



Reply to the attention of:

MAY 3 2013

DEP/CPSEI/SMK

MEMORANDUM FOR: REGIONAL ADMINISTRATORS
STATE PLAN DESIGNEES

THROUGH: *Richard E. Fairfax*
RICHARD E. FAIRFAX
Deputy Assistant Secretary

FROM: *Thomas Galassi*
THOMAS GALASSI, Director
Directorate of Enforcement Programs

SUBJECT: Grain Handling Facility Sweep Auger Enforcement Policy

Purpose: The Agency has received several inquiries regarding its policies related to the operation of sweep augers inside grain storage structures during employee entry. This memorandum further clarifies the Agency's position on this matter and addresses sweep augers operating inside grain bins covered by OSHA's standard at 29 CFR 1910.272(g)(i)(ii).¹

Background

A sweep auger is a horizontal auger that is used to push grain remaining at the bottom of a storage bin toward the bin's discharge sump opening. It rotates around the discharge opening to "sweep" the grain toward that opening. Although the screw portion of the auger is normally partially covered by some type of guard, the entire assembly consisting of the screw and the guard rotate around the bin. In addition, a guard cannot cover the entire screw assembly portion of a sweep auger, or the auger would not be able to properly function. The front of a sweep auger (whether partially guarded or unguarded) typically has an exposed portion with moving parts in order to move grain. Therefore, workers entering the storage structure to push or unjam the sweep auger may be exposed to the dangers of the unguarded moving parts.

¹ On May 26, 2011, OSHA issued a memorandum to its Regional Administrators entitled "Clarification of the Applicability of 29 CFR 1910.272(g) and (h) During Grain Storage Entry Operations." The memorandum provides guidance on the applicability of requirements in OSHA's grain handling standard, and states, among other things, that paragraph (g) requirements apply to all entries into grain storage structures except entry into flat storage structures with unrestricted ground level entry "in which there are no toxicity, flammability, oxygen-deficiency or other atmospheric hazards ..."

OSHA is aware of multiple fatalities, as well as amputations and other serious injuries, resulting from workers entering grain storage structures to conduct maintenance or to make adjustments on operating sweep augers, even when those augers are equipped with guards.

Most often, these occur when a worker's clothing, shoestring, or body parts become entangled in the auger's rotating screw. The crushing hazard is further heightened because workers performing these operations are also susceptible to slip/trip hazards from uneven or moving grain.

Section 1910.272(g)(1)(ii) states:

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.

The standard therefore requires that if equipment presents a danger or creates a hazardous condition for workers inside a storage structure, the equipment must be deenergized, and disconnected, locked-out and tagged, blocked-off or prevented from operating by other equally effective means. Please note that a hazardous condition that violates an OSHA standard can only be cited when actual or potential employee exposure can be documented. OSHA must be able to demonstrate that employees are, will be, or have been in a "zone of danger." The mere presence of employees inside a storage facility with an energized auger is insufficient to establish employee exposure. Typically, the zone of danger for sweep augers operating inside a grain storage structure is the area near or within the path of the auger where employees may be exposed to the unguarded portion of the rotating screw or underneath the auger when it is elevated on the grain.

In the preamble to the final rule (61 Fed. Reg. 9580), OSHA noted that it chose not to prescribe blanket engineering controls due to the wide range of work operations, conditions and configurations that exist within grain storage structures. Therefore, the adequacy of any controls used to protect workers from the dangers of "mechanical, electrical, hydraulic, and pneumatic equipment" while working inside a grain bin must be determined on a case-by-case basis. For example, if an employer can establish that it protects its workers from the dangers of a sweep auger through the use of specific engineering and work practice controls to the point where a danger is not present to employees, the auger need not be deenergized.

Enforcement of 29 CFR 1910.272(g)(1)(ii)

In evaluating compliance with Section 1910.272(g)(1)(ii) for hazards associated with energized sweep augers inside storage bins, implementing all of the following engineering and work practice controls will, in most cases, appropriately eliminate or minimize the danger to employees:

1. Workers may not enter a grain bin until after issuance of a bin entry permit, certifying that the precautions contained in paragraph §1910.272(g) have been implemented, unless the

employer or the employer's representative (who would otherwise authorize the permit) is present during the entire operation.

2. Before any worker enters the bin to either set up or dig out the sweep auger, the subfloor auger and the grain entry points must be de-energized and locked-out.
3. Before operation of the sweep auger, the grate/guard on the subfloor auger must be in place and secured.
4. Employees may not walk on the grain where the depth of the grain presents an engulfment hazard.
5. All sweep augers (including portable sweep augers) must be provided with guards that protect against contact with moving parts at both the top and back areas. The only unguarded portion of the sweep auger should be the front point of operation.
6. An observer, in accordance with §1910.272(g), must always be positioned outside the storage bin monitoring the activities of workers inside the bin.
7. If a worker enters the bin while the sweep auger is energized, the employer must utilize engineering controls within the grain bin to prevent the worker from coming into contact with the energized sweep auger. Acceptable engineering controls may include:
 - a. A sweep auger equipped with an attached guard that prevents the worker's contact with the unguarded portion of the auger, in accordance with 29 CFR 1910 Subpart O, Machinery and Machine Guarding.
 - b. A sweep auger equipped with a control mechanism, such as a dead-man switch or other similar device, which will allow for the sweep auger's operation only when the operator is in contact with the device.² ~~If this method is utilized as a means of worker protection,~~ the worker must be positioned at least seven feet from the energized auger at all times.
 - c. Any workers other than the operator of the sweep auger present in the storage bin while the sweep auger is energized must also be protected in a manner that keeps them out of the zone of danger. For example, this may include the installation of guardrails or catwalks that prevent workers from entering the area within the path of the auger.

² Such a device could be a sweep auger safety handle that is attached to the sweep auger, which allows a worker to operate the sweep auger from a 7-foot distance. When this device is used, the power to the sweep auger is provided through a spring bar that allows the auger to operate only when the bar is engaged by the employee (similar to a lawnmower operation). The handle should allow the employee to push or pull the sweep auger from a safe distance (of at least 7 feet) to the rotating parts of the sweep auger. Once the spring-loaded bar is released or disengaged, the power to the sweep auger would be interrupted and only be energized after the bar is re-engaged by the employee in the bin. Additionally, the sweep auger must be interfaced with an emergency E-Stop mechanism located outside the bin, which will allow the observer to cut power to the sweep auger, if necessary.

8. The auger is provided with a positive speed control mechanism or bin stop device that prevents its uncontrolled rotation around the bin.
9. Workers may not use their hands, legs, or other similar means to dislodge or otherwise directly manipulate the sweep auger while it is energized.
10. If maintenance/adjustments are necessary to the sweep auger, the auger must be unplugged, with the person making the adjustments maintaining the control of the plug, or locked-out in accordance with lockout/tagout procedures.

If you have any questions regarding this memorandum, please contact the Sanji Kanth of my staff at (202) 693-2135.
