MICHIGAN State FACE Program
Fatality Assessment & Control Evaluation™

Manufacturing Fatality Summary

INCIDENT FACTS

INVESTIGATION #:
22MI060

SUMMARY DATE:
09/01/2026

INCIDENT DATE:
Summer 2022

WORKER:
58-year-old

INDUSTRY:
Food Manufacturing

OCCUPATION:
Mechanic

EVENT TYPE:
Caught In or In Between

Maintenance Technician Dies After Being Caught in Conveyor System

SUMMARY

A 58-year-old Maintenance Technician died after being caught in a gondola conveyor system on which he was performing non-routine maintenance to correct a misaligned chain and sprocket drive. The facility in which this occurred was a food production and packaging facility for infant nutrition.

The primary machinery involved in the fatality was an approximately 32-foot-tall gondola conveyor system, the purpose of which was to act as an aseptic buffer zone for product after it was produced but before it was packaged. The conveyor system was routed in a serpentine fashion, with 3 pairs of 24-inch sprockets at the bottom, another 3 pairs at the top, and 4 pairs in the middle. Wound around these sprockets were chains, one on the infeed side and one on the outfeed side of the system. On both the infeed and outfeed side there was a drive motor driving the sprocket and chain on each side in unison. The motors were located outside the machine protective enclosure. Normally both chains moved around the sprockets in synch and the gondolas, of which there were a total of 84, rotated in a level fashion as they traveled the serpentine pathway. Each of the gondolas weighed anywhere between 79 pounds (empty) and 551 pounds (fully loaded.) The gondola conveyor system had been in place for approximately eight years.



MIOSHA Photo. Front side of machine, interlocked enclosure access entered.



MIOSHA Photo. Side view of the 32-foot-tall gondola serpentine conveyor system.

The fatal incident occurred in the early afternoon while the decedent was working on the gondola conveyor system with five other coworkers to resolve a machine jam or crash. The outfeed side conveying chain had become misaligned on a sprocket causing the conveyor to "crash", and the gondolas to tilt to one side spilling product to the floor. According to employees, this malfunction was a rare occurrence at the facility, only occurring one or two times a year.

The maintenance technicians, as part of the facility's Lockout/Tagout (LOTO) program, halted the conveyor and placed their locks on the machinery's secondary lockout point, which deenergized the mechanical parts of the system while not disabling the system's computers. The firm's lockout procedure did not account for or include the potential energy of gravity; there was nothing put in place to stop the possible movement of the gondolas when addressing a chain and sprocket misalignment situation. The realignment of the infeed side of the system was performed by loosening the taper lock safety devices, moving the chain around the sprockets, and then retightening the sprocket bearings. However, the tension on the outfeed side of the system caused by weight of the gondolas was too great, and loosening of the taper locks on the drive end alone did not allow the chain to be aligned. The outfeed drive end taper locks were not retightened. When they could not complete the realignment to the outfeed side from the drive end, the decedent and a coworker walked to the front side of the machine where plexiglass interlock doors were located and entered the interlocked enclosure to loosen the sprocket on the outfeed side of the conveyor from the inside. To loosen the sprocket from inside the interlocked enclosure, the decedent had to position his body in the path of travel of the gondolas.

The decedent was positioned approximately 32 inches beyond the plexiglass interlocked doors. As he loosened the outfeed side's sprocket bolts, the chain suddenly was freed, and the conveyor system fell due to gravity, rapidly moving fully loaded 551-pound gondolas upward. The decedent was caught between the machinery framing and the rotating gondolas as they rotated down on one side and upward on the other. Two maintenance technicians witnessed the incident; one indicated the gondolas moved an estimated 30 feet from gravity once released. The decedent's coworker, standing just behind him, pulled him out of the conveyor system after

the sudden release of potential energy stopped. Emergency response was called, and he was declared dead at the scene. The medical examiner determined he died from blunt force injuries to his head, neck and chest.

The machine specific lockout procedure did not specifically include gravity (potential energy) as an energy source in this conveyor system. The written secondary energy isolation training for the conveyor system noted that the positioning of one's body under or above the gondola's was unacceptable behavior. Employees were not trained in the proper way to realign chains. The employer submitted abatement to MIOSHA including a new energy control procedure with a system of blocking to control the potential energy hazard.

REQUIREMENTS

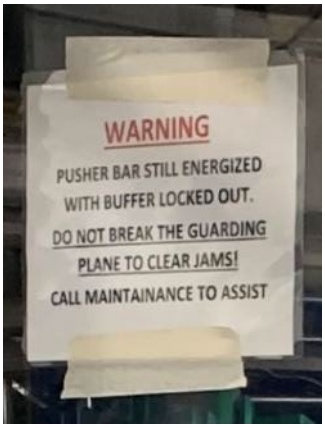
Employers must:

- Develop, document, and utilize procedures for the control of potentially hazardous energy when employees are engaged in the activities covered by this section. See 1910.147(c)(4)(i)
- Conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this standard are being followed. See 1910.147(c)(6)(i)

RECOMMENDATIONS

MIFACE investigators concluded that, to help prevent similar occurrences, employers should:

- Develop, implement, and enforce a hazardous energy control program and machine specific procedures that identify and control all hazardous energy sources, including potential energy.
- Conduct periodic inspections of authorized employees and review energy control procedures.
- Develop, implement, and enforce a safety and health program that addresses hazard recognition and avoidance of unsafe conditions.



MIOSHA Photo. Warning sign on interlocked door where decedent entered enclosure.

CITATIONS

MIOSHA General Industry Safety and Health Division issued the following serious citations at the conclusion of its investigation.

- Serious: 1910.147(c)(4)(ii): GI PART 85, THE CONTROL OF HAZARDOUS ENERGY SOURCES
  - The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including, but not limited to, the following:
    - 1910.147(c)(4)(ii)(A) A specific statement of the intended use of the procedure;
    - 1910.147(c)(4)(ii)(B) Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy;
    - 1910.147(c)(4)(ii)(C) Specific procedural steps for the placement, removal, and transfer of lockout devices or tagout devices and the responsibility for them; and
    - 1910.147(c)(4)(ii)(D) Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.
- Serious: 1910.147(c)(7)(i): GI PART 85, THE CONTROL OF HAZARDOUS ENERGY SOURCES
  - The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:
    - 1910.147(c)(7)(i)(A) Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
    - 1910.147(c)(7)(i)(B) Each affected employee shall be instructed in the purpose and use of the energy control procedure.
    - 1910.147(c)(7)(i)(C) All other employees whose work operations are or may be in the area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

DISCLAIMERS

- The State FACE Program is supported by funding from NIOSH.

- The "FACE" and "FATALITY ASSESSMENT AND CONTROL EVALUATION" wordmarks and logo are trademarks of the U.S. Department of Health and Human Services. Use of these marks does not imply endorsement by HHS.
- This report is the product of NIOSH's Cooperative State partner. The findings and conclusions in each report are those of the individual Cooperative State partner and do not necessarily reflect the views or policy of NIOSH.
- This information is for educational purposes only. This MIFACE report becomes public property upon publication and may be printed verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company. All rights reserved.