

NORTH BERRIEN FIRE RESCUE DEPARTMENT

Category: Emergency Operations

Issued: 2010.01 Updated:

Title: Fire Ground Factors

OPERATIONAL POLICIES

Policy: 09-003

Issued By: F/C Spiegel

PURPOSE

The fire ground can have many different factors that dictate how a fire will be fought and how firefighters should fight the fire.

SAFETY CONCERNS

Firefighters must understand the different factors involved in complex fire ground situations to have a better appreciation for all the hazards associated with working in and around the fire ground.

GUIDELINE

Fire ground factors offer a standard list of basic items the Incident Command must consider in the evaluation of tactical situations. Command is faced with many factors that will influence decisions that are made on the fire ground, many of which may be based on incomplete information, past experiences, and instinct. Some of the more specific factors an Incident Command must consider are as follows:

- **Visual Factors** - These factors include those obvious to visual observation and those absorbed subconsciously. This visual information is categorized as the type that can normally be gained by actually looking at a tactical situation from the outside.
- **Reconnaissance Factors** - These factors include information that is not visually available to Command from a position on the outside of an emergency and must be gained by actually sending in companies to gather information and relay to Command.
- **Pre-planning and Familiarity Factors** - These factors include the intelligence that is gained from formal pre-fire planning, general informal familiarization activities and from CAD. (for example; building drawings, hazardous materials lists, etc.). Such intelligence increases the information initially available to Command from the outside situation.

Building

- Size up roof type (Bow string, bar joist, etc.) and condition
- Interior arrangement/access (stairs, halls, elevators)
- Construction type (balloon frame, TJI floors, etc.)
- Age- Condition - faults/weaknesses
- Value
- Compartmentalization/separation
- Vertical-horizontal openings, shafts, channels
- Outside openings - doors and windows/degree of security
- Utility characteristics (hazards/controls)
- Concealed spaces/attic characteristics
- Exterior access
- Effect the fire has had on the structure (at this point)
- Time projection on continuing fire effect on building

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Fire

- Size
- Extent (% of structure involved)
- Location of fire and direction of travel
- Time of involvement- How long has it been burning
- Type of amount of material involved - structure/interior finish/contents/ everything
- Type and amount of material left to burn

Occupancy

- Specific occupancy and type-group (business, mercantile, public assembly, institutional, residential, hazardous, industrial, storage, school)
- Value characteristics associated with occupancy
- Fire load (size, nature)
- Status (open, closed, occupied, vacant, abandoned, under construction)

Occupancy associated characteristics/hazards

- Type of contents (based on occupancy)
- Property conservation profile/susceptibility of contents to damage/need for salvage
- Life Hazard
- Number of occupants and their location relative to the fire
- Condition of occupants (by virtue of fire exposure)
- In-capacities of occupants
- Commitment required for search and rescue resources that need to be allocated
- Fire control required for search and rescue
- Needs for EMS
- Exposure of spectators/control of spectators
- Hazards to fire personnel
- Accessibility to rescue victims
- Characteristics of escape routes/avenues of escape
- Arrangement
- Access, arrangement, and distance of external exposure
- Combustibility of exposures
- Value of exposures
- Estimated avenue/direction of spread
- Obstructions to operations
- Capability/limitations on apparatus movement and use
- Time of day/night
- Day of week / Season
- Special hazards by virtue of holidays and special events
- Weather (wind, rain, heat, cold, humid, visibility)
- Traffic conditions

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Resources

- Personnel and equipment on scene
- Personnel and equipment responding (ARA, Mutual Aid)
- Personnel and equipment available in reserve or in staging
- Estimate of response time additional resources
- Condition of personnel
- Capability and willingness of personnel
- Capability of Command personnel
- Availability of hydrants
- Supplemental water sources
- Adequacy of water supply
- Built-in private fire protection (sprinkler, standpipe, alarms)
- Outside agency resource and response time

The effective Command Officer can only deal with a limited number of factors of any kind on the fire ground. Within the framework of that limitation, the identification of critical factors is extremely important. All the factors are not critical in any one tactical situation. Command must identify the critical fire ground factors that are significant in each tactical situation. Understanding the wide array of items that are dynamic during an emergency is critical for everyone working on the fire ground. Incident Command must make an initial action plan based on the tactical priorities and fire ground factors at that moment in time. It is not uncommon for an Incident Command to have to modify an action plan as an event unfolds.