



MINERVA
Safety Management Education

Minerva Safety Workshop

CEEA/ACEG Conference

June 17-20, 2013

Ecole Polytechnique, Montreal, Quebec

**Tony Pasteris,
President, Minerva Canada**

**Graeme Norval
University of Toronto**



Workshop Outline

- Minerva Canada -- Tony Pasteris
-- recap of who we are, 2013 programs and an overview of its H&S Teaching Modules
- Instilling a Safety Culture in and out of the Workplace – Wendy Tobin, Du Pont Canada
- Demonstration of some current H&S Student Teaching Modules, plans and content for other 2013 Modules – Graeme Norval, U of T
- Workshop Discussions and some next steps

2013 Minerva Safety Workshop
CEEA/ACEG Conference – Ecole Polytechnique
A big word of thanks to all our sponsors

- Ontario Ministry of Labour
- Workplace Safety and Prevention Services
- Board of Canadian Registered Safety Professionals
- General Motors of Canada
- Mirarco
- Chemistry Industry Association of Canada
- University of Toronto
- University of Calgary
- Our 5 University Learning Forum Hosts in 2013
- Chemtrade Logistics
- Trimac Transportation
- Canadian Society of Safety Engineering
- Imperial Oil Limited
- Du Pont Canada
- Bruce Power
- Nova Chemicals
- Shell Canada
- Canada Post
- Erco Worldwide
- Lanxess
- BASF
- H.L.Blachford
- CF Industries
- Nexen

What is Minerva Canada?

- Not for profit organization focused on Health and Safety Education in post-secondary teaching schools
- Only organization of its kind in North America
 - Beginnings with NIOSH, CSSE, IAPA
 - Founding industry sponsors: Imperial Oil, Du Pont, General Motors
- Volunteer Board of Directors and Working Group from industry, academia, government, and Health and Safety Associations
- Minerva financial sponsors from industry, government, academia/professional associations
- Dedicated to improving business effectiveness, reducing workplace injuries & illnesses through enhanced health and safety education
- We target tomorrow's leaders by influencing their educators
 - **Main focus is Engineering & Business Institutions**
 - **Expanding to other programs such as Healthcare**
- Useful health and safety resources, case studies for academia, industry, and government provided by Minerva Canada, free of charge

2013 Deliverables from Minerva Canada

- 4 one-day Health and Safety forums for engineering professors
 - Laurentian, Western, Ryerson, U of Alberta
- Half-day Health and Safety workshop – Ecole Polytechnique
- New case study on Chilean Mining incident, 23 to date
- Engineering Student Award
 - Record number of submissions received
- Business Student Award
- Minerva sponsored student projects and classroom lectures
- Health and Safety Engineering Student Teaching Modules
 - Will be available to all universities, colleges and BCRSP OHS teaching institutions
 - Endorsed by the NCDEAS in November 2012

Minerva Canada Health & Safety Teaching Modules

Background:

- Project initiated by Minerva in 2011, designed to address health and safety education gaps found in Engineering Schools
 - Full curriculum-- professors not comfortable teaching
 - New CEAB requirements on safety, risk management
- Project design completed in 2012 by Queen's for Minerva
 - Two surveys conducted to understand industry needs
 - Existing university / college health & safety programs, courses identified
 - Integration into existing courses proposed (vs. full-time course)
 - 1-3 hour teaching modules proposed, many to be on-line
 - 22 modules identified, core and discipline specific
 - Engineering schools decide when / how to integrate over the four-years of engineering
 - Guest speakers to assist in delivery, if requested

Minerva Canada Health & Safety Teaching Modules

- Basic electrical safety module prepared for Minerva by Ontario ESA for first-year students in 2012
 - Can be integrated into Ontario Work Smart Campus
 - Being “beta-tested” by U of T, Western, Queen’s, University of Calgary
 - Will be a template for other modules
- Fund raising campaign for these modules initiated in 2012
 - Funds will be used for development work by universities
- Phase 1 program initiated in Feb 2013 involving 11 modules
 - MITACS grant approved which would match Minerva industry funding
 - Module development work by post grad student, supervising professor and industry subject matter expert
 - Learning objectives and a test for each module
- Phase 2 program involving 10 modules planned for 2014
 - Fund raising underway

Minerva Canada H & S Student Teaching Modules

“Phase 1 modules with completion in 2013”

MODULES	UNIVERSITY	INDUSTRY SUPPORT
Fire Hazards, Dust Explosions (2)	Dalhousie	Nova Chemical
Hazard, Risk Identification (1)	U of T	DuPont Canada
Risk Assessment Models (1)	U of T	E. Alp & Assoc.
Risk Management (1)	Laurentian	Xstrata
Codes, Standards, Regs (1)	Laurentian	Nova Chemical
Process Safety Management (2)	Western	Imperial Oil
Radiation Safety (2)	Queen’s	Bruce Power
Robotics Safety (2)	U O I T	General Motors
Ethics, Public Safety, Prof Responsibility (1)	Univ of Manitoba	APEGM
Electrical Safety, Hazardous Energy (2)	Univ of Calgary	ENMAX
Nanotechnology (2)	Univ of Calgary	Renzo Dalla Via - WSPS

(1) : Core module for all engineering disciplines

(2) : Discipline specific (2 or more engineering disciplines)

Above excludes Electrical Safety Hazards module prepared for 1st yr students, along with Work Smart Campus as core modules

Minerva Canada H & S Student Teaching Modules

“Phase 2 modules for completion in 2014”

Proposed Modules:

■ Core Specific

- Making the Business Case for Health and Safety and Communicating Health and Safety
- Project Management, Safety Leadership and Management Systems
- Incident Investigation and Reporting
- Incorporating Safety into Engineering Teams and the Design Process
- Crisis and Emergency Management

■ Discipline Specific

- Codes, Standards, Regulations (specific codes per discipline)
- Advanced Chemical Safety
- Human Factors Design
- Field Safety Considerations
- Machine Guarding and Confined Spaces
- BIO RISK





*Promoting Excellence in the Teaching
of Health and Safety Management
in Canadian Universities and Colleges*

- ◆ Minerva Summer Institutes for Academics
- ◆ Teaching Modules and Case Studies
- ◆ Workshops and Symposiums with Industry, Educational Institutions and Government
- ◆ Engineering Safe Design Awards for Students
- ◆ Robert W. Campbell Award Global Partner



Some Closing Comments...

- Great deal of work has been done to advance health and safety education in post secondary teaching institutions, but more is still needed
- Minerva Canada is extremely grateful for its continued support from the CEEA Executive and its members
- Numerous opportunities exist for CEEA members to be engaged in the development and future use of Minerva's Health and Safety Teaching Modules