

## EVENTS & NEWS

- » The City of St. Catharines Fleet Maintenance Department hosted their first High Risk Maintenance Level training course May 12-13. In attendance were the Town of Grimsby Public Works Department and The Corporation of Haldimand County. For information on the next available course please contact [casey@hsac.ca](mailto:casey@hsac.ca) or call 416.363.7272 ext. 4.
- » Last month HSAC was pleased to announce the release of the Exposure Level Hydraulic Safety Awareness Course online. The long awaited and soon to be released High Risk Maintenance Level Course is currently in the final review and testing stages, with the release date set for May 26<sup>th</sup> online. For information on these E-learning courses, visit [www.hsac.ca](http://www.hsac.ca).
- » HSAC E-learning courses are also available through BIS Training and Development Network Partners. These partners include Safety Coordination Services Edmonton Alberta, ASTEC Safety Service Ltd, Provost, Alberta, Canadian Paramedical Services Inc. Calgary Alberta, CPI Training Sherwood Park, Alberta, Wheels On Ltd. Red Deer Alberta. For organizations who are interested in economic growth by reselling Hydraulic Safety Authority of Canada Inc. E-learning courses online, contact BIS Training and Development at [www.thesafetynetwork.ca](http://www.thesafetynetwork.ca)



- » HSAC would like to thank those who stopped by to visit us at the Ontario Partners in Prevention Health and Safety Conference and Trade Show held May 17-18. Congratulations to the winner of the 8GB iPod nano.



CONTROLLING ENERGY HAZARDS BY UNDERSTANDING GEOMETRY AND RANGE OF MOTION

## HISTORY OF HSAC

**I**n March 2008, it required only a few short hours of research on the internet to piece together enough information to discover a gap in Canada's occupational safety knowledge. Compelled to research, it was easily discovered, hydraulic energy is hazardous, and has caused injury and death in the workplace. Occupational laws and the criminal code clearly state it is the responsibility of the employer to ensure and protect the worker against hazards. Further research discovered there was no single source of information an employer could utilize to assist with compliance. Two months later, Colin Bonner and Jody Flanagan founded the Hydraulic Safety Authority of Canada Inc. Colin and Jody began researching and developing the material required to provide that single source of information for Canadians. This task took over 30 months to develop and produce the most effective and comprehensive training programs which are available today. Hydraulic safety awareness isn't considered unique, but a step toward the evolutionary growth of knowledge brought forth in occupational, property and environmental safety. 🍁

## THE FACTS OF HYDRAULICS

» “Run to Failure” hydraulic hoses and seals are most often run to failure. This failure is a leading cause of environmental and property damage, including injury to personnel.

» Pressure equates to energy — as little as 4 psi, however extremely low, this pressure will generate 50 pounds of force in a 4 inch bore hydraulic cylinder. The force is strong enough to break bones.

» Energy can form in a hydraulic system — for every one degree of heat can raise the pressure of a confined fluid 50 psi.

» An implemented European Standard ISO 3457 Earth-Moving Machinery-Guards-Definitions and Requirements, under hose guards states that “Hydraulic hoses containing fluid with a pressure

of more than 5MPa or 50 bar (725psi) and/or having a temperature over 50°C, and which are located within 1 meter of the operator, shall be guarded.”

» A jet of fluid as low as 100 psi from a pin hole leak, can penetrate the skin, leading to an injection injury.

## RESEARCH

HSAC conducts ongoing research in the area of hydraulic related injuries, fatalities, property and environmental damage. One of the latest conclusions is; the high number of injuries and fatalities caused by accidental activation of hydraulic control valves. Control valves are used in hydraulic systems to control the direction of actuators and loads. Crushing injuries are the main cause of death. Lockout, pinning, blocking and controlling energy while working on hydraulic equipment is required. Not all hydraulic systems incorporate means which makes the control of hazardous energy easy to attain. Hydraulic energy and the loads supported are not easily controlled. Development of specific procedures and the integration of devices may be necessary.

## COMPANY FINED

**A** Welland company that manufactures and sells hydraulic systems was fined \$80,000 in 2010, for violation of the Occupational Health and Safety Act that caused a worker to be injured. A supervisor with the company was fined \$8,000 in relation to the same incident. A worker was testing a pump at the company’s Welland factory. After finishing the test, the worker cut power to the pump. However, hydraulic pressure continued to build in the system, eventually causing an explosion. A hose flew back at high speed and struck the worker in the head, resulting in critical injuries. The supervisor was found guilty of failing as an employer to ensure that the hydraulic circuit was equipped with means of relieving pressure.



LEFT: NEXT NEWSLETTER HYDRAULICS IN ALBERTA’S OIL SANDS  
RIGHT: RELIABILITY & INSPECTION VITAL TO SAFETY

## HYDRAULIC SAFETY EDUCATION STANDARDS COMMITTEE

Hydraulic Safety Education Standards Committee. This committee’s primary function is to set minimum education requirements for those exposed to hydraulic hazards in the workplace. Committee members will be comprised of Industry professionals and stakeholders who will ensure that a minimum of requisite knowledge is standardized for all entering the workplace in Canada. Further details and more information of the committee’s objective and how to become a member, contact [colin@hsac.ca](mailto:colin@hsac.ca)

## SAFETY MEETING MATERIALS

HSAC is building a library of safety meeting topics in various media formats for free download. Make use of this for protecting personnel, property and environment. Unrestricted, these valuable tools allow you to send it to those who will benefit from this safety material. [jody@hsac.ca](mailto:jody@hsac.ca)