

NFPA®

56

Standard for
Fire and Explosion Prevention
During Cleaning and Purging of
Flammable Gas Piping Systems

2020



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NFPA® 56

Standard for

Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems

2020 Edition

This edition of NFPA 56, *Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems*, was prepared by the Technical Committee on Gas Process Safety. It was issued by the Standards Council on November 4, 2019, with an effective date of November 24, 2019, and supersedes all previous editions.

This edition of NFPA 56 was approved as an American National Standard on November 24, 2019.

Origin and Development of NFPA 56

In February 2010, an explosion occurred at a power plant construction site as the result of an uncontrolled release of flammable gas that was being used to clean the interior of the fuel piping system. The incident investigation resulted in urgent recommendations being issued by the U.S. Chemical Safety Board (CSB) for NFPA to develop requirements for the “safe conduct of fuel gas piping cleaning operations.” In response, the NFPA Standards Council established the Technical Committee on Gas Process Safety and tasked that committee with developing a standard to address piping system cleaning and purging operations. As a result of the CSB’s urgent recommendation, NFPA issued provisional standard NFPA 56 (PS), *Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems*, which prohibits the use of flammable gas as an agent for the interior cleaning of piping systems. NFPA 56 (PS) expanded on the CSB recommendations by including cleaning and purging of all flammable gas piping systems at any inlet pressure for electric-generating plants and for industrial, commercial, and institutional applications.

In addition to the use of flammable gas for cleaning and purging, the provisional standard addressed training requirements for personnel as well as notification of hazards for personnel not directly involved in cleaning or purging procedures. The standard required development of written procedures for cleaning and purging activities and that all such written procedures undergo a safety validation performed by a competent person. The definition of *competent person* was extracted directly from federal Occupational Safety and Health Administration (OSHA) regulations. NFPA 56 (PS) also adopted terminology commonly used by the petrochemical industry for those procedures: *purging into service* for the process of replacing air in a piping system with inert or flammable gas and *purging out of service* for the process of replacing flammable gas in the piping system with inert gas or air.

In accordance with ANSI requirements for provisional standards, NFPA 56 (PS) was immediately submitted for revision in accordance with the NFPA Regulations Governing Committee Projects. As a result, NFPA 56 is no longer a provisional standard and will no longer be designated with the suffix “PS.”

In the 2014 edition, new requirements were added to address the use of pressure relief valves and their associated piping in purging and cleaning processes. NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, was exempted from the scope of NFPA 56 in recognition of new requirements added to NFPA 55 to address cleaning and purging of flammable gas piping systems within the NFPA 55 scope.

Also, the term source valve was defined and added to the scope because it is the term used in the compressed/industrial gas industry to demarcate the point of delivery to the piping system. The 2014 edition also included additional annex text to further clarify existing and new requirements.

In the 2017 edition, the requirements for written procedures for cleaning and purging activities were modified to include additional topics. The procedures were required to address nonconductive components in temporary piping assemblies in order to account for the static charge that might be

induced by those components. Additionally, the written procedures were created to address protection and rescue of personnel; this included the selection of fire-resistant clothing based on a hazard analysis in accordance with NFPA 2113, *Standard on Selection, Care, Use, and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against Short-Duration Thermal Exposures*. New requirements were added to the training requirements in Chapter 5 to ensure that knowledge transfer was evident in the training program and to make sure the appropriate information was maintained in the training records.

In the 2020 edition, the technical committee further specified where the standard is not applicable including: gas-consuming equipment; gathering lines from well pads to gas processing facilities, since these systems are addressed in other publications such as the AGA *Purging Manual*; and well padding systems, because of the complexity and range of issues that make NFPA 56 inadequate for this type of application. Well pad piping systems can contain significant amounts of flammable and combustible liquids that are not addressed in this standard.

Cleaning and purging activities were revised in Chapter 4. Associated guidance information was added in Annex A to address gaps within requirements that were identified in the previous edition.

Guidance information was added to Annex A to: provide guidelines for the development of an emergency response plan (ERP); assist the users of this standard develop a comprehensive training program; and verify that personnel can perform their duties prior at the start of the cleaning or purging activity.

Extracts from other NFPA documents have been updated to the latest revisions of the source documents. Information in Annex B that has been extracted from the AGA *Purging Manual* was revised to be consistent with the latest edition of the publication.

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