Fire Prevention and Code Compliance in the Age of Information and Automation
Presenters

Jason Webb
Director of Industry Affairs
Potter Electric Signal

Maria Marks
Manager, Industry Relations
Siemens
ITM in the Information Age

- Why inspect and test?
  - Required by fire and building codes
  - Ensure operational readiness
  - Better plan maintenance costs

- What about the HOW?
Technology continues to change

Adaptability, innovation and connectedness

Convergence of technology and business strategy

Did you know?

From 1790 – 1800
the US Patent office granted 229 patents.

Today
that’s the amount the US Patent office grants every 7.2 hours.
Regulatory trends

Artificial Intelligence
Seamless functions or response

Leverage Data
- Predictive maintenance
- Targeted response

User Experience
Flexibility/customization/Multi-modal
Verification of Code Compliance

Typically, Code Compliance involves a person conducting an onsite inspection and confirming that applicable rules are being followed.

In today’s era of smart, integrated devices and systems, code-related inspections and tests are being performed either by a 3rd party who generates a record, or electronically monitors on a constant basis.

Additionally, Integrated systems rely on each other to function properly and require different ways of verifying readiness than those used in the past.

Inspection has often become a review of data in lieu of physically witnessing a process or condition.
What do the Standards Say?

2020 NFPA 25
  4.6.6 Automated Inspection and Testing

2019 NFPA 13
  28.3 Automated Inspection and Testing
  Devices and Equipment

2019 NFPA 14
  11.7 Automated Inspection and Testing
  Devices and Equipment

2019 NFPA 20
  14.2.6.2 Automated Inspection and Testing
  Devices and Equipment
What do the Standards Say?

NFPA 72, 2022 edition

1.5.1 Future technologies

Chapter 11 Cybersecurity

14.2.2.1 Performance Verification

23.8.2.11 Remote Access
   1) Testing and Access
   2) Remote Diagnostics
   3) Remote Access for Software Updates

26.6.2.3 Remote Programming of Transmitting Technologies

NFPA 915
NFPA 915
Standard for Remote Inspections

Scope
“This standard shall provide the minimum requirements for the procedures, methods, and documentation associated with remote inspections and tests, automated inspection and testing, and distance monitoring”

Purpose
“The purpose of this standard shall be to provide minimum requirements for remote inspections and tests, automated inspection and testing, and distance monitoring to deliver an equivalent or improved result than that which would be obtained with other inspection, testing, and monitoring methods.”
Where do we go from here?

Remote virtual inspection opportunities for energy organizations

JANUARY 7TH, 2022
by Joseph Sobad

TECHNICAL TOPICS

CONSTRUCTION
Florida Passes New Bill Allowing Virtual Inspections
June 21, 2021

Government entities agree virtual inspections are inexpensive and require minimal equipment
What does the future of Remote Inspection look like?

How will standards be able to keep pace with developing technologies?

Can and should the scope of NFPA 915 be expanded to include periodic inspections and tests?

How will it be conducted?

**Unmanned equipment**
- Drone (aerial or aquatic)
- Robot
- Fixed (i.e., security cameras)

**Handheld device**
- Tablet
- iPad
- Chromebook
- Smartphone
Physically Present for Inspections?

- Code Officials:
  - Perform required inspections
  - or-
  - Accept reports

- Reports:
  - From approved agencies
  - Responsible individuals
Test Evaluation

NFPA 72 chapter 10 defines:
- Inspection Personnel
- Testing Personnel
- Service Personnel

NFPA 25 requires that “qualified” people do the work:
- **3.3.34 Qualified.** “A competent and capable person or company that has met the requirements and training for a given field acceptable to the AHJ.”

How does this apply to remote monitoring?
Evaluation of remote & automated tests?
Code Officials and ITM Inspectors

- Code officials in demand
- ITM inspector in demand
- Automation can assist in providing good code enforcement
Testing and Process

- Consider the outcome rather than the process
What do the Standards Say?

ARE ALL STANDARDS SYNCED ON AUTOMATED I & T?

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Technology to Ensure Compliance

- Some things will always require visual confirmation
  - NFPA 915

- Consider efficiency of automation confirming acceptable conditions at multiple locations on an on-going basis
Inspectors review more data rather than visit sites?

Codes establish acceptable limits rather than dictate process?
What cloud connectivity provides

Smarter buildings that comply with emerging technology and codes with high levels of security.

Remote access to buildings provides higher levels of protection with continued resiliency and reliability in an integrated connected world.

All stakeholders respond and react to site changes due to increased transparency and accessibility resulting in higher levels of protection.
Key Takeaways

01 The Cloud and Internet of Things will continue to impact life safety systems

02 Industry needs to adapt for continued resiliency and reliability in an integrated connected world

03 Inspection Testing & Maintenance will adopt new technology
QUESTIONS?

Maria Marks – maria.marks@siemens.com
Siemens

Jason Webb – jasonw@pottersignal.com
Potter Electric Signal Company