



# Preparing DoD Responders to be Mission Ready

*Retired Master Sergeant T.C. Sirmans offers an inside look at how the Advanced Disaster Management Simulator is reshaping firefighter training at the Louis F. Garland Fire Training Academy at Goodfellow Air Force Base.*

Considered to be one of the best fire training academies in the world, the Louis F. Garland Fire Training Academy at Goodfellow Air Force Base in San Angelo, Texas, has trained thousands of firefighters. Established in 1993, the academy specializes in training firefighters from all branches of the Department of Defense (DoD) including Army, Navy, Air Force, Marine Corps and Civil Services. International fire protection specialists also come to train at this facility. The training program is based on rigorous DoD and International Fire Service Accreditation Congress (IFSAC) standards, and the academy institutes a curriculum that meets 100% of the line items involving training requirements published by the National Fire Protection Agency (NFPA).

Trainees complete the course ready to command and control incidents involving fire, hazardous materials, rescue, CBRNE events, accidents, or acts of terrorism. The program's goal is to develop Fire Officers and Incident Commanders proficient in the skills needed to mitigate dangerous situations and prevent or minimize loss of life and damage to property. The mission statement of the Fire Officer course is "Developing the Fire Officers of Today to Command the Fire Service of Tomorrow"

The Louis F. Garland Fire Training Academy uses the Advanced Disaster Management Simulator (ADMS™), developed by ETC Simulation, in their course curriculum. ADMS is an immersive virtual reality training system that allows students to experience true-to-life emergency situations and apply what they have learned in a practical way. Trainees are faced with multiple scenarios that they need to respond to, and the decisions that they make will either escalate or mitigate the incident. The consequences of their



*ADMS in use during a Fire Officer II Course at the DoD Fire Academy*

decisions are visualized in real-time, providing immediate validation of their actions, right or wrong. If they make the wrong decisions, they will see the fire spread, the damage increase, and people die.

We spent a lot of time and a lot of money looking for a system that would meet our requirements. When we saw the ADMS system we were sold from the very beginning. The ADMS system stood out because of the level of realism and the accurate portrayal of so many important details. When a responder arrives at a scene in the exercise, the scene looks like it would in the field. It is extremely vital to get the small things right in every detail because that can make a big difference in identifying hazardous materials or properly handling a missile on a plane.

But ADMS goes way beyond impressive graphics, ADMS is what we consider true simulation. The level and accuracy of the details goes beyond what you physically see, and that's actually where it really matters. Aircraft burn accurately, fires spread correctly, plumes spread based on wind speed and direction, and the fire trucks will even run out of water or foam like they do in the real world. This gives our students a training experience as close to the real thing as they can get.

The fire academy received their first ADMS system delivery in 2011. The customized ADMS-Airbase system virtually recreates a table top model of a fictitious Air Force Base known as Norma Brown. The Norma Brown model, originally developed and used at Chanute AFB in Illinois, has been used for over three decades. The virtual environment is complete with hangers, runways, flight lines, military specific aircraft, including the F-16, C-130 and C-5, and residential areas, Additional areas in the virtual environment include an air traffic control tower, ammunition depot, water treatment area, and camping ground.

ADMS will be used together with Norma Brown for training. Adding simulation to the course challenges the trainees in a way that requires them to make immediate, real-time decisions under stress, and compliments the training gained in the classroom and with the table top. The chosen simulator is a portable system. This allows the academy to take the training directly to the students. Trainees no longer need to travel to Texas.

We plan on using Mobile Travel Teams, what we call MTTs, to take the portable system and train DoD firefighters across the globe. With a portable system, we have the opportunity to train DoD firefighters at military bases worldwide and ensure their first responders are properly prepared. The more people we can train, the more people will be ready to handle emergency situations, and that is the ultimate goal of our program.



*Firefighters on scene at a C-130 fire in ADMS-Airbase*

In 2012 the academy expanded their system to include additional scenarios. A third expansion to the training system was just delivered in March, 2013. The newest delivery included the addition of four student training stations, one driver training station and three new custom scenarios. This will allow for more trainees to participate in exercises. The ADMS-Drive station opens up a completely new area of training to the academy. Trainees will now be able to train operational skills for fire vehicles.

The newly added scenarios include a fire in a residential area, a trailer park, and a bowling alley which involves a building collapse and search and rescue operations.

We are looking forward to the new ADMS capabilities and the benefits that our students will realize. We will now be able to provide a more inclusive training curriculum, including driving operations. The new scenarios will help our students learn to perform in environments they might not have previously had experience training in. Overall, this will only enhance our program.

Simulation is considered a standard DoD training method and is only expected to continue growing. The benefits of ADMS have been clear since we first started using it. Exercises in the simulator force trainees to react in real time to what is happening. Prime Recognition Decision Making, or what we call PRDM, is the ability to quickly determine the problem, find a solution and institute that solution based on previous experiences. We as fireground commanders use our previous experiences to determine our strategy and tactics all the time. By using ADMS, students receive the benefits of those real world experiences, but firefighters aren't getting hurt, there's no equipment to pick up, and there's lots of time to debrief after the exercise. With live training, we would be spending an enormous amount of time cleaning up after one exercise and preparing for the next. ADMS allows us to be much more time efficient. Simulation absolutely enhances the training process, increases learning retention and improves performance of on-scene first responders.



***“Using ADMS saves us \$3,000 to \$4,000 per student. Based solely on the number of students our MTT’s train, we’ll save at least \$192,000 a year. Ultimately, ADMS will save us millions of dollars, and help us save lives.”***

Training with simulators like ADMS also provides a significant cost savings. One of the top reasons we chose ADMS was the opportunity to travel with it. It is much more cost effective for us to send two instructors on the road than to bring students to train on the base. The cost savings extend to in-residence training at the base as well. It is very costly to have the firefighters use resources such as trucks, fuel, and water or foam. There is also a high cost associated with using propane or diesel fuel to start the training fires. Using ADMS saves us \$3,000 to \$4,000 per student. Based solely on the number of students our MTT’s train, we’ll save at least \$192,000 a year. Ultimately, ADMS will save us millions of dollars, and help us save lives.