

# NFPA 241 1933, 2019 and Beyond

October 7, 2019/Kevin Carr/Senior Fire Protection Specialist



IT'S A BIG WORLD. LET'S PROTECT IT TOGETHER.®

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## Agenda

- History
- Statistics
- 2019 Edition
- Fire Safety Program
- 2022 (and beyond)
- Q&A



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## Learning Objectives

- **Exposure** to the history of NFPA 241
- **Arrangement** of the 2019 edition
- **Insight** on key stakeholders
- **Overview** of the Fire Safety Program/Fire Prevention Program Manager
- **Receive** an update on the 2022 edition



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## Does NFPA 241 apply to me?

# ?



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## Does NFPA 241 apply to me?

If you live in a state **(42 states)** where NFPA 1 or the IFC has been adopted, the requirements of NFPA 241 are not optional –they MUST be followed, regardless of job size.



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## Why are buildings under construction at such high risk?

- Largely unprotected
- Often unsecured
- Common ignition sources
- Transient work force
- Not aware of fire safety (generally)



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## Waltham, MA: July 2017

Fire That Destroyed 264-Unit Apartment Building in Waltham Was Intentionally Set –WBUR August 10, 2017

Massive fire tears through apartment complex under construction in Waltham– WCVB, July 23, 2017

Waltham Fire Chief On 10 Alarm Fire: 'We're Going To Be Here For A While' –Patch.com, July 26, 2017

As Waltham fire smolders, building method questioned- Boston Globe, July 23, 2017

Fire Destroys 5 Buildings in Waltham Apartment Complex- CBS Boston, July 23, 2017



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## College Park, MD: April 2017



- Peak Fire Flow; 15,000 gpm
- Access real issue
- On-scene for 5-days
- Approximately \$51M
- No major injuries
- U of M closed due to smoke
- Horizontal spread in attic
- Sprinklers not in service (but could have been)

\*Based on Presentation of Mat Chibbaro, CPVFD



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## NFPA 241 Statistics

Biggest causes of fires in buildings under:

- Construction?
- Alteration?
- Demolition?

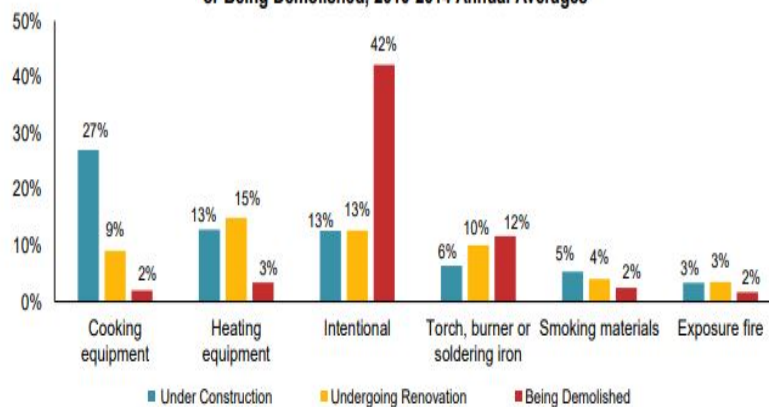
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## NFPA 241: Statistics

Fires in Structures Under Construction, Undergoing Major Renovation or Being Demolished, 2010-2014 Annual Averages



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## NFPA 241: Statistics

Of the top 10 fires (by loss) in 2017, how many due to Construction, Alteration or Demolition?

?



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## NFPA 241: Statistics

### LARGEST OF THE LARGE

Apartment buildings under construction crowd the list of 2017 fires with losses of \$20 million or more—but California wildfires dominate in terms of cost

INCIDENT AND LOCATION	LOSS IN MILLIONS OF DOLLARS
2017 OCTOBER FIRE SIEGE Wildfires   California	10,020
CALIFORNIA FIRE SIEGE TWO Wildfires   California	1,775.2
BUILDING UNDER CONSTRUCTION Apartment complex fire   Massachusetts	110.0
APARTMENT BUILDING Residential fire   Hawaii	107.4
BUILDING UNDER CONSTRUCTION Apartment complex fire   Maryland	100.0
BUILDING UNDER CONSTRUCTION Apartment complex fire   North Carolina	62.5
BUILDING UNDER CONSTRUCTION Apartment complex fire   California	50.0
PAPER PLANT EXPLOSION Industrial incident, no fire   Florida	50.0
BUILDING UNDER CONSTRUCTION Apartment complex fire   Massachusetts	45.0
SAWMILL Industrial fire incident   Pennsylvania	35.6
BUILDING UNDER CONSTRUCTION Apartment complex fire   New Jersey	34.0
APARTMENT BUILDING Residential fire   Texas	22.1
FOOD STORAGE WAREHOUSE Storage fire incident   Maine	21.0
<b>TOTAL</b>	<b>12,432.8</b>

**6 Fires!**



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## NFPA 241: History

- First edition: ?
- Total number of editions: ??
- Last major rewrite: ???
- Adoption (# of states): ????
- Technical Committee members:



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## NFPA 241: History

- First edition: 1933
- Total number of editions: 16 (give or take)
- Last major rewrite: 1986
- Adoption (# of states): 42 (via NFPA Codefinder)
- Technical Committee members: 42



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## NFPA 241: History

### **Recommended Good Practice Requirements for BUILDING CONSTRUCTION OPERATIONS**

May  
**1933**  
*Reprint 1954*



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## NFPA 241: History

**NOTE:** The height and area herein specified, contemplates the maintenance and operation of a well equipped, paid, fire department, with an adequate water supply. Where such protection is not available, the height and area should be reduced accordingly.



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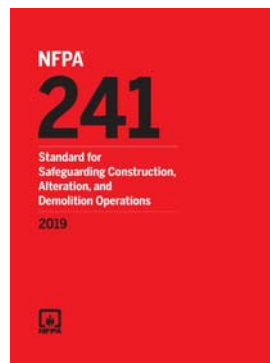
## NFPA 241: History

- NFPA Process
- Technical Committees



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## NFPA 241: 2019 Edition



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## NFPA 241: 2019 Edition

### “Front” Chapters:

- Administration (Chapter 1)
- Referenced Publications (Chapter 2)
- Definitions (NFPA and General) (Chapter 3)



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## NFPA 241: 2019 Edition

### “Core” Chapters:

- Temporary Construction, Equipment and Storage (Chapter 4)
- Process and Hazards (Chapter 5)
- Utilities (Chapter 6)
- Fire Protection (Chapter 7)



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## NFPA 241: 2019 Edition

### “Specialized” Chapters:

- Safeguarding Construction and Alteration Operations (Chapter 8)
- Safeguarding Roofing Operations (Chapter 9)
- Safeguarding Demolition Operations (Chapter 10)
- Safeguarding Underground Operations (Chapter 11)
- Safeguarding Tall Timber Structures (Chapter 12)
- Annex A and Annex B



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## NFPA 241: 2019 Edition

### Key Changes:

- AHJ can implement partial requirements.
- Securing temporary heating and cooking equipment
- Guard service for combustibles construction over 50 feet
- Standpipe installation in tunnels/NFPA 502
- New chapter on tall timber structures



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## NFPA 241: Ecosystem



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## NFPA 241: Ecosystem



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## NFPA 241: Stakeholders

### Key Stakeholders:

- ?
- ??
- ???
- ????
- ?????



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## NFPA 241: Stakeholders

### Key Stakeholders:

- Owner
- FPPM
- Contractor
- Sub Contractor
- AHJ
- Insurance



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## NFPA 241: Stakeholders

### Key Stakeholder: Building Owner

- Must select a qualified and empowered Fire Prevention Program Manager.



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## NFPA 241: Stakeholders

### Key Stakeholder: Fire Prevention Program Manager (FPPM)

- This is where the “rubber meets the road”
- The FPPM must have the authority to fully implement NFPA 241 via the Fire Prevention Plan
- Responsibility to ensure the project is completed safely in accordance to all requirements, and to keep all personnel associated with the project safe.



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## NFPA 241: Stakeholders

### Key Stakeholder: Contractor

- The Contractor and FPPM must have a strong and professional relationship
- The contractor can't forget who the client is
- Constant and honest communication is a must
- Must look at the AHJ as a plus, not a thorn
- Must be open to suggestions



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## NFPA 241: Stakeholders

### Key Stakeholder: Sub-Contractors

- Subcontractors must recognize they are contracted to the general contractor, but overall their ultimate client is the building owner
- They must communicate with the FPPM timely and honestly, and in writing
- Must be open to suggestions

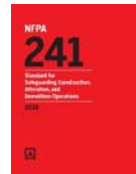


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## NFPA 241: Stakeholders

### Key Stakeholder: Authority Having Jurisdiction (AHJ)

- Has the difficult responsibility to ensure the structure is constructed/renovated/demolished in accordance to the defined codes and standards
- A good AHJ must “think out of the box”
- Be open to performance based approaches

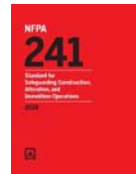


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## NFPA 241: Stakeholders

### Key Stakeholder: Insurance

- Has a vested interest in positive outcomes
- Must be viewed as a plus, not a thorn
- May have additional requirements



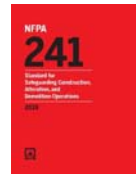
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## NFPA 241: Stakeholders

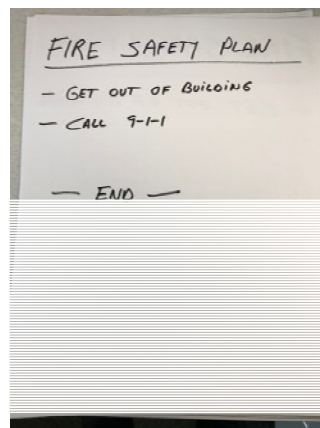
### Secondary Stakeholders:

- Facilities Management
- Tenants/Other Building Workers
- Neighbors
- General Public



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## NFPA 241: Fire Safety Program



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## NFPA 241: Fire Safety Program

### Chapter 7: Fire Protection

- Housekeeping
- On-site security
- Fire protection systems
- On-site fire brigade
- Pre-fire plan
- Rapid communication
- Special hazards
- Existing structure protection



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## NFPA 241: Fire Safety Program

### Good Housekeeping 7.1.2 (1)

- Common source for fires
- Combustible waste
- Ignition sources
- Personal safety
- Intentional fires



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## NFPA 241: Fire Safety Program

### On-site Security 7.1.2 (2)

- FD notification
- Justification?
- Portable extinguishers
- Valve location (if applicable)
- Use of electronic/video?
- Training



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## NFPA 241: Fire Safety Program

### Fire Protection Systems 7.1.2 (3)

- All systems “go”?
- Different needs for different stages
- FD communication
- Involves several stakeholders



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## NFPA 241: Fire Safety Program

### On-site Fire Brigade 7.1.2 (4)

- Training with extinguishers
- Hot work fire watch training?
- Call FD first, then...



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## NFPA 241: Fire Safety Program

### Pre-fire Plans 7.1.2 (5)

- Often overlooked
- FPPM/FD communication
- Updated on a regular basis
- Balance between too much/not enough
- Must indicate where sprinkler valves are
- NFPA 1620
- See Annex material



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## NFPA 241: Fire Safety Program

### **Rapid Communication 7.1.2 (6)**

- BO/FPPM must have timely effective communication
- Transition to Certificate of Occupancy.



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## NFPA 241: Fire Safety Program

### **Special Hazards 7.1.2 (7)**

- Previous occupancies
- New or renovated occupancies
- Hazards Materials
- Combustible/Flammable Liquids (both application and storage of)
- Identification



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## NFPA 241: Fire Safety Program

### Protection of Existing Structures 7.1.2 (8)

- Exposures
- Construction, alteration or demolition
- Hidden hazards



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## NFPA 241: 2022 Edition

### Pre-First Draft Meeting February 2019 Highlights:

- Presentations
- Task Groups
- Next Steps



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## NFPA 241: 2022 Edition

### Presentations:

- College Park Volunteer FD/FD perspective
- TC member/enforcer perspective

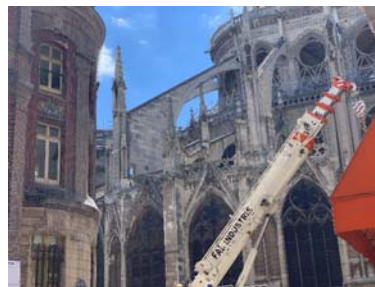


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## NFPA 241: 2022 Edition

### Task Groups:

- Small numbers of TC members looking at a topic
- 14 task groups
- Various topics
- Strong energy/synergy
- Possible task groups based on current events?



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## NFPA 241: 2022 Edition

### Public Inputs:

- Your chance to participate in the process
- Strongly encouraged
- Submit online ([www.nfpa.org/241](http://www.nfpa.org/241))
- Committee reviews and resolves at the First Draft Meeting



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## NFPA 241: 2022 Edition

### Key Dates:

- Public Input Closing Date: June 26, 2019
- First Draft Posted Online: February 26, 2020
- Public Comment Closing Date: May 6, 2020
- Second Draft Posted Online: January 20, 2021
- NITNAM Closing Date: February 17, 2021
- Issuance Date: TBD



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## NFPA 241: Recap and Review

What have we learned so far?:

?

?

?



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## Learning Objectives (again)

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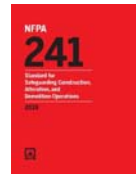


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## NFPA 241: Wrapping up

### NFPA Websites:

- [www.nfpa.org](http://www.nfpa.org)
- [www.nfpa.org/#](http://www.nfpa.org/#) (the code # you want to find)
- [www.nfpa.org/241](http://www.nfpa.org/241)
- [www.nfpa.org/constructionfires](http://www.nfpa.org/constructionfires)
- [www.nfpa.org/ecosystem](http://www.nfpa.org/ecosystem)
- [www.nfpa.org/xchange](http://www.nfpa.org/xchange)
- [www.nfpa.org/codes-and-standards](http://www.nfpa.org/codes-and-standards)



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## Q&A

**Thank you!**



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