

American National Standard

ASSE/IAPMO/ANSI Series 15000-2020



Professional Qualifications Standard for the
**Inspection, Testing and Maintenance
of Water-Based Fire Protection Systems**

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Mokena, Illinois
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FOREWORD

Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

This foreword shall not be considered a part of the standard; however, it is offered to provide background information.

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ASSE International is dedicated to the preservation of public health and safety through the use of proper plumbing and piping practices and approved materials. In 2006, the Board of Directors approved the development of a Professional Qualifications standard for the inspection, testing, and maintenance of water-based fire protection systems.

With the increase of legislation and safety awareness for the fire protection industry to be in compliance with the National Fire Protection Association (NFPA) Standard 25, ASSE developed a standard series for the inspection, testing, and maintenance of water-based fire protection systems as part of their Professional Qualifications Standards program, which includes the ASSE Series 5000, *Cross-Connection Control Professional Qualifications Standard*, and the ASSE Series 8000, *Professional Qualifications Standards for SCBA Replenishment Systems Installers, Inspectors & Verifiers*. Although other organizations certify individuals as being competent in the inspection and testing aspects of NFPA 25, ASSE wrote this series of standards to address a level of competence beyond the requirements of NFPA 25. The evaluation of fire protection systems for conformance to applicable codes and standards, as well as the evaluation of the building and its use to determine if the sprinkler system is adequate for the building, is beyond the scope of the NFPA 25 standard. A person certified to this ASSE series is expected to be capable of performing such evaluations in consultation with a licensed engineer in those states where a licensed engineer is required to perform tasks associated with such judgment.

ASSE PQ STANDARDS COMMITTEE

Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

Donald Summers Jr., Chairperson
*UA Local 562
St. Louis, MO*

Brian M. Andersen
*Plumbers Local 130 UA, JAC
Chicago, IL*

Donald J. Berger
*New Orleans Pipe Trades LU 60
New Orleans, LA*

Raymond Boyd
*United Association
Annapolis, MD*

Chris Cheek
*UA District Council 16
Los Angeles, CA*

Dana Colombo
*National Inspection Testing & Certification (NITC)
Metairie, LA*

Robert L. Cross
*UA Local 68
Houston, TX*

Brianne Hall
*Fishbeck
Novi, MI*

Scott Hamilton (non-voting)
*IAPMO
Mokena, IL*

Gary Howard
*IL Plumbing Inspectors Association
La Grange, IL*

Edward Lyczko
*Cleveland Clinic - Retiree
Cleveland, OH*

Douglas Marian
*UA Local 78
Los Angeles, CA*

David Otterstein
*National Inspection Testing & Certification (NITC)
Los Angeles, CA*

Barry Pines, CPD
*C & R Plumbing
Shelby Township, MI*

Richard J. Prospal
*Prospal Consulting Services Inc.
Brunswick, OH*

Daniel Rademacher
*Plumbing Code & Design Consulting
Butte, MT*

Philip Roach
*Sazan Group
Portland, OR*

Kenneth Schneider
*United Association ITF
St Louis, MO*

Jason Shank
*UA Local 55
Cleveland, OH*

Debbie Vukovich
*Dallas JAC Local 100
Garland, TX*

Marianne Waickman (non-voting)
*ASSE International
Mokena, IL*

Keith Woller
*UA Sprinkler Fitters Local 669
Columbia, MD*

ASSE SERIES 15000 WORKING GROUP

Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

Rita Neiderheiser, Chairperson
*Sprinkler Fitters UA Local 669
Denver, CO*

Kevin Convy
*Sprinkler Fitters Local 268
St. Louis, MO*

Steve Fox
*UA Sprinkler Fitters Local 483
Hayward, CA*

Joseph A. Franks Jr.
*Pittsburgh Sprinkler Fitters Local 542
Pittsburgh, PA*

Christopher Fulkerson
*Sprinkler Fitters UA Local 669 JATC
Cloverdale, IN*

John Holmes
*Sprinkler Fitters 709 J.A.C.
Whittier, CA*

Gary Koenig
*Sprinkler Fitters Local Union 696
Milburn, NJ*

Vincent Powers
*National Fire Sprinkler Association
Lithicum Heights, MD*

Philip Roach
*Sazan Group
Portland, OR*

Ken Schneider
*United Association ITF
St Louis, MO*

Don Sweeten
*Sprinkler Fitters UA Local 692 JATC
Philadelphia, PA*

Jeff Van Rhyn Jr.
*Sprinkler Fitters UA Local 669 JATC
North Las Vegas, NV*

Marianne Waickman (non-voting)
*ASSE International
Mokena, IL*

Robert Wetzel
*Illinois Office of the State Fire Marshal
Springfield, IL*

References

01-1.1 Reference and Industry Standards and Codes

The following list of reference and industry standards and codes is part of the requirements of ASSE Standard 15010.

- 01-1.1.1 NFPA 1 2018, *Fire Code*
- 01-1.1.2 NFPA 3 2018, *Standard for Commissioning of Fire Protection and Life Safety Systems*
- 01-1.1.3 NFPA 4 2018, *Standard for Integrated Fire Protection and Life Safety System Testing*
- 01-1.1.4 NFPA 11 2016, *Standard for Low-, Medium-, and High-Expansion Foam*
- 01-1.1.5 NFPA 13 2019, *Standard for the Installation of Sprinkler Systems*
- 01-1.1.6 NFPA 13-D 2019, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*
- 01-1.1.7 NFPA 13-R 2019, *Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies*
- 01-1.1.8 NFPA 14 2019, *Standard for the Installation of Standpipes and Hose Systems*
- 01-1.1.9 NFPA 15 2017, *Standard for Water Spray Fixed Systems for Fire Protection*
- 01-1.1.10 NFPA 16 2019, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems*
- 01-1.1.11 NFPA 20 2019, *Standard for the Installation of Stationary Pumps for Fire Protection*
- 01-1.1.12 NFPA 22 2018, *Standard for Water Tanks for Private Fire Protection*
- 01-1.1.13 NFPA 24 2019, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*
- 01-1.1.14 NFPA 25 2020, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*
- 01-1.1.15 NFPA 30 2018, *Flammable and Combustible Liquids Code*
- 01-1.1.16 NFPA 30B 2019, *Code for the Manufacture and Storage of Aerosol Products*
- 01-1.1.17 NFPA 72 2019, *National Fire Alarm and Signaling Code*
- 01-1.1.18 NFPA 291 2019, *Recommended Practice for Fire Flow Testing and Marking of Hydrants*
- 01-1.1.19 NFPA 409 2016, *Standard on Aircraft Hangars*
- 01-1.1.20 NFPA 750 2019, *Standard on Water Mist Fire Protection Systems*

NOTE: All questions related to applicability shall be directed to the Authority Having Jurisdiction (AHJ).

01-1.2 Abbreviations and Standards Development Organizations

NFPA National Fire Protection Association, P.O. Box 9101, 1 Batterymarch Park, Quincy, MA 02269-9191

01-2.1 Third Party Certification

A recognized third-party certification body shall, at a minimum, be able to demonstrate to the authority having jurisdiction (AHJ), compliance with ISO/IEC 17024, *Conformity assessment – General requirements for bodies operating certification of persons*. For the avoidance of doubt, demonstration of compliance does not require accreditation to the ISO/IEC 17024 Standard however, third-party accreditation to 17024 is evidence of satisfaction of this Section.

The authority having jurisdiction (AHJ) is an organization, office or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installations or procedures.

Professional Qualifications Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

10-1.1 Scope

This standard establishes minimum knowledge and performance criteria as it applies to the qualified individual who provides inspection, testing and maintenance for Water-Based Fire Protection Systems for compliance with installation, inspection, testing and maintenance standards. This individual will be referred to as Technician for the remainder of the standard.

10-1.2 Purpose

The purpose of this standard is to provide minimum qualification criteria and requirements for education and training that ensure a reasonable degree of protection for life and property from fire for those individuals performing inspection, testing, and maintenance for water-based fire protection systems as defined by the scope.

10-1.3 Limitations

This standard applies to technicians only. This standard does not apply to the person that is performing an engineering evaluation. Compliance with this standard in itself shall not constitute compliance with the requirements for the Authority Having Jurisdiction over the inspection, testing and maintenance of water-based Fire Protection Systems.

10-1.4 Reference and Industry Standards and Codes

The Reference and Industry Standards listed in ASSE Standard 15001 are a part of this standard.

10-2.1 General Knowledge

- 10-2.1.1 The Technician shall identify and demonstrate knowledge of the applicable laws, codes, rules, listing agencies, liabilities and regulations from the federal, state and local levels pertaining to fire protection systems.
- 10-2.1.2 The Technician shall identify the proper procedures to notify all of the Authorities Having Jurisdiction (AHJ).
- 10-2.1.3 The Technician shall demonstrate knowledge of the installation, inspection, testing, and maintenance associated with the following to comply with applicable codes and standards:
- a. Acceptance testing per the applicable NFPA Standards
 - b. All NFPA standards from reference 15001
 - c. Alarm devices
 - d. All water-based fire protection systems
 - e. Area of coverage
 - f. Backflow preventers
 - g. Care and handling of sprinklers
 - h. Clearances
 - i. Commonly used plan symbols
 - j. Compartments
 - k. Elevation losses and friction losses
 - l. Fire dynamics and heat transfer (basic)
 - m. Flow and pressure demand
 - n. Impact of building modifications
 - o. Impact of hazard classification change
 - p. Impact of system modifications
 - q. Integrated system testing
 - r. Performance calculations
 - s. Pipe and tube joining, layout and sizing
 - t. Sprinkler identification
 - u. Sprinkler requirements
 - v. Seismic bracing, restraint and flexibility
 - w. System piping configuration