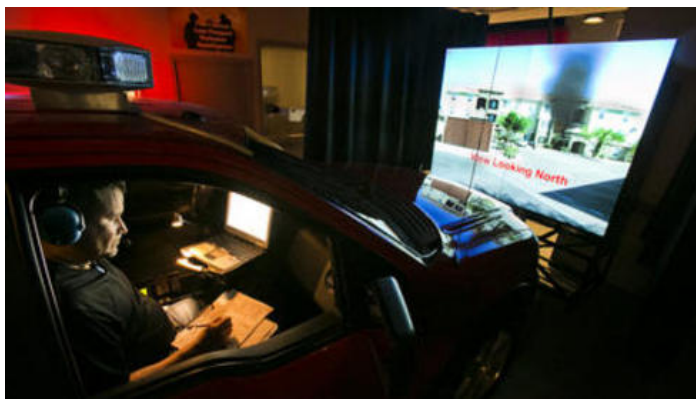


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# Virtual Command Center helps real-life rescuers train for emergencies



Apache Junction Fire Department Battalion Chief Richard Mooney works in the Virtual Incident Command Center in Mesa.

Tom Tingle/The Republic

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By Cathryn Creno  
The Republic | azcentral.com  
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MCC center partners with ASU  
The Mesa Community College Virtual Incident Command Center and the Arizona State University Applied Psychology Unit will partner this year on research projects that could help emergency workers better cope with stress.

"It is a mutual collaboration," said Nancy Cooke, ASU professor of applied psychology. "ASU will use the facility and VICC will get access to ASU researchers."

One of the first collaborations will be in the area of "cognitive fatigue" of emergency workers who work long hours during hurricanes, earthquakes, floods, pandemics or major emergency incidents like large building fires, multiple shootings or explosions. Command Center Director Larry Thacker said many emergency workers have had the experience of losing track of what is going on after many hours at an emergency scene. He describes the

Apache Junction's 80 firefighters serve a 61-square-mile area that stretches well beyond the city limits. Still, they spend only a small percentage of their time fighting fires.

In the last two months of 2012, for instance, only 15 of the Apache Junction Fire District's 1,232 calls were to put out fires. About 80percent were to accidents and other health emergencies.

So on Monday, six of the district's top supervisors practiced fighting computer-simulated fires at the Virtual Incident Command Center at Mesa Community College's downtown Mesa campus.

The Apache Junction contingent was the latest among Southeast Valley firefighters to take advantage of the MCC program.

Since the center opened about 16 months ago, workers from 39 Valley agencies, including Gilbert, Chandler, Tempe, Mesa and Phoenix, have used it. Apache Junction firefighters and the Scottsdale Fire Department train there quarterly, said Larry Thacker, a retired Phoenix fire captain .

Also, fire departments and people interested in emergency response from California, San Antonio, Texas, Kazakhstan, Brazil and Saudi Aramco, the Saudi Arabian oil company, have visited to study the center's simulation methods, Thacker said.

"There are few places like this in the country," Apache Junction Fire Chief Paul Bourgeois said. "To have this right in our backyard, we are extremely fortunate. If you are going to make a mistake, I would rather do it here than at a real emergency scene."

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experience as a “shade coming down” between the eyes and ears and the brain.

What isn’t known, Thacker said, is how long rescuers can work at an emergency scene or how many decisions they can make under stress before experiencing cognitive fatigue.

In the partnership, ASU would send graduate-level psychology students to the command center to do experiments to show how long rescue workers and supervisors can make clear decisions at an emergency scene before the onset of cognitive failure, Cooke said.

“The VICC facility is a tremendous resource for the research community,” she said.

— *Cathryn Creno*

During Monday’s simulation, Bessee and the other five fire officials came much closer to the real experience of fighting a fire. For instance, he struggled to issue clear orders through a breathing apparatus and while a chain saw was buzzing. Others in the training exercise were cutting through the building’s tile roof.

Before the scenario was over, two ladder trucks, six fire engines and two battalion chiefs had arrived at the virtual scene on Bessee’s orders. An evacuation took place and an unconscious man was found in the smoke-filled bedroom of one of the apartments and taken to a hospital.

Bessee remained calm through the exercise but described it afterward as challenging. The fire had been extinguished, the victim rescued and there had been plenty of rescue workers on the scene. But the crew of one ladder truck had missed some instructions because of communications problems.

“Providing support for everyone can be a challenge,” Bessee said.

The Apache Junction fire officials spent about 30 minutes reviewing their experience, then went on to fight another virtual fire at a 50-year-old strip mall with a bar, guitar shop and Asian food store.

Thacker noted that the center does not only create virtual fires. It recently created a 2.5 hour simulated school shooting for MCC administrators who thought they were simply going to the school’s downtown center for a staff meeting.

The 3,500-square-foot center was built in 2011 with \$2.1million in Maricopa County Community College District bond funds. It is entirely self-supporting — agencies like Apache Junction pay about \$1,600 for a day of training there.

Monday’s training started with a call to an apartment-building fire, something firefighters rarely see in Apache Junction.

Division Chief Rob Bessee hopped into the captain’s seat of a replica fire engine and took command after he heard the report of a “structure fire” on a radio. On a laptop computer next to his seat, Bessee reviewed 911-call information as well as maps and photos of the apartment complex he was heading to.

A siren went on and a video of black smoke coming from the window of a burning apartment was all that could be seen from the front window of the truck.

“Let’s upgrade this to a second alarm,” Bessee ordered.

He then moved quickly to the “scene,” a darkened room in the command center where he would view video scenes of the interior of the apartment building and issue orders. He did this while wearing a breathing apparatus to make the simulation seem more real.

The Virtual Incident Command Center is the brainchild of Thacker, who developed Mesa Community College’s fire paramedic program two decades ago. In 2010, he decided he wanted to do something more, to create a center for professional rescue workers who needed additional training for disaster response.

“I wanted to create a total-immersion experience for them,” he explained. “So the emergency becomes real to them.”

Thacker modeled the center’s equipment after jet simulators used by airlines and the Armstrong Laboratory in east Mesa.

He then hired Valley firefighters with computer skills to create challenging but realistic emergency scenarios for the professionals who train at the center.

Jeff Case, a Phoenix Fire Department deputy chief who is the center’s training coordinator, compares the training done at the center to the work sports psychologists do with athletes.

“We have them mentally picture what they will be doing. Then, when they train they create muscle memories of how to respond,” he said.

Case noted that unlike in other parts of the country that have older buildings, firefighters in the Phoenix area don’t battle large blazes very often. Many buildings were constructed to state-of-the-art safety standards during the late 20th Century building boom.

So, the virtual training virtually helps them respond more confidently when there is a large fire, he said.

To prepare to train the Apache Junction fire supervisors, retired Mesa firefighters Kenny King and Bobby Miller, who are now technicians at the center, shot video of street scenes near the apartment complex, photographed the apartment building and unit interiors, and then used computers to simulate smoke and fire that would spread from a second floor apartment to the attic.

Bourgeois said before the command center was developed, agencies such as his would “show a static image on a screen” while firefighters would discuss strategies and tactics.

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"The exercise really tested the MCC administrators," Thacker said. "We had Twitter feeds, multiple telephone calls, radio transmissions, GIS maps, TV news feeds and constantly changing dynamics of the situation."

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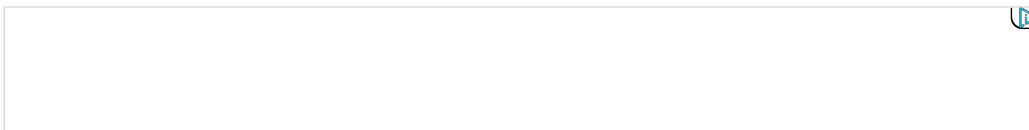
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