Continuing Education for the Fire Fighter

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Fire Control

Module 3

Chapter 17

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LEARNING OBJECTIVES

Explain fireground roles and responsibilities a firefighter II may need to coordinate.

Discuss the process of establishing and transferring Command.

Describe hazards that may be present at fires in underground spaces.

List safety precautions that should be taken at flammable/combustible liquid fire incidents.

LEARNING OBJECTIVES

Recognize methods used when coordinating operations at a property protected by a fire suppression system.

Explain ways to use water to control Class B fires.

Compare methods used to suppress bulk transport vehicle fires and flammable gas incidents.

Establish Incident Command and coordinate interior attack of a structure fire.

Control a pressurized flammable gas container fire.

FIREGROUND OPERATIONS REQUIRE SPECIFIC KNOWLEDGE OF PRIORITIES AND TACTICS.

Emergency incident priorities	• Life safety • Incident stabilization • Property conservation
Tactics	• Rescue • Exposures • Confinement • Extinguishment • Overhaul • Ventilation • Salvage

FIREFIGHTER II DUTIES INCLUDE KNOWING THE PRINCIPLES OF SITUATIONAL AWARENESS.

Apply to recognize changes, predict effects

→

Listen to firefighters around you

→

Depends on open communication of crew – Not a vote

FIRST-ARRIVING ENGINE COMPANY ACTIONS CAN VARY DEPENDING ON THE DEPARTMENT.

THE FIRST-ARRIVING ENGINE COMPANY PERFORMS SCENE EVALUATION AND TAKES ACTION BASED ON THAT INFORMATION.

May lay supply line if smoke, fire visible

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Assess using evaluation questions

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Request additional resources

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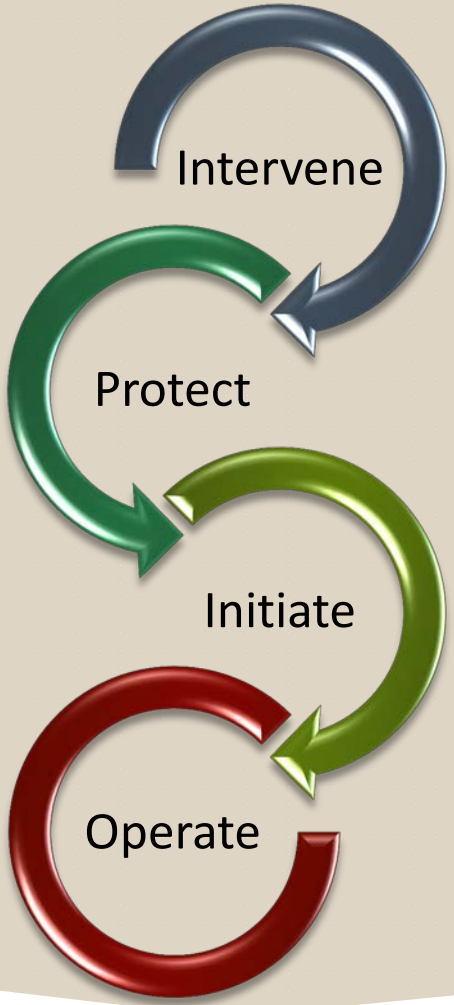
Protect exposures if no obvious life safety concerns

ACCOMPLISH THESE PRIORITIES AFTER SIZE-UP AND A 360-DEGREE SURVEY IS COMPLETE.



THE SECOND-ARRIVING ENGINE COMPANY ADDRESSES WATER SUPPLY FIRST.

Factors that determine need to pump hoselines from hydrant

- Size, quantity of hoselines
- Distance from hydrant to scene
- Available water pressure

Perform other tasks as assigned by IC

FIREGROUND SUPPORT COMPANIES PERFORM TASKS DICTATED BY THE SITUATION.

Initially

- Check outside for victims
- Raise ladders
- Force entry for simultaneous interior attack, search and rescue

Search

- Not put firefighters at risk of severe injury, death
- May begin in areas likely inhabited
- Conduct systematically
- Priority areas

FIREGROUND SUPPORT COMPANIES PERFORM TASKS DICTATED BY THE SITUATION.

May assist engine company in fire attack

- Accompany hose team
- Place ground ladders, set up lighting, other exterior functions

Blitz attack – Must be coordinated

A RAPID INTERVENTION CREW/TEAM MUST MEET BASIC REQUIREMENTS.

Number needed established by SOPs

Two or more members wearing complete PPE, respiratory protection

Equipment

Stop other duties immediately if deployed

A RAPID INTERVENTION CREW/TEAM REPORTS TO THE IC AND PERFORM TASKS AS ASSIGNED.

- Staging equipment
- Sizing up possible paths of egress
- Completing 360-degree survey
- Removing barriers to egress
- Monitoring radio traffic for distress calls
- Clearing windows
- Placing ladders
- Opening exits
- Illuminating building

CAUTION

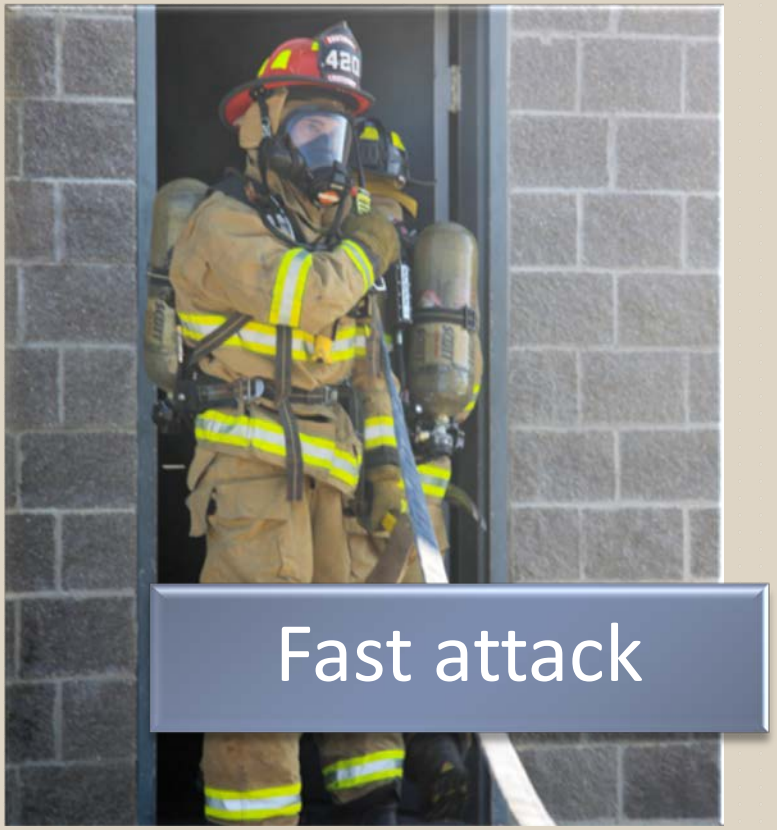
Do not allow additional assigned duties to prevent you from deploying in your primary rescue capacity when working as a RIT/RIC member.

A CHIEF OFFICER OR INCIDENT COMMANDER MAY ASSUME EITHER COMMAND OR ANOTHER ROLE ON SCENE.

May choose if-

- Incident well organized
- Made progress toward stabilization

ESTABLISHING DIFFERENT COMMAND OPTIONS SHOULD BE PERFORMED ACCORDING TO LOCAL SOPS.



SOME SITUATIONS REQUIRE YOU TO NAME THE INCIDENT AND ESTABLISH THE INCIDENT COMMAND POST.

Combat command

Formal command

TRANSFERRING COMMAND SHOULD BE DONE CORRECTLY TO AVOID CONFUSION.

- Communicate face-to-face or over radio
- Brief relieving officer

THE MOST IMPORTANT SAFETY FACTOR FOR FIRES IN UNDERGROUND SPACES IS RECOGNITION OF INHERENT HAZARDS.

- Equipment must be intrinsically safe
- Expect atmospheric, physical hazards
- Plant, building supervisors can provide information
- Use preincident plans
- Be ready with prearranged plans

LOCATION OF COMMAND FOR A FIRE IN AN UNDERGROUND SPACE MUST BE OUTSIDE THE HOT ZONE.

- Near, not obstructing entrance
- No entry until IAP developed, communicated
- Accountability officer, incident safety officer tracks entering, leaving

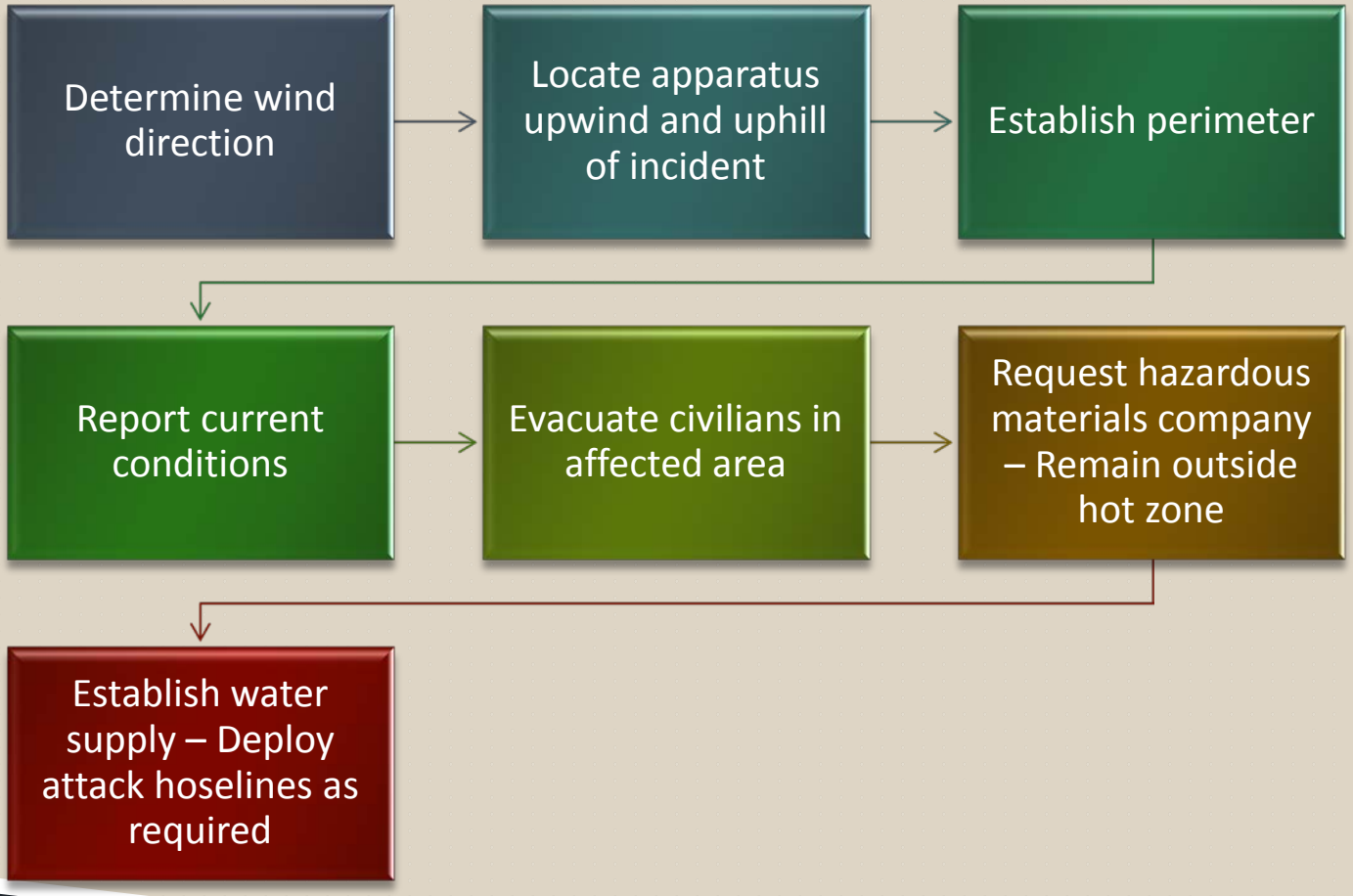
KEEP SOME LIMITATIONS IN MIND WHEN ATTACKING AN UNDERGROUND SPACE FIRE.

- Tire more quickly, consume air faster
- Relieve before out of air
- Effective-air management part of IAP

YOU SHOULD KNOW WHAT CLASS B FIRES INVOLVE AND HOW THEY CAN BE CAUSED.

- Involve
  - Flammable liquids
  - Combustible liquids
  - Further broken into
    - Hydrocarbons
    - Polar solvents
- Caused by
  - Spill or leak resulting from vehicle accident
  - Natural disaster
  - Opened valve

CLASS B FIRES REQUIRE SPECIFIC ACTIONS.



THERE ARE SEVERAL SAFETY PRECAUTIONS TO FOLLOW AT FLAMMABLE, COMBUSTIBLE LIQUID FIRE INCIDENTS.

Avoid standing in pools of fuel or runoff water with fuel on top

- Protective clothing can absorb fuel
- Extreme danger if pool ignites
- Benzene known carcinogen
- Remove soaked PPE from service until cleaned

WARNING

PPE soiled with flammable and combustible liquids may ignite when exposed to heat.

THERE ARE SEVERAL SAFETY PRECAUTIONS TO FOLLOW AT FLAMMABLE, COMBUSTIBLE LIQUID FIRE INCIDENTS.

Do not extinguish burning liquids

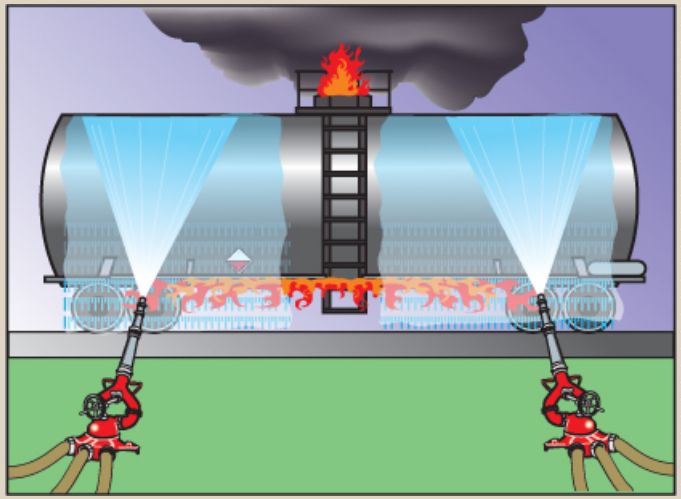
- Around relief valves or piping until leak controlled

Be aware of increase

- In intensity of sound or fire from relief valve

THERE ARE SEVERAL SAFETY PRECAUTIONS TO FOLLOW AT FLAMMABLE, COMBUSTIBLE LIQUID FIRE INCIDENTS.

Recognize conditions created when liquid heated in closed container



YOU SHOULD WORK TO SUPPORT A FIXED FIRE SYSTEM WHEN ONE IS PRESENT.

Recognize hazards particular to system

- Oxygen depletion
- Poor visibility
- Energized electrical equipment
- Toxic environments

Preincident plans contain

- SOPs
- Procedures for response units
- Building site plan

THERE ARE SEVERAL TYPES OF WATER-BASED SYSTEMS THAT MAY BE USED.

- Operation based on underground pipes, tanks
- Automatic sprinkler system
- Standpipe system
- Foam system

NONWATER-BASED SYSTEMS ARE ALSO FOUND IN A VARIETY OF TYPES.

WATER MUST BE COMBINED WITH OTHER METHODS TO CONTROL CLASS B FIRES.

Mechanical tool

WARNING

Only firefighters who have practiced using hoselines for crew protection should do so during an emergency.

BULK TRANSPORT VEHICLE FIRES USE SIMILAR TECHNIQUES TO THOSE APPLIED IN FLAMMABLE FUEL STORAGE FACILITIES.

Similarities

- Amount of fuel
- Possibility of vessel failure
- Danger to exposures

Differences

- Increased life safety risks
- Reduced water supply
- Difficulty in identifying products, containing
- Force of collisions
- Instability of vehicles
- Location

BULK TRANSPORT FIRES REQUIRE CONSIDERATION OF TRAFFIC AND OTHER APPROACH TECHNIQUES.

Traffic passing at near-normal speeds

Determine nature of cargo

Protect environment

FLAMMABLE GAS INCIDENTS OCCUR IN ONE OF SEVERAL DISTRIBUTION METHODS.

Distribution systems
- Pressure ranges

Cylinders marked
- Compressed natural gas (CNG)

Shipped, stored as liquid (LNG)
- Subject to BLEVE

DURING A FLAMMABLE GAS INCIDENT THE FOLLOWING ISSUES SHOULD BE ADDRESSED.

Contact utility company immediately

Approach from, stage on upwind side

Wear full PPE

First concerns

- Evacuate
- Eliminate

Service connections may have been damaged

WARNING

If gas is burning from a broken gas pipe, do not extinguish the fire. Provide protection for exposures.

SUMMARY

Coordinating fireground operations requires knowledge of the roles and responsibilities of each team present on-scene as well as effective establishment and transfer of command.

SUMMARY

When supervising teams it is important to understand the unique considerations required for attacking not only structure fires, but also Class B liquids and gas fires.