

SUBJECT: Safeguarding Vertical Food Mixers.

Purpose: To provide guidelines for the enforcement of safeguarding on vertical food mixers.

Scope: This directive applies MNOSHA-wide.

References: 1. MN Rules 5205.0860

Cancellation: This directive supersedes STD 1-12.20 dated September 20, 2010.

Background: OSHA is required to prove that an employee is exposed to the hazard being cited. OSHIs are required to document observed hazards through the use of sketches and photos to show how and why a standard is allegedly violated, how employees of the employer are exposed to the hazard, how the employer knew or should have known of the existence of the hazard, and what kind of accident could be reasonably predicted to occur from the hazard.

The Federal OSH Review Commission's test for establishing exposure in machine guarding cases is quite stringent and states:

“...in order for the Secretary to establish employee exposure to a hazard she must show that it is reasonably predictable either by operational necessity or otherwise (including inadvertence), that employees have been, are, or will be in the zone of danger. We emphasize that, as we stated in *Rockwell*, the inquiry is not simply into whether exposure is theoretically possible. Rather, the question is whether employee entry into the danger zone is reasonably predictable.”

The Commission will usually not find there to be a reasonable predictability of inadvertent contact unless the employee's hands are in the “immediate vicinity” of the hazardous area. Two Review Commission decisions show how this test has been applied in the context of vertical mixers. In *Station 104, Inc.*, the judge held the mixing bowl of the vertical mixer guarded the dough hook's point of operation and the exposed part of the agitator remained well within the protective circumference of the bowl. In *Top Taste Bakeries, Inc.* the judge held there was a lack of proof of significant risk of injury given the vertical mixer's location and method of operation and the low incidence of actual injuries.

ACTION:

- A. Standards. OSHA's bakery standard, 1910.263, does not address point-of-operation and rotating-part hazards created by vertical food mixers. However, these hazards are covered by MN Rules 5205.0860 should the vertical mixer meet the necessary criteria of not being used in research laboratories or having a less than one-quarter HP driving motor. Normally, when the rotating parts above the point of operation are guarded as required by MN Rules 5205.0860, hazards at the point of operation are also protected.
- B. Factors. Some factors that must be taken into consideration when evaluating exposure to a vertical mixer's hazards such as point-of-operation, ingoing nip points, and rotating parts, include:
1. How the mixer functions (e.g., visibility of agitator, ability to accidentally switch on, etc.);
 2. How worker performs operations (e.g., adding ingredients, scraping the bowl, checking dough for consistency);
 3. Distance worker is from point-of-operation hazard or rotating part – how close does worker get to hazard during operation;
 4. Tools, clothing, jewelry, or hair of worker that might get caught or fall into mixer;

5. Type of guarding in place or provided, if any;
6. Any slipping or tripping hazards in the area.

C. Citation Policy.

1. When there is employee exposure to any of the normal production hazards mentioned in MN Rules 5205.0860, one or more methods of machine guarding shall be provided, as appropriate, to protect the exposed workers. For example, when there is employee exposure to a normal production point-of-operation hazard, the OSHI shall cite MN Rules 5205.0860 and document employee exposure when the point of operation of a vertical mixer is not properly guarded, or if guarding is not feasible and there is no effective safeguarding work practice in place.
2. Safeguarding a worker from potential exposure to the machinery hazards of a mixer must be provided by a barrier guard or a safeguarding device. When safeguarding by barrier guard or a device is not feasible, safeguarding by maintaining a safe distance may be used.
 - a. Work practices are not to be used in lieu of necessary machine guarding when guarding is feasible. Replacement of old mixers with new units, which have the required safeguarding, is an option employers have when the old mixers cannot be upgraded or retrofitted with the safeguarding.
3. Hazards may also exist during servicing and maintenance operations of vertical food mixers in which hazardous energy could cause injury to employees. The lockout/tagout standard, 1910.147, covers servicing and maintenance which takes place during normal production operations, if and only if either of the circumstances set forth in 1910.147(a)(2)(ii)(A) and (B) apply. Additionally, this standard applies when there is a potential for unexpected activation or start-up, the machine can be deenergized to perform the servicing or maintenance, and there is employee hazardous energy exposure. If 1910.147 applies, the vertical mixers must be deenergized and be locked or tagged out in accordance with the procedures required by the standard.
4. If the vertical mixer's power source is a flexible cord, lockout or tag out of the machine is not required if the provisions of 1910.147(a)(2)(iii)(A) are met for cord and plug connected equipment. The exemption is predicated on the assumption that the use of the flexible cord is approved and suitable for the conditions of use and location as detailed in 1910.305(g).

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