Seven Grain Entrapment Prevention Principles

1. Develop a Zero Entry Mentality.
   Stay out of the bin, if at all possible.
   a. Grain Conditioning – Learn and practice better stored grain quality management and monitor the condition of the grain more closely. Don’t let your grain spoil. Condition it properly, and monitor it closely. How many $$$ are stored in your bin? Would it pay to watch it closely?

b. Reclaim Systems – Design and install reclaim systems that can operate safely and efficiently without personnel having to enter the bins. Build and install safer, more efficient reclaim systems. Provide larger sump discharge holes in closer proximity to each other in the bin floor. Commercial facilities should consider intermediate holes with minimum 24-inch-x-24-inch openings every 8 – 10 feet. Draw-off capacity and unloading design should complement handling capacities of the grain handling system. Center holes on 90 foot or larger bins should be 36-inch-x-36-inch or 48-inch-x-48-inch. Guard these holes properly to prevent injuries.

c. Access Points, Doors, and Work Platforms – Provide larger service tunnels, at least 7 foot high by 7 foot wide tunnels in larger commercial facilities which are well lit and drained.

Install larger outside access doors, not a simple 24-inch round opening in the side of the bins. These larger access doors should have a minimum 3-foot-x-3-foot work platform under them, with hand-rails for safer operating conditions.

2. Never enter alone – The entry supervisor, entrant and attendant must work together and be able to communicate effectively with each other. This is not a one-person work process. NEVER – NEVER enter a bin with grain in it by yourself.

3. Never enter untrained – The employer should provide annual hands-on training for entrants, attendants, and local rescue response teams. Anyone entering a bin with grain in it must receive hands-on training. This training must involve a qualified instructor who is capable of teaching all relevant parts of the 29 CFR 1910.146 and 1910.272 standards along with the use of bin entry kits, anchor points, and other relevant topics. Employees shall be able to demonstrate that they are competent to enter grain bins safely or not to enter at all. When is your next hands-on training session scheduled?

4. Follow entry permit – Complete the permit properly, and take the time required to identify all existing hazards. Have all potential hazards been identified and addressed?

5. Shut down and lockout equipment – Follow proper lockout and tag procedures. All equipment involved in the storage, drying, and material handling systems should be locked out and tagged during entry, service, and maintenance operations.

According to OSHA, compliance with the Lockout/Tagout standard (29 CFR 1910.147) prevents an estimated 120 fatalities and 50,000 injuries each year.

6. Secure Lifeline – Maintain control of the lifeline, if you must enter a bin with grain in it. Your lifeline is useless, unless it is secured properly. Ideally, it is attached to an overhead anchorage point. The restraint system (this is NOT fall protection) must minimize the slack in the lifeline and be able to handle an unexpected 500 – 800-lb. jerk on the line.
Deal with steel bin companies that are responsive to your needs and can accommodate these requirements.

Would you buy a family car without seat belts? Well, why would you even consider erecting a steel storage bin in the future that could not provide a reasonable work restraint system with a properly secured lifeline?

7. Emergency Preparedness – Who do you identify as the emergency response group? When was the last time they trained at your site with your equipment and employees?

Check with your local fire department for expected response time to your location for this type of incident. Are they trained and equipped to deal effectively with a potential grain entrapment at your facility? Does your 911 dispatcher even know what a grain entrapment is? When was the last time your emergency response group conducted a drill at any of your facilities?

Consider forming a joint emergency response group comprised of private industry and volunteer fire fighters. We need to share expertise and limited resources.

It is time for a paradigm shift in the grain industry towards prevention and safer, more efficient grain handling systems.

---

Bin Entry Kit (Belay) to Secure Lifelines and Minimize Slack

Includes: 1/2 in Rope • Webbing or Anchor Strap • Carabiners • Two (2) Pruskis and Prusik Minding Pulley