

**SESSION 4 (1 hour)**  
**MACHINE, FALL AND OTHER HAZARDS IN THE GRAIN HANDLING**  
**INDUSTRY**

**Lesson Plan: Student Guide**  
**Machine, Fall and Other Hazards in the Grain Handling Industry**

**Overview**

There are a variety of hazards occurring within the grain handling industry. One of the hazards is related to machine guarding and protecting workers from points of operation and other hazardous parts. Another hazard relates to safe working/walking surfaces and the potential for falls. Other hazards can include the accidental energization of equipment and the need for lockout/tagout. This lesson will review a variety of potential hazards present in the grain handling industry and methods for eliminating or reducing the hazard.

**Lesson Objectives**

Upon completion of this topic students should be able to:

1. Identify equipment hazards in the workplace and how to safeguard machines.
2. Identify fall and other walking, working surfaces hazards in the workplace and how to reduce or eliminate those hazards.
3. Identify situations when de-energization and lockout/tagout of equipment is necessary.
4. Review case studies and identify what measures could be taken to prevent the fatality.

**Training Resources**

1. PowerPoint Presentation with instructor notes (Color)
2. Internet web sites including OSHA and NIOSH

**Activities and Classroom Procedures**

1. Review course objectives
2. PowerPoint slides with class discussion
3. Review case studies with class discussion

**Lesson Roadmap**

1. Introduction to Machine, Fall and Other Hazards in Grain Handling Industry

- a. Slides to be used: 1-2
  - b. Objectives Covered: 1-3
  - c. Exercise/Demos: None
  - d. Training Aids: None
2. Machine Guarding Hazards and Solutions
    - a. Slides to be used : 3-12
    - b. Objectives Covered : 1
    - c. Exercise/Demos : Identify which screw auger is guarded on slide 12.
    - d. Training Aids : Pictures of two screw augers. The one on the left is not guarded. The openings in the guard are too large. Ask what kind of guard is in place on the left screw auger. The answer is a fixed guard.
3. Walking, Working Surfaces and Fall Hazards and Solutions
    - a. Slides to be used : 13-31
    - b. Objectives Covered : 2
    - c. Exercise/Demos : None
    - d. Training Aids : None
4. Lockout/Tagout
    - a. Slides to be used : 32-34
    - b. Objectives Covered : 3
    - c. Exercise/Demos : None
    - d. Training Aids: Review the letter of interpretation and encourage discussion.
5. Case Studies
    - a. Slides to be used : 35
    - b. Objectives Covered : 4
    - c. Exercise/Demos: Review the case studies from NIOSH FACE program.
    - d. Training Aids: Review the case studies with the class. Discuss what could have been done to prevent these fatalities. What went wrong?

## **Evaluation and Assessment**

- a. Interactive conversations

## **Resources/Web Sites**

- <http://www.osha.gov/SLTC/grainhandling/index.html> - OSHA's Grain Handling Safety Page:
- [www.osha.gov](http://www.osha.gov) - OSHA's General Industry Regulations
- <http://www.osha.gov/dts/osta/oshasoft/index.html> - OSHA's e-tools:
- <http://www.cdc.gov/niosh/face/> - NIOSH FACE program
- [http://www.osha.gov/pls/oshaweb/owasrch.search\\_form?p\\_doc\\_type=INTERPRETATIONS&p\\_toc\\_level=0&p\\_keyvalue=](http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=INTERPRETATIONS&p_toc_level=0&p_keyvalue=) - OSHA's Interpretative Letters