Bin Safety and Rescue

PREVENTING ENGULFMENT IN THE FIRST PLACE BEATS ANY RESCUE STRATEGY

By Mike Brink

This is the first in a series of articles that will discuss bin safety and rescue. The series will cover a number of topics:

- Prevention.
- Team development.
- Regulations.
- Equipment.
- Rescue operations.

A Definition of Prevention

Prevention is just that – trying to prevent an incident from occurring or minimizing the end result of an incident.

First, we need to tackle the question of whether or not a confined space entry permit is required. Some say yes, others say no, and some just ignore it altogether.

Let's break it down as simply as possible. Is there not a problem if a worker becomes injured in a bin?

Let's do a quick risk analysis. Can a worker become engulfed? Is there a fall hazard? Or a hazard from machinery? Are the opening sizes and elevations a problem?

We can all agree that there is a problem getting an employee out of a bin if he or she has an injury. So what can we do? Call the local fire department or rescue squad?

Chances are pretty good that they are neither trained nor have the equipment to conduct this type of operation safely. They may get lucky, but what happens when their luck runs out? Due to budget restraints, they may be short of manpower, equipment, and their training may have been cut. Also, due to a lack of experience with this type of incident, and because of the low frequency of the incidents themselves, they may be a little rusty and less than proficient.

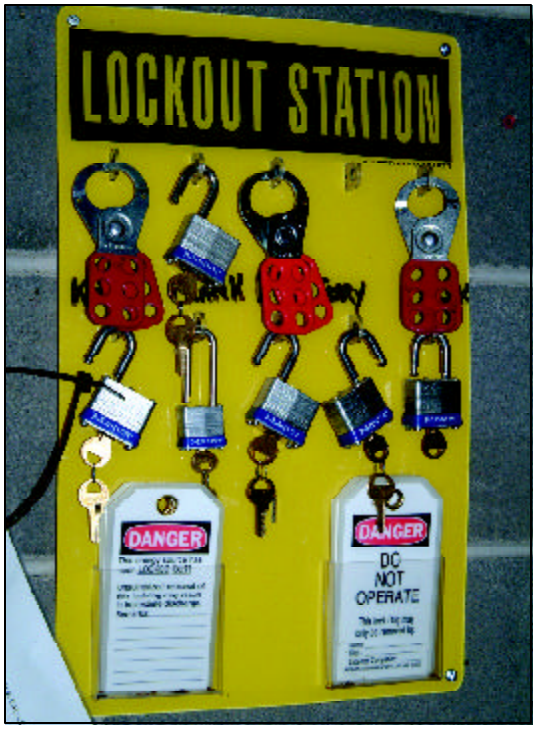
Four Steps for Preventing Engulfment

1. Work with an attendant.
2. Never work in a bin while product is being drawn off.
3. Use a body harness and line.
4. Use lockout/tagout.

Nevertheless, it is in your best interest to develop a relationship with your local responders, so you know how much assistance will be available.

If you are using a fire department as your rescue standby team, you need to be cautious. The firefighters may be occupied with another incident or call, unless you have a designated, equipped team standing by just for you.

If you hire a rescue team, it is your responsibility to check their training records, check for references, and observe them during a training scenario, just for starters.



The use of lockout/tagout equipment during bin entry can prevent an engulfment incident before it gets started. Photo by Ed Zdrojewski.

A Better Option

So what do you do? Use prevention!

Devise policies and procedures, so everyone is on the same page. What is the emergency signal? Who do we call for assistance? Is there a check-in period, if you are working alone at a remote site? Does someone know where you are? Do you have communications? Is there a way that someone can tell you are in the bin? Where and when do you lock out and tag out equipment? Is there a policy that states that no one works alone in or on top of a bin?

The number one cause of death in bins is engulfment, which can be prevented or mitigated easily in four ways:

1. Work with an attendant. That way, someone can keep an eye on the entire situation and react, if necessary.

2. Never work in a bin while the product is being drawn off. This greatly reduces your chance of being engulfed.

3. Use a full body harness and tag line. Used properly, this can prevent a worker from being totally engulfed and secure the situation, until the employee can be extricated.

4. Use lockout/tagout on bin-related equipment. This can prevent an incident from ever getting started.

Safe Product Development

One area where the grain industry and its suppliers can be very helpful is in safety product development. The Safety and Technical Rescue Association (SATRA) has had meetings and conversations with key individuals among tank manufacturers and builders and safety equipment manufacturers with regard to the development of bin safety systems.

The number one thing we hear at SATRA is that manufacturers would be more than happy to develop such safety systems, but there is no demand for these products from the grain industry.

Every person who has been through our bin rescue training program and experienced engulfment during the hands-on portion of the program will attest to how important a safety line can be. No one will help you but yourself, and if the grain industry demands it, they will build it.

If nothing is done, it's likely that some government agency will impose new rules and regulations. So you can be the maker of your own destiny and govern yourself or let someone else dictate the rules to you. It's your choice.

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National Standards

There are national standards for bin rescue for industry as well as for professional emergency services. These are National Fire Protection Association (NFPA) No. 1670 and 1006.

While these standards are not enforced by the Occupational Safety and Health Administration (OSHA), they can come into play during a court case as a reference for a national standard for bin rescue operations.

NFPA 1670 addresses the things an organization should do in performing a technical rescue, covering risk assessment, operational levels, equipment, safety equipment and procedures, training, and recertification.

NFPA 1006 addresses individual professional qualifications and job performance requirements. It includes a minimum proficiency test for a rescuer, both written and practical, for certification at the level of Rescue Technician.

These documents are available for a nominal price from the NFPA *(www.nfpa.org)*. They can be a valuable resource for developing a training program. They reference the skills and knowledge the rescuer must have to perform at a professional level. They document the student's progress through the program with a pre-test and post-test, as well as providing a job performance checkoff sheet for the student.

This only scratches the surface of the topic. Training programs offered through the Grain Elevator and Processing Society (GEAPS) are a start in the right direction.

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GEAPS has scheduled two bin rescue workshops for 2006, May 9-11 in Berlin, MD and June 13-15 in Frankenmuth, MI.