Report of the Week

Right before their very eyes
4/11/08

Report Number: 08-081
Report Date: 02/10/2008 1935

Demographics
Department type: Combination, Mostly paid
Job or rank: Battalion Chief / District Chief
Department shift: Straight days (8 hour)
Age: 34 - 42
Years of fire service experience: 17 - 20
Region: FEMA Region III

Event Information
Event type: Training activities: formal training classes, in-station drills, multi-company drills, etc.
Event date and time: 01/15/2008 1015
Hours into the shift:
Event participation: Told of event, but neither involved nor witnessed event
Do you think this will happen again?
What do you believe caused the event?
What do you believe is the loss potential?

Event Description
This report is submitted by the [rank and assignment deleted] who did not witness the event but was notified and reported to the scene of the event immediately after the event took place and while the victim was still on location prior to being transported to the hospital. On 01/15/2008, Recruit Class [number deleted] was participating in training activities at the Recruit Academy. The recruits were specifically engaged in "combined evolutions". This is a series of actions commonly encountered during fire ground operations (fire attack, search and rescue, laddering, ventilation and rapid intervention). The skills are performed simultaneously under the supervision of instructors. The weather was cloudy and dry. During a series of evolutions, recruits were assigned to a specific piece of apparatus (engine, truck, squad, ambulance) or function (RIT) and led by an instructor serving as the company officer. In the evolution which resulted in the near miss, the recruits were dispatched to a reported residential structure fire. No live fire existed in the building at any point in the evolution. The building was charged with live smoke that was generated from stoves positioned outside the building. As crews were put to work, a group of recruits were assigned as the Rapid Intervention Team. The crew was a three member team with an instructor supervisor. All three members reported to a ladder cart (simulated ladder truck) to remove ladders for deployment on the fireground. As Recruit #1 began to un-bed a 28 foot two section ladder, Recruit #2 ran over and directed Recruit #1 to assist Recruit #3 with another ladder indicating that he (Recruit #1) would take care of the 28 foot ladder. It should be noted at this point that all of the recruits had previously received extensive hands on training with laddering practices and had received and practiced deployment of a 28 foot ladder as a two-person

deployment only. The recruits had been trained and practiced deployment of a 24 foot ladder as a one person deployment. Department policy specifically requires the use of a minimum of two personnel to deploy a 28 foot ladder. It should also be noted that all of the ladders used in this evolution were marked appropriately with their size. Recruit #1 did as she was told and proceeded to assist Recruit #3 with deployment of a 24 foot ladder while Recruit #2 completed the process of un-bedding the 28 foot ladder alone and began to carry it to the building using a low shoulder carry. It should be noted at this point that an instructor observed this activity and was aware that Recruit #2 was carrying a 28 foot ladder alone but did not say anything to the recruit. As the recruit proceeded from Side A to Side D, the other two recruits (#1 and #3) followed with a 24 foot ladder using a low shoulder carry. Both Recruits #1 and #3 were aware that Recruit #2 was carrying the 28 foot ladder alone but did not say anything. Once Recruit #2 arrived on side D, he sized up the building and made a decision to deploy the ladder against the building between several ground obstacles including a set of Bilko doors, a set of stairs leading to the first floor entrance into the structure and a simulated victim (rescue mannequin) that had been placed on the ground to simulate a victim who had jumped from the structure. Witnesses (two instructors and recruits) report observing Recruit #2 deploy the ladder from a low shoulder carry directly into a vertical position with the heel of the ladder positioned approximately 3 to 5 feet from the building. Recruit #2 was able to successfully get the ladder into a vertical position by himself. However, upon getting the ladder into a vertical position, the heel of the ladder was positioned in such a way that Recruit #2 had to stand in an awkward position over the simulated victim. In an effort to move to the other side of the ladder to get away from the victim and still extend the ladder, Recruit #2 took several steps and attempting to rotate the ladder on its heels. At this point, the Recruit lost control of the ladder. Recruit #2 was wearing full PPE including the facepiece of his SCBA and although the recruit attempted to verbally warn others of the impending fall of the ladder, his voice was muffled by the facepiece. The victim in this case (Recruit #4) was preparing to enter the occupancy via the Bilko doors located on Side D of the structure with two other recruits to conduct search and rescue operations in conjunction with the deployment of hose line by another crew. Recruit #4 had his back positioned to the location of the ladder evolution and as a result never saw the ladder falling or heard the yells of surrounding recruits and instructors as they observed the ladder falling. The ladder fell from a vertical position (not extended) and struck Recruit #4 beam first at the junction of the recruit's right neck and shoulder area after glancing off of his helmet. The recruit was immediately driven to the ground. The recruit was wearing full PPE including face piece, helmet, nomex hood, chin strap, structural firefighting coat and pants and boots. The ladder continued in a downward direction until it came to rest on the ground. The evolution was immediately terminated. Care was initiated by on-scene instructors (including FF/Paramedics) and an ALS unit was summoned to the scene. The Chief of Training and the Safety Division also reported directly to the scene. An IMS was established with the Operations Captain took command of Academy operations. The Safety Division took command of an investigation and the Chief of Training, served as the Family Liaison and the point-of-contact for information dissemination to the Command Staff. Recruit #4 was transported to a Level 1 Trauma Center for evaluation where he remained for approximately 16 hours before being discharged with a diagnosis of a neck strain. The recruit remained on light duty for approximately 10 days before returning to full duty and subsequently graduated from the Recruit Academy with no known long term effects.

Lessons Learned

In this event, we have identified through investigation and interviews that there were no less than 5 opportunities to have interfered with the chain of events that led to the injury before it occurred. After Recruit #1 began to un-bed the ladder, she was re-directed to assist recruit #3 with the other ladder. She could have communicated to Recruit #2 that the ladder was a 28 foot ladder and required two people to deploy. Recruit #2 could have checked the ladder prior to removing it from the ladder bed to verify its length. Once removed from the ladder bed, Recruit #2 was observed by three different instructors who each independently reported that they were aware that Recruit #2 was carrying a 28 foot ladder by himself and did not say anything to the recruit to stop him from attempting to deploy the ladder. The ability of any member of a department to stop an unsafe act must receive greater attention and should be verbally communicated at the beginning of every training evolution. In addition, it should be expected that humans (recruits and incumbents) are going to make mistakes. The goal of any department should be to put into place those safety nets that will allow a series of seemingly disconnected events from lining up in just the correct manner to result in a tragedy. Clearly, in this case a tragedy was avoided but not because of design but sheer luck. Despite having all of his PPE on properly, Recruit #4 (the victim) could have suffered a career ending injury or even life-ending injury. It is important to note that our department has a policy requiring all personnel operating within 75 feet of the hazard zone be in full PPE. This event underscores the importance of that policy and its positive effect on personal safety. Had Recruit #4 not been wearing his full PPE the outcome would likely have been much different. If the recruit had been on the ground donning his facepiece and had been struck the outcome would likely have been much different. A safety officer was assigned during the event (staffed by an instructor) but the officer was not on the same side of the building of the incident when it occurred. Safety officers must position themselves where the highest risk activities are taking place. In addition, all personnel must understand their specific responsibility to function in a safety role while performing other duties. It is critically important to note that recruit firefighters in training have the desire to perform but lack the experience to fully understand the impact of their actions. Their decision making skills, situational awareness and ability to question a decision are muted. As such, instructors must take an extremely active and hands on role in safeguarding recruits from themselves. To prevent a recurrence: 1. Recruits must receive proper training in the safe handling of ladders 2. Recruits must receive proper training in their role as safety officers 3. Instructors must understand all aspects of a given scenario prior to the start of the scenario and interfere with an unsafe act the moment it occurs. 4. Instructors must never assume that "someone else" is going to correct an observed problem occurring in an area that they may not be immediately responsible for. 5. Training officers must constantly communicate the importance of safety. This includes breaking down any barriers to getting personnel of any rank to speak out when they observe an unsafe act. 6. The results of our internal investigation will be shared with all personnel in our department to remind them of the importance of safety and the potential for a critical event to occur quickly and without warning. It is my belief that this event could occur again in our department.

Discussion Questions

The drill school has four goals as it takes raw, untrained people and turns them into firefighters: impart knowledge, develop skills, hone abilities and orient them into how the department operates once they graduate. That process is achieved

through mastering increasingly complex skills and evolutions under realistic, yet controlled conditions. As you complete your review and analysis of **08-081**, consider the following:

1. What is the tenor of your drill school: boot camp or collegial campus?
2. How are members of your training staff assigned to your drill school?
3. Does your drill school employ a reduced student-instructor ratio that maintains a heightened span of control during fluid exercises like combined evolutions?
4. Is a designated safety officer part of the instructor cadre when multiple evolutions are being performed?
5. Have your instructor cadre review this report individually. At what point do they say they would have stopped action?

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.