AFSA45
FIRE ALARM REQUIREMENTS FOR RELEASING SYSTEMS
Presenter
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SAN ANTONIO, TX
AFSA
American Fire Sprinkler Association

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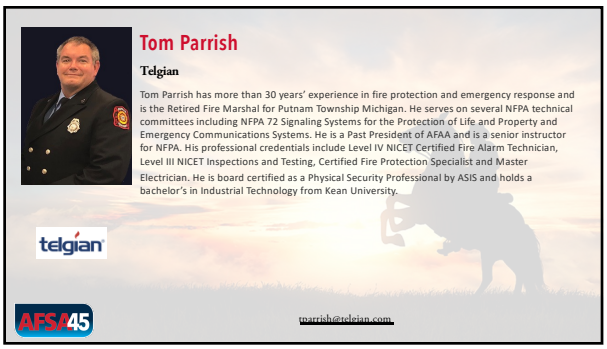
Tom Parrish
Telgian
Tom Parrish has more than 30 years' experience in fire protection and emergency response and is the Retired Fire Marshal for Putnam Township Michigan. He serves on several NFPA technical committees including NFPA 72 Signaling Systems for the Protection of Life and Property and Emergency Communications Systems. He is a Past President of AFAA and is a senior instructor for NFPA. His professional credentials include Level IV NICET Certified Fire Alarm Technician, Level III NICET Inspections and Testing, Certified Fire Protection Specialist and Master Electrician. He is board certified as a Physical Security Professional by ASIS and holds a bachelor's in Industrial Technology from Kean University.
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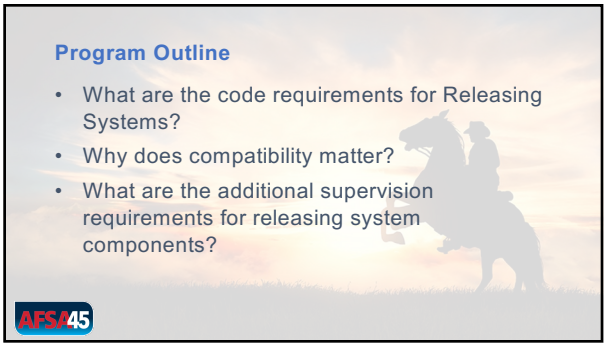
Program Outline
What are the code requirements for Releasing Systems?
Why does compatibility matter?
What are the additional supervision requirements for releasing system components?
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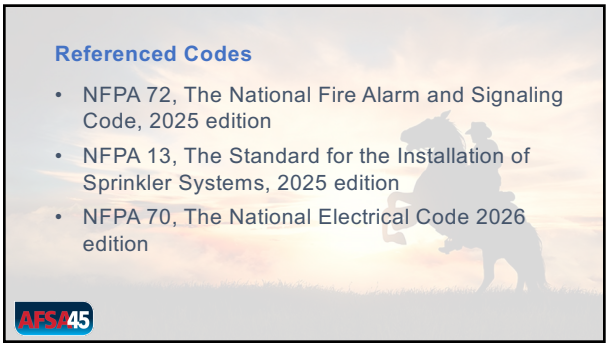
Referenced Codes
NFPA 72, The National Fire Alarm and Signaling Code, 2025 edition
NFPA 13, The Standard for the Installation of Sprinkler Systems, 2025 edition
NFPA 70, The National Electrical Code 2026 edition
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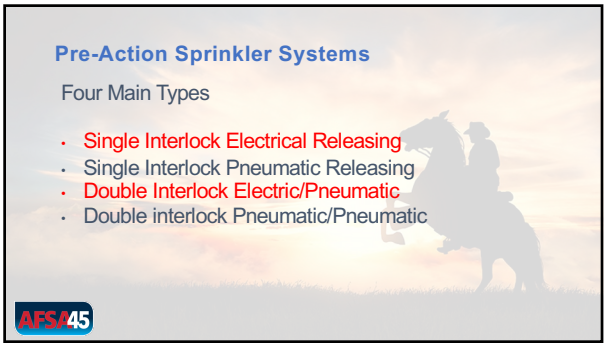
Pre-Action Sprinkler Systems
Four Main Types
Single Interlock Electrical Releasing
Single Interlock Pneumatic Releasing
Double Interlock Electric/Pneumatic
Double interlock Pneumatic/Pneumatic
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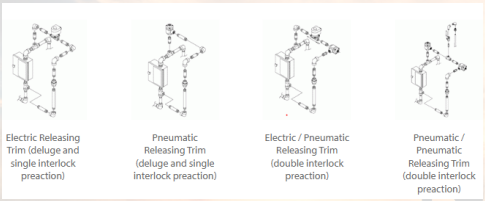
Pre-Action Sprinkler Systems



Electric Releasing Trim (deluge and single interlock preaction)

Pneumatic Releasing Trim (deluge and single interlock preaction)

Electric / Pneumatic Releasing Trim (double interlock preaction)

Pneumatic / Pneumatic Releasing Trim (double interlock preaction)

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Pre-Action Sprinkler Systems

The valve is the same the trim is the difference

Why do we use Pre-action Systems?

- Need sprinkler protection without water already being in the pipes ?
- Better than just a simple Dry System ?
- Low temperature or high value areas.

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Fire Alarm Systems for Releasing Service

- Alarm panel must be Listed for Releasing Service
- Solenoid must be "Compatible" with the FACU
- Wiring must be supervised to the solenoid
- Must be a manual disconnect switch
- Detection system must be properly designed and installed

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Alarm panel must be listed for Releasing Service

- Alarm panel must be Listed for Releasing Service

Service Use
NFPA 12 – Carbon Dioxide systems
NFPA 12A – Halon 1301 fire systems
NFPA 13 - Automatic Sprinkler
NFPA 15 - Water Spray Fixed System
NFPA 16 - Foam Water Sprinkler and Foam Water Spray
NFPA 17 - Dry Chemical
NFPA 17A - Wet Chemical
NFPA 72 - National Fire Alarm Code
- Local
- Remote Station (protected premise unit)
- Central Station (protected premise unit)

NFPA 750 - Water Mist
NFPA 2001 - Clean Agent Fire Extinguishing System

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Alarm panel must be listed for Releasing Service

- Alarm panel must be Listed for Releasing Service

1.1.1 Hardware Features

- The 5808 has one signaling line circuit (SLC) that supports 99 SK detectors and 99 SK modules or 127 SD protocol devices.
- 6.0A of output power is available through 4 sets of terminals for notification appliance circuits or auxiliary applications. Each circuit is power limited per UL 864 and can source up to 3.0A (total output power for all 4 circuits must not exceed 6.0A).
- Built-in dual phone line, digital alarm communicator/transmitter (DACT).
- Reports events to central station by point or by zone.
- UL Listed for pre-action and deluge releasing systems.
- Two general purpose Form C programmable relays.
- One Form C Trouble Relay.
- Basic system operation can be performed using a key or a user code.

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Solenoid must be "Compatible"

Automatic Water Control Valves (FM-Approved) For Preaction and Deluge Sprinkler Releasing Applications

(Section not recognized by UL)

S2000 (TC-2F/TC-4F)
S200 (TC-2F/TC-4F) Canada Only
MRP-2001(E)

Refer to the FM approval guide for automatic water control valves which are compatible with solenoids listed.

Manufacturer	Model	Voltage	Watts	Amps	NPS	Orfice	PSI
Solenoid Group A							
Skinner	LV2LBX25	24 VDC	11	458 mA	1/2"	5/8"	
Solenoid Group B - These valves are interchangeable							
ASCO	T8210A107	24 VDC	16.8	700 mA	1/2"	5/8"	
ASCO	R8210A107	24 VDC	16.8	700 mA	1/2"	5/8"	

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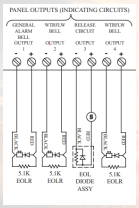
Wiring must be supervised to the solenoid



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Solenoid with built in tamper / removal switch

Newer models may have integrated switches

But are they the ones on the compatibility list ?

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Must be a manual disconnect switch

When Activated what signals should we see at the releasing panel?

- Trouble?
- Supervisory?
- Both ?

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Detection System must be Properly Designed and Installed

What do we typically see as Alarm initiation devices for Pre-Action Systems ?

- Spot type heat detectors
- Spot type smoke detectors
- Line-type heat detectors
- Aspirating smoke detection
- Flame Detectors
- Alarm Pressure Switch

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Detection System must be Properly Designed and Installed

What do we typically see as Supervisory devices for Pre-Action Systems ?

- Riser Tamper switches
- Low Air temp
- Low Air pressure
- High Air Pressure
- Solenoid Actuator supervisory
- Service isolation valve
- Air Pressure Sw. (Double Interlock)

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REQUIRED

FOR CEU CREDIT:

- ✓ Badge scanned at start of seminar
- ✓ Attend full seminar
- ✓ Complete survey 1 of 2 ways:
  - ✓ Survey link is emailed to attendees with scanned badges
  - ✓ Event app by EventsAir
    - Login to app
    - Navigate to seminar survey
  - ✓ Surveys close 10/31/26

Thank you!

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Scan QR code to submit questions for **Ask the Experts!**

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2027 Training Schedule

WEBINARS

1/6	Updates to NFPA 20
1/20	Calculating Pressure Reducing Hose Valves
2/3	Consumer Alert: Nitrogen in Sprinkler Systems
2/17	Reviewing Hydraulic Calculations
3/3	Updates to NFPA 13, 2028 Ed.
3/17	Updates to NFPA 13R & 13D, 2028 Eds.
4/7	Topic Coming Soon
4/21	NFPA 25: Roles & Responsibilities
5/5	Standpipe Flow Test Procedures
5/19	Storage 101
6/2	NFPA Technical Meeting - Voting Guide
6/16	Topic Coming Soon
6/30	Topic Coming Soon
7/7	Updates to NFPA 14, 2027 Edition
7/21	Adjacent Hazards & Design Methods
8/4	Acceptance Testing
8/18	Modifications to Existing Systems
9/22	Topic Coming Soon
10/6	Seismic 101
10/20	Proposed Updates to NFPA 25, 2029 Ed.
11/3	Evaluating Fire Pump Flow Tests
11/17	Top 10 Tech Reviews
12/1	Designing Water Storage Tanks
12/15	Pump Room Layout

PROGRAMS

Feb 9 - Mar 5 Apr 20 - May 14 Aug 3 - Aug 27** Oct 26 - Nov 19	Beginning Design School*
Apr 26 - May 7 Nov 1 - 12	Intermediate Design School*
Feb 8 - 10** Apr 12 - 14 Jul 12 - 14 Oct 11 - 13	Sprinkler Hydraulics Calculations Workshop
Apr 19 - 21 Oct 18 - 20	Advanced Hydraulics Calculations Workshop
Feb 11** Apr 30 Jul 23 Sep 24	Introduction to the Fire Sprinkler Industry
Mar 1 - 3 May 17 - 19 Aug 16 - 18 Oct 18 - 20**	NFPA 25 Essentials Workshop
Jun 7 - 10 Sep 20 - 23	Experienced Inspector Skills Lab
Mar 4 - 5 May 20 - 21 Aug 19 - 20 Oct 21 - 22**	NFPA 25 Fire Pump Workshop
Spring Summer Fall	ITM Inspector Development Program* *This program is 20 months.*

** Hybrid course **At General Air Products Lab, Exton, PA*

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September 8-11	Manchester Grand Hyatt San Diego, CA

For More Details Visit:
firesprinkler.org

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Dates subject to change. Programs subject to minimum registrations.

rev 9/14/2026

Virtual Instruction Path (VIP)

for Sprinkler Fitting Apprentices

Level 1 - Begins January 2027

Level 2 - Begins February 2027

Level 3 - Begins January 2027

Level 4 - Begins March 2027

www.firesprinkler.org/VIP

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HANDS-ON WORKSHOPS FOR 2027

FEATURING AFSA'S TRAINING LAB

NFPA 25 Essentials Workshop

Mar | May | Aug | Oct

Description: Understand roles, responsibilities, and NFPA 25 ITM procedures through hands-on testing of wet systems, dry systems, and fire pumps.

NFPA 25 Fire Pump Workshop

Mar | May | Aug | Oct

Description: Develop practical NFPA 25 fire pump ITM skills, including no-flow and full-flow testing, water supply graphing, and performance evaluation.

Introduction to the Fire Sprinkler Industry

Feb | Apr | Jul | Sep

Description: This course is designed for those new to the industry. An introductory, wide-ranging 8-hour course that provides a broad overview of core fire sprinkler industry concepts for those new to the field.

Experienced Inspector Skills Lab NEW

Mar | Sep

Description: Take your ITM expertise beyond the basics. Designed for experienced technicians, this course combines focused classroom instruction with hands-on system lab training to strengthen your application of current NFPA 25 inspection, testing, and maintenance requirements. Refine fire sprinkler testing practices, improve documentation, deliver more consistent service, and help reduce liability while reinforcing knowledge commonly covered on certification exams.

Learn more about AFSA's fire sprinkler lab featuring functional risers, a spray room, fire pumps, and an interactive classroom.

firesprinkler.org/lab