

U.S. Department of Labor

Occupational Safety and Health Administration
Bridgeport Area Office
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15 August 2011

Dorothy K. Robinson, Esq.
Vice President and General Counsel
Yale University
P.O. Box 208255
New Haven, Connecticut 06520-8255

Dear Attorney Robinson:

A fatality investigation was conducted by the Bridgeport Area Office, USDOL-OSHA into the incident which occurred on April 13, 2011 at the Sterling Chemistry Laboratory located at 225 Prospect Street, New Haven, CT 06511. The purpose of this investigation was to determine the cause of the event and whether there were any unsafe conditions within the Student Mechanical Instrumentation Shop, Room #7 in the Sterling Chemistry Laboratory building.

The OSHA investigation revealed the following:

- a. The equipment involved was a Harrison-Claussing Lathe, SN: 108721. According to the manufacturer, the lathe was manufactured in 1962.
- b. The University could not determine when the lathe was purchased; however through interviews it was determined that the lathe had been in the University's facility since at least 2000.
- c. Currently USDOL-OSHA has no specific standards that cover this type of machinery. Therefore American National Standard Institute Standards (ANSI) are referenced. Specifically, B11.6-84 and B11.6-2001. If unsafe conditions are identified, 29CFR1910.212, "General Requirements for All Machines", would be the applicable OSHA standard.
- d. The part of the lathe involved in the incident was the "Lead Screw", which is a horizontal rotating member on the lathe. According to paragraph 4.7, ANSI 11.6-1984, "**When a lead screw, feed rod, traverse rod, or camshaft is completely exposed without some portion of the lathe protecting the operator, a safeguard shall be provided.**" Such

safeguards could include physical guarding, use of personal protective equipment and/or emergency stops. Further investigation into the lathe revealed that guards were not provided for the chucks where the jaws protruded beyond the face of the chuck.

- e. Site safety inspections/audits of the Student Mechanical Instrumentation Shop conducted by the University did not address machine safeguarding.
- f. Personal protective equipment assessments/surveys were not completed and documented.
- g. Rules and regulations governing the use of the Student Mechanical Instrumentation Shop and the use of all equipment and machinery in the room were not posted. Including and not limited to warning and caution signage.

For the USDOL-OSHA to issue citations in an incident, there must be an employer/employee relationship. The affected individual in this incident was a student. However, since the incident occurred at an educational institution, there is the potential for exposure to unsafe hazards by instructors. Extensive interviews were conducted and exposure to specific hazards could not be determined.

In the interest of work place safety and health, however, I recommend that you take the following steps voluntarily to eliminate or reduce your exposure to the hazards described above:

- a. Develop and implement an inspection program to be conducted by a safety professional trained and/or experienced in machine guarding where industrial equipment and machinery is being used by individuals.
- b. Conduct personal protective equipment assessments in accordance with 29 CFR 1910.132 of all university locations where industrial equipment and machinery is being used.
- c. Develop and implement a personal protective equipment training program (including such as but not limited to training outline, curriculum, enforcement program and training records) and provide formal training to all individuals using industrial equipment and machinery in the proper and safe use of personal protective equipment in accordance with the training program.
- d. Develop written safe operating rules and regulations for working in all shops and university locations equipped with industrial equipment and machinery and post the safe operating rules and regulations in all locations where industrial equipment and machinery is located.
- e. Ensure, by installing adequate and safe machine safeguarding, that all industrial machinery and equipment including lathes are in compliance with the most current OSHA standards, ANSI standards, manufacturer's operating manuals and guidelines and any other industry recognized standards.

- f. Develop and implement a formal training program (including a course outline, curriculum and training records) that meets the requirements of all ANSI standards, other recognized consensus standards, and equipment and machinery manufacturer's operating manuals and guidelines pertaining to all the industrial equipment machinery for all individuals to successfully complete prior to using any and all industrial equipment and machinery including lathes and milling machines.
- g. Establish specific hours of operation for the Student Mechanical Instrumentation Shop and establish a two person rule.



Robert W. Kowalski
Area Director