

# City of Henderson Fire Department

## Informational Final Report of Near-Miss Incident



May 1, 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 May 1<sup>st</sup>, 2010, at approximately 0914 hours, the City of Henderson Fire Department responded to a reported structure fire. A first alarm structure response was dispatched and a rescue arrived at 0919. This rescue was the first arriving HFD unit and found a 1 story, single family dwelling with smoke and fire showing from the garage. They established command, performed evacuation, and began to secure utilities. The first arriving engine company arrived next and assumed command. First rescue was re-assigned to I-RIT. An offensive fire attack in the command mode was initiated.

First arriving engine crew & second due engine were assigned to fire attack in the garage of the residence. 3<sup>rd</sup> engine company was assigned to the interior of the residence to check for extension and perform a primary and secondary search. 1<sup>st</sup> truck company was assigned to the roof to perform vertical ventilation. The fire was extinguished in approximately six minutes without any reported injuries to fire personnel or civilians.

After the fire was out during the overhaul phase, 2 personnel were sent to the roof to perform additional overhaul. Prior to going on the roof, 1 of the members was advised by his CO of weakened areas to avoid. After working on the roof for extended period of time, 1 of the crew members fell through a soft spot of the roof. The crew member fell through catching himself at his armpits. The crew member reported no injuries.

## **CONDITIONS**

Weather conditions observed at the scene 5-1-2010, 0914 hours.

Temperature: Low to Mid 60s

Humidity: Not reported

Precipitation: Dry

Wind Speed: Calm

Direction: N/A

Visibility: Partly cloudy

Structure: Single story, single family house. Wood frame with a composite roof; approximately 1500 sq. ft.

## **SEQUENCE OF EVENTS**

- On May 1st, 2010 at 0914:24 hours a call was received by the City of Henderson PSAP for a reported structure fire.
- A first alarm response was dispatched at 0915:29.
- 1<sup>st</sup> rescue was the first arriving unit at 0919:33. They established command, performed evacuation, and performed began to secure utilities.
- 1<sup>st</sup> engine arrived at 0920:34 and assumed command.
- 1<sup>st</sup> rescue was re-assigned to IRIT.
- 1<sup>st</sup> engine crew with second engine assigned as Fire Attack in the garage area.
- 3<sup>rd</sup> engine assigned to the interior of the residence. They made entry with 4 into the structure and performed a primary and secondary search.
- 1<sup>st</sup> truck was assigned to roof division with the assignment of Vertical Ventilation. They made access to the roof via ground ladders. 2 ventilations holes were cut. While operating on the roof, Truck Officer identified a large portion of the roof that appeared soft and reported the findings to the IC.
- 4<sup>th</sup> Engine was staged and released without action.
- 1<sup>st</sup> truck was reassigned to Salvage and Overhaul.
- Fire Investigator arrived on scene and began his investigation.
- Utility companies arrived and removed the electrical and gas meters.
- Building inspector arrived and tagged the home as unsafe to occupy.
- American Red Cross was called in to help the placement of the family.
- Command terminated.
- Battalion Chief clear the scene.

- 2 members of second due engine while performing overhaul were assigned to the roof to remove additional debris. The crew had not been on the roof earlier. Prior to getting on the roof the CO of 2<sup>nd</sup> engine pointed out specific areas of the roof to avoid from inside of the garage. This crew member was given the informal assignment of team leader. After operating on the roof for an extended period of time, the same crew member got too close to the weakened area and fell through the roof, catching himself at his armpits.

## PHOTOS



**Figure 1: A side of structure showing garage and ventilation holes.**



**Figure 2: B side of structure showing roof/attic fire damage. Arrow points to area FF fell through on the lower roof.**



**Figure 3: Interior shot of garage showing fire damage to roof and supporting members. This garage had no sheet rock protection of the supporting roof members.**

# INJURIES/DAMAGES

A FF fell through a soft spot in the roof catching himself at his armpits. The FF did not report any injuries; however this event had the potential to create a situation that could have resulted in:

1. Life Threatening Injuries
2. Lost Time Injury
3. Minor Injury

Based on the type of incident, this situation is reasonably inferred to occur again.

## ROOT CAUSE ANALYSIS

### **A. What was the defective/hazardous item, process, and/or condition?**

- I. Roof.

### **B. What is the defect/hazard of the item, process, and/or condition?**

- I. Weakened

- **Why did A&B occur?**

- 1) Direct fire impingement to the roof trusses and sheeting material.

- **Why did 1 above occur?**

- 2) Lack of sheet rock barrier between attic space and garage area.

- **Why did 2 above occur?**

- 3) House was constructed prior to building codes requiring this type of barrier.

**Root Cause:** Normal fire conditions created the hazard. The house was constructed prior to building codes requiring a barrier to be present between the attic space and the garage. The direct fire impingement to the light weight wood truss roof weakened it, creating the identified hazardous area.

# 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
	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		Employee perceived need		Not addressed in training
	Confusion after communication		Friendly competition		Tool used incorrectly
	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		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	X	Improper body position		Not at optimal health
	Physical overexertion		End of shift		Exposure

## **LESSONS LEARNED**

- 1) There is a high potential for this to occur again whenever there is direct fire damage to the supporting roof members of a structure.
- 2) Hazards to personnel can exist during salvage and overhaul operations.
- 3) The identification of a soft or unstable roof requires safety measures to be taken during ALL phases of suppression activities.
- 4) The usage of a roof ladder should have been encouraged.
- 5) Crew members given an informal leadership role cannot also serve as primary workers in order to maintain situational awareness.
- 6) Hazards should be clearly identified and marked if crews will be working near them.