

## QUOTES FROM PAST PARTICIPANTS

- *I thought that we were close to complete compliance, but after attending this seminar, I realize we have a lot of work to do to reach total compliance!*
- *Outstanding presentation—very professional.*
- *It was a very good seminar. I found that there were a lot of things that needed guarding that I wasn't even aware of.*
- *I thoroughly enjoyed the seminar—it was very well organized and conducted.*
- *Great class—the best I have ever attended!*
- *The course is a “must” for anyone involved in machinery, guarding or operational setup.*
- *The instructor was very knowledgeable and interesting to listen to. Thanks for all the great information.*



- *Excellent workshop with very nice take-home materials.*
- *I liked the hands-on demonstrations on the machines in the training center.*
- *Excellent course. I found out how much I didn't know!*

## ROCKFORD SYSTEMS' QUALIFICATIONS

For numerous years, we have been educating corporations throughout the world on machine safeguarding. Every year, hundreds of people attend these seminars. Participants come from a variety of areas including manufacturing, distribution, aerospace, insurance, government, and consulting. They include safety directors, plant managers, maintenance and engineering personnel, setup people, safety specialists, loss-control engineers, and safety consultants. Seminar instructors are very knowledgeable and have many years of experience in the machine tool industry.

## IMMEDIATE BENEFITS

- Ability to identify machine types in the 24 ANSI B11-series safety standards and other related standards (e.g., ANSI/RIA 15.06 Industrial Robots)
- Recognize how operators interact with each type of machine and the “level of exposure” to recognized hazards
- Learn the principles of machine safeguarding
- Understand how various safeguards work—what they will and won't do to protect people
- Understand the pros and cons of five safeguarding choices: guards, devices, distance, location, and opening (ANSI B11.19)
- Comprehensive understanding of mechanical power press safety
- Understand the basic electrical and control reliability requirements for industrial machinery
- Better understanding of the interpretations of OSHA and ANSI safety standards
- Obtain safeguarding resources to use after the seminar
- Earn 2.0 CEUs (continuing education units)

## CONTINUING EDUCATION UNITS

The machine safeguarding seminar of Rockford Systems has been reviewed and approved by the International Association for Continuing Education and Training (IACET). Attendees who successfully complete this program will receive 2.0 continuing education units.



## WHO SHOULD ATTEND?

- Maintenance Personnel
- Safety Specialists
- Floor Supervisors
- Loss-Control Engineers
- Safety Directors
- Manufacturing Engineers
- Die Setup Personnel
- Setup/Operators
- Plant Managers
- Design Engineers
- Safety Engineers
- Production Personnel

## INTRODUCTION

According to safety standards, when a machine creates a hazard to operators and other employees in the machine area, it must be safeguarded. We offer this machine safeguarding seminar to educate people in positions of responsibility how to properly safeguard the point of operation and other machine hazards to meet OSHA regulations and current industry standards.

This comprehensive 2½-day seminar provides knowledgeable interpretations of the performance language of both OSHA (Occupational Safety and Health Administration) and ANSI (American National Standards Institute) standards. Twenty-four ANSI B11-series safety standards and other related standards are covered.

Classroom discussions are combined with a PowerPoint presentation and live demonstrations of machines to help attendees understand when and where safeguarding is required and how various safeguarding works. The teaching methods used and the material covered during the 2½ days will help attendees determine compliance issues with their machinery and processes.

The metal-turning portion of this seminar primarily focuses on the ANSI requirements for chuck shields and chip/coolant shields on manually operated machines. Safeguarding by distance and location are also covered, as well as awareness barriers and devices, pressure-sensitive mats, emergency-stop devices, drop-probe devices, color-coding, warning signs, and training requirements.

Using ANSI/RIA R15.06 as a guideline, safeguarding methods for robots are discussed. This section includes the newly incorporated risk assessment/hazard analysis. An overview and interpretation of OSHA 1910.147 Lockout/Tagout and STD 1-7.3 are also included.

## TRAINING CENTER

Our training center contains a number of machines including mechanical and hydraulic power presses, press brakes, an engine lathe, a vertical mill, a drill press, a pedestal grinder, a spot welder, and riveter. These machines are under power for demonstration purposes. Most of the machines are equipped with multiple types of safeguards to show how different guards and devices can be applied and used. Hands-on opportunities abound!

## TRAINING INSTRUCTORS

Our instructors are well qualified, having many years of exposure to the machine-tool industry. Their experience comes from working in the field with plant engineers, safety directors, and plant managers. Instructors are also involved in the observance of the various draft stages of ANSI B11-series safety standards for machine tools.

## SEMINAR MATERIALS

Each person attending the seminar receives a variety of information regarding machine safeguarding which includes the following:

- OSHA 29 CFR 1910.211, 1910.212, 1910.217, and 1910.219
- OSHA 29 CFR 1910.147, *Lockout/Tagout*
- Pertinent ANSI B11 standards
- Charts and graphs for future reference
- Safeguarding product catalogs
- U.S. Department of Labor memorandums
- Mechanical power press safety information card
- Safety distance guide slide chart
- Folding, stainless-steel OSHA and ANSI guard-opening scales
- Laminated function-testing checklists for safeguards

## REGISTRATION INFORMATION

Please consult the factory or our Web site for the registration fee. This fee includes the seminar presentation and demonstrations, seminar materials including a safety distance guide, guard-opening scales, food and beverages during breaks, lunch on the first two days, and a certificate of completion with 2.0 CEUs. The registration fee does not include other meals, lodging, or transportation. To enroll, use the registration form on page 79, call 1-800-922-7533, or register online at [www.rockfordsystems.com](http://www.rockfordsystems.com).

## SEMINAR SCHEDULE

The machine safeguarding seminar is usually held on the third Tuesday, Wednesday, and Thursday of each month. (Thursday's session ends midmorning.) All seminar dates and times are subject to change. Please call the seminar registrar to confirm seminar dates before making travel arrangements.

## CONFIRMATION

Each attendee will receive a package of detailed information prior to attending. Maps and a list of over 15 hotels are provided for students to make their own hotel reservations.

## LOCATION

The seminar is held at our Rockford, Illinois, plant, which is located 65 miles northwest of Chicago O'Hare Airport.

## ON-SITE AND SPECIAL GROUP SEMINARS

Machine safeguarding seminars can be presented at your company and tailored to the types of machines in your plant. We can also conduct special seminars at our facility for your group or company. Please contact our training department for details.

## OVERVIEW

The first day begins with a brief history of OSHA and ANSI and includes discussion of Risk Assessment/Risk Reduction and how the process helps to determine the appropriate protective measures that should be taken in order to minimize the residual risk of a machine or process. The agenda for the remainder of day one focuses on interpreting the performance language of OSHA's general requirements for all machines, and the OSHA regulations and ANSI standard for mechanical power presses.

In addition to the PowerPoint presentation and the live demonstrations of machines, video showing end users of mechanical power presses is also used by the instructor as a training aid to illustrate machine safeguarding applications, hazards, and interpretations of safety standards. Refer to the outline for specific topics and standards covered on the first day.



Hydraulic press with a light curtain and two-hand control as the point-of-operation safeguard.



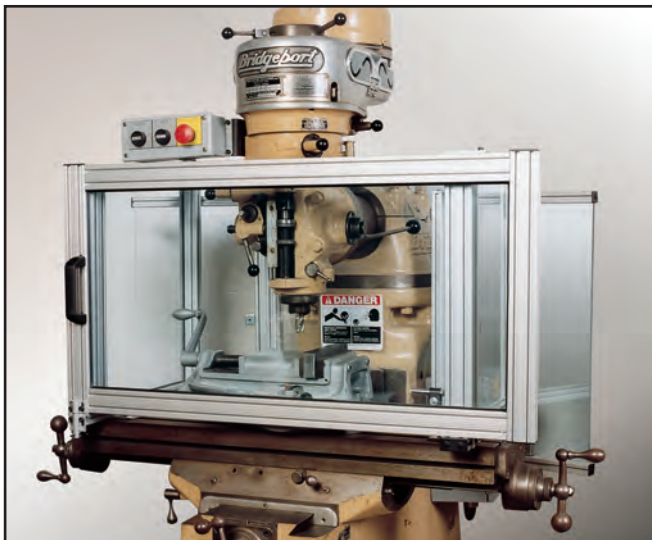
Hydraulic press brake with V4000 safeguarding system.

## OUTLINE OF SAFEGUARDING SEMINAR

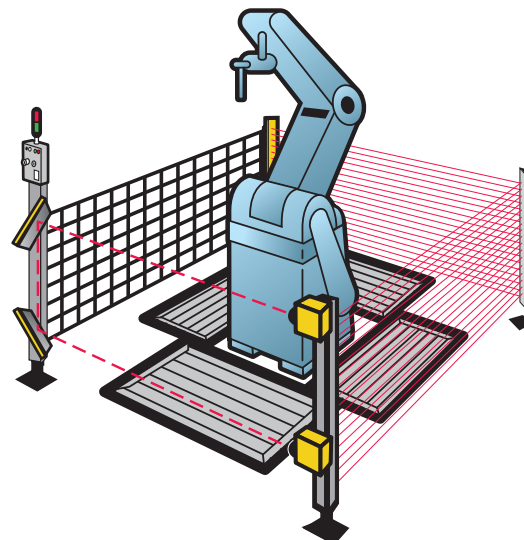
### Day 1

- **Welcome, Introduction, and Objectives of Seminar**
  - **Brief History of ANSI, OSHA, and NFPA 79**
  - **Risk Assessment/Risk Reduction**
  - **OSHA 29 CFR 1910.211, Definitions**
  - **OSHA 29 CFR 1910.212, General Requirements for All Machines and Auxiliary Equipment**
  - **OSHA 29 CFR 1910.217 Mechanical Power Presses**
  - **OSHA 29 CFR 1910.219 Mechanical Power Press Transmission Apparatus**
  - **ANSI B11.1-2009 Mechanical Power Presses**
    - Full-Revolution-Clutch Identification and Control Requirements
    - Control Reliability and Brake Monitoring
    - Broken or Falling Machine Components
    - Brakes on Full- and Part-Revolution Presses
    - Electrical Component Requirements (NFPA-79)
    - Side Counterbalance Systems
    - Air Controlling Equipment (FRLs)
    - Hydraulic Equipment (on MPP)
    - Pressure Vessels (Surge Tanks)
    - Hand-Feeding Tools
    - Point-of-Operation Safeguarding Requirements
      - General Requirements
      - Devices
      - Guards
    - Design, Construction, Setting, and Feeding of Dies
- (see next page for days 2 and 3)

The second day covers the basic safeguarding guidelines for all 24 ANSI B11 series of machine tool safety standards plus other related standards. Using ANSI/RIA R15.06 as a guideline, safeguarding methods for industrial robots are discussed, and an overview and interpretation of OSHA 29 CFR 1910.147 Control of Hazardous Energy Lockout/Tagout is also covered.



Safeguarded metal-cutting machine has shield, emergency-stop button, danger signs, and belt covers—disconnect switch and motor starters that meet NFPA 79 are also provided.



Safeguarded work envelope of robot has perimeter guards, light devices, latchout/reset unit, and safety mats.

In addition to the PowerPoint presentation and the live demonstrations of machines, video showing end users of machine tools and robots are also used by the instructor as a training aid to illustrate machine safeguarding applications, hazards and interpretations of regulations and standards. Refer to the outline for specific topics and standards covered on the second and third day.

## OUTLINE OF SAFEGUARDING SEMINAR (continued)

### Day 2

- ANSI B11.2 *Hydraulic Power Presses*
- ANSI B11.3 *Power Press Brakes*
- ANSI B11.4 *Shears*
- ANSI B11.5 *Iron Workers*
- ANSI B11.6 *Lathes (Manually Operated)*
- ANSI B11.7 *Cold Header and Cold Formers*
- ANSI B11.8 *Drilling, Milling, and Boring Machines*
- ANSI B11.9 *Grinding Machines*
- ANSI B11.10 *Metal Sawing Machines*
- ANSI B11.11 *Gear Cutting Machines*
- ANSI B11.12 *Roll Forming and Roll Bending Machines*
- ANSI B11.13 *Automatic Screw/Bar and Chucking Machines*
- ANSI B11.14 *Coil Slitting Machines/Systems*
- ANSI B11.15 *Pipe, Tube, and Shape Bending Machines*
- ANSI B11.16 *Metal Powder Compacting Presses*
- ANSI B11.17 *Horizontal Hydraulic Extrusion Presses*
- ANSI B11.18 *Coil Processing Systems*
- ANSI B11.19 *Safeguarding Methods (Criteria)*

### Day 2 (continued)

- ANSI B11.20 *Integrated Manufacturing (Cells)*
- ANSI B11.21 *Machine Tools Using Laser Processing (Cutting)*
- ANSI B11.22 *CNC Turning Centers and Lathes*
- ANSI B11.23 *Machining Centers—CNC Mills, Drills, Boring*
- ANSI B11.24 *Transfer Machines*
- ANSI/SPI B 151.1 *Horizontal (Plastic) Injection Molding Machines*
- ANSI/SPI B 152.1 *Hydraulic Die Casting Presses*
- BS ISO 14137 and JIS B6360 *Electrical Discharge Machines*
- ANSI/RIA R15.06–1992 *Robots and Large Work Envelopes*
- OSHA 1910.147 *Control of Hazardous Energy Lockout/Tagout*

### Day 3

- *Machine and Safeguarding Devices Demonstrations*

The third day is reserved for demonstration of various safeguarding devices and machines, including a safety laser scanner and a safety camera system on a hydraulic press brake. Attendees will learn how the devices function and when they can be used.

Enrollment for the 2½-day seminar is limited and is taken on a first-come, first-served basis. To register, call toll-free 1-800-922-7533, mail or fax the registration form on page 79, or register online at [www.rockfordsystems.com](http://www.rockfordsystems.com).

## Seminar Registration Form

Registration for the Dates of \_\_\_\_\_

Company Name \_\_\_\_\_

Address Line 1 \_\_\_\_\_

Address Line 2 \_\_\_\_\_

City \_\_\_\_\_ State/Province/Region \_\_\_\_\_ ZIP/Postal Code \_\_\_\_\_

Phone \_\_\_\_\_ Ext. \_\_\_\_\_ Fax \_\_\_\_\_

E-Mail Address \_\_\_\_\_

Registrants:

Name \_\_\_\_\_ Title/Position \_\_\_\_\_

Name \_\_\_\_\_ Title/Position \_\_\_\_\_

Name \_\_\_\_\_ Title/Position \_\_\_\_\_

Name/Title of Person Making Registration \_\_\_\_\_ Phone \_\_\_\_\_

### Payment Options—Fees are payable in advance using any of the following forms of payment:

Check enclosed payable to Rockford Systems, Inc. Check amount \_\_\_\_\_

Invoice company Purchase Order No. \_\_\_\_\_ Attn: \_\_\_\_\_  
Billing Address: \_\_\_\_\_

Bringing check to seminar.

Bringing credit card to seminar. Charge to:  American Express  Visa  MasterCard  
Card No. \_\_\_\_\_ Exp. Date \_\_\_\_\_  
Cardholder's Name \_\_\_\_\_ Signature \_\_\_\_\_

**Enrollments are limited** and are taken on a first-come, first-served basis. Maximum class size is 35 people. Please call, mail, fax, or visit our Web site to make your reservation.

**By Phone:** Call toll-free 1-800-922-7533

**By Mail:** Complete and mail the above form to:

**Seminar Registrar**  
**Rockford Systems, Inc.**  
**P.O. Box 5525**  
**Rockford, IL 61125-0525**

**By Fax:** Send copy of completed form to:  
**815-874-7890**

**Via Web:** Complete and send form at our Web site  
**www.rockfordsystems.com**

**Substitutions** may be made at any time. Please notify seminar registrar with any changes.

**On-Site Custom Seminars:** We can present a shorter version of this seminar at your company. Please call us for details.