

## **Explosion, Fire and Building Collapse in Boston**

### **Boston Firefighters Narrowly Escape Death**

*by District Chief Robert M. Winston, District 8*  
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The City of Boston is very diverse in its culture, ethnic neighborhoods and its many types of structural architecture. Built within many of Boston's neighborhoods is a type of apartment building known as a "3-decker." This type of building is of wood frame construction, 3 stories and about 40 feet in height, generally 30x60 feet front to rear, and normally contain 3 or more apartments. A duplex "3-decker" is correspondingly larger in total area. Thousands of these buildings were constructed in the early 1900s.

They were built very well and are considered as a strong structure not prone to sudden collapse. Many of the cooking stoves in the apartments of these buildings are fueled by natural gas under pressure. This gas fuel is distributed by a network of thousands of miles of decades old cast iron piping buried under the old streets of Boston. On occasion, one of these pipes can leak natural gas. Depending on how much gas and where it leaks into will determine the outcome. Such a cause and effect scenario occurred on August 26, 1998 with devastating results.

Engine Company 52 and Ladder Company 29 are

stationed on Blue Hill Avenue in the Dorchester/Franklin Field section of Boston. The fire alarm box on the front wall of the station is BOX 36. This station is located in a neighborhood where there are hundreds of wood "3-deckers" that are occupied by residents.

It was a very warm and sunny Wednesday morning at just after 11:00, August 26th. Engine Company 52, under the command of Fire Lieutenant Claus Guttenberg, had been dispatched to investigate the report of a baby in a dumpster in



Photo by Mark Garfinkel, *Boston Herald*

Franklin Field near a public school building. This call proved to be false. As Lieutenant Guttenberg and his crew were investigating the dumpster, they heard a loud explosion come from the direction of their station. They walked back to the engine and heard Boston Fire Alarm dispatch a box alarm assignment for an explosion on Floyd Street. The explosion was actually at 8 Ashton Street, near Floyd Street. This street is only a few short blocks from their quarters.

Ladder Company 29, under the command of Fire Lieutenant Richard Powers, had been in

quarters when they heard what sounded like "sonic booms" coming from the direction of Floyd and Calendar Streets. A few minutes later they were dispatched to a level zero haz-mat incident away from the direction of the "sonic boom" sound. As Ladder 29 pulled out onto the apron of their station, Lieutenant Powers observed a column of smoke coming from the direction of Floyd Street. At that time BOX 36 was transmitted for the explosion and Ladder 29 was reassigned to BOX 36.

Upon the arrival of Ladder 29, Lieutenant Powers and his crew observed a scene of destruc-

tion, heavy fire and smoke showing from the fire building, injured people and a large chaotic crowd yelling that a child was trapped in the third floor apartment. Boston Emergency Medical Service crews and Boston Police were on the scene treating the injured residents. Lieutenant Powers quickly sized up the situation and ordered a "working fire" via radio to the Boston Fire Alarm Office, and an additional engine company, ladder company, the Division 2 on duty Deputy Fire Chief, the Safety Operational District Fire Chief, and other support units were dispatched to the scene.

Lieutenant Powers ordered Firefighter Edward Munroe to raise Ladder 29's 110-foot aerial ladder to the third floor front window and directed Firefighter Michael McLean to ascend the ladder and perform a rapid primary search for the child that was reportedly trapped. Later, McLean, a father of 3 children, reported, "That the walls and ceilings were partially collapsed. It was a very dangerous situation, and I was really scared." As the search was going on, Lieutenant Munroe to ascend the aerial ladder and tell Firefighter McLean that



Photo by Jon Hill, *Boston Herald*



Photo by Jon Hill, *Boston Herald*

the child was not in the building and to come out.

Engine Company 52 arrived on scene and Lieutenant Guttenberg and his crew ran their attack line up the front outside stairs. Guttenberg made a rapid size up of the dangerous conditions and withdrew his firefighters to a safer location on the street.

Engine Company 16, under the command of Fire Lieutenant Thomas Gunn, ran their attack line to the north side of the fire building to protect two other wood-framed buildings that were being exposed by the fire.

I arrived on scene within 5 minutes after BOX 36 was transmitted, with my Aide to the District Fire Chief, Firefighter Richard "Red" MacKinnon and assumed command. I observed heavy fire and smoke conditions, a strong odor of natural gas, a crowd of dazed people, street construction, blast debris in the street, and Ladder 29's aerial raised to the third floor of the remains of this large "3-decker" apartment building. A Firefighter was at the tip of the aerial ladder and another Firefighter was inside the building. The entire north and rear walls had been blown apart

and were laying in adjacent yards. At least two cars were buried with this debris. All three floors of the building were wide open and I could see furniture and appliances in each apartment. The building's roof was sagging in the rear. Surrounding structures showed signs of blast damage. It was a surreal scene of devastation.

My immediate thoughts were of life safety for the Firefighters and others. I ordered, via radio to the Fire Alarm Office, "All Firefighters immediately evacuate the fire building, and that no other Firefighters are to enter it! Have the Safety Operational Chief establish a collapse zone around the fire building upon his arrival." I ran over to Lieutenant Powers to determine if any Firefighters or residents were in the building. He said that a search was being done for a child, but the child was just found and okay. He told me that McLean had been searching for the child, but was coming out of the building. I made sure that Powers understood that everyone was ordered out of the fire building.

I watched two Firefighters from Ladder 29 descended their aerial ladder and reached the ground to safety. It was then and without warning



that the entire “3-decker” collapsed with a roar in a cloud of dust and smoke! From the time I radioed the evacuation order and watched the two Firefighters get off the aerial ladder, it was about one minute or so. We all stood there for a moment, kind of transfixed at just what occurred.

I thought of “Red” and the other Firefighters in the rear yard. I radioed them several times with no response. Finally, “Red” answered me and said that he and the others were okay. I then made an accountability check with each Officer to make certain that all Firefighters were accounted for.

As other fire companies arrived they were put to work either running lines of hose or checking adjacent buildings for occupants to be evacuated. The possibility of a second explosion was on my mind. The incident was far from over.

### **Change of Command**

Division 2 Deputy Fire Chief Andrew O’Halloran arrived on the scene and assumed command. I then became the Operations Chief and gave a report of conditions to Chief O’Halloran informing him that all Firefighters were accounted for, where lines were placed and operating and where Boston EMS had their units staged. The EMS were in the process of triaging and treating the 15 civilians that were injured when the explosion occurred.

What was once a large fully occupied wooden apartment building had been reduced to a large pile of burning debris. The roof, covered with a thick membrane, sat atop this pile of debris and acted like a cover on a pot. The fire was now inaccessible and continued burning freely despite the use of 2 ladder pipes, 2 deck guns and 6 hand lines.

Heavy fire and smoke conditions continued despite firefighting efforts. It was suggested that class A-foam might be able to control and extinguish this now deep-seated fire.

Chief O’Halloran ordered one of Boston Fire’s new Brush Fire Units to the scene. The Brush Fire Units are equipped with class A-foam systems. At least 50 gallons of class A-foam concentrate were expended in an unsuccessful attempt to extinguish the fire.

The Firefighters had been working this fire for several hours in bunker turnouts with tempera-

tures in the low 80’s. The BFD’s Rehab Unit had already been established and a Massachusetts Bay Transportation Authority air conditioned bus was ordered to the scene for cooling Firefighters. Three additional engine companies were eventually dispatched to the incident to relieve first alarm companies.

It was determined that a piece of heavy equipment would be required to dig out the stubborn fire. Chief O’Halloran called the Fire Alarm Office and ordered a large excavator to the incident. It was a couple of hours before the excavator arrived, but once the machine began pulling apart the burning pile of debris, the fire was quickly extinguished. As the debris was pulled apart, it was also inspected for any unaccounted for persons.

### **Cause and Loss**

At least a week prior to the explosion, a contractor had been digging in the street and had laid in new water mains in close proximity to the existing natural gas line. Reportedly, a resident next door to the apartment house that was destroyed had smelled gas on the Wednesday prior to the explosion incident. The local Gas Company did respond and it was reported that they replaced a gas line running into that resident’s house.

As of this writing, the exact cause of the explosion and fire is still undetermined. The fuel that caused the explosion and subsequent fire has been determined to be natural gas. The source of ignition of the natural gas has not been determined as yet. The loss was set at \$750,000. There were 15 civilian and 3 Firefighter injuries. One of the civilian injuries was very serious and required CPR to revive the victim.

### **Lessons Learned**

- Life safety of Firefighters, other emergency service personnel and civilians take precedence over all other considerations.
- A system of accountability is critical. The Incident Commander and company officer must know where their people are throughout any incident.
- Training for building construction and building collapse potential is essential.
- Maintain clear communications.

- Evacuation order announced and establishing a collapse zone without delay is vital. Make certain that all personnel hear the evacuation order.
- After a collapse has occurred, obtain an accurate head count of all personnel.
- Provide medical care for injured personnel and others.
- Establish an operating procedure for responses to an odor of gas. Never trivialize this type of response. It can become a disaster should ignition occur.
- Always consider the possibility of another explosion. Evacuate surrounding buildings and tape off the street area and maintain crowd control.

### ***Some Final Thoughts***

Boston Fire Commissioner Martin E. Pierce, Jr. stated, "If it were not for the good judgment of the Chief (Winston), we could have lost some Firefighters in there today." Those were kind words of praise and I appreciated them. However, there is a lot to be said for the professionalism and good discernment of those experienced company officers and firefighters at this incident. They did an outstanding job. This was an unusual incident that could have turned tragic for the members of the Boston Fire Department and their families. It is also my opinion that God is with us at critical times. When one takes into account the power of that explosion, the fact that no person was killed and that Firefighters narrowly missed being caught in the collapse by just seconds, I would say that there was a Divine presence on Ashton Street that warm summer evening.