Fire Extinguishers & Evacuation Drills

29 CFR 1910 Subpart E

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2019

AGENDA

- Why I care about preventing fires… and you should, too
- Fire basics
- Causes & prevention
- The Fire Extinguisher
- Fire Extinguisher Training
- Evacuation Drills
- Contingency Plan Basics

My reasons for Fire Prevention & Evacuation Training

- **To save lives and property!**

- Family
- Co-workers
- Employees
- My department
- My Company

My Family

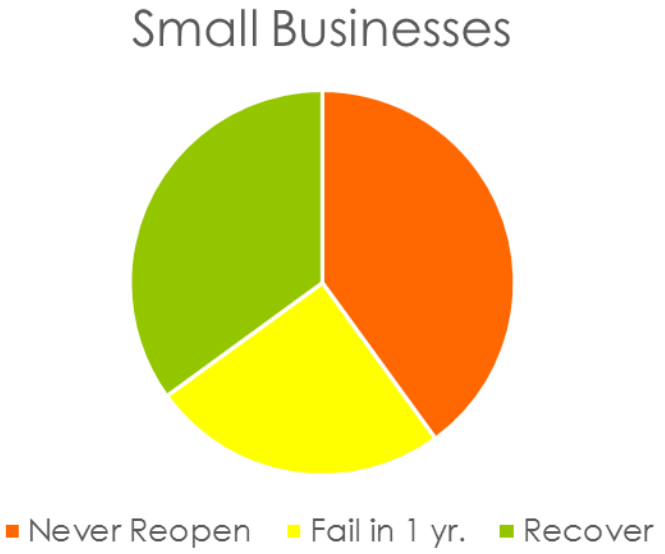
My Co-workers

Our Awesome Employees

My Team & My Company

According to FEMA

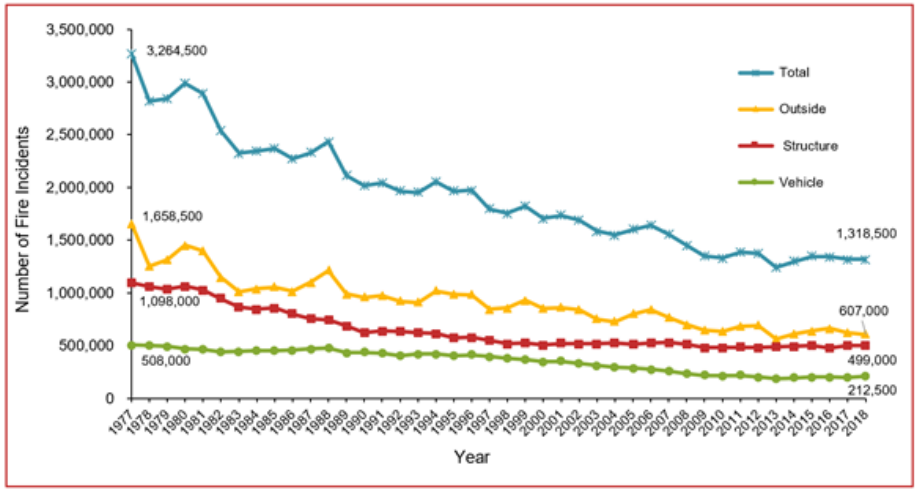
- 40% of small businesses never reopen after a disaster.
- Another 25% that do reopen, fail within a year.
- Do you have a contingency plan?



Key findings

•Public fire departments responded to 1,318,500 fires in 2018, virtually the same as the previous year.
•Every 24 seconds, a fire department in the United States responds to a fire somewhere in the nation.
•A fire occurs in a structure at the rate of one every 63 seconds, and a home fire occurs every 87 seconds.
•74% of all fire deaths occurred in the home.
•An estimated $25.6 billion in property damage occurred as a result of fire in 2018,
a large increase, as this number includes a $12 billion loss in wildfires in Northern California.

Fires in the U.S. 1977-2018 by type



https://www.nfpa.org/News-and-Research/Data-research-and-tools/US-Fire-Problem/Fire-loss-in-the-United-States

By the numbers - home

- Between 2011 and 2015, U.S. fire departments responded to an average of **358,500 home** structure fires per year.
- These fires caused 12,300 injuries, **2,510 deaths**, and **$6.7 billion** in direct damage.
- On average, **seven people per day die** in U.S. home fires.

https://www.nfpa.org › Campaigns › Fire-Prevention-Week › Fire-Facts

By the numbers - work

- Between 2011 and 2015, FD's responded to 37,910 fires at industrial or manufacturing properties each year,
- These fires caused **16 deaths, 273 injures,** and $1.2 billion in direct property damage.
- **Electrical distribution and lighting equipment** was the leading cause of structure fires in industrial properties, accounting for 24% of the total, while **heating** was the leading cause of structure fires in manufacturing facilities, accounting for 15% of the total.

https://www.nfpa.org/News-and-Research/Data-research-and-tools/Building-and-Life-Safety/Fires-in-US-Industrial-and-Manufacturing-Facilities

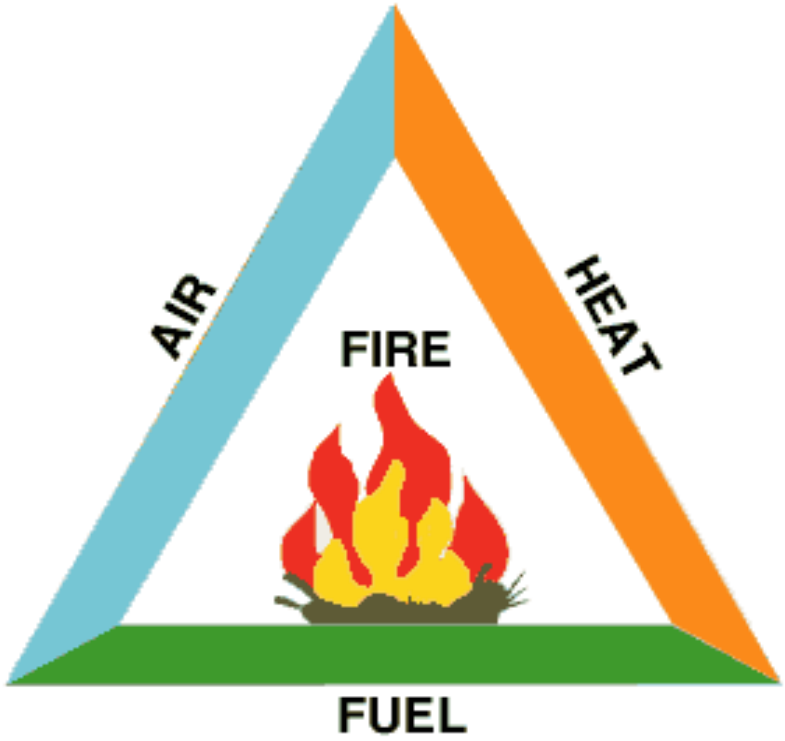
WHY?

- WORK
  - Training
  - Regulations
  - Practice
  - Plans
  - Monitoring
  - Testing
  - Practice
  - Inspections
  - Meetings
  - More Practice
  - Reviews
- HOME
  - Hope for the best

What do I need to know about FIRE?

Fire Triangle

Identify areas that have the highest risk for fire.




I DON'T ALWAYS SMELL SMOKE
BUT WHEN I DO, IT'S ON THE WATER

The killing fumes

- Most fire deaths are not caused by burns, but by smoke inhalation. Often smoke incapacitates so quickly that people are overcome and can't make it to an otherwise accessible exit. The synthetic materials commonplace in today's homes [and workplaces] produce especially dangerous substances. As a fire grows inside a building, it will often consume most of the available oxygen, slowing the burning process. This "incomplete combustion" results in toxic gases.
- Smoke is made of components that can each be lethal in its own way:
  - particles:
  - vapors:
  - toxic gases:
- In addition to producing smoke, fire can incapacitate or kill by reducing oxygen levels, either by consuming the oxygen, or by displacing it with other gases. Heat is also a respiratory hazard, as superheated gases burn the respiratory tract. When the air is hot enough, one breath can kill.

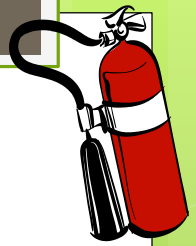
https://www.nfpa.org/News-and-Research/Publications-and-media/Press-Room/Reporters-Guide-to-Fire-and-NFPA/Consequences-of-fire

Elmo says,
"Get LOW and GO!"

Know…

How to dial 9-1-1

(Do you need to dial 9 to get an outside line)



1910.39

- Fire Prevention Plan Requirements
- See handout

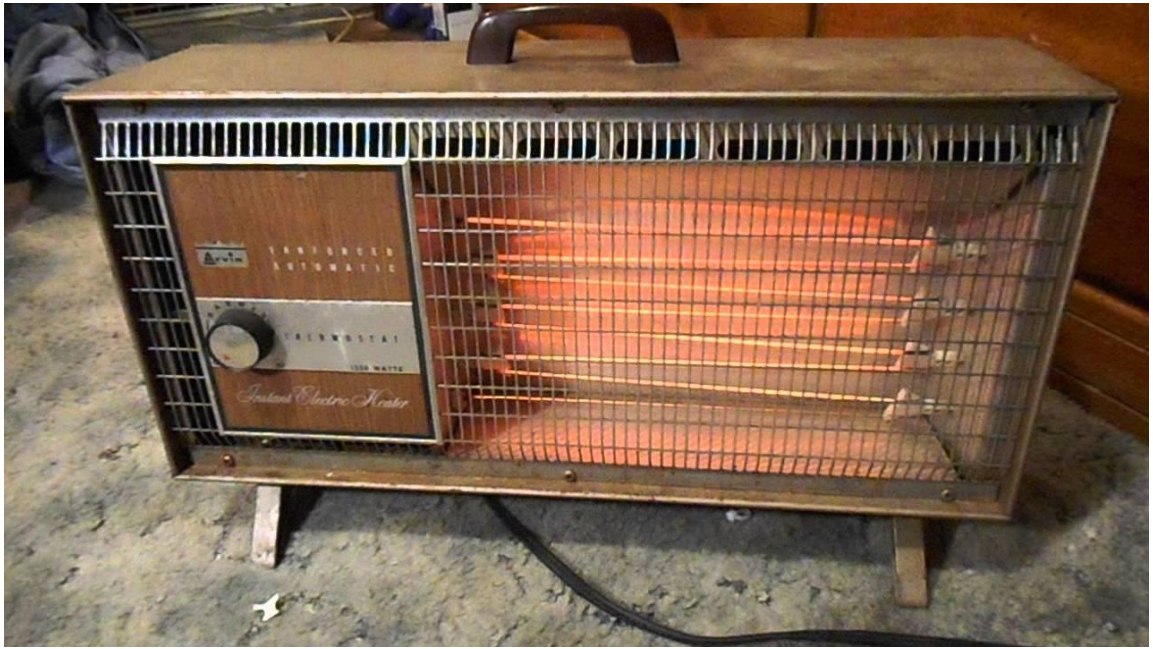
Storage/ Housekeeping

Extension cords

Most common fire causes

Electric cords

Space heaters!



Junction box

Electric panel access

Open panel space

Fire extinguisher accessibility

Interior design

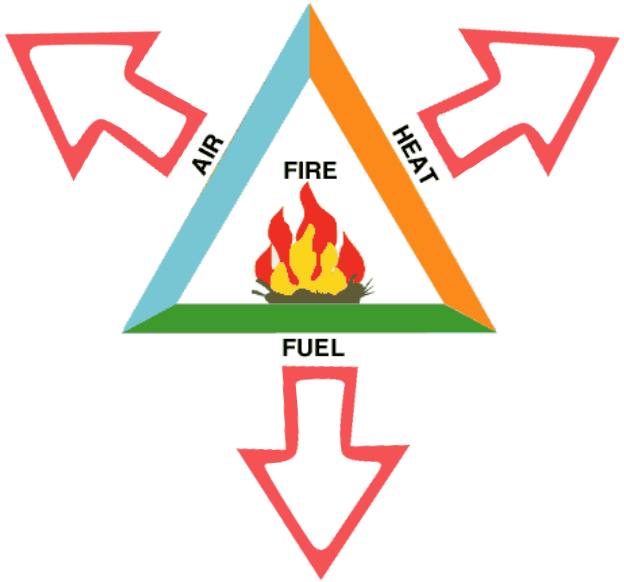
Obstruction

Camouflage

Door hardware

1910.36(d) An exit door must be unlocked.

PREVENTION



- Extension cords
- Electrical Appliances
- Housekeeping
- Soiled rags
- Egress
- Watch for anything that could cause a fire or make it more difficult to put out.

Life Saving Devices

- Sprinklers
- Smoke Detectors
- Fire Doors/ Fire Walls
- Alarms
- Exits - 1910.36 Design & construction requirements for exit routes

The Fire Extinguisher

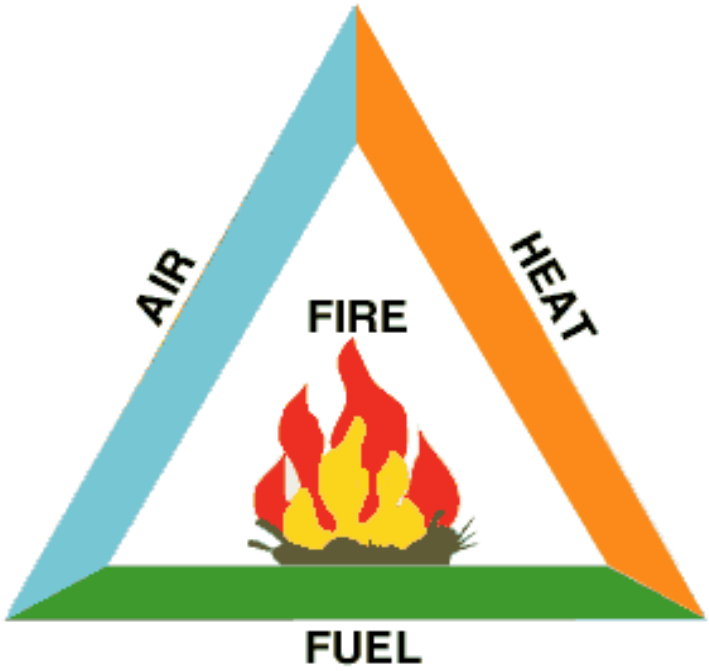
Basics -

- Canister with Label
- Hose and nozzle
- Handle
- Moving lever
- Pin and Tie
- Gauge
- Inspection Tag

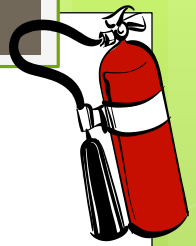
Types

- All shapes & sizes; most common is red
- Pressurized gas to expel:
  - Water Mist - cools
  - Dry Chemicals – removes O2
  - CO2 – removes O2
  - Foam

Fire Triangle



ABC – Dry Chemical



A – Ash

B – Boil

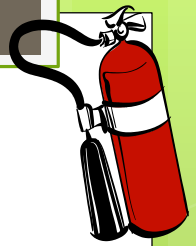
C - Current

Need Help remembering? Try this!

ABC

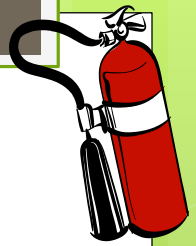
- A – Ash: wood, clothing, curtains, paper, or similar materials
  - water is the extinguishing agent.
- B – Boil: flammable liquids and gases such as gasoline, oil, paints, grease, acetylene, and thinners
  - a CO_2 extinguisher puts out Class B fires

ABC



- C – Current: electricity – motors, compressors, pumps, electrical tools, fuse boxes, and appliances.
  - Dry Chemical will put out Class C fires

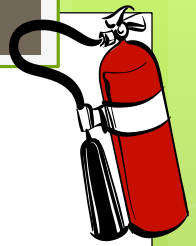
D and K



- D – Metals: exotic metals such as beryllium, titanium, magnesium, and other metals that can burn.

- K – Kitchen/ Cooking Media: Cooking oils & fats typically found in a kitchen

Extinguisher Inspection



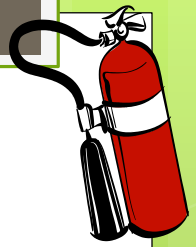
- Inspected monthly & initial the tag
- Inspected annually by a certified company
- Replaced immediately if damaged

What gets inspected?

- Monthly
  - In place
  - Clean
  - Charged (weight)
  - Pin in place (used?)
  - Damaged
- Annually
  - Perfect working condition
  - Mechanics
  - 6Yr Hydro
  - New Tags

Fire Extinguisher Training

Don’t be a hero…



BE SAFE!

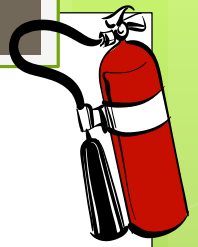
Know when to fight a fire and when to evacuate.

ONLY fight a fire if…

- 911 can be/ has been called
- You are not in danger
- You are not coughing or choking
- You know what's burning
- You have a way out
- The fire is smaller than a trashcan.

Otherwise, EVACUATE!

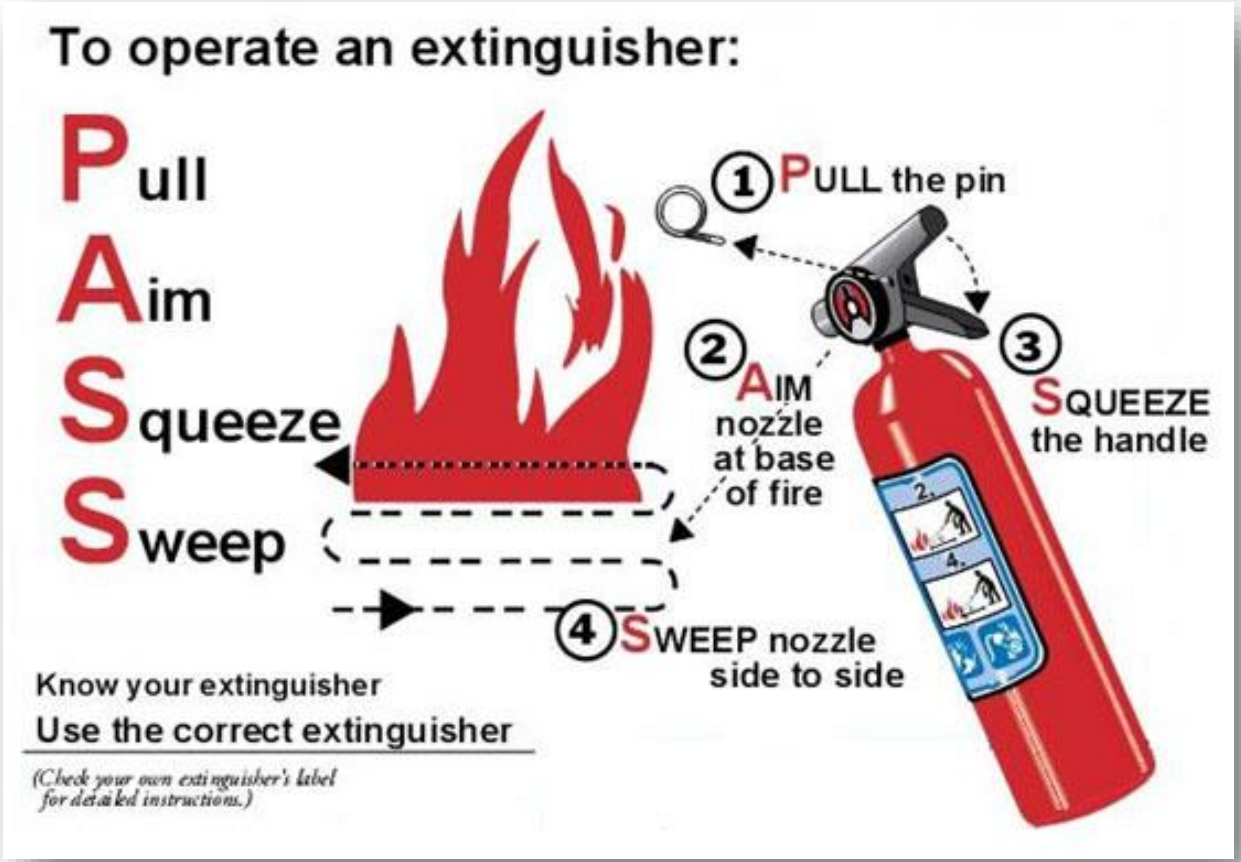
NEVER FIGHT A FIRE THAT IS LARGE OR SPREADING!



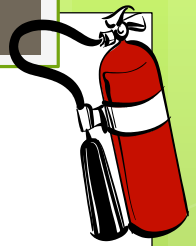
Be Safe!

To Use an extinguisher:

- Remove it from the wall
- Stand 6’-10’ from the fire
  - Better to walk toward the fire if needed
- May set it on the floor


To operate an extinguisher:
Pull
Aim
Squeeze
Sweep
1 PULL the pin
2 AIM nozzle at base of fire
3 SQUEEZE the handle
4 SWEEP nozzle side to side
Know your extinguisher
Use the correct extinguisher
(Check your own extinguisher's label for detailed instructions.)

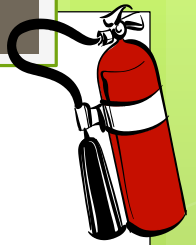
What does PASS mean?



- P – Pull the pin
- A – Aim at the BASE of the fire
- S – Squeeze the trigger
- S – Sweep back & forth at the base

NOTE!

- Difference in CO2 & Dry Chem
- It might be shocking!
- It's heavy
- Broken handle
- Stuck pin



ALWAYS:

- Verify the fire won't reignite before leaving the area – even for a minute!

Be Safe!

Call the Fire Department if the fire gets larger than a trash can.

If you use an extinguisher to put out a fire, the fire department **MUST** inspect the area. May use the non-emergency number.

Call the Fire Department if:

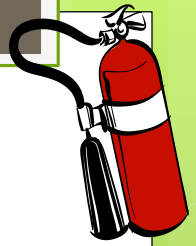
If a 2nd extinguisher is used to put out a fire, the fire department **MUST** be called immediately!

Live training

Don’t be a hero…

BE SAFE!

Know when to fight a fire and when to evacuate.



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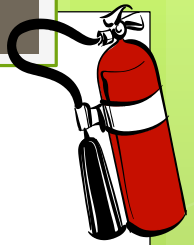
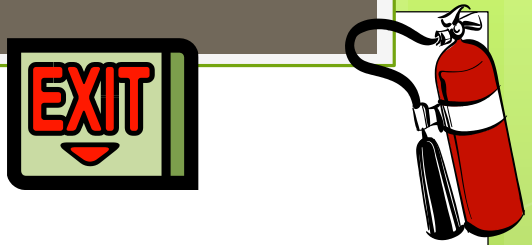
- Emergency Action Plan Requirements
- See handout

Evacuation Drills

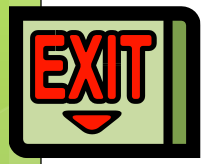


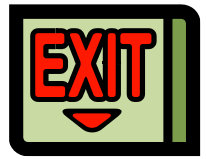
- Annual Training
- Physically Walk Through Process
- Repetition Helps in Crisis
- Take it Seriously
- New Employees



KNOW…

2 WAYS TO GET OUT OF THE BUILDING!

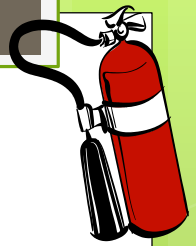


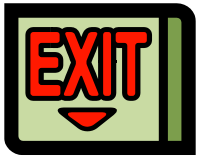


1910.37

- Exit Routes and Emergency Planning
- See handout

Evacuate if…





- You get too scared
- You are in danger
- You are coughing or choking
- You don't know what is burning
- You are trapped
- The fire is larger than a trashcan

EVACUATE!

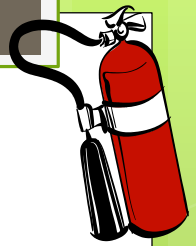
Evacuate if:

- **Evacuate when you hear the evacuation alarm.**
  - You will probably look around for confirmation!
  - Become super alert!
- **Evacuate if the supervisor or employee tells you to evacuate.**

YOU might need to HELP

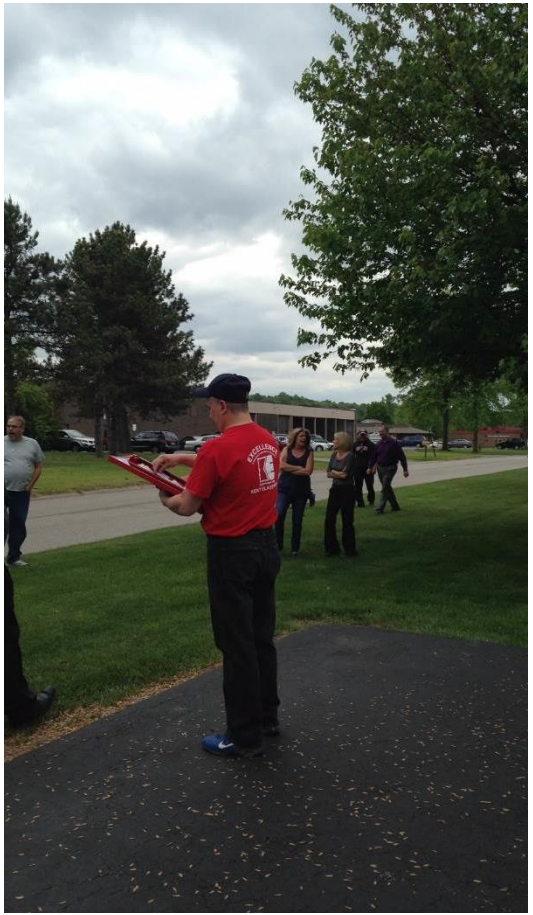
- Sound the alarm
- Verbally alert employees to evacuate
- Get the evacuation kit (near the time clock)
- Get the employee list (time cards)
- Assist with First-aid (get AED, help carry, etc.)
- Attend at the sprinkler valve (It should be OPEN)

RALLY POINT



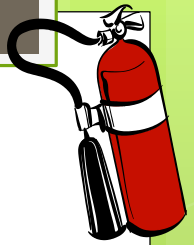
- Gather quickly and quietly at the rally point
- Group together by department
- Take notice of anyone who is not present yet
- Pass on Information to the Fire Department

- Try “GRILLING” your people



Accountability – People are #1

Know…



To dial

9-1-1

DO NOT!!!

- DO NOT go to your locker or office
- DO NOT go to your car
- DO NOT go back inside
- DO NOT leave the site
- DO NOT panic or run
- DO NOT take elevators

Then what happens?

- FD shows up
  - Who can help them?
- Move your people
- Reporters/ Communications
- Next shift comes in
- Who determines when ee's leave or re-enter the building?

RALLY POINT

2013

Practice evacuations

Consider

- Rain
- Snow/ Cold
- Traffic
- Emergency Vehicles
- Office/ Visitors/ Truck Drivers/ Sales People

Autopsy

- What went well?
- What didn't work?
- Ask employees and managers
- Could you hear the alarm all over the building?
- Did everyone know what to do?
- Did we account for everyone?
- What else could go wrong?
- Type a summary and "to do" list to improve!

Contingency Plan Basics

- What would you do if you could not re-enter your building for 2 months?
- How do you carry on your business?
- How do you communicate to your employees? Customers? Suppliers?
- Data recovery

SUMMARY

- Contingency Plan Basics – What if?
- Evacuation Drills – Practice!
- Fire Extinguisher Training – Practice!
- The Fire Extinguisher – P.A.S.S.
- Causes & prevention – Heat sources vs Combustibles
- Fire basics - Fire triangle and Smoke
- Now you know why I care about preventing fires…

  AND YOU DO, TOO!