

City of Henderson Fire Department

Informational Final Report of Near-Miss Incident



Incident Number: 10-13730
August 14, 2010

The information contained within this report is intended to be used as a safety and training tool, an aid to prevent future occurrences, and to inform interested parties. The information contained herein is subject to revision as further information gathering is conducted and additional details emerge.

SUMMARY

On August 14th, 2010, at approximately 0320 hours, the City of Henderson Fire Department responded to a reported structure fire at 1853 Muchacha Dr. in district 94. The first arriving Engine arrived and gave a brief initial report stating they had a single story house fully involved. They declared a defensive strategy and set up operations in the command mode. Additional incoming units were assigned to assist with fire attack operations using 2 ½ hose lines, 1 ¾ hose lines, and elevated master streams on the A side and C side of the structure. First arriving rescue assisted with the defensive fire attack operations and the second arriving rescue transported 1 civilian from the fire scene. No additional rescue units were requested to the scene.

During the defensive operations a fire fighter began to experience trouble catching his breath and fatigue while operating a 2 ½ hose line. He thought it was secondary to the amount of effort he was using to manage the fire stream. His fatigue continued to increase and he began to develop chest discomfort. After completing his assignment, he got a drink of water and thought the symptoms would go away if he rested. The engine was placed back in –service and returned to quarters. At the station, his symptoms continued to progress until an evaluation was suggested by one of the crew. During his evaluation, he was found to be suffering from an acute myocardial infarction. He was transported to the local ER where he underwent emergency angioplasty.

CONDITIONS

Weather conditions observed at the scene 8-14-2010, 0300-0400 hours.

Temperature:	83 F
Humidity:	11%
Precipitation:	Dry
Wind Speed:	Calm
Direction:	N/A
Visibility:	Clear
Structure:	Single story, single family house. Type V, light weight construction.

SEQUENCE OF PERTINENT EVENTS

- On August 14th, 2010 at 0320:26 hours a call was received by the City of Henderson PSAP for a reported “structure fire” at 1853 Muchacha Dr. in district 94.
- A 1st alarm was dispatched at 0322:08.
- First engine arrived at 0328:44, gave a BIR, declared a defensive fire and set up operations in the command mode. A division and C division assignments were made.
- Second engine arrived 0335:59 and was assigned to assist 3rd engine in the C division.
- Second engine secured a water supply to 3rd engine, and deployed a 2 ½ hose line off of 3rd engine to the C side of the structure. The 2 ½ hose line was supplied water so that it could be used as a **master stream**. Due to a brick wall and other obstacles, the crew had to use the hose line from a standing position as a **hand line**. The crew supplied water in this fashion for **apr. 30 minutes**.
- During this time, one of the FF’s began to experience trouble catching his breath and fatigue. He was also having trouble completing physical tasks (i.e rolling up the hose).
- The crew was re-assigned from the C division to the A division.
- The crew reported to the A division where they manned a 1 ¾ hose line for the remainder of the fire (apr. 25 more minutes).
- At apr. 0445, second engine was told to prepare to go back into service. The crew picked up their gear and while doing so, the FF with the symptoms of SOB and fatigue also began experiencing chest pains. **These symptoms were not relayed to anyone**. He got a drink of water and was preparing to rest to see if the symptoms would resolve.
- Second engine went back into service at 0514:37 and returned to quarters. In quarters, the FF continued to experience symptoms when a crew member took notice and suggested that he get checked out.
- The rescue crew performed an evaluation on him and diagnosed an acute myocardial infarction.
- The FF was taken to the ER where he underwent emergency angioplasty, and later spent 4 days in the hospital.

- The FF was discharged from the hospital with a good prognosis after suffering the AMI.

INJURIES/DAMAGES

One Fire Fighter suffered a myocardial infarction. This event resulted in:

1. A Life Threatening Condition
2. Lost Time Injury

Based on the nature of the emergency (structural fire fighting) this situation is reasonably inferred to occur again if active identification and prevention of medical emergency strategies are not implemented/followed.

ROOT CAUSE ANALYSIS PART 1

- **What was the defective/hazardous item, process, and/or condition?**
 - I. Symptoms/Emergency
 - **What is the defect/hazard of the item, process, and/or condition?**
 - I. Not detected/recognized
1. **Why did A&B occur?**

The FF did not make his symptoms known to anyone. The crew/supervisor did not detect his symptoms.
 2. **Why did 1 above occur?**

The FF assumed the symptoms were just simple fatigue and his level of fitness. The FF was on OT so the crew he was with was not his normal crew who would be aware of his normal level of performance.
 3. **Why did 2 above occur?**

The culture of the FD is to not admit/show weakness.

ROOT CAUSE ANALYSIS PART 2

- **What was the defective/hazardous item, process, and/or condition?**
 - I. Formal Rehab

 - **What is the defect/hazard of the item, process, and/or condition?**
 - I. Not in place
1. **Why did A&B occur?**

The incident did not meet the specific indication for a formal rehab as listed in SOP EM-23.

 2. **Why did 1 above occur?**

The heat index was not above 90 degrees, the crew involved did not complete two work cycles while **using an SCBA**, and 40 minutes of **intense** work was not completed.

 3. **Why did 2 above occur?**

The definition of “**intense**” work is too open to interpretation.

Root Cause: The FF experiencing the symptoms did not vocalize his complaints because he thought they were secondary to his level of fitness and the amount of exertion he was doing. It is not the culture of FD employees to actively ask for help or to show weakness. The crew he was with noticed his symptoms later, and encouraged him to seek treatment. The symptoms were not detected on scene because a formal rehabilitation group was not established. It was not established because the indications per SOP are too specific. There was no medical group on the scene because they were involved in suppression activities and the second rescue had transported a civilian casualty.

CONTRIBUTING FACTORS

PROCEDURES/PROTOCOLS/SOPS		HAZARDS		FACILITIES/EQUIP	
	None developed		Created by man		Faulty Equipment
	Developed but not understood		Created by external factors (i.e.,weather)		Poor design
	Developed but not trained		Documented but not repaired		Not available
X	Developed but not accurate		Unidentified		Not used properly
	Developed but unable to follow	X	Identified but accepted		Corrosion or wear
	Inexperience in using		Repaired but deficient repair		Ergonomic factors
			Conditions changed		
COMMUNICATION		HUMAN		TRAINING	

	Insufficient planning		Insufficient planning		Insufficient
	Communication breakdown	X	Employee perceived need		Not addressed in training
	Confusion after communication		Friendly competition		Tool used incorrectly
X	Improper/lack of communication		Due to external factors	WEATHER	
INCIDENT			Workload too heavy		Inclement
X	High risk nature of activity		Lack of teamwork		Night time
	Command		Taking shortcuts		Poor Visibility
	Accountability	X	Fatigue		Slippery/Wet
X	Situational Awareness		Horseplay		
	Task Allocation				
	Staffing				
OTHER FACTORS		OTHER FACTORS (Cont'd)		OTHER FACTORS (Cont'd)	
	Teamwork		Personal protective equipment (Lack of or insufficient)		New job duties
	Working long hours		Improper body position	X	Not at optimal health
X	Physical overexertion		End of shift		Exposure

LESSONS LEARNED

1. It is to be expected that FF's will not actively seek help or admit weakness.
2. Any atypical presentations from a member (i.e decrease in expected performance, signs/symptoms of illness-fatigue-NV-SOB-CP-lightheadedness) should immediately warrant a medical evaluation.
3. The Rehab SOP is too specific in its focus for requiring a formal rehab.
4. The medical group assignment must be maintained on all fire scenes for the duration of the event.
5. The department should consider implementing a policy to ensure that IC's and/or company officers ensure the health of their members prior to going back in-service after emergency scene operations.
6. The safety officer position should be a separate position that is staffed on all scenes.

7. The 2 ½ hoseline was pumped correctly as an exposure line, however the crew was using it as a handline resulting in an increased workload for them. Communications between fire crews and engineers should be clear and concise to ensure a proper EP/NP for conditions.