UPDATE February 12, 2015

Since the initial public offering of this document last year, Rescue 109 and Tower 104 remain understaffed with only 3 firefighters. During this time, there have been numerous fires in Arlington County that have resulted in multiple fatalities of residents. Most of these fatal fires occurred in the neighborhoods served by Rescue 109. Firefighters are being affected as well. While conducting a heroic rescue attempt at a house fire last March, a member of Rescue 109 sustained serious burns that required long-term treatment at the burn center and multiple months off the job recovering. This firefighter was seconds away from being killed as he self-exited the window completely engulfed in flames. Without a safely staffed Rescue 109 he was on his own to get out. Now recovered from a painful rehabilitation, he still works on the understaffed Rescue 109.

There is no doubt that without safe staffing levels on ACFD firetrucks, we will continue to see tragedies occur in Arlington County. The men and women of Local 2800 implore the County Board to immediately allocate the funds necessary to staff Rescue 109 and Tower 104 to safe levels. The residents, visitors, and firefighters of Arlington County deserve to be safe.

PERMANENT FOUR-FIREFIGHTER STAFFING ON TOWER 104 & RESCUE 109

The purpose of this document is to propose the permanent creation of four-firefighter staffing on Tower 104 and Rescue 109 to be implemented by the Arlington County Fire Department. Tower 104 and Rescue 109, with an ever-rising response area population, massive increase in high-rise square footage, terrorism threat, and other changing factors, require adequate staffing to safely and effectively carry out our assignments. The current staffing of three firefighters is woefully and dangerously inadequate. As numerous studies from multiple fire-service and related organizations have shown, four-firefighter staffing increases firefighter safety, citizen safety, and allows for fire-ground tasks to be completed more quickly. In addition, it has been shown that increased staffing reduces firefighter injuries, thus reducing the amount of money paid by Arlington taxpayers to care for and backfill with overtime employees.
EXPLODING GROWTH

Tower 104 is the first due Ladder Truck to the 3.3 mile-long Ballston-Rosslyn Corridor. This large, urban area has exploded in the last two decades due to the five Metro Stations that service it. However, even as the population and buildings have grown tremendously, the staffing on Tower 104 has remained at three firefighters. Ladder Trucks in other urban areas with similar demographics routinely run with four or even five firefighters.

Rescue 109 is the first due Rescue Company for the Pentagon City area and the booming Columbia Pike corridor. As with Tower 104, Rescue 109’s staffing has remained at only 3 firefighters despite the growth and planned growth.

The Arlington County Planning Research and Analysis Team’s (PRAT) statistics show that not only is the County’s populations growing, but so is the amount of high-rise buildings. Below are findings from PRAT as of July 1, 2013.

- Arlington County’s population as of 2013 was 213,000. An 11% increase from 2000. Estimates for Arlington’s population in 2020 are 236,100 and 258,800 in 2030.
- 233,000 people work in Arlington as of 2010. Forecasts indicate by 2020 workers will increase to 276,000, then 303,000 by 2030.

- Nearly 40 million square feet of office space exists in Arlington in 2012. This is more office space than Los Angles, Boston, Atlanta, Dallas, Seattle, and Denver.
- **Rosslyn-Ballston Corridor**: 22,880,000 Gross Floor Area (GFA) of office space, 3,108,000 retail GFA, 30,090 residential units.

-3,000,000 GFA approved or currently under construction along with 3310 additional residential units.

- **Jefferson Davis Corridor**: 12,770,000 GFA office, 2,864,000 GFA retail, 13,050 residential units, 6,000 hotel rooms.

-3,686,000 GFA approved or currently under construction along with 4,450 new residential units and 1,130 hotel rooms.

- **Columbia Pike Corridor**: 870,000 GFA office, 819,000 retail, and 16,930 residential units.

- Approximately 1.4 million square feet of office space was constructed in Arlington in 2013.
- Arlington County’s 10 year average (2002-2011) of development approvals is nearly 1.2 million GFA and 1,660 residential units each year.
- By 2040, the Rosslyn-Ballston, Jefferson Davis, and Columbia Pike Corridors are expected to see 72% of new housing units, 63% of all population growth, and 87% of all employment growth in Arlington County.
- Almost half of Arlington County’s population lives in the Rosslyn-Ballston, Jefferson Davis, and Columbia Pike Corridors.
- Approximately 100,380 people board Metro trains at Arlington Metro Stations on an average weekday in 2013. (Source: WMATA Ridership Data 2013)

As the data above shows, the Rosslyn-Ballston, Columbia Pike, and Jefferson Davis Corridors have experienced significant population and building growth. This growth is expected to continue at a rapid pace. To keep up with the demands of such expansion, Tower 104 and Rescue 109 must be staffed with four firefighters to safely and adequately perform our job. The residents and workers of Arlington deserve this protection, as well as the firefighters who perform the work.
MINIMAL RECOMMENDED STAFFING LEVELS

The following are minimal staffing levels recommended by safety standards and fire service related organizations.

The National Fire Protection Agency (NFPA) recommendations are based on data from actual fires and in-depth fire simulations wherein fire company effectiveness was critically and objectively evaluated. These studies indicate significant reductions in performance and safety when crews responded with fewer members than recommended.

- **NFPA 450, Guide for Emergency Medical Services and Systems, 2009 edition, Chapter 5, Section 5.5.2.3.4**: “Most experts agree that four responders are the minimum required to provide ACLS to cardiac arrest victims.” Tower 104 and Rescue 109 often respond to ALS emergencies understaffed with only three firefighters.
- **NFPA 1710**: “Four on-duty personnel for fire companies, whose primary functions are to pump and deliver water and perform basic firefighting at fires, including search and rescue.”
- **NFPA 1710**: “Four on-duty personnel for fire companies whose primary functions are to perform the variety of services associated with Truck and Rescue work, such as forcible entry, ventilation, search and rescue, aerial operations for water delivery and rescue, utility control, illumination, overhaul, and salvage work—Rescue or Truck companies. Five or six on-duty personnel for these companies in jurisdictions with tactical hazards, high-hazard occupancies, high-incident frequencies, geographical restrictions, or other pertinent factors.” Based on the growth explosion in Tower 104/Rescue 109’s first due and multiple Metro stations that are terrorism targets, it can be concluded that these are tactical, high-hazard locations and Tower 104/Rescue 109 should be staffed with 5-6 firefighters instead of the current three.
- **U.S. Fire Administration (USFA)**: recommends that a minimum of four firefighters respond on or with each apparatus.
- **The International Association of Fire Chiefs (IAFC)**: advocates a minimum of five persons on Engine, Truck, and Rescue Companies.
- **The International City Management Association (ICMA)**: states in “Managing Fire Services” that at least four or more firefighters, each under the supervision of an officer, “should respond to fire suppression operations.” *It has found five-person companies 100-percent effective, four-person companies 65-percent effective, and three-person companies 38-percent effective!*
- **National Institute for Occupational Safety and Health (NIOSH) Line-of-Duty-Deaths (LODD) Reports**: almost every NIOSH LODD report recommends to “provide adequate firefighter staffing to ensure safe operating conditions.” Tower 104 and Rescue 109 are thus considered below adequate with regards to firefighter staffing.
- **The International Association of Fire Fighters (IAFF)**: views inadequate staffing and crew size as contributing factors to LODDs and advocates maintaining adequate staffing as proposed in NFPA 1500, NFPA 1710, and NFPA 1720; the NFPA Fire Protection Handbook, 18th edition (1997), Section 10/Chapter 1 (1-34); and OSHA 29 CFR 1910.134 (two-in/two-out).
DOING MORE WITH LESS

NOVA SOP’s require Ladder Trucks and Rescue Companies to perform multiple tasks on the fire-ground. They include and are not limited to:

- Forcible entry
- Laddering the structure
- Interior/exterior ventilation
- Search and rescue
- Utility control
- Salvage and overhaul
- Illumination

Tower 104 and Rescue 109 are limited in being able to safely, quickly, and effectively perform these critical functions while understaffed with three firefighters. With a minimum of four firefighters, Tower 104 and Rescue 109 would be able to split its crew into two pairs and effectively perform multiple tasks in a much quicker fashion. For example, exterior ventilation and laddering could be performed simultaneously with interior search and rescue operations. This affords greater survivability for victims and creates a safer environment for firefighters to perform. With the current three-firefighter staffing on Tower 104 and Rescue 109, if an immediate rescue is needed via ladder, then the other fire-ground responsibilities will not be completed until the rescue is made. This is dangerous and unacceptable.

NIST HIGH-RISE FIRE STUDY

In 2012, the National Institute of Standards and Technology (NIST) conducted a scientific study in a vacant high-rise building using firefighters from several DC-area fire departments. The study analyzed 14 “critical tasks” typically undertaken by firefighters when potential risks to building occupants and firefighters are greatest. It revealed that three-member crews took almost 12 minutes longer than crews of four, 21 minutes longer than crews of five, and 23 minutes longer than crews of six to complete all the tasks.

NIST fire protection engineer Jason Averill stated “unlike most house fires, high-rise fires are high-hazard situations that pose unique operational challenges to fire service response. How big a fire gets and how much danger it poses to occupants and firefighters is largely determined by crew size and how personnel are deployed at a scene. It’s simply not that larger crews have more people, larger crews are deployed differently and as a result are able to perform required tasks more quickly.”

http://www.nist.gov/el/fire_protection/high-rise-fire-study-041013.cfm

COST EFFECTIVENESS

In 1990, the Providence Rhode Island Fire Department conducted a study that showed that the only nationally recognized staffing standard at that time was from the NFPA. The NFPA recommended a minimum of four firefighters responding on or with each apparatus. The NFPA reported at that time a 71-percent decrease in time lost because of injury using four-person staffing when compared with three-person staffing.

This study proves that three-firefighter staffing causes more injuries due to the need to do more work with less during high-stress fire-ground operations. When firefighters are injured it costs Arlington County money to have the firefighters treated medically. In worst case scenarios the injuries are career-ending and disability costs ensue. Furthermore, when a firefighter is injured, it costs more to backfill their riding
position with overtime. The Providence Fire Department study concluded that it was cheaper to maintain four-firefighter staffing versus three-firefighter staffing. The City of Providence agreed and implemented four-firefighter staffing as a result. The same conclusion should be made for Tower 104 and Rescue 109.


CONCLUSION

The Arlington County Fire Department needs to implement adequate four-firefighter staffing on Tower 104 and Rescue 109. The current three-firefighter status-quo staffing does not provide a safe and effective service to the areas they respond to. This also applies to the firefighters who are required to do more with less. An increase to the recognized minimum staffing of four-firefighters will allow for a safer, quicker, and more cost-effective response for firefighters, visitors, and citizens of Arlington County.