Grain Bin Safety Symposium

How Is the Industry Responding?

John Lee
Grain & Feed Association of Illinois
1996 Interpretation:

• “Employees may enter a grain storage structure while machinery is running if the employer can demonstrate that appropriate protection has been provided to prevent employees from being exposed to the hazard/danger of the moving machinery”
Appropriate Protection?

- Employees *must not* be positioned in front of any energized and/or operating equipment at any time.
- Employees must stay 6’ feet behind any partially guarded or unguarded energized equipment in grain storage areas.
• If employees must work closer than 6’feet to any unguarded or partially guarded equipment, then employees must implement positive procedures to assure the equipment is de-energized and there will be no chance of unexpected start-up (ie. LO/TO).

• An observer shall maintain direct visual contact of all employees working in grain storage areas at all times while equipment is operating. The observer shall be located at the doorway of bins being emptied and shall have control of the on/off switch.
Question 1: Can an unguarded sweep auger be in operation (energized) in a grain storage bin while a worker is inside the bin?

Response: No. OSHA’s standard at 29 CFR 1910.272(g)(1)(ii) states:

“All mechanical, electrical, hydraulic, and pneumatic equipment which presents a danger to workers shall be deenergized and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or measures.” [emphasis added].

Also, with respect to entry into flat storage structures, covered by paragraph (h), Section 1910.272(h)(2)(i) provides:

“Whenever an employee walks or stands on or in stored grain or grain products of a depth which poses an engulfment hazard, all equipment which presents a danger to the employee (such as an auger or other grain transport equipment) shall be deenergized, and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or methods.”
Policy Changes

#1 Policy -- Companies are trying to use the sweep augers without having employees in the bin.
- uncover the sweeps, exit the bin, turn the sweeps on and let them work until they will not operate effectively
- de-energize the sweeps, enter the bin and make adjustments, exit the bin, then start sweeps back up
- Sweep 15' (example) of space, deenergize sweeps and clean the area and repeat
Other methods

- Grain Vacs
- Skid Steer Doors
**OSHA Bin Sweep Interpretation**

**Question 1:** Can an unguarded sweep auger be in operation (energized) in a grain storage bin while a worker is inside the bin?

**Response:** No. OSHA’s standard at 29 CFR 1910.272(g)(1)(ii) states:

“All mechanical, electrical, hydraulic, and pneumatic equipment which presents a danger to workers shall be deenergized and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or measures.” [emphasis added].

Also, with respect to entry into flat storage structures, covered by paragraph (h), Section 1910.272(h)(2)(i) provides:

“Whenver an employee walks or stands on or in stored grain or grain products of a depth which poses an engulfment hazard, all equipment which presents a danger to the employee (such as an auger or other grain transport equipment) shall be deenergized, and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or methods.”
“Restraint System”

- This portable hand rail system is used to keep employee 15’ back from sweep auger.
- The employee using this system is only controlling the switch watching for problems (grain slides, mechanical failures).
Retro Fit Sweep Tractor
Sweep Controls Outside Bin
OSHA Bin Sweep Interpretation

Question 2: If workers follow the requirements in 29 CFR 1910.23(a)(5), can they work in the bin while the sump(s) is not guarded?

Response: Yes. OSHA’s standard at 29 CFR 1910.23(a)(5) states:

“Every pit and trapdoor floor opening, infrequently used, shall be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap shall be constantly attended by someone or shall be protected on all exposed sides by removable standard railings.”

The standard sets forth the general rule that every pit and trap door floor opening, infrequently used, must be guarded. However, the standard also includes an exception to the general rule so that workers can work near an uncovered floor opening if, in . As a result, a worker may work inside the bin when the sump hole is not guarded as long as a second worker is constantly attending the opening.

conducting work inside storage bins within the parameters of Section 1910.25(a)(5), employers must still comply with all other applicable OSHA standards, including 29 CFR 1910.272(g)(1)(ii). (e.g., Lockout/Tagout).
Accident example

- Employee Sweeping grain to reclaim hole.
- Stepped over the sump.
- Turned around and stepped directly into the reclaim.
- Lost leg mid calf down.
1) 29 CFR 1910.272 (g)(1)(i) Type of violation SERIOUS
   • The employer did not issue a permit...
2) 29 CFR 1910.272 (g)(1)(ii) Type of violation SERIOUS
   • Prior to entry, all mechanical, electrical, hydraulic, and pneumatic equipment which presents a danger to employees inside grain storage structures shall be deenergized and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or methods.
3) **29 CFR 1910.272 (g)(3) Type of violation**

**SERIOUS**

- An observer, equipped to provide assistance, shall be stationed outside the bin, silo, or tank being entered by an employee.

4) **29 CFR 1910.272 (g)(4) Type of violation**

**SERIOUS**

- The employer shall provide equipment for rescue operations which is specifically suited for the bin, silo, or tank being entered.
5) **29 CFR 1910.272 (g)(5) Type of violation** **SERIOUS**

- The employee acting as observer shall be trained in rescue procedures, including notification methods for obtaining additional assistance.

6) **29 CFR 1910.272 (g)(5) Type of violation** **SERIOUS**

- Employees shall not enter bins, silos, or tanks underneath a bridging condition, or where a buildup of grain products on the sides could fall and bury them.
7) 29 CFR 1910. 23 (a)(5)

• Every pit and trap door floor opening, infrequently used, shall be guarded by a floor opening cover of standard strength and construction.
OSHA must prove:

- Exposed employee
- Serious hazard
- Employer knowledge
- Feasible method to abate hazard
Remember the Days of Doing This ARE OVER!

Both of these tasks could lead to big $$ in citations
• John Lee
• Grain and Feed Association of Illinois
• 217-787-2417.
• jlee@gfai.org