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Report of the Week

What flashover?

10/8/2009

Report Number: 09-171

Report Date: 02/13/2009 09:33

Synopsis

Underestimated fire conditions endangers FF.

Demographics

Department type: Paid Municipal

Job or rank: Fire Fighter

Department shift: 24 hours on - 48 hours off

Age: 34 - 42

Years of fire service experience: 21 - 23

Region: FEMA Region IV

Service Area: Suburban

Event Information

Event type: Fire emergency event: structure fire, vehicle fire, wildland fire, etc.

Event date and time: 01/12/2009 02:59

Hours into the shift:

Event participation: Involved in the event

Weather at time of event: Clear and Dry

Do you think this will happen again?

What were the contributing factors?

- Human Error
- Individual Action
- Situational Awareness
- Teamwork
- Training Issue

What do you believe is the loss potential?

- Life threatening injury

Event Description

The first arriving engine found a fully involved two story wood truss apartment fire. The occupants escaped via jumping from the balcony prior to arrival. This information was transmitted by the first arriving officer. The fire attack team underestimated the fire conditions and selected a 200 ft, 1¾" fog nozzle attack line and the nozzle man entered the fully involved space alone. Shortly after, the firefighter was driven out by the intense heat.

If he arrived prior to full room involvement he would have experienced flashover as he failed to recognize post-flashover conditions. The safety officer, upon his arrival within five minutes of initial dispatch, recognized the fire conditions and immediately ordered the attack team to rehab and reported his findings to the incident commander.

The incident commander, upon his arrival within five minutes of the initial dispatch, ordered and confirmed personnel accountability reports and switched to a defensive mode by applying the first in attack engine's master stream deck gun. Upon learning of the firefighter's personal protective equipment and helmet conditions, he ordered the firefighter to be transported to the hospital for complete evaluation.

This department will be conducting flashover recognition training in the coming months. Although the building has been condemned, it was not a total property loss, because of the rapid deployment of the master stream. The fire was contained to the occupancy, but the damage to the wood trusses was substantial. At this time the full investigation has not been completed.

The main point of this posting is to prevent the failure to recognize pre-flashover conditions by everyone not just officers. Had this ten-year firefighter entered minutes earlier, he would have been more than five feet into the structure as it flashed.

Accountability and safety is the responsibility of everyone. There is no excuse for lack of training and responsibility. The nozzle man should have known better and his officer failed to prevent this action by allowing his entry and then feeding his hose line instead of pulling it and the firefighter out.

Lessons Learned

This incident is currently under investigation and we, as officers and firefighters, will be conducting flashover and fire development training in the coming weeks.

Discussion Questions

Understanding the dynamics of fire is essential to successful fire attacks and the reduction of injury. A frequent presentation on fire behavior is necessary for today's firefighting crews and fireground commander; so that they have the ability to recognize and predict fire growth. Recognizing fire growth potential takes an aggressive fire attack and changes it to intentional, and if fire fighters lack an understanding of fire growth in today's environment this is a path to disaster. Once you have read the entire account of 09-171 and the related reports, consider the following:

1. What are the signs that warn of impending flashover?
2. What is the Thermal Protection Performance (TPP) rating of your turnout gear?
3. Is the TPP rating designed to extend the time a crew can mount a fire attack or protect them in the event of rapidly deteriorating fire conditions?
4. Think back over the last three structure fires you responded to. Were they pre- or post flashover?
5. Did the fire attack procedures vary between the fires you recalled in #4? If not, should they have varied?

Google "Thermal Protection Performance" for additional information on TPP Ratings.

Related Reports

05-254

06-572

07-959

08-102

Note: The questions posed by the reviewers are designed to generate discussion and thought in the name of promoting firefighter safety. They are not intended to pass judgment on the actions and performance of individuals in the reports.