FDIC Webcast 2020 Reading Smoke: The Next Generation

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Hello Internet Students! Let's start with a few questions:

Why am I here today?

Why are YOU here today?



No "B.S." Learning Objectives

- Discuss the "NEW NORMAL" of today's structure fire
- Present a real-world, time-proven approach to evaluate smoke conditions in order to predict fire behavior at structure fires
- Strengthen previous "reading smoke" concepts for the benefit of evaluating tactical outcomes
- Give you some real-incident practice using the reading smoke process

Three Points to Start: 1. Smoke IS Fuel!

VIDEO: 1 Density Velocity Continuity

Three Points (cont.): 2. The "NEW NORMAL" is Rapid Rate of Change

Video: 2 The NEW normal

Three Points (cont.): 3. Ignition Trigger Points!

"Ladder Fuels"

FUEL	Self-Ignition Temperature	Flammable Range
Acrolein	450°F	3%-31%
Fuel Oil Residue	460-500°F	Aerosol
Benzene	928°F	1%-8%
Hydrogen cyanide	1,000°F	5%-40%
Carbon monoxide	1,128°F	12%-74%

Three Points:

- 1. Smoke S Fuel!
- 2. The 'NEW NORMAL'
- 3. Ignition Trigger Points

Moving from Why? To HOW?

•HOW? Is a 3-step process.



- VOLUME
- VELOCITY
- DENSITY
- COLOR

FOUR ATTRIBUTES OF SMOKE:

- VOLUME!
- Establishes relativity
 - Building size
 - Opening size

VOLUME: The Volume Paradox!

Vent vs. Fuel controlled

Video 3-1 Volume Paradox ULFSRI

VOLUME: The Volume Paradox!

- Vent vs. Fuel controlled
- What happened to the volume we saw while responding?

Video 3-2 Volume Paradox - Hendrix

FOUR ATTRIBUTES OF SMOKE:

- VELOCITY
- Indicates HEAT

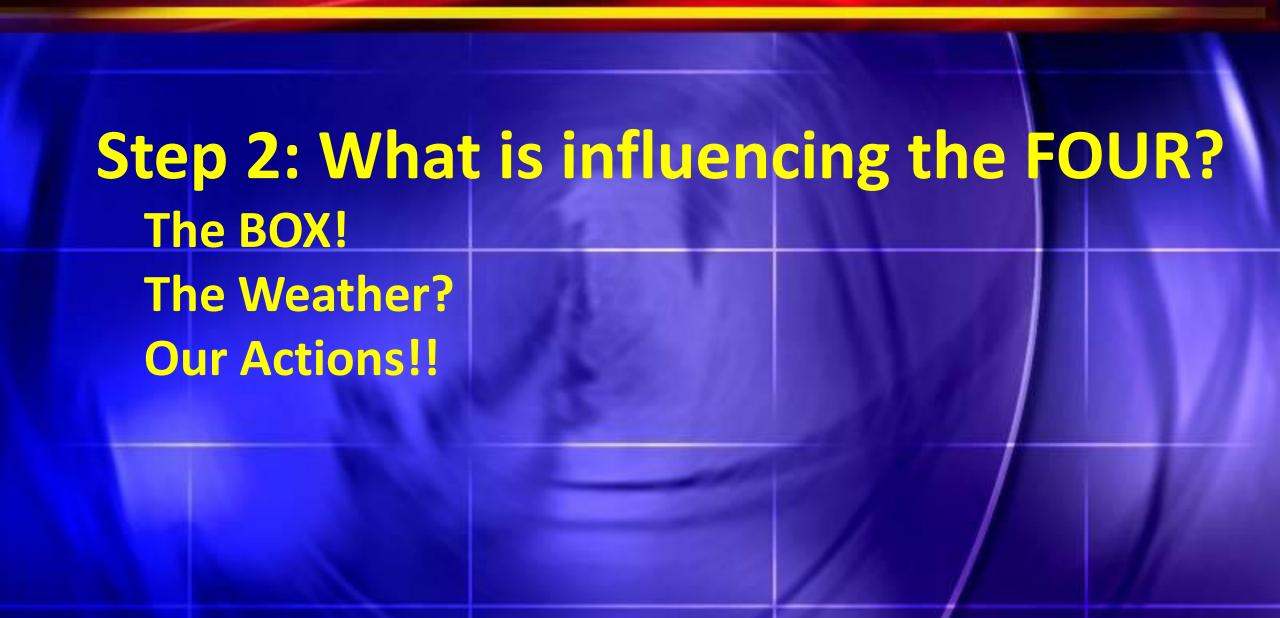
Video 4: Velocity vs Volume

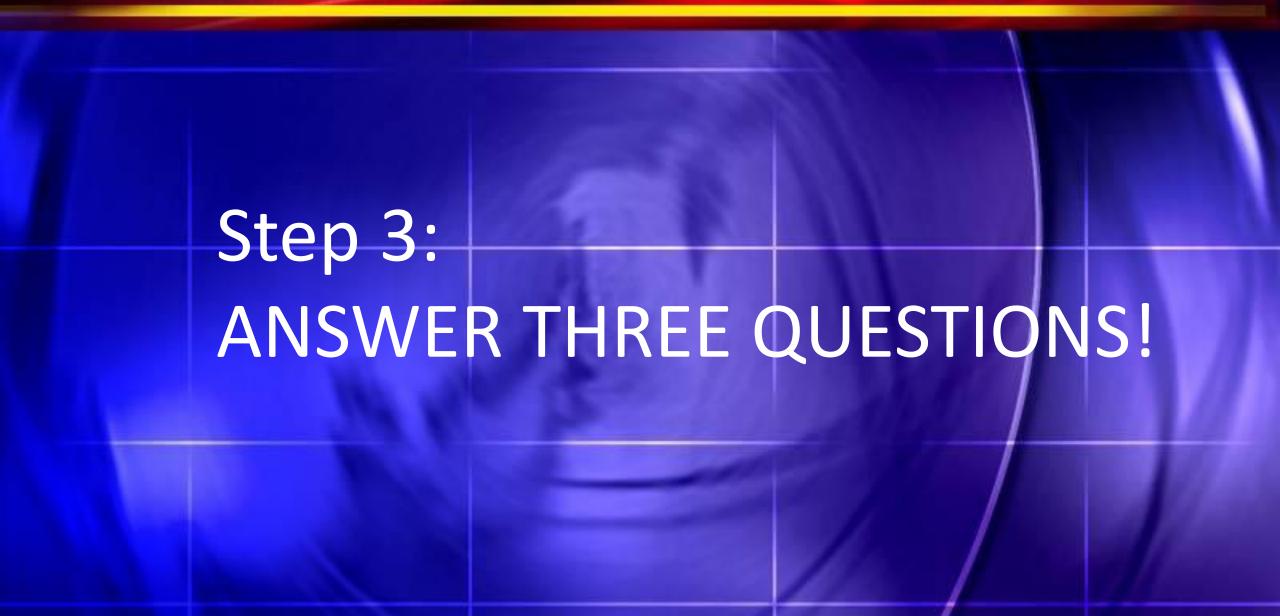
FOUR ATTRIBUTES OF SMOKE:

- DENSITY
- Indicates upcoming severity
- Why?

FOUR ATTRIBUTES OF SMOKE

- COLOR
- Material vs. Heat
- White smoke TRAPS





- 1. Where is the Fire?
- 2. How Big is the Fire?
- 3. What will happen next (how fast)?

Video Practice and discussion!

Video – Apartment fire - 1

Let's add three questions: What are we going to do about it? •Tactics

What do we expect to happen?

Operational Pace

What actually happens?

Reality

Video Practice and discussion!

Video – Apartment fire - 2

Final thoughts:

- Reading Smoke is a <u>Skill</u>
- Practice improves any skill
- Feel free to reach out to me at:

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