Code*.

7.4.4 Drainage. In areas of repair garages used for repair or servicing of vehicles, floor assemblies shall be constructed of non-combustible materials or, if combustible materials are used in the assembly, they shall be surfaced with approved, nonabsorbent, noncombustible material.

*Exception: Slip-resistant, nonabsorbent, interior floor finishes having a critical radiant flux not more than $0.45 \text{ W}/\text{cm}^2$ ($9.87 \text{ Btu}/\text{in}^2$), as determined by NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, shall be permitted.*

7.4.4.1 Floors shall be liquidtight to prevent the leakage or seepage of liquids and shall be sloped to facilitate the movement of water, fuel, or other liquids to floor drains.

7.4.4.2 In areas of repair garages where vehicles are serviced, any floor drains shall be properly trapped and shall discharge through an oil/water separator to the sewer or to an outside vented sump.

7.4.5 Pits, Belowgrade Work Areas, and Subfloor Work Areas.

7.4.5.1 Pits, belowgrade work areas, and subfloor work areas used for lubrication, inspection, and minor automotive maintenance work shall comply with the provisions of this chapter, in addition to other applicable requirements of this code.

7.4.5.2 Walls, floors, and structural supports shall be constructed of masonry, concrete, steel, or other approved non-combustible materials.

7.4.5.3 In pits, belowgrade work areas, and subfloor work areas, the required number, location, and construction of means of egress shall meet the requirements for special purpose industrial occupancies in Chapter 40 of NFPA 101, *Life Safety Code*.

7.4.5.4 Pits, belowgrade work areas, and subfloor work areas shall be provided with exhaust ventilation at a rate of not less than $0.3 \text{ m}^3/\text{min}/\text{m}^2$ ($1 \text{ ft}^3/\text{min}/\text{ft}^2$) of floor area at all times that the building is occupied or when vehicles are parked in or over these areas. Exhaust air shall be taken from a point within 0.3 m (12 in.) of the floor.

7.4.6 Fixed Fire Protection. Automatic sprinkler protection installed in accordance with the requirements of NFPA 13, *Standard for the Installation of Sprinkler Systems*, shall be provided in major repair garages, as herein defined, when any of the following conditions exist:

- (1) The major repair garage is two or more stories in height, including basements, and any one of the floors exceeds 930 m^2 ($10,000 \text{ ft}^2$).
- (2) The major repair garage is one story and exceeds 1115 m^2 ($12,000 \text{ ft}^2$).
- (3) The major repair garage is servicing vehicles parked in the basement of the building.

7.4.7 Gas Detection System. Repair garages used for repair of vehicle engine fuel systems fueled by non-odorized gases, such as hydrogen and non-odorized LNG/CNG, shall be provided with an approved flammable gas detection system.

7.4.7.1 System Design. The flammable gas detection system shall be calibrated to the types of fuels or gases used by vehicles to be repaired. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL). Gas detection shall also be provided in lubrication or chassis repair pits of repair garages used for repairing non-odorized LNG/CNG-fueled vehicles.

7.4.7.2 Operation. Activation of the gas detection system shall result in all of the following:

- (1) Initiation of distinct audible and visual alarm signals in the repair garage
- (2) Deactivation of all heating systems located in the repair garage
- (3) Activation of the mechanical ventilation system, when the system is interlocked with gas detection

7.4.7.3 Failure of the Gas Detection System. Failure of the gas detection system shall result in the deactivation of the heating system and activation of the mechanical ventilation system and, where the ventilation system is interlocked with gas detection, shall cause a trouble signal to sound in an approved location.

7.5* Heating, Ventilating, and Air-Conditioning.

7.5.1* Forced air heating, air-conditioning, and ventilating systems serving a fuel dispensing area inside a building or a repair garage shall not be interconnected with any such systems serving other occupancies in the building. Such systems shall be installed in accordance with NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*.

7.5.2 Return air openings in areas of repair garages used for the repair or servicing of vehicles or in a fuel dispensing area shall be not less than 455 mm (18 in.) above floor level measured to the bottom of the openings.

7.5.3 Combined ventilation and heating systems shall not recirculate air from areas that are below grade level.

7.5.4 Exhaust duct openings shall be located so that they effectively remove vapor accumulations at floor level from all parts of the floor area.

7.6 Heat-Producing Appliances.

7.6.1 Heat-producing appliances shall be installed in accordance with the requirements of Section 7.6. They shall be permitted to be installed in the conventional manner except as provided in Section 7.6.

7.6.2 Heat-producing appliances shall be of an approved type. Solid fuel stoves, improvised furnaces, salamanders, or space heaters shall not be permitted in areas of repair garages used for repairing or servicing of vehicles or in a fuel dispensing area.

Exception No. 1: Unit heaters, when installed in accordance with this chapter, need not meet this requirement.

Exception No. 2: Heat-producing equipment for any lubrication room or service room where there is no dispensing or transferring of Class I or Class II liquids or LP-Gas, when installed in accordance with this chapter, need not meet this requirement.

7.6.3 Heat-producing appliances shall be permitted to be installed in a special room that is separated from areas that are classified as Division 1 or Division 2, in accordance with Chapter 8, by walls that are constructed to prevent the transmission of vapors, that have a fire resistance rating of at least 1 hour, and that have no openings in the walls that lead to a classified area within 2.4 m (8 ft) of the floor. Specific small openings through the wall, such as for piping and electrical conduit, shall be permitted, provided the gaps and voids are filled with a fire-resistant material to resist transmission of vapors. All air for combustion purposes shall be taken from outside the building. This room shall not be used for storage of combustible materials, except for fuel storage as permitted by the standards referenced in 7.6.9.

7.6.4 Heat-producing appliances using gas or oil fuel shall be permitted to be installed in a lubrication or service room where there is no dispensing or transferring of Class I liquids, including the open draining of automotive gasoline tanks, provided the bottom of the combustion chamber is at least 455 mm (18 in.) above the floor and the appliances are protected from physical damage.

7.6.5 Heat-producing appliances using gas or oil fuel listed for use in garages shall be permitted to be installed in lubrication rooms, service rooms, or fuel dispensing areas where Class I liquids are dispensed or transferred, provided the equipment is installed at least 2.4 m (8 ft) above the floor.

7.6.6* Where major repairs are conducted on CNG-fueled vehicles or LNG-fueled vehicles, open flame heaters or heating equipment with exposed surfaces having a temperature in excess of 399°C (750°F) shall not be permitted in areas subject to ignitable concentrations of gas.

7.6.7 Electrical heat-producing appliances shall meet the requirements of Chapter 8.

7.6.8 Fuels used shall be of the type and quality specified by the manufacturer of the heating appliance. Crankcase drainings shall not be used in oil-fired appliances, unless the appliances are specifically approved for such use.

7.6.9 Heat-producing appliances shall be installed to meet the requirements of NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; NFPA 54, *National Fuel Gas Code*; NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*; NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*; and NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances*, as applicable, except as hereinafter specifically provided.

7.7* Dynamic Automotive Emissions Testing Equipment. Equipment for the testing of vehicle emissions shall be approved or listed for its intended use and shall comply with the electrical classification for the area in which the equipment is installed.

Chapter 8 Electrical Installations

8.1 Scope. This chapter shall apply to the installation of electrical wiring and electrical utilization equipment in areas where liquids are stored, handled, or dispensed.

8.2 General Requirements. Electrical wiring and electrical utilization equipment shall be of a type specified by and shall be installed in accordance with NFPA 70, *National Electrical Code*. Electrical wiring and electrical utilization equipment shall be approved for the locations in which they are installed.

8.2.1* In major repair garages where CNG vehicles are repaired or stored, the area within 455 mm (18 in.) of the ceiling shall be designated a Class I, Division 2 hazardous (classified) location.

Exception: In major repair garages, where ventilation equal to not less than four air changes per hour is provided, this requirement shall not apply.

8.3 Installation in Classified Locations.

8.3.1* Table 8.3.1 shall be used to delineate and classify areas for the purposes of installing electrical wiring and electrical utilization equipment. (See also Figure 8.3.1.)