



COTTINGHAM & BUTLER

RISK MANAGEMENT SAFETY WEBINAR



PRESENTER



SARAH OLSON

Safety Consultant

solson@smcsafety.com

563.585.8986

INTRODUCTION



INTRODUCTION – LESSON OBJECTIVES

- Understand why Emergency Action Plans are needed
 - Evacuation
 - Shelter In Place
 - Other
- Learn the OSHA requirements for emergency escape routes
- Understand the OSHA requirements of Emergency Action Plans
- Identify elements of Fire Protection Plan.
 - Review requirements for proper maintenance of portable fire extinguishers.

EMERGENCY ACTION PLANS

Benefits of an EAP:

- Written document that facilitates and organizes employer and employee actions during workplace emergencies
- Fewer and less severe injuries
- Less structural damage
- Reduce confusion, return to normal operations faster

There are approximately **99,500** fires annually that cost businesses over **\$2.6 billion**

These fires kill more than **60** people (down from 200 in 1995) and injure more than 1,200 people each year (down from 5,000 in 1995)

45% of businesses never reopen after a fire due to the high cost of recovery and repairs

QUESTION 1

Does my company have an emergency action plan (EAP) that includes active shooter and appropriate weather for the area (tornado, earthquake, etc.)?

A – Yes

B – No

C – Our EAP has some of the items

D – Don't know

EMERGENCY ACTION PLANS

Purpose of an EAP:

- Describes actions to be taken to ensure employee safety during an emergency
 - Fire / Explosion
 - Tornado / Severe Weather
 - Earthquakes
 - Chemical Spills
 - Workplace Violence / Threats
 - Utility Failure
 - Medical Emergency
- Uses floor plans/maps to show emergency escape routes
- Tells employees what actions to take
- Covers reasonably expected emergencies

REQUIRED ELEMENTS OF EMERGENCY ACTION PLANS

- Means of reporting
- Evacuation procedures and emergency escape routes
- Procedures for critical operations
- Accounting of employees
- Rescue and medical duties
- Contact persons



Source of graphics: OSHA

EMERGENCY ACTION PLANS

Training employees on the EAP

- Review plan with each employee
 - Initial development of plan
 - Initial assignment of employee to job
 - Changes to plan or employee actions/responsibilities
- Annual retraining with drills to practice evacuation and gathering in assembly area
- Educate/train



Source: OSHA

EMERGENCY ACTION PLANS

General training

- Roles and responsibilities
- Threats, hazards, protective actions
- Notification, warning, communications
- Locating family members
- Location/use of emergency equipment
- Procedures
 - Emergency response
 - Evacuation and shelter-in-place
 - Assembly and accounting of employees
 - Emergency shut-down



Source of graphics: OSHA

EMERGENCY ACTION PLANS

Examples of procedures:

- Methods of reporting an emergency
- Instructions for exit
- Instructions for limited mobility



Source of graphics: OSHA

EMERGENCY ACTION PLAN

Emergency Action Plan – Big Bang Theory video clip



Emergency Action Plan Big Bang Theory

WORKPLACE CONDITIONS REQUIRING EVACUATION

Man-made emergencies

- Fires
- Explosions
- Toxic material releases
- Radiological/biological incidents
- Civil disturbances
- Workplace violence

Natural emergencies

- Floods
- Earthquakes
- Hurricanes
- Tornadoes
- Wildfires
- Winter weather

CONDITIONS REQUIRING EVACUATION

Factors affecting response to emergencies:

- Type/extent of emergency
- Location of emergency
- Type of building in which workplace is located
- Shutting down critical operations



Source of graphics: OSHA

CONDITIONS REQUIRING EVACUATION

Fire emergencies: Fight or Flee?

Options for evacuation

- Total evacuation
- Designated employees authorized to fight fire; all others evacuate
- All employees authorized to fight fire
- Extinguishers provided but not intended for employee use



Source of graphics: OSHA

CONDITIONS REQUIRING EVACUATION

Fire emergencies: Fight or Flee?

Performing a risk assessment

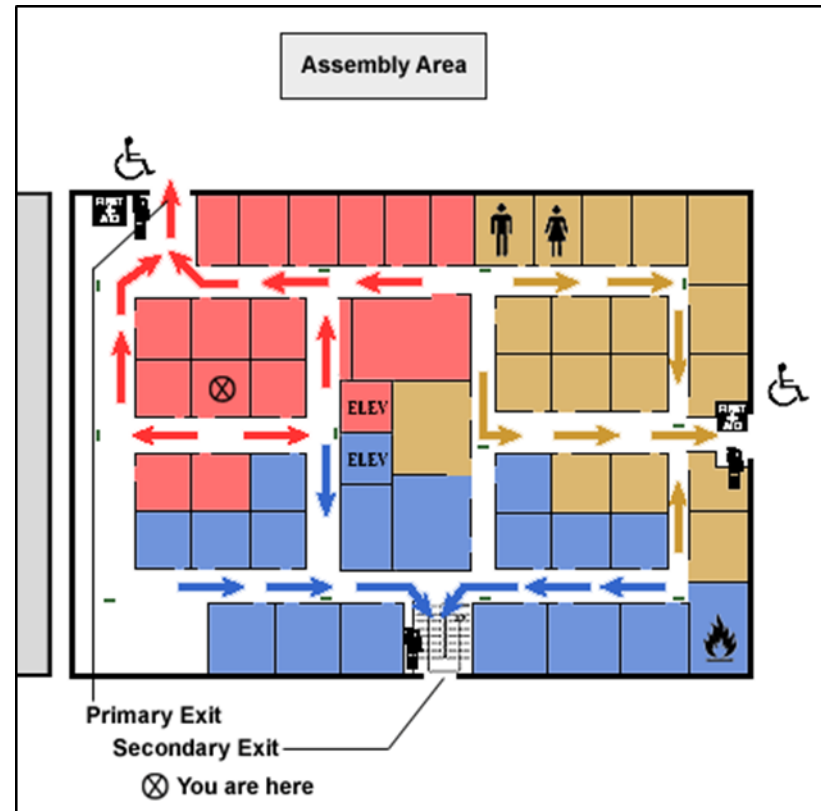
- Is the fire too big?
- Is the air safe to breathe?
- Is the environment too hot or smoky?
- Is there a safe evacuation path?



Source: OSHA

EVACUATION MAPS

- Exits: to, thru, and away
- At least two ways out
 - Primary exit
 - Secondary exit
- Assembly area
- Location on the map
- Additional information –
Location of fire extinguishers



Source: OSHA

EVACUATION ACTIONS

Alerting employees to evacuate

- Alarm
- Enunciator panel/speaker
- Under 10 employees may use a verbal signal



Accounting for who has exited

- How is that accomplished



Keeping employees informed

- All clear, re-enter, or remain at assembly point
- Clear to leave workplace



Source of graphics: OSHA

LOCKING EXITS

Must not install any lock or fastening that impedes or prevents escape from the inside of any building.

White Snake Concert 2003

Station Nightclub, RI

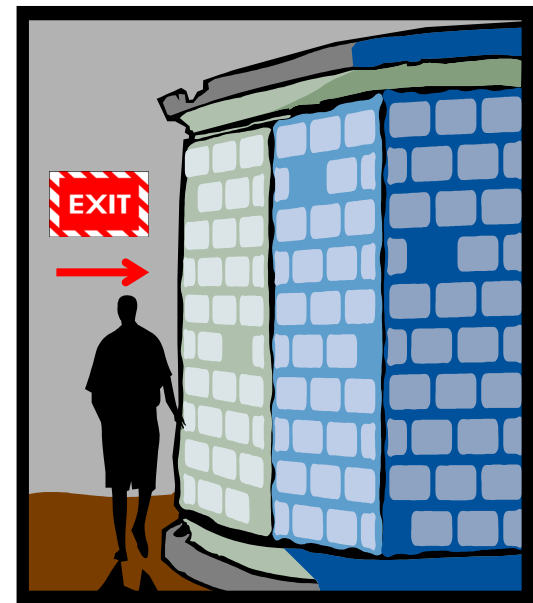
- 100 Killed
- 230 Injured
- 132 Escapes



EMERGENCY ESCAPE ROUTES

Clearly communicate 3 elements of escape route

- Exit access pathway
- Nearest exits from all points of building
- Pathway away from building structure



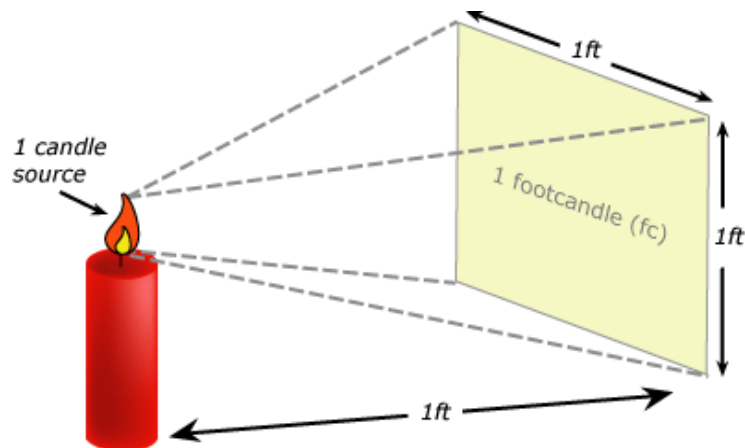
Source of graphics: OSHA

EXIT MARKING

Must have minimum foot-candles of illumination

- Surface value of 5 ft candles

Signs must be located and configured so as to be readily visible.



CRITICAL PLAN OPERATIONS

Designate workers to shutdown critical systems

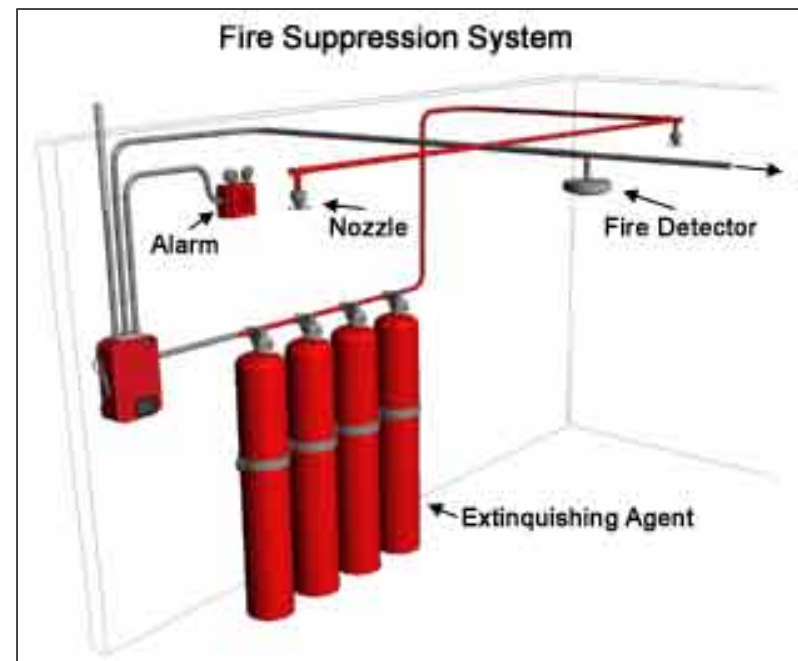
- Gas
- Electrical
- Plant equipment

Monitor plant power supplies



EXTINGUISHING FIRES

- Methods of fire protection:
- Fixed extinguishing systems
- Fire brigades
- Fire extinguishers



Source of graphics: OSHA

EXTINGUISHING FIRES

Portable fire extinguisher training and education

- Required for employees authorized to use fire extinguishers
- General principles of fire extinguisher use
- Hazards of incipient stage fire fighting
- Operation of equipment (instruction and hands-on practice)
- Required upon initial employment/ assignment and annually thereafter



EXTINGUISHING FIRES

Classes of fires:

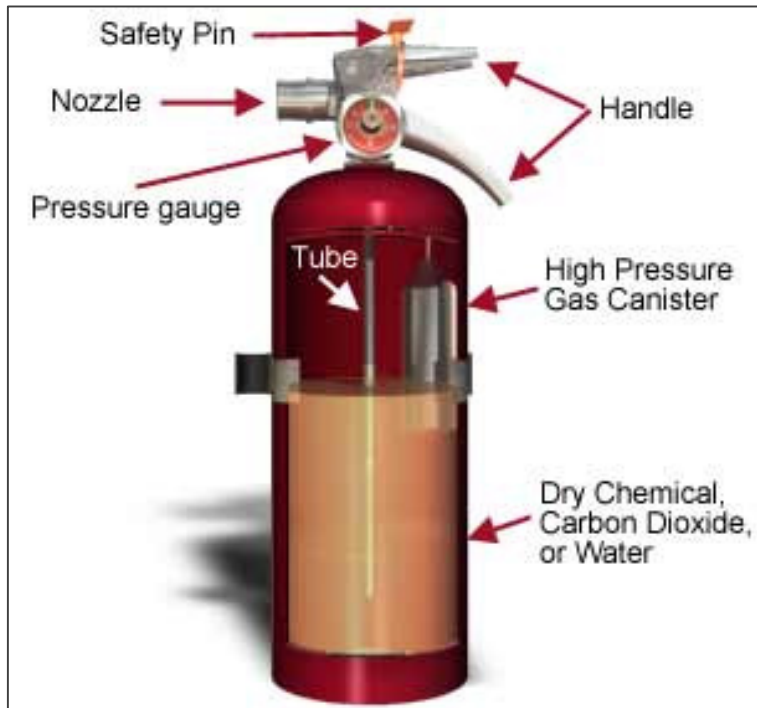
- Class A – ordinary combustibles
- Class B – flammable liquids and gases
- Class C – energized electrical equipment
- Class D – combustible metals
- Class K – cooking oils and greases



Source: OTIEC

EXTINGUISHING FIRES

Parts of a fire extinguisher and labels



Source of graphics: OSHA

EXTINGUISHING FIRES

Using a fire extinguisher:

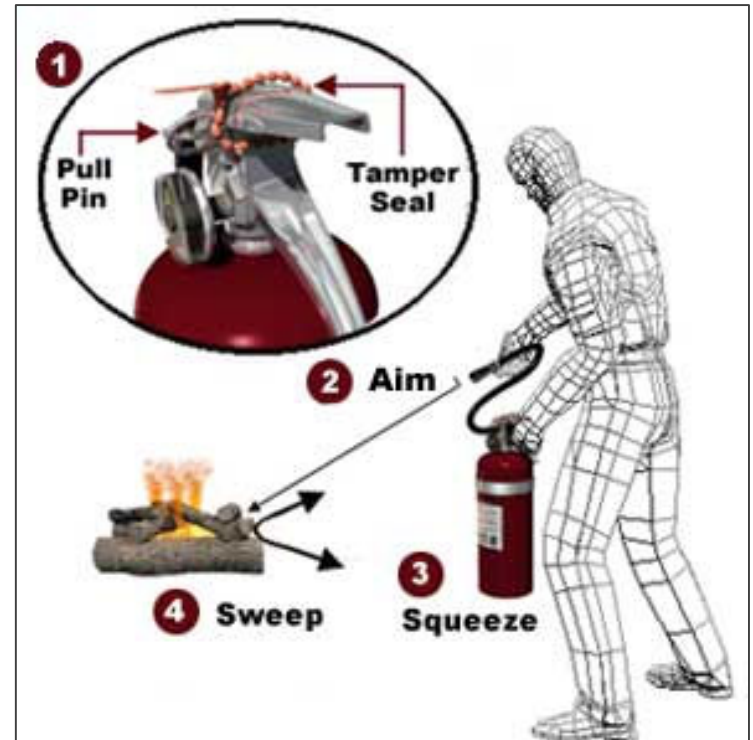
Steps to follow

- Sound alarm; call fire department
- Identify safe evacuation path
- Select appropriate fire extinguisher
- Discharge extinguisher using P.A.S.S. technique
- Back away once extinguished
- Evacuate immediately if necessary
 - Extinguisher empty and fire is not out
 - Fire progresses beyond incipient stage

EXTINGUISHING FIRES

P.A.S.S. technique

- Pull the pin
 - Aim at base of fire
 - Squeeze handle
 - Sweep side-to-side at base of fire until fire appears out
-
- Watch area for re-ignition and repeat steps 2 – 4;
 - When in doubt,
EVACUATE IMMEDIATELY!



Source: OSHA

MAINTENANCE OF EXTINGUISHER

Elements of inspection:

Inspect bottle, handle, hose, and gauge for proper working order

Inspection tag

- Month and Year put in service current (annual)
- Monthly visual inspections completed (monthly)
- Extinguisher product still free-flowing inside bottle (turn upside down and/or shake)

EMERGENCY ESCAPE ROUTES

Exit routes:

Continuous and unobstructed path of exit travel from any place in workplace to safety

Exit access, exit, exit discharge

Should be:

- Clearly marked
- Well-lit
- Appropriate width
- Unobstructed/clear
- Accessible (not require key to leave an area)

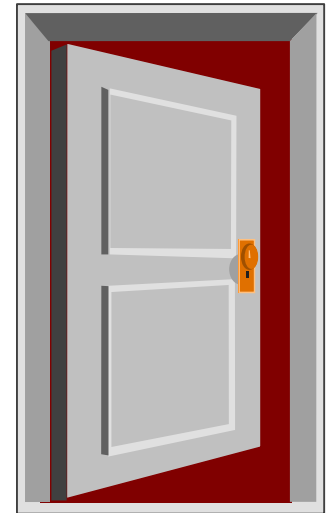


Source: TEEX

EMERGENCY ESCAPE ROUTES

Basic exit route requirements:

- Permanent and accessible at all times
- Separated by fire-resistant materials
- Limited openings
- Adequate number of exit routes
- Discharge leading directly outside or to a place with access to outside
- Exit door unlocked from inside and side-hinged if room occupied by more than 50 people or contains high hazard contents
- Adequate capacity
- Minimum height and width



Source of graphics: OSHA

POLL QUESTION 2

Has my location conducted an emergency evacuation or take cover drill?

A – Complete annually for take cover and evacuation

B - Completed one in the past year

C – Completed one in past 3 years

D – We have never done one

EMERGENCY DRILLS

- Shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine.
- Drills must be planned by leadership
- To be held at **expected and unexpected times** and under varying conditions
- Shall be Initiated by the fire alarm system when present
- Drill participants shall assemble in designated areas
- Orderly evacuation should be priority vs. speed
- Occupants should be accounted for
- A record shall be kept
- Conduct a debrief of drill activities

CONDITIONS REQUIRING SHELTER-IN-PLACE

Incidents that may require shelter-in-place:

- Release of chemical, biological, or radiological contaminants
- Severe weather – tornadoes
- Other situations occurring outside the workplace



Source: CDC



Source: FEMA Region VI

CONDITIONS REQUIRING SHELTER-IN-PLACE

Shelter-in-place:

- Means taking refuge in interior room(s) with no/few windows
- Local authorities often issue shelter-in-place advice via TV, radio, text
- Procedures specific to worksite



Source of graphics: OSHA



CONDITIONS REQUIRING SHELTER-IN-PLACE

Planning shelter-in-place actions:

- Alerting employees – shelter-in-place
- Accounting for who is in refuge
- Keeping employees informed



Source of graphics: OSHA

ACTIVE SHOOTER POSSIBILITY

- Active Shooter executes a random or systematic indiscriminant shooting spree
- The objective is mass murder rather than criminal intent
- Potential Types of Active Shooters:
 - Angry customer
 - Patient's family member
 - Mentally unstable individual
 - Disgruntled employee
 - Domestic violence spillover
 - Not concerned with dying
 - Will move freely until stopped by police, suicide, or us

HUNTERS VS HOWLERS

Hunters

- Make overt threats
- Draw attention
- Frighten intentionally

Howlers

- Develops a plan
- Acquires necessary tools
- Works in stealth
- Attacks without apparent warning

ACTIVE SHOOTER RESPONSE

- 911 called
- Plan for survival
 - Hide-Run-Fight
- Police arrive
 - Comply, obey, and remember everyone is suspect
- Police will bypass victims, be calm
- Only evacuate when ordered by officers
- Never enter site to help

POLL QUESTION 3

Does my location have a fire prevention plan?

A – Yes, reviewed annually

B – Yes, it's saved / stored somewhere

C – Not that I know of

D – What's a fire prevention plan?

FIRE PREVENTION PLAN REQUIREMENTS

Must be

- In writing
- Kept in the workplace
- Available to employees for review

Employer must

- Inform employees of fire hazards when initially assigned to a job
- Review with each employee applicable FPP parts



Source: OSHA

FIRE PREVENTION PLAN

Included in FPP

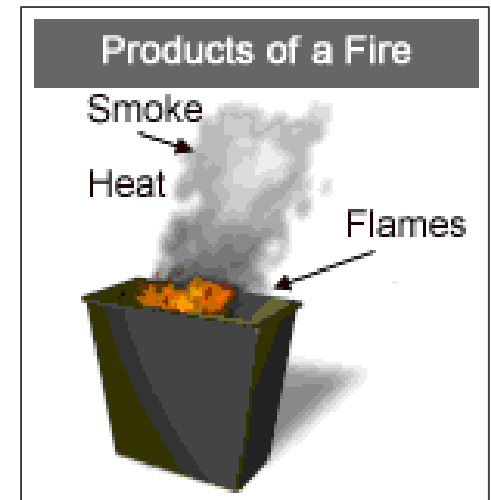
- Lists of all major fire hazards, proper handling and storage of hazardous materials, ignition sources/controls, and fire protection equipment
- Procedures to control flammable/combustible wastes
- Procedures for maintenance of safeguards on heat-producing equipment
- Name/job titles of employees with responsibilities for maintenance of equipment and control of hazards

FIRE PREVENTION PLAN

Preventing fires hazards:

Understanding fires

- Rapid chemical reaction between oxygen and a combustible material
- Results in release of heat, light, flames, and smoke
- Requires four elements:
 - Oxygen
 - Ignition source (heat)
 - Fuel
 - Chemical reaction



Source of graphics: OSHA

FIRE PREVENTION PLAN

Ignition sources

- Open flames
- Smoking
- Static electricity
- Hotwork
- Hot surfaces
- Electrical and mechanical sparks
- Lightning



Source: CDC



WARNING	
NO SMOKING--NO HOT WORK	
SPRAY PAINTING	
PAINT TYPE	124 White
COMP # / LOCATION	2-300-0-L Compartment
SHIFT	Second L/P Joe Painter
START DATE	6-14-2001
FINISH DATE	6-18-2001
AUTHORIZED PERSONNEL ONLY	

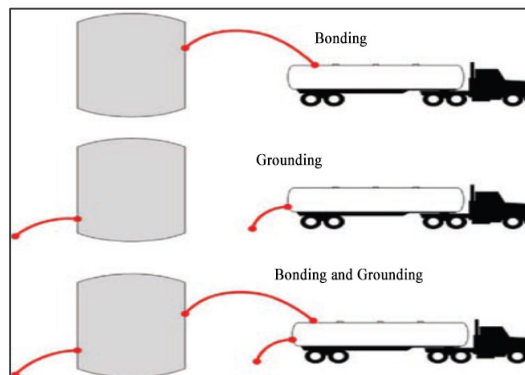


Source of graphics: OSHA

FIRE PREVENTION PLAN

Tasks that require fire protection and examples of hazards

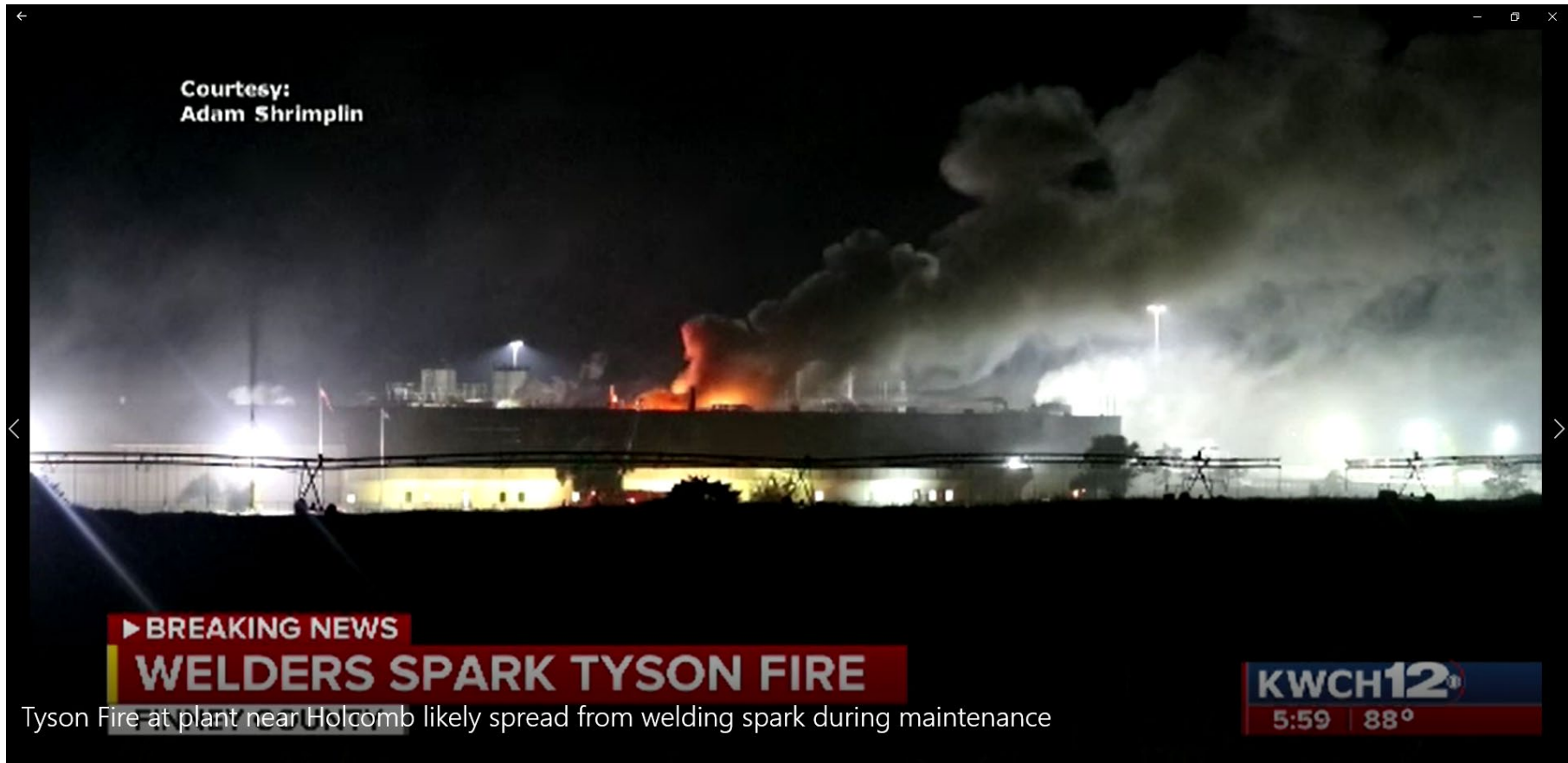
- Hotwork – 30-minute fire watch
- Dispensing flammables and combustibles: gasoline, diesel, or natural gas
- Flammable wastes: solvent waste, oily rags, and flammable liquids



Source of graphics: OSHA



TYSON FOODS FIRE – AUGUST 9, 2019



FIRE PREVENTION PLAN

Handling of flammable hazards

- Only use approved metal safety containers or original manufacturer's containers for storage
- Practice good housekeeping
- Keep containers closed when not in use
- Store away from exits or passageways
- Keep away from ignition sources



Source of graphics: OSHA

FIRE PREVENTION PLAN

Fire protection equipment

- PPE
- Fire Suppression
 - Portable fire extinguishers
 - Fixed systems



Source of graphics: OSHA

IN SUMMARY

- There must be enough exits in the proper arrangement for quick escape
- Escape routes must be marked, lighted, free of obstructions, and locks must not be used to impede or prevent escape
- An emergency action plan and a fire prevention plan must be in place
- Fire extinguisher classes and numerical ratings help a user understand its capabilities
- Fire extinguishers must be inspected, maintained and employees must be trained in how to use them



Patty Mackey

Administrative Assistant

pmackey@smscsafety.com

Questions?