Excellence Through Education

Achieving Excellence

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New Safeguarding of Machinery: CSA Z432-04 Code

By John Ford

The second edition of CSA Z432 code "New Safeguarding of Machinery" was debated in the technical committee for about 5 years. It was finally published in March 2004.

It is interesting to note that this standard **WILL NOT** apply to existing machinery. It applies only to new, rebuilt, or redeployed machinery. However it is possible that existing equipment (used equipment) being brought into your plant will require a PSR by a Professional Engineer. The Professional Engineer will likely apply Z432-04 to this redeployed, existing, used and probably non-compliant machinery.

There is no question that the committee has assembled a very helpful and instructive standard that will reduce machine related injuries. The standard is full of useful information for identifying tasks and hazards, as well as control measures to eliminate the hazard and/or reduce the risk.

Risk assessments continue to play an important role in selecting safeguarding. This standard employs the risk assessment model in the CSA Z434-03 Robotics code. Much has been harmonized with CSA codes Z142, Z434 and the new Z432, however some very basic definitions have changed. This will, no doubt, cause some confusion.

To obtain a copy of the new standard, you may go to the CSA website **www.csa.ca** to purchase it on-line.

Or, you can attend our 2-day seminar on June 8 and 9, in Mississauga, ON, and receive a copy of the code along with extensive workshops and examples of how to interpret and apply this standard.

For more information on this seminar, please contact our head office at (905) 873-3031 or email info@cybertrain.on.ca

Inside This Issue

People rarely succeed unless they have fun in what they are doing.

- Andrew Carnegie -

Ministry of Labour News

O-I Canada Corp. fined $50,000 for a violation of the Occupational Health and Safety Act that resulted in serious electrical burns to a worker.

On May 23, 2002, a worker was feeding electrical cable through a switchboard in an electrical power supply house when an electrical flash occurred. The worker suffered third degree burns to the right hand, superficial burns to the left hand and flash burns to the face and neck.

A Ministry of Labour investigation found O-I Canada Corp. was aware the contractor would be performing the connection work at some point, but did not ensure the switchboard was disconnected or locked out prior to or during the work.

O-I Canada Corp. pleaded guilty, as an employer, to failing to ensure the switchboard's power supply was disconnected, locked out of service and tagged prior to and during work being done near live exposed parts, as required by Section 42(1) of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

Lambton Metal Works Ltd. fined $125,000 for the violation of the Occupational Health and Safety Act in connection with the death of a worker.

On January 23, 2002, a worker was using a forklift to load a box onto a truck's flatbed. The worker had been manually adjusting the box on the flatbed when the forklift, which had been left running, moved forward, which pinned the worker against the truck by the forklift's forks. The worker died as a result of the injuries.

A Ministry of Labour investigation found the company had purchased the forklift at an auction about 3 months prior to the accident and had failed to notice the forklift's hand brake was not functioning properly.

Lambton Metal Works Ltd. pleaded guilty, as an employer, to failing to ensure the forklift was examined prior to being used for the first time and failing to maintain permanent records, as required by Section 51(1)(b) of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

Teck News Agency (1977) Limited fined $110,000 for a violation of the Occupational Health and Safety Act that resulted in the death of a worker.

On September 16, 2002, a worker was reversing a forklift in preparation for moving a large recycling bin filled with discarded magazines when the forklift drove off the dock's leveller, rolling off the end of a loading dock onto a loading bay floor. The forklift fell on its side on top of a worker. The worker died as a result of the injuries.

A Ministry of Labour investigation found the leveller's locking mechanism was not working properly. The leveller was not locked in place at the time of the accident, and, as a result, it dropped suddenly under the weight of the forklift. The Ministry also found that the forklifts' size and speed were not well suited to a confined area, where the forklift was being operated.

Teck News Agency (1977) Limited pleaded guilty, as an employer, to failing to ensure articles or things were moved in a manner that did not endanger a worker, as required by Section 45 of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

ABB Inc. fined $65,000 for a violation of the Occupational Health and Safety Act that resulted in serious leg injuries to a worker.

On September 11, 2002, a worker was climbing a portable ladder inside a storage tank when the ladder slid out from under the worker. The worker fell from the ladder's third or fourth rung and landed with one leg on the tank's floor and the other leg still in the ladder's rungs. The worker suffered serious fractures to the right lower leg. At the time of the accident the worker had been replacing some blocks used for insulation.

A Ministry of Labour investigation found a film of oil on the tank's floor. The ladder's feet had been covered with rags to prevent contamination in the tank and this prevented the ladder's feet from having the required friction to prevent slippage. The Ministry also found the ladder had no fixed lanyard (a connecting line from the ladder to an anchor to protect the worker against falls.)

ABB Inc. pleaded guilty, as an employer, to failing to ensure the portable ladder was placed on a firm footing, as required by Section 73(c) of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

Pepes Mexican Foods Inc. fined $75,000 for a violation of the Occupational Health and Safety Act that resulted in eye injuries to a worker.

On May 31, 2002, a corn cooker, whose duties included cleaning corn

cooking tanks, was preparing to apply an acidic foaming cleanser using a hose attached to a portable unit when the hose's lever trigger accidentally activated. The cleanser discharged into the worker's face resulting in chemical burns to the worker's eyes.

A Ministry of Labour investigation found the cleanser's Material Safety Data Sheet required eye goggles to be worn when working with the cleaner. However, the employer had provided the worker with a face shield, along with a respirator and gloves. The foam went under the face shield and into the worker's eyes.

Pepes Mexican Foods Inc. pleaded guilty, as an employer, to failing to ensure a worker, who was exposed to an eye injury, wore eye protection appropriate in the circumstances, as required by Section 81 of the Industrial Regulations, contrary to Section 25(1)(a) of the Act.

Rich-Wood Kitchens Limited fined $40,000 for two violations of the Occupational Health and Safety Act that resulted in serious injuries to a worker.

On June 18, 2003, a worker was using a hose to blow dust and wood chips away from an "overhead router" (a machine used to carve patterns in wood) when the worker's arm, jacket and hair became entangled in the router's rotating shaft. The worker suffered head, arm and wrist injuries.

A Ministry of Labour investigation found the router had a guarding device to protect workers from the rotating shaft, but the guard was not on the machine at the time of the accident. The investigation also found the worker's long hair had not been confined to prevent entanglement.

Rich-Wood Kitchens Limited pleaded guilty, as an employer to:

1. Failing to ensure a machine that had an exposed moving part that could endanger any worker's safety was equipped with a guarding device to prevent access to the moving part, as required by Section 24 of the Industrial Regulations, contrary to Section 25(1)(c) of the Act; and
2. Failing to ensure the injured worker's long hair was suitably confined to prevent entanglement with a rotating shaft, spindle, gear belt or other source of entanglement, as required by Section 83(1) of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

Williams Forms Hardware and Rockbolt (Canada) Limited fined $80,000 for a violation of the Occupational Health and Safety Act that resulted in serious arm injuries to a worker.

On May 21, 2003, a worker was operating a "thread rolling machine" (a machine that applies threading grooves to round steel bars) when a rotating bar caught the worker's sweater. The incident resulted in the worker's right arm having to be amputated above the elbow.

A Ministry of Labour investigation found the company failed to ensure the worker was not wearing loose clothing. The investigation also found an emergency stop control on the side of the machine where the worker was working had been missing for some time. The worker had to stop the machine by stretching out and kicking the emergency stop button on the other side.

Williams Forms Hardware and Rockbolt (Canada) Limited pleaded guilty, as an employer, to:

1. Failing to ensure that jewellery and clothing that were loose or dangling or rings were not worn near any rotating shaft, spindle, gear, belt or other course of entanglement, as required by Section 83(2) of the Industrial Regulations, contrary to Section 25 (1)(c) of the Act; and
2. Failing to ensure an emergency stop on a power-driven machine was conspicuously identified and located within the operator's reach, as required by Section 27 of the Industrial Regulations, contrary to Section 25(1)(c) of the Act.

How to Beat the Summer Heat

Protect Yourself

- Learn the signs and symptoms of heat-induced illnesses and how to respond.
- Perform the heaviest work during the coolest part of the day.
- Take frequent short breaks in cool, shaded areas.
- Slowly build up tolerance to the heat and the work activity .
- Use the buddy system.
- Drink plenty of cool water, 1 cup every 15 - 20 minutes (avoid alcohol or caffeinated beverages).
- Wear light, loose fitting, breathable clothes.
- Avoid eating large meals before working in a hot environment.

What factors put you at increased risk?

- Taking certain medications (check with your doctor or pharmacist).
- Having a previous heat-induced illness.
- Wearing personal protective equipment such as a respirator or protective suit.

Why So Many Ladder Accidents?

By Gerry Kelly

Each year people are injured and killed by falls from ladders. The fall could happen when painting the house or working on the roof. Ladder accidents can happen at work, when working on buildings, and or on machinery. Ladder accidents account for 40% of all construction injuries. Accident investigations reveal some of the causes, including: using the wrong ladder for the job; not tying or securing the ladder; not fully opening a stepladder; and the ladder slipping on oil, etc. on the work area floor. Employers and Supervisors are responsible under the Occupational Health and Safety Act (OHSA), Section 25, 26, and 27, to provide training and protective devices as prescribed for the protection of a worker. This could include the wearing of a Full Body Harness and employment of a Fall Arrest System, as required by the OHSA Industrial Regulations 85 and 86. Proper use of both will prevent injuries and possible death.

Fall Arrest Harness training is required. The harness must be used and maintained in the proper manner. Section 28, requires workers to work in compliance with the provisions of the Act and Regulations. This may require wearing a Fall Arrest Harness, as required by the employer.

Ladder Safety

Ladder safety must be followed in the workplace and the home. Prevention and education are essential to prevent the fall from happening.

There are three types of ladders. Use the ladder that is best suited to the job. Only buy and use ladders that meet the requirements of CSA Z11, Standard for Manufacturing of Portable Ladders. Read and understand the instructions before you use the ladder.

Types of Ladders

☑ **Fixed Ladders**: are permanently attached to buildings or machines, where the same location may have to be reached frequently. Fixed ladders are generally used by maintenance and service people, or used to gain access to the cab of a crane in an industrial area. The ladder should be inspected for loose wall anchors and signs of rust between rungs and side rails. Fixed ladder rails must extend 3 feet above the surface to be reached. A fixed ladder higher than 7 feet above grade must be equipped with a safety cage or other means of fall protection.

☑ **Step Ladders:** are available in many different heights and many materials. Step ladders are made of wood, aluminum or fiberglass, are usually lightweight, and are popular in the home and workplace. Use the ladder only on a secure clean flat surface. Check for overhead electrical hazards. Always make sure the legs are open fully and that the spreaders are pushed down and locked in position. Use a stepladder that is the correct height for the job. NEVER stand on the top step or the pail shelf of a step ladder.

☑ **Portable Ladders (Straight Ladders or Extension ladders):** are used in the home, in industries, and in construction. Extension ladders can be used to gain access to a variety of different heights, and are one of the most serious sources of injury. Falls occur for the following reasons: the ladder is not tied or held before use; the ladder angle is too steep or too low, causing the ladder to tip or slip; the ladder is placed on a slippery surface, or slippery rungs or footwear are used; or the user did not check for overhead electrical hazards.

Continued on page 5

Ask The Expert...

Q. Our employees had TDG training and certificates before August 15, 2002. In order to comply with new clear language regulations:

1. Do they all have to be retrained?
2. Do they need new certificates of training?

A. The new Clear Language Regulations came into effect on August 15 2002. There are some substantial changes in this new regulation and all employees who handle, transport or offer for transport hazardous goods must be aware of their responsibilities under the new regulations. This means that all employees will have to be trained in accordance with part 6 of the clear language regulations. The only exception would be someone who is working under the direct supervision—and in the **presence** of—someone who is properly trained and holds a valid certificate. Depending on the duties they perform, the level of training that they require will differ considerably. This could mean a review or update of their old training or complete retraining.

As of August 15 2002, the information required on the certificates of training changed to reflect the new training requirements. All employees handling dangerous goods must possess a valid certificate, or be working under the supervision of someone who is in possession of one. Two options exist: you can either add the required new information onto the existing certificate, or issue a new certificate containing all the information required under part 6.3 of the new Clear Language regulations.

We can help ensure your employees are properly trained and have the correct training certificates to comply with the Clear Language Regulations. For a complimentary consultation please call our office at (905) 873-3031, and we will arrange for it.

Frank Keegan

Before joining Training Services in 2003, Frank was an independent business owner since 1989. He is a member of the C.S.S.E. (Canadian Society of Safety Engineers) He provides valuable training programs all across Ontario. He specializes in competency based training with a technical component such as Lift Truck Operator Training, Crane Training, Transportation of Dangerous Goods and Snow Plow Operator training just to name a few. Frank also conducts Safety Audits and has published many articles in the Achieving Excellence Newsletter regarding Health and Safety issues.

Why So Many Ladder Accidents? Continued from Page 4

Safe Ladder Usage Tips:

Inspect the ladder for damaged rungs or side rails. Check extension ladders for damaged ropes and loose or damaged hardware. Tie or secure the ladder before use. Ladders should never be painted: this may cover damaged or cracked rungs or side rails. Always face the ladder when climbing up or down and when working on the ladder. Maintain 3 point contact when climbing up or down the ladder: 2 hands and 1 foot, or 2 feet and 1 hand on the ladder at all times. Mount the ladder at a safe angle: 1 meter out for every 3 or 4 meters up.

For more information on Ladder Safety and the requirements for Full Body Harness and Fall Arrest Training, contact Training Services at (905) 873-3031.

🕮 Word Power ...Say What?? 🕮

Microsecond: The time it takes for your state-of-the-art computer to become obsolete.

Nanogram: Telegram delivered by your grandmother.

Pasteurize: Too far to see.

Pathology: Study of roadmaps.

Portable Computer: A device invented to force businessmen to work at home, on vacation, and on business trips.

Phoenicia: The affliction of dialling a phone number and forgetting whom you were calling just as they answer.

Spouse: Someone who will stand by you through all the trouble you wouldn't have had if you'd stayed single in the first place.

Yawn: An honest opinion openly expressed.

A father and son went fishing one day. While they were out in the boat, the boy suddenly became curious about the world around him. He asked his father, *"How does this boat float?"*

The father replied, *"Don't rightly know son."* A little later, the boy looked at his father and asked, *"How do fish breath under water?"*

Once again the father replied, *"Don't rightly know son."* A little later the boy asked his father, *"Why is the sky blue?"*

Again, the father replied. *"Don't rightly know son."* Finally, the boy asked his father, *"Dad, do you mind my asking you all of these questions?"*

The father replied, *"Of course not, you don't ask questions, you never learn nothin'."*

Cowboy Wisdom

"Behind every successful rancher is a wife who works in town." .....An old Western proverb

"Never approach a bull from the front, a horse from the rear or a fool from any direction."

"A bronc rider should be light in the head and heavy in the seat."

"Broke is what happens when a cowboy lets his yearnin's get ahead of his earnin's."

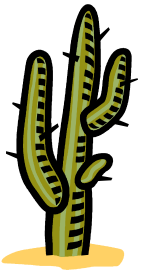
"Any cowboy can carry a tune. The trouble comes when he tries to unload it."

"When in doubt, let your horse do the thinkin'."

"When a cowboy's too old to set a bad example, he hands out good advice."

"Worry is like a rockin' horse. It's something to do that don't get you nowhere."

"Poor is having to sell the horse to buy the saddle."



The Accountant's Prayer

"Lord, help me be more relaxed about insignificant details, starting tomorrow at 10:53:16 am, Eastern Daylight Saving Time."

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