

# High rise fires essay



**ASSIGN  
BUSTER**

After receiving a 10 am distress call Monday morning from the east side of downtown San Francisco, my unit immediately rushed to the location. As Battalion chief I informed my men to stay calm, but to be alert as they were in for handling one of the most extreme and dangerous challenges in fire fighting. High rise fires present some of the most complex challenges in fighting fires and this particular situation involved 5 people trapped on the 23 floor of a sky scraper.

We head out the incident with 1 alarm truck, which consisted of a Haz Mat Light/ Air unit, 1 rescue Light/ Air unit and an ALS unit. Upon arrival, I noticed debris falling from the 23rd floor glass from broken windows and letters from the people trapped on the floor being sent down to give notice to the floor they were on. Weather conditions were partly cloudy with breeze blowing at about 2 mile per hour to the west, and a slightly humid temperature of about 75 degrees. These weather conditions allowed for a calm routine job that could have otherwise been very hostile.

The first command I gave was for the air conditioning to be shut down. One of the major problems with modern skyscraper fires is the central cooling system. The air-conditioning ducts connect ten to twenty floors for heating and cooling. These ducts penetrate fire-resistive floors, walls and ceilings, allowing the fires access to more parts of the building. Then I had my men check the elevator system to make sure it was working, which it was. Luckily, the elevator shaft was located more near the northeast side of the building.

Taking the elevator was mandatory because the fire was occurring above stair walking distance. I instructed my men to stop the elevator on the 22nd

floor. From this floor, they were able to access the service stairs, from which they traveled up to the 23rd floor where the flames were engulfed, but before doing so the fire attack squad was instructed to connect the 1.5 handline hose to the standpipe outlet valve on that floor. This would provide for just enough force to settle the fire without doing any extra damage to the hallway or harming residents.

On the street level, I had instructed the water supply team to connect the supply hose from the pumper to the siamese inlet to the building. And then we turned on the hoses exactly fifteen minutes from the time we had received the initial distress call. The fire raged mostly due to unadvised ventilation caused by the breaking of the windows in rooms 2301-2305. The residents trapped in these rooms were caught between a 23 story fall and a fire in the hallway. In this situation, had they have opened the doors to their rooms it would have caused the fire to escalate.

Apparently, a short circuit of wires in the basement of the building ignited a fire that erupted in the main laundry room and spread through the laundry chute, where an overabundance of dirty sheets had clogged and collected throughout. The fire was then able to travel up the chute through virtually every floor of the building on the Southwest region which I will refer to as A and B in my report. Luckily the fire pretty much bypassed igniting on most of the other floors; but when someone opened the chute on the 23rd floor, the entire southwest section of the building engulfed into flames.

The key thing that can be learned in this particular experience is the extreme power of ventilation in the case of a fire. Many high rise buildings

have windows that are sealed or locked. They require specific keys to open them, or some are even considered windowless buildings. To vent the buildings by breaking thick glass windows is very dangerous and can be detrimental to combating the fire and preventing it from spreading. On top of this, falling glass can injure those below on the ground level.

Fire fighters must approach high rise fires as though they are cellar fires with no source of ventilation. The giant smoke clouds that tend to darken the sky after being ventilated in low-rise fires are trapped inside of the sealed high rise buildings. By these building being this way, during fires it causes what is known as a “ stack effect” this is explains the difference between the inside and the outside of a sealed high rise buildings.

In his article High-Rise & Extreme High-Rise Fires, fire fighter and author Fred LaFemina talks about the critical effects that ventilation has on escalating and containing fires. In the article he points out that Auto exposure is another concern: Not only will the fire spread to the hallways and stairwells, it will also spread to the floors above. In the Bronx fire on Sunday, the fire extended to the floor above. The units were soon fighting two similar fires, both wind driven, at the same time.

We must, if possible, get to the apartment door and maintain control of it throughout the operation (LeFemina, 2007). What LeFemina refers to can be seen here in this example of a San Francisco high rise in the way that the fire spreads mostly to the floor in which the laundry shaft is opened, as well as throughout the rooms in which windows were fractured. The author goes on to resolves his argument as, The bottom line: It is important to shut the door

to the apartment on your way out, as well as the door to the public stairwell when you are trying to re-group.

This will keep the heat and smoke out of the hallway and the stairwells, and provide an area of refuge (LeFemina, 2007). This explains why in the San Francisco high rise example, it would be reasonable for a fire that travels through a laundry chute to only escalate on the floor of which the chute is opened. Understanding the detrimental effects of ventilation in conditions like this can prevent major fire hazards, likes of which are developing an infamous stigma in the state of our nation.

In sum, my team was very blessed to extinguish this fire. In the past, many fires in this circumstance have proven to be disastrous and unforgiving for those involved. Faulty elevator systems, fire detectors, and ill designed ventilation systems have led to the death of many apartment and hotel residence as well as fire fighters. Events like these can be devastating for both those involved and the surrounding community. In the case of 9/11, the effects can be seen in both New York City as well as the nation.