



## APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 3, 2019.** Please include this application form with electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

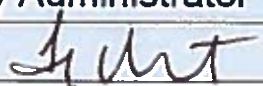
### PROGRAM INFORMATION

County: **Loudoun**  
Program Title: **Fire Command and EMS Competency Center**  
Program Category: **Criminal Justice and Public Safety**

### CONTACT INFORMATION

Name: **Randall L. Shank**  
Title: **Deputy Chief of Training**  
Department: **Loudoun County Fire and Rescue**  
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Email: **Randall.Shank@loudoun.gov**

### SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: **Tim Hemstreet**  
Title: **County Administrator**  
Signature: 

**Submission for Criminal Justice  
& Public Safety**

**Loudoun County Fire and Rescue**  
**Fire Command and EMS Competency Center**

**Submitted by Loudoun County, Virginia**



## **EXECUTIVE SUMMARY / BRIEF OVERVIEW**

The Loudoun County Combined Fire and Rescue System is comprised of 15 independent volunteer fire and/or emergency medical services (EMS) corporations and Loudoun County Fire and Rescue, a department of county government which is the career component of the system. The system covers a geographical area of 520 square miles with a population of over 402,561 (2018) responding out of 21 fire-rescue stations.

The 2018 development and opening of a new Loudoun County Combined Fire and Rescue System "Command Competency Center," which includes a fire simulation area and EMS simulation area, has resulted in major improvements to the county's incident command system.

The center, designed and developed by County personnel, is used for ongoing training, for Lieutenant, Captain and Battalion Chief promotional processes, and for volunteer and career personnel to better understand the challenges that officers face. The center has greatly improved the system's incident command skills, unit tracking and communications skills. In addition, several outside fire and rescue departments have requested time in the center for their personnel.

The system continues to build out more scenarios to include not only fires, but vehicle accidents, multi-casualty incidents and hazardous materials incidents, enhancing the county's response capabilities.

While Loudoun County's Fire and Rescue Training Academy has provided basic and advanced fire and EMS training since 1990, limited opportunities and space prevented the county from providing important Incident Command training and EMS simulations.

In late 2012, a white paper was developed outlining a plan to establish a Command Competency Center with the intent "...to build, reinforce and evaluate officer command abilities." That paper initiated a sequence of events that ultimately led to the construction, outfitting and opening of the Loudoun County Fire and Rescue Command Competency Center in January 2018.

## **THE PROBLEM / CHALLENGE**

For many years, the Loudoun County Fire and Rescue Training Division has offered the Virginia Department of Fire Programs Fire Officer I/II/III/IV courses. These classes meet the

National Fire Protection Association (NFPA) 1021, Standard for Fire Officer Professional Qualifications. In addition, National Fire Academy (NFA) Leadership and Command and Control of Incident Operations courses have been offered. These courses are primarily classroom based and involve only simplified command scenarios (the type typically experienced by a unit officer, not necessarily by a command level officer). Loudoun County also sent personnel to “Blue Card” training held at the Training Academy and eventually to Loveland-Symes, Ohio for “Train-the-Trainer” certification. While beneficial, this approach to maintaining these credentials was time consuming and costly.

Though the Command Competency white paper had outlined the system’s need for some type of Incident Command facility and training, there was no space available at the Training Academy to house such a program. That changed when the Emergency Communications Center (ECC) relocated from the lower level of the Training Academy to a larger space at Fire-Rescue Headquarters in November 2016.

Construction began on the Command Competency Center in March 2017 and was completed in July 2017. Furniture, fixtures and equipment were ordered and installed and a custom audio-visual system specified for the fire command and EMS simulation areas. The fire area includes a Control Room with computers equipped with fire simulation software (currently Fire Studio 6), monitors to display the incident simulation, a camera view of the candidate and other select views, plus a digital audio-visual recording system. There are 12 role player cubicles in the middle section of the center and then the Command Room which is where the designated Incident Command candidate operates. All three areas are equipped with a custom engineered audio-visual system with over-the-head noise-reducing headsets connected to a closed circuit intercom system built to operate like apparatus headsets. All personnel have a push-to-talk “transmit” button and the Control Room and role players (only) have an intercom button that allows conversation between the Control Room and role players without the Incident Command candidate included. This allows the controller to provide direction during the incident and discuss/answer questions that may arise before answering the candidate. This is particularly useful when the center is used for promotional testing of Lieutenant, Captain and

Battalion Chief candidates. The intercom system also reduces the need for 800 Mhz radio frequency use and the associated feedback that occurs when they operate in close proximity.

The Command Room is equipped with a desk with Incident Command Board in front of a 70" high-definition monitor; a second large high-definition monitor that can project Computer Aided Dispatch (CAD) information or additional pictures; a mobile data console (MDC) that displays live call information entered by an on-site dispatcher in the Control Room, and also has a microphone and camera to capture audio that is not broadcast over the intercom ("radio"). There are also chairs and a desk for evaluators to be in the room with the candidate.

The EMS simulation area includes a separate control booth that overlooks two small simulation areas and is equipped with one-way glass, audio-visual recording capabilities, intercom to speak to the candidates, and high-definition cameras capable of zooming in close enough to see the gauge on a blood pressure cuff. The EMS simulation area is equipped like a household room and includes two projectors that can produce different background pictures on a white board in each room. Simulation mannequins or role players are used for the various scenarios.

In addition to the fire and EMS simulation areas, space allowed us to add a 14-seat and 20-seat classroom equipped with Mondo boards and an office for the Fire Training Officer assigned to the center. This has provided some much-needed relief, as there were many days there were no classrooms available at the academy due to course loads and requests by other county agencies for meeting space.

## **FUNDING & STAFFING**

Funding for the Command Competency Center was provided through a combination of resources, including 1) local tax funding and proffers, which were used to fund the construction of the center, and 2) Virginia Department of Fire Programs – Aid to Localities (ATL) funding, which was used to purchase the audio-visual systems and also to hire and support the Fire Training Officer assigned to operate those systems. This unique collaboration of space reallocation and funding offered an innovative solution to our problem and has greatly increased our ability to train personnel in both incident command and EMS simulations.

## RESULTS OF PROGRAM

The department began using the EMS simulation area in January 2018 and the fire simulation area in the spring of 2018. The EMS simulation area has been used by multiple EMS classes, for quality assurance and improvement (QA/QI), and for our Operational Medical Director to release new medics to operate independently in the field.

The fire simulation area is used for Lieutenant, Captain and Battalion Chief promotional processes and ongoing quality improvement of our incident command system. Officers and even interested firefighters and technicians (apparatus drivers) are encouraged to take their turn in the Incident Command seat to better understand the role of their officers and challenges they face on incidents. All of this is done in an educational setting without fear of failing, as System Chief Keith H. Johnson has made it clear that the center is there to improve all participants' skills and is not a pass or fail scenario.

Career personnel participated in a "soft opening" where a unit from each of the three battalions, plus a Battalion Chief and Deputy Chief/Shift Commander meet at the center for approximately four hours to run through several scenarios and a critique after each scenario. Volunteer personnel are now beginning to run through the center, and eventually career and volunteer members will be attending together to continue to improve our incident command skills, unit tracking and communications skills. We have had several outside departments tour the center and others who have requested time in the center for their personnel.

As we continue to build out more scenarios to include not only fires, but vehicle accidents, multi-casualty incidents and hazardous materials incidents, the Command Competency Center continues to improve and prove its worth to the members of the Loudoun County Combined Fire and Rescue System.

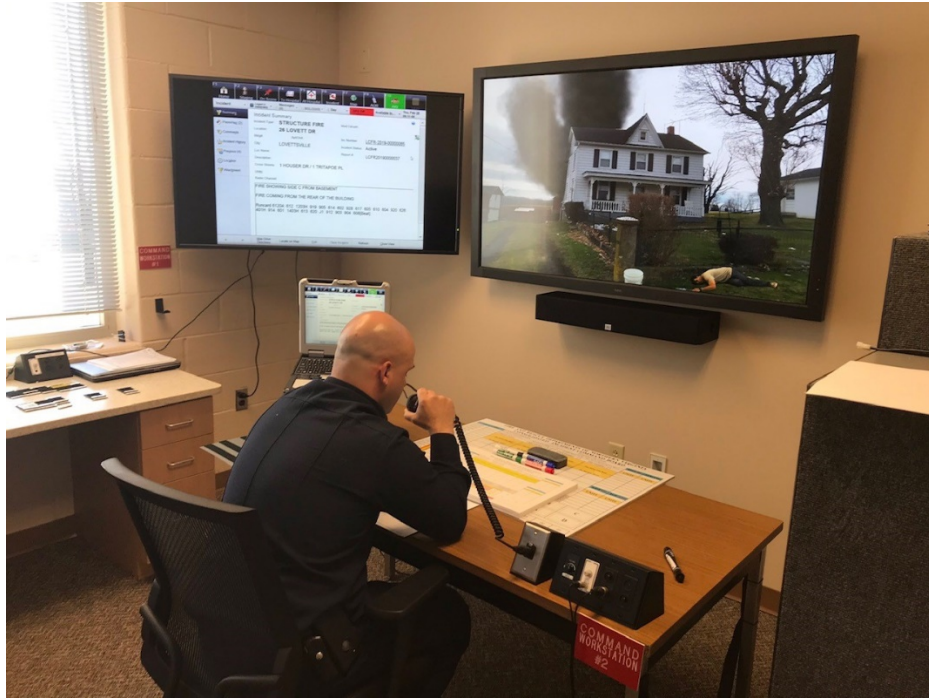


**Command Competency Center  
after the Emergency Communications Center moved out.**



**Construction underway**





The completed Command (Candidate) Room.



Role player cubicles





**Command Control Room**



**EMS Control Room looking into the EMS simulation area.**