NFPA® 30A

Code for Motor Fuel Dispensing Facilities and Repair Garages

2024 Edition

NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization

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NFPA® 30A

Code for

Motor Fuel Dispensing Facilities and Repair Garages

2024 Edition

This edition of NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, was prepared by the Technical Committee on Automotive and Marine Service Stations and acted on by the NFPA membership during the 2023 NFPA Technical Meeting held June 22. It was issued by the Standards Council on August 25, 2023, with an effective date of September 14, 2023, and supersedes all previous editions.

This edition of NFPA 30A was approved as an American National Standard on September 14, 2023.

Origin and Development of NFPA 30A

This code originated as Chapter 7 of NFPA 30, *Flammable and Combustible Liquids Code*, and was developed by the Technical Committee on Flammable and Combustible Liquids to provide more detailed requirements for vehicle fueling and to anticipate the need to address self-service fueling and alternative fuels. It was first adopted in 1984.

The 1987 edition recognized unattended self-service fueling. The 1990 edition was prepared by the new Technical Committee on Automotive and Marine Service Stations and incorporated requirements for lubrication-only service facilities. The 1993 edition allowed aboveground fuel storage tanks at retail motor fuel dispensing facilities.

Significant revisions for the 1996 edition included a new chapter on marine motor fuel dispensing facilities, a new section on low-melting-point piping materials, and an increase in the maximum allowable aboveground fuel storage for Class II liquids (i.e., diesel fuel) at fleet refueling operations.

After the adoption of the 1996 edition, the Technical Committee on Automotive and Marine Service Stations was given responsibility for NFPA 88B, *Standard for Repair Garages*, and integrated its technical requirements into NFPA 30A. The committee was also charged with developing fire safety requirements for alternative fuels, such as compressed natural gas (CNG), when they are dispensed along with liquid fuels.

Major updates to the 2000 edition included revisions to minimum separation distances for aboveground storage tanks and establishing requirements for protected aboveground tanks, tanks and piping corrosion protection, and piping systems installation and testing. A new chapter established requirements for CNG, liquefied natural gas (LNG), and liquefied petroleum gas (LP-Gas).

The 2003 edition added Chapter 13, Farms and Remote Sites, which incorporated the requirements of NFPA 395, *Standard for the Storage of Flammable and Combustible Liquids at Farms and Isolated Sites*, which had been withdrawn in 2002.

For the 2008 edition all the technical specifications for tanks were removed and replaced by references to NFPA 30, *Flammable and Combustible Liquids Code*.

Significant changes to the 2012 edition included new requirements to address inspection, maintenance, and repair of fuel dispensing equipment, leak detection equipment, and secondary containment equipment. Extensive revisions were made to Chapter 8, Electrical Installations, which included adding a new area classification table with Zone system criteria, revising the drawing depicting the extent of area classification around fuel dispensing units, and adding a new diagram depicting the extent of area classification around tank-mounted fuel dispensing units.

Revisions for the 2015 edition clarified the code's scope statement, indicating that it applies to repair garages but not to aircraft fueling. Chapter 12 was revised to correlate the code with the source codes for the various alternative fuels (hydrogen, CNG, LNG, and LP-Gas).

Significant changes to the 2018 edition included a revision of the scope statement and the addition of a new chapter to include on-demand mobile fueling. In addition, a revision was made to change single-poppet type emergency shutoff valves to double-poppet-type emergency shutoff valves for pressurized liquid dispensing devices. The revisions also included adding requirements for leak detection devices to restrict or shut off fuel flow in remote/submersible pumps and for the mechanical or electrical isolation of fluid handling systems — other than fuel — when the emergency shutoff device is actuated. Major repair garages servicing hydrogen-fueled vehicles were required to meet the provisions of NFPA 2, *Hydrogen Technologies Code*. Additional requirements included sprinkler protection provisions for an entire building containing major repair garage operations and vapor removal at the ceiling level for areas where vehicles using lighter-than-air fuels are repaired. A new requirement prohibiting the storage or placement of merchandise within 6 m (20 ft) of any fuel dispenser was added.

Major changes to the 2021 edition included the revision of Chapters 7, 8, and 9 to include new requirements for repair garages and areas where CNG and LNG vehicles are serviced. These new and revised requirements covered the areas of building construction, electrical area classification, repair area classification for CNG and LNG vehicles, flammable gas detection, and purge ventilation. Requirements for mobile fueling on public streets were added to Chapter 14. Fire extinguisher requirements in Chapter 9 were revised to align with NFPA 10, *Standard for Portable Fire Extinguishers*, and to accommodate new provisions for alternate vehicle fuel protection.

For the 2024 edition requirements for mobile refueling in parking garages and fleet vehicle facility operation were introduced. A new chapter on mobile marine refueling was added. Tank overfill requirements were revised to make them consistent with federal rules.

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on safeguarding against the fire and explosion hazards associated with the general storage, handling, and dispensing of flammable and combustible liquids at automotive and marine service stations, farms, and isolated construction sites and with related activities such as dispensing gaseous fuels. This Committee shall also have primary responsibility for documents on construction, control of fire hazards, ventilations, fire protection, and maintenance of repair garages.

Contents

NFPA 30A

Code for

Motor Fuel Dispensing Facilities and Repair Garages

2024 Edition

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced and extracted publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

1.1* Scope.

1.1.1 This code shall apply to motor fuel dispensing facilities, motor fuel dispensing at farms and isolated construction sites, and on-demand mobile fueling.

1.1.2 This code shall apply to motor vehicle repair garages.

1.1.3* This code shall not apply to those motor fuel dispensing facilities where only liquefied petroleum gas (LP-Gas), liquefied natural gas (LNG), compressed natural gas (CNG), or hydrogen is dispensed as motor fuel, or where both gaseous fuel storage and dispensing equipment are at least 15 m (50 ft) from any other motor fuel storage or dispensing equipment of different chemical composition.

1.1.4 This code shall not apply to aircraft fueling.

N **1.1.5*** This code shall not apply to mobile fueling operations involving liquefied petroleum gas (LP-Gas).

1.2* Purpose. The purpose of this document shall be to provide reasonable safeguards for dispensing liquid and gaseous motor fuels into the fuel tanks of automotive vehicles and marine craft.

1.3 Application. (Reserved)

1.4 Retroactivity. The provisions of this code reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this code at the time the code was issued.

1.4.1 Unless otherwise specified, the provisions of this code shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the code. Where specified, the provisions of this code shall be retroactive.

1.4.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this code deemed appropriate.

1.4.3 The retroactive requirements of this code shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.5 Equivalency. Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code.

1.5.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.6 Enforcement. This code shall be administered and enforced by the authority having jurisdiction designated by the governing authority. *(See Annex C for sample wording for enabling legislation.)*

1.7* Classification of Liquids. Any liquid within the scope of this code and subject to the requirements of this code shall be known generally as either a flammable liquid or a combustible liquid and shall be defined and classified in accordance with 3.3.9.

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 2, *Hydrogen Technologies Code,* 2023 edition.

NFPA 10, *Standard for Portable Fire Extinguishers,* 2022 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2022 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems,* 2024 edition.

NFPA 30, *Flammable and Combustible Liquids Code,* 2024 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment,* 2020 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials,* 2021 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes,* 2023 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work,* 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code,* 2023 edition.

NFPA 54, *National Fuel Gas Code,* 2024 edition.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code,* 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code,* 2024 edition.

NFPA 70®, National Electrical Code®, 2023 edition.

NFPA 72®, National Fire Alarm and Signaling Code®, 2022 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives,* 2022 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment,* 2019 edition.

NFPA 85, *Boiler and Combustion Systems Hazards Code,* 2023 edition.

NFPA 86, *Standard for Ovens and Furnaces,* 2023 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems,* 2024 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids,* 2020 edition.

NFPA *101®, Life Safety Code®,* 2024 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances,* 2024 edition.

NFPA 220, *Standard on Types of Building Construction,* 2024 edition.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source,* 2023 edition.

NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair,* 2020 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids,* 2022 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems,* 2023 edition.

2.3 Other Publications.

2.3.1 API Publications. American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

API 607, *Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats*, 7th edition, 2016.

N **2.3.2 ASME Publications.** American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME B31.3, *Process Piping,* 2019.

Boiler and Pressure Vessel Code, 2021.

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

ASTM D5/D5M, *Standard Test Method for Penetration of Bituminous Materials,* 2020.

ASTM D56, *Standard Test Method for Flash Point by Tag Closed Cup Tester,* 2021.

ASTM D93, *Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*, 2020.

ASTM D323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*, 2020a.

ASTM D3278, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*, 2021.

ASTM D3828, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed Cup Tester*, 2016a (reapproved 2021).

ASTM D4359, *Standard Test for Determining Whether a Material Is a Liquid or a Solid*, 2020.

N **2.3.4 CSA Group Publications.** CSA Group, 178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada.

CSA B51, *Boiler, Pressure Vessel, and Pressure Piping Code,* 2019.

CSA B401, *Vehicle Maintenance Facilities Code,* 2018.

CSA SPE-2.1 SERIES 18, *Best practices for defueling, decommissioning, and disposal of compressed natural gas vehicle fuel containers and liquefied natural gas vehicle fuel tanks,* 2018.

CSA SPE-2.2.1, *Best practices for CNG vehicle system leak inspection*, 2020.

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

UL 25, *Meters for Flammable and Combustible Liquids and LP-Gas*, 2016.

UL 79, *Power-Operated Pumps for Petroleum Dispensing Products*, 2016.

UL 79A, *Power-Operated Pumps for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2020).

UL 87, *Power-Operated Dispensing Devices for Petroleum Products*, 2016.

UL 87A, *Power-Operated Dispensing Devices for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

UL 330A, *Outline of Investigation for Hose and Hose Assemblies for Use with Dispensing Devices Dispensing Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2019 (2020).

UL 567A, *Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

CAN/UL/ULC 842, *Valves for Flammable and Combustible Liquids*, 2020.

UL 842A, *Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

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