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Extinguishing a challenge

Emergency workers learn best methods, equipment for dousing burning ethanol

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STERLING - Rice County firefighters worked quickly Friday morning to douse four large ethanol fires in a training exercise that drew observers from across the state and the Midwest.

The demonstration at the Kansas Ethanol LLC plant north of Sterling was the first time many emergency officials had seen such a large-scale training exercise involving ethanol fires, which must be doused with foam.

The exercise was initially coordinated to give Rice County firefighters an opportunity to practice "foaming" but ended up drawing firefighters from 32 fire departments in Kansas, Oklahoma and Nebraska, said Jennifer Dellar, the plant's safety and purchase officer.

"Ethanol is a really big industry now," said Brock Lowman, manager of the hazardous materials program at Burlington Northern Santa Fe Railway. "More and more ethanol is being moved by highway and rail, so it's important emergency officials know what they're dealing with."

Officials representing 20 various agencies were also in attendance, Dellar said, including emergency responders, ethanol industry experts and vendors demonstrating types of foam and equipment.

"Every department in Kansas has this fuel in their cities or close by," said John Stettinger, battalion chief at the Great Bend Fire Department. "That's why we're here - we're interested in seeing how this works."

Fighting ethanol fires

Up to 600 gallons of ethanol was poured into four metal-enclosed pits Friday in a field adjacent to the Kansas Ethanol plant. One by one, each pit was ignited and a team of Rice County firefighters tested foams and techniques to extinguish the blazes. Foam must be used in ethanol fires instead of water because ethanol is lighter than water and would "float to the top," explained Hutchinson Assistant Fire Chief Mike Patterson.

On Friday, the foam was added to the water stream in the firefighters' hoses with the use of an eductor, which also allows firefighters to control how much foam is needed,

said Shane Pearson, a Salina firefighter and second vice president of the Kansas State Firefighters Association.

Within about 10 minutes of foaming, the flames were no longer visible but the heat waves extended several feet into the cold Kansas air.

"Alcohol burns clear, so the fire is 10 times larger than what you can actually see," Lowman said.

Foams tested on the fires included AR-AFFF (alcohol-resistant aqueous film forming foam), Novacool and F-500 encapsulator foam.

Dave Dunagan, Hutchinson Community College fire science instructor, was also on hand Friday to teach a training course to firefighters and emergency officials in attendance.

Dunagan discussed the types of foams available but said the alcohol-resistant foam was recommended for ethanol and gas fires, as it had a "quicker knockdown."

New technology

The Kansas Highway Patrol helicopter that circled overhead Friday used new technology to offer those on the ground a glimpse of what could be seen from above.

As firefighters worked to put out the ethanol fires, the large crowd observing could watch a monitor showing the live video feed from the patrol's helicopter.

In the event of a real emergency, "the commander on the ground can see what's going on and can see parts of the fire not covered by foam," said KHP Col. Terry Maple.

The Highway Patrol just acquired the new technology, Maple said, and Friday was the second time it had been used.

Over the past week, the live video feed was used during the execution of a search warrant in southeast Kansas, he said. Officers heading into a fenced-in area used the technology in an attempt to spot any possible dangers before entering the area.

Maple recalled the July 2007 explosion at the Barton Solvents plant in Valley Center, before the Patrol had the live video technology. Pictures were taken from the helicopter overhead, and then the helicopter would have to land for the pictures to be handed to officers on the ground, he said.

"Now, they can see it in real-time," he said. "Firefighters, law enforcement officers and industry working together - that's the important part here, the preparation."