



City of Seattle
Mayor Michael McGinn

July 12, 2010

**COUNCIL QUESTIONS FOR THE SEATTLE FIRE DEPARTMENT
JUNE 12, 2010 FREMONT FIRE**

1. What caused the fire and what factors contributed to the loss of life?

Fire investigators determined the fire was accidental and started in a foam sleeping pad placed too close to a bare light fixture in a closet. One of the residents pulled the pad from the closet and opened doors and windows on the first and second floors of the two story apartment in an effort to clear the air. The oxygen from the open doors and windows fed the fire, funneling the heated gases and toxic smoke through the open stairwell up to the second floor where five family members took shelter in a windowless bathroom, eliminating a possible escape route. They were unable to survive the smoke and intense heat from the fire. It is important to note that there was a delay in calling 911 (neighbors placed the calls) and that the smoke alarm in the apartment did activate.

2. What steps did our firefighters take to affect the rescue of individuals trapped in the building?

Heavy fire coming from both floors of the two story apartment unit when the first firefighters arrived on scene dictated firefighting tactics and rescue attempts. Firefighters first placed hose lines to the front door but were unable to shift the engine in to pump mode which caused a several minute delay in putting water on the fire. Once a water supply was established, firefighters had to control the fire on the first floor before other crews were able to safely move to the second floor. While engine crews in the front of the building were establishing a water supply, firefighters on the ladder truck who perform search and rescue went to the back of the building to see if it was possible to enter the building from the rear but there was too much fire coming from the back door. Heavy fire on the second floor also prevented the ladder company from putting a ladder up to the windows. In an effort to find an alternative access to the fire, a search and rescue crew entered the adjacent apartment and tried to breach the adjoining wall. The crew determined there was too much heat on the other side of the wall and that opening the wall completely would create more danger by causing the fire to spread to the adjacent unit.

3. Were any trained personnel (e.g., counselors, chaplains, etc.) dispatched to the home at the time of the fire to help those directly affected deal with the immediate emotional trauma?

Dispatchers notified the Seattle Fire Department Chaplains immediately. One chaplain went directly to Harborview Medical Center to help distraught family members who had been transported from the fire. A second chaplain initially responded to the fire scene to support

Gregory M. Dean, Fire Chief
301 Second Avenue South
Seattle, WA 98104-2608

Tel (206) 386-1400
Fax (206) 386-1412
www.seattle.gov/fire

Seattle Fire Department
An equal employment opportunity, affirmative action employer.
Accommodations for people with disabilities provided upon request.

family members and neighbors but then went to the hospital to assist as more family members arrived at Harborview.

4. Has counseling been offered to victims' family members and any firefighters involved in the incident?

A Critical Incident Stress Defusing was held for firefighters immediately after the incident and a Critical Incident Stress Debriefing was held several days later per Department policy. The Fire Chief, Seattle Housing Authority Executive Director Tom Tierney, the Seattle Police Department liaison to the East African Advisory Council and members from the Mayor's Office met with elders and family members from the East African community the morning after the fire to offer support and assistance. The Fire Chief also met personally with the surviving family members several days later to answer their questions and talk about the cause of the fire before the information was released to the media. Representatives from the Mayor's Office and other City agencies (Police, Parks and Neighborhoods) worked closely with the family to provide support and a place for the community to gather in the week leading up to the funeral. Staff at Harborview Medical Center also provided counseling and support to the family.

5. Please provide the following information related to 911 calls received about the Fremont Fire: a) time of each call received at the police 911 center, b) time of each call received at the fire alarm center and c) total number of calls received.

a) SPD

- 1) 10:03:43 Call transferred to SFD
- 2) 10:05:10 Call transferred to SFD
- 3) 10:05:12 Call transferred to SFD
- 4) 10:05:44 Call transferred to SFD
- 5) 10:05:55 Call transferred to SFD
- 6) 10:06:12 Call transferred to SFD
- 7) 10:06:17 Call transferred to SFD
- 8) 10:06:18 Call transferred to SFD
- 9) 10:06:20
- 10) 10:06:48
- 11) 10:07:03
- 12) 10:07:11
- 13) 10:07:17
- 14) 10:07:22
- 15) 10:07:33 Call transferred to SFD
- 16) 10:07:53
- 17) 10:08:11
- 18) 10:08:12
- 19) 10:08:20 Call transferred to SFD
- 20) 10:09:13 Call transferred to SFD
- 21) 10:09:45
- 22) 10:12:11 Call transferred to SFD
- 23) 10:12:49

b) SFD

- 1) 10:04:05
- 2) 10:05:34

- 3) 10:05:46
- 4) 10:06:14
- 5) 10:06:45
- 6) 10:06:49
- 7) 10:07:00
- 8) 10:07:05
- 9) 10:07:52
- 10) 10:08:58
- 11) 10:09:36
- 12) 10:12:34

c) SPD – 23 calls and SFD – 12 calls

- 6. Please provide an audio file that includes the original SFD dispatch and all radio traffic between the dispatchers and units responding to and working at the fire scene for a minimum of 60 minutes from the point of the first alarm.**

Information provided separately.

- 7. Please provide paper copies of all dispatch records related to the incident.**

Information provided separately.

- 8. Engine 9 was dispatched to a non-emergency Code Yellow medical response prior to the fire. What was the nature of this assignment? What is SFD policy for such service calls?**

Engine 9 was dispatched to 4400 Stone Way North on a code yellow aid response at 9:45 a.m. to assist a 90-year old man who had fallen. They spent approximately 20 minutes evaluating the patient and were dispatched to the fire after they finished the aid response. Code yellow aid responses are considered emergency responses where a medical condition may exist but the patient is stable so firefighters travel to the incident without using red lights and siren. Units are out of service until they determine the nature of the emergency. The type of response sent is based on the information the dispatcher receives and in the case of a medical emergency is also based on medical protocols established by the Fire Department's Medical Director, Dr. Michael Copass. In this particular case, the patient did not have an obvious injury from the fall but based on the patient's age and dispatch protocols for "patient falls" required an evaluation from Fire Department personnel. The dispatch protocol calls for a code yellow aid response if the patient has fallen and requires help back in bed but has sustained no injury and is in a "private residence" which includes independent living facilities. A private ambulance company (AMR) will be called to respond if the person has sustained no injury in the fall and needs help back to bed in a "medical facility".

- 9. Why didn't an aid car, rather than Engine 9, respond to the Code Yellow incident in Wallingford?**

The Department uses a layered response system, which means dispatchers send the closest available unit to an incident. Because the Department has 33 fire engines located in neighborhoods throughout the City, the closest available unit is often a fire engine staffed

with firefighters who are trained emergency medical technicians. Each response vehicle in the Department has GPS so dispatchers can locate the unit closest to an incident at any given time. In the case of the code yellow aid response to 4400 Stone Way North on June 12, an aid car was not sent because Engine 9 was the closest available unit. The Department has a total of four aid cars staffed with two firefighters located at fire stations in high density areas. The aid cars are heavily used. In 2009, Aid 2 in Belltown responded to 5,496 aid calls, Aid 25 on Capitol Hill responded to 5,018 aid calls, Aid 5 which is also part of the Hazardous Materials Unit in Pioneer Square responded to 5,717 calls and Aid 14 which is part of the Technical Rescue Team in SoDo responded to 1,506 calls.

10. Does SFD believe that dispatching units to non-emergency service calls hampers or interferes with emergency responses? Why or why not? Should this practice be modified in any manner?

No, because the Department serves the community in a variety of ways that go beyond fire and emergency medical responses. We strongly believe these services add value to the community. For example, firefighters may pump water from flooding basements or businesses during the rainy season, help people locked in or out of their homes and regularly assist Seattle Police and other City departments. A service response is different from a code yellow aid response in that units are sent to a stable situation where our help may be required for a non-medical situation. It is important to note that firefighters are not out of service when they provide this type of assistance which means they can respond to a fire or medical emergency at any time.

As it relates to code yellow aid responses, the Department is always looking for ways to improve our level of service. With input from Medical Director, Dr. Michael Copass, we are addressing concerns about the number of calls to assist patients at certain congregate care facilities. One of the main areas of emphasis is public education and outreach to facility owners and managers about fall prevention and the appropriate use of 911.

11. Describe what was wrong with reserve Engine 81 that prevented it from pumping water at the fire scene. What caused this failure? Has this failure occurred, with this truck or with others in the SFD fleet either before this incident or after? Has the repair of this particular truck been made? What steps has SFD taken, or will it take, to make certain this failure does not happen in the future?

The driver on Engine 81 did everything he was trained to do on the morning of June 12. At the beginning of his shift, he put Engine 81 (a 15-year old reserve engine in use while the four-year old Engine 18 was in for scheduled maintenance) in to pump mode because he wanted to familiarize himself with the reserve engine. The fire call to Fremont came in at 10:04 that same morning. The driver and his crew arrived on scene, laid hose lines and the driver attempted to put the engine in to pump. When that failed, he tried to engage the pump again. His second attempt was unsuccessful and the second arriving engine company was able to supply water.

A thorough investigation conducted by an independent forensic consultant and a team of emergency vehicle technicians discovered the cause of the failure on Engine 81. After more than 39 hours of diagnostic and field testing, the team was able to replicate the problem that occurred at the fire on June 12. The team of experts isolated the problem to an interruption in power from the transmission control touch pad to the electronic control unit which engages the pump. (See the attached report from Oregon Apparatus Repair for technical

details). In the past, there have been periodic reports of problems with the transmission on the same engine series and emergency service orders were submitted to the Fire Garage. Mechanics looked at the engines but were not able to replicate the problem.

Once the problem was identified, mechanics immediately replaced the touch pads in all ten engines of the same model. The consultant advised on recovery procedures should the pad not engage. The recovery procedures have been distributed Department wide and placed in the cab of every engine regardless of age or manufacturer. Fleets and Facilities will inspect the touch pads on all engines on a regular basis to ensure that they are functioning properly.

12. When was the pump on reserve Engine 81 last checked prior to this incident and who performed this check? If there is a written report or paper trail of some kind of that inspection, please provide a copy.

The driver on Engine 81 checked the engine and successfully put it into pump before the fire call came in on June 12. The pump had its monthly check on Saturday, June 5 by a crew member of Engine 18. The Department also performs an annual pump test on every engine. Firefighters inspect all first line and reserve fire apparatus on a daily, weekly and monthly basis. The vehicles are also scheduled for preventative maintenance at the Fire Garage every six months. The written report is the Seattle Fire Department Maintenance Schedule also known as a Form 9. (See attached Form 9).

13. Are there written protocols for checking the pumps on engines? If so, please provide a copy of the protocols. Also, are the protocols the same for both new and older vehicles in SFD's fleet?

As mentioned in the previous question, firefighters inspect all first line and reserve fire apparatus on a daily, weekly and monthly basis. The vehicles are also scheduled for preventative maintenance at the City's Fire Garage every six months. The Form 9 lists the procedures for the monthly pump test and is used for all fire engines. Form 9A is used for all ladder trucks. (See attached Form 9 and 9A).

14. Please describe the redundancy of equipment and services SFD uses to protect residents from fire emergencies. Are these redundancies sufficient?

Recognizing that equipment can fail during emergencies, the Department has a number of built in backup safety systems for staffing and equipment to protect the public and firefighters. Dispatching multiple engines means there are additional firefighters with backup hose lines to supply water in the event of a hose line break or a hydrant or pump failure. Ladder trucks carry extra saws and critical rescue equipment. Sending multiple units also means there are enough resources on scene if an engine or truck is delayed by traffic.

The Department has other redundancies to ensure safety. Because firefighters have to ensure their own safety in order to keep the public safe, they work in teams. A Rapid Intervention Team and a Safety Chief are also dedicated to ensuring firefighter safety at an incident. In addition, firefighters conduct regular building inspections so they are familiar with the layout of a building and the location of all the exits in the event of a fire.

In relation to the Fremont fire, we believe these redundancies are sufficient but through the post incident analysis process we are always evaluating whether we have the right resources in place or whether the operational response could have been improved.

15. When reserve Engine 81's pump failed to engage would it have been possible to lay a hose line to the nearest fire hydrant? (Question submitted by a citizen.)

Yes, but with the heavy fire showing from the building and the number of firefighting companies responding, a hydrant would not have supported the multiple hose lines needed for extinguishment and a sustained attack. A responsibility of the first arriving engine company is to establish a continuous water supply.

16. We understand that a hose fell off Engine 20 as it was responding to the fire. Explain how that occurred and what steps can be taken to prevent such events in the future.

A section of hose fell off Engine 20 when the driver made a sharp turn off of West Nickerson Street to the Fremont Bridge. This hose was held in place with a strap, which was inadvertently left off. The driver stopped long enough to pull the hose off to the side of the road out of the way of traffic. The engine carries additional hose which allowed firefighters on Engine 20 to continue in to the fire with no impact on their ability to fight fire.

17. How citizens respond to smoke alarms and other indications of a fire is critical to their safety. What education or community training materials does SFD use to inform residents of safety procedures? Are refugee or immigrant communities and those living in Seattle Housing Authority buildings, targeted to receive education and/or training materials, and if so, does this outreach differ from what the general public receives? What further actions could the city or SFD take to increase fire safety awareness?

The Seattle Fire Department's Public Education Division provides extensive fire prevention and safety information materials. The following links connect to SFD education materials.

Home Fire Safety: <http://www.seattle.gov/fire/pubEd/homesafety/homeFireSafety.htm>

- Presentations: 68; adult participants: 2,024.
- Community events: 29; contacts made: 11,985.
- School program contacts – presentations: 50; total contacts: 9,459.
- Public education contacts by Seattle fire fighters: 9,501.
- Preschool program contacts: 16,390.

Apartment Managers': <http://www.seattle.gov/fire/pubEd/apt/aptSafety.htm>

Main Public Education Program activities

- Apartment Manager's Handbook.
- Quarterly newsletter highlighting prevention, codes, emergency response.
- Twice a year Apartment Manager's workshop (free).
- Information/advisement on fire plan development.

Smoke Alarms: <http://www.seattle.gov/fire/pubEd/smokealarms/smokeAlarms.htm>

Main Public Education Program activities

- Free smoke alarm installation through every fire engine/ladder truck for low-income, senior and disabled homeowners
- Free Deaf/Hard of Hearing smoke alarms
- Free smoke alarm canvases (approximately three per year) in Seattle neighborhoods at high risk for fire (determined from actual fire data)
- Smoke alarm promotion through outreach channels, including non-English translation/distribution of smoke alarm flyers
- Placement of smoke detectors for residents

- Detectors installed: 261
- Deaf/HOH Detectors installed: 18
- 9 V batteries distributed: 1,305
- Total detectors installed through SFD program: 279

Seattle Fire Department also participates in the following partnerships:

- Safe Kids Seattle (Harborview, Children’s Hospital, and SFD heading a group of local child injury prevention advocates).
- King County Fire & Life Safety Association (nonprofit founded by SFD members together with other King County Fire Department educators to address regional issues of fire and life safety).
- Fire Stoppers of Washington (coalition of state fire depts., police, mental health practitioners working to encourage best practices in youth fire setting intervention throughout Washington).
- Smart Kids Safe Kids Injury Prevention Program—injury prevention for 3-5 yr olds (high risk group inclusive of burn prevention)—SFD led, with King County Emergency Medical Services, Washington State DSHS, Stars Provider Accreditation.

Refugee or immigrant communities and those living in Seattle Housing Authority buildings receive the following education and/or training materials.

Refugee/Immigrant Populations

Main Public Education Program activities

- Materials translated into tier one and two languages.
- Outreach activities--smoke alarm canvases, staffing a table at community events, community outreach initiatives, Seattle Housing Authority outreach activities—are targeted at high fire risk populations, which include Refugee/Immigrant populations.
- Attendance at King County Refugee Alliance meetings.

2009 Seattle Housing Authority Presentations

- 22 presentations at SHA apartment buildings; 458 residents reached.
- All presentations covered the steps for what to do when the fire alarm sounds or when encountering a fire in one’s unit. All covered cooking and heating fire safety. One presentation was an “After the Fire” follow up at Stewart Manor.
- The majority of these presentations were for senior housing; several included interpreters.

Further actions the city or SFD could take to increase fire safety awareness include:

- Public awareness campaign.
- Partnership with Seattle Housing Authority to provide safety information to all tenants not just those in high rise apartments.
- The Public Education Division has recently reorganized and one position has been shifted to a neighborhood-focused education position. This approach targets the areas of our community that have a higher fire risk (determined from actual fire data) and provides appropriate programming that considers where the fires occur, who experiences them, who is at highest risk and how to mitigate that risk.
- Additional translated materials.
- Additional outreach: smoke alarm canvases, presence in the community, attendance at more weekend events.

- Direct, ongoing training for Seattle Housing Authority staff in fire emergency planning and response to be developed specifically for SHA resident managers and other SHA staff, with the goal of developing a high level of fire safety awareness within the staffing of SHA buildings.

18. There is often talk about the mix of alarms firefighters respond to, with some suggesting that we could prudently reduce the number of engine companies since fire responses have remained relatively unchanged over the years but emergency medical responses continue to increase. What is SFD's position on this issue? Do we have sufficient engine companies? Do we have adequate medic and aid units? What is SFD's position on this issue?

The current configuration of fire department resource deployment is based on response times and the risk of fires, rescues, other emergencies and medical emergencies. Even though there are fewer residential fires, firefighters continue to respond to car, brush and dumpster fires, odors of smoke or natural gas, electrical problems and automatic fire alarms. They also respond to car accidents, hazardous materials incidents and other types of industrial incidents.

This City deserves and expects a timely response to their request for these services. Currently we are meeting the NFPA (National Fire Protection Administration) 1710 response time standards for fire and medical emergencies 86% of the time. The NFPA performance goal is 90%. Reducing the number of engines would mean an increase in response times in impacted neighborhoods and degradation in service.

We do not have sufficient BLS (basic life support) units to address the increasing number of emergency medical calls north of the Ship Canal and in the Downtown Core. As these areas gain even greater density demand for these services will continue to grow. Adding aid units in these locations would enhance our response capability and reduce the large number of aid runs that our downtown aid cars currently respond to.

19. What lessons have been learned from the Fremont fire? Does this experience indicate a need to change or modify any response procedures, rescue procedures or fire fighting procedures?

The Fremont fire reinforced the importance of fire prevention and the need to ensure everyone understands and has access to fire safety information. It also emphasizes the importance of ensuring the Department's ability to maintain current equipment, staffing levels on fire apparatus and geographically situated fire stations. We send multiple units to effect control, rescue and extinguishment. We operate with redundant systems. The pump failure has enabled us to identify and replace defective equipment and to develop new back-up procedures. It also highlights the need to retain a reasonable lifecycle on this type of equipment.

We don't foresee making changes to response, rescue, or firefighting procedures. However, we do believe that an automatic fire sprinkler system, which was not required at the time the apartment building was constructed could have suppressed the fire or slowed the fire growth so the occupants could have escaped and changed the tragic outcome of this fire.

Fire sprinkler systems were not required in apartment buildings until 1988 when the code changed at which time any apartment buildings of three or more stories and/or containing 15 or more dwelling units were required to have sprinklers. Today under current codes any residential building containing three or more dwelling units, like this building, would require an automatic fire sprinkler system. One and two family dwellings are not required to have an automatic fire sprinkler system installed under current codes.

We are reviewing possible changes to the building and fire codes as it relates to automatic sprinkler requirements.