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Firefighters learn how to rescue someone buried in grain

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With almost 30 classes packed into just three days during the 73rd annual Nebraska State Fire School in Grand Island, there simply wasn't time for every volunteer firefighter to take every course that was offered.

That's why volunteer firefighters Aaron Pokorny of Madison and Chad Winkelbauer and Paul Leiting, both of Randolph, gathered at 4 p.m. Saturday just east of the Fonner Park grandstand to get a brief taste of the 16-hour grain extraction class put on by GSI Group and the Safety and Technical Rescue Association, which is known as SATRA.

John Crawford of GSI Group said his company paid for 35 volunteer firefighters to take the three-day course, which is taught by SATRA. That gave his company an opportunity to demonstrate its coffer dam, which it has named the RESQtube.

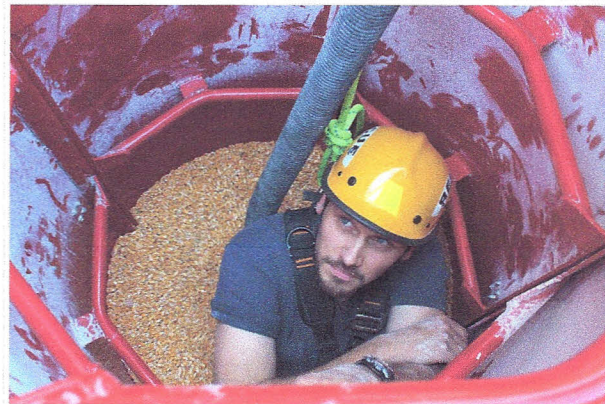
Bill Harp, SATRA chief of operations, said the RESQtube is designed to make the big world of a grain extraction operation into a smaller world for crews who are working to extricate a person who has been buried in grain. Harp noted that SATRA, which is based in Livonia, Mich., is the exclusive trainer for GSI's RESQtube.

He also noted that the RESQtube is the coffer dam that SATRA would recommend for use by emergency responders.

However, the RESQtube involves a small portion of the 16-hour class put on by SATRA. The course also includes classroom instruction, as well as other hands-on instruction at a grain elevator in Grand Island. Saturday's hands-on work included how to safely rescue people from a grain boot at an elevator, as well as the head house on an elevator.

Harp noted that after a person is extracted from grain in a commercial elevator, he must first be raised to an exit point and then lowered all the way to the ground. He said the elevator head house they were working from on Saturday was 103 feet off the ground.

"The wind was blowing 15 miles per hour at ground level," Harp said. "It was blowing 34 miles per hour at the top."



Inside a GSI RESQ tube Aaron Pokorny, a volunteer firefighter from Madison, listens to his "rescuers" while corn is vacuumed out from around him Saturday afternoon at Fonner Park. The tube is placed around a victim to safely remove them from a grain bin. (Laura Beahm/For The Independent)

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Harp noted SATRA rescue training would continue at the elevator on Sunday. Even the three-day course at the Nebraska State Fire School is an abbreviated version of a 32-hour course offered by SATRA, Harp said.

That meant Pokorny's, Winkelbauer's and Leiting's 4 p.m. session at Fonner Park was just a small taste of either grain extraction course offered by SATRA.

The three volunteer firefighters, along with Harp, climbed scaffolding to get to a wooden platform that allowed them to get into a portable RES-Q trainer also built by GSI group. The trainer is a small grain bin that sits on a trailer. Pokorny offered to be the "victim" with Winkelbauer and Leiting working as the two-man rescue crew that worked under Harp's instruction.

Pokorny climbed in first. For safety purposes, he wore a harness attached to a rope that was tied to a metal frame above the grain bin. The first order of business was for some grain to be released from the bottom of the bin. That action sucked Pokorny in up to his waist. A second grain release sucked him in up to about mid chest level.

The first order of business was for the rescue team to put the first section of the metal coffer dam down into the grain, with the metal piece a short distance away from Pokorny's face. Metal hand-holds on the side of the metal piece became places where a rescuer could stand to force the curved metal piece down into the grain.

Then, the second and third sections to the coffer dam were forced down into the grain. All three metal pieces of the coffer dam interlocked to put Pokorny into a small metal tube. Harp asked how Pokorny was doing.

"It's not happy hour down here," Pokorny replied.

Harp then brought a 6.5 horsepower tub vacuum that anybody might have for use in their garage or shop. Harp told the trio of firefighters that such a vacuum was perfectly safe to use for a grain extraction operation as long as there was 5 feet of visibility. Less visibility means there is too much grain dust, which creates the danger of an explosion.

Pokorny, whose arms remained free, aided in his own rescue by vacuuming away the corn that had him trapped in front. Winkelbauer and Leiting vacuumed away the kernels along both his sides and along his back.

The tub vacuum was filled twice, with the kernels dumped out both times right in the bin. Harp said it didn't matter because the coffer dam kept the dumped grain away from Pokorny's bottom. After the vacuum was filled up two times, Harp had Pokorny try to take very small, very rapid steps to see if he could free himself. Pokorny raised himself a little bit and was even able to grab hold of an inner handle on the coffer dam. But he was not able to quite get free.

So a little more grain was vacuumed away. The second time, Pokorny's small, rapid steps were able to help him pop free. At that point, the metal coffer dam could be safely removed.

Harp acknowledged that the GSI trainer offered optimum conditions for a rescue: Dry grain, great visibility, a "victim" who was safely attached to a harness and rope, and pretty easy conditions for the rescuer to move around to effect their rescue.

He noted that in an actual rescue, firefighters or emergency personnel might have to deal with many other obstacles. In February, the grain might be just 20 or 30 degrees, which means the trapped person might die from hypothermia long before he dies from being trapped in grain. Harp said that when rescuers enter a bin or elevator, they have to walk very carefully to avoid starting a grain slide, which creates the chance that the grain could go over a person's head.

But Harp said an alert victim can help save himself by pulling his T-shirt or putting a cap over his mouth and nose, which can create an air pocket for him to breathe.

Harp said another dilemma might be a victim who suffers a heart attack while trapped by grain.

Pokorny, who said he grew up on a farm, said he was able to stay fairly calm when buried in the grain. But he said the short training "rescue," even if it was conducted in optimum conditions, impressed him enough that he wanted to talk about it with his fellow firefighters after he returns to Madison.

For volunteer firefighters and emergency workers in rural parts of the country, the chances of having to work on a grain extraction are more than theoretical. Information provided by the Nebraska State Firefighter's course description booklet said that there are an estimated 160 deaths that occur nationwide each year because of grain engulfments.

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ABOVE—Chad Winkelbauer (left) of Randolph and Bill Harp of Safety and Technical Rescue Association push a panel of a GSI RESQ tube into corn around victim Aaron Pokorny while practicing a grain bin extraction technique Saturday afternoon at the fire school at Fonner Park. (Laura Beahm/For The Independent)



ABOVE—Bill Harp, a Safety and Technical Rescue Association instructor, talks about grain extraction techniques Saturday afternoon at Fonner Park. (Laura Beahm/For The Independent)



LEFT—Paul Leiting of Randolph (left), Aaron Pokorny of Madison and Chad Winkelbauer of Randolph talk with Safety and Technical Rescue Association instructor Bill Harp about using the GSI RESQ tube Saturday at Fonner Park. Pokorny, who was the victim during the simulation, was buried chest deep in corn. (Laura Beahm/For The Independent)