

Smart Presentation Technologies for Industrial Safety Training

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March 28, 2012

Midwest Consortium

- Midwest Consortium for Hazardous Waste Worker Training funded in part by the National Institute of Environmental Health Sciences
- Partners in IL, IN, KY, MI, MN, ND, TN, and WI
- Develop, present and evaluate model worker training programs to help employers comply with 29 CFR 1910.120

Hazardous Materials Training Program

- School of Labor and Employment Relations
 - Labor Education Program 1947
- Hazardous Materials Program
 - 25 years... 25,000 students
- ADM, Caterpillar, Ameren, EPA, Public Health, Chicago Bureau of Water, University of Illinois, Ford, Subaru, State of Illinois, US Army National Guard, US Air Force, Army Corps of Engineers

Safety for Government and Industry

- HAZWOPER
- 40 Hour General Site Worker, 40 Hour Technician
 - *Awareness, Refreshers*
- Confined Space
 - *Industrial Confined Space Entry and Rescue, Technical Rescue*
- OSHA 10 hour and 30 Hour
 - *General Industry and Construction*
- Lead Renovation/ Lead Safe Weatherization, Mold, Asbestos
- General Safety Topics
 - *Safety and Corporate Emergency Response Consulting*

The importance of modeling and simulations

- “useful training tool but should not entirely replace hands-on exercises”
- “no one can provide reasonable projections on the number of people...from a given incident”
- “It is nearly impossible to do large audience live exercises, so simulations are an effective tool...”

Why technology?

- Interactive technologies make learning more accessible to the average user
- Using smart technology can improve student knowledge retention
- Appropriate classroom technology combined with current and applicable curriculum can lead to increases in attendance and class participation.

What can be done with Smart Presentation Technology

- Real time capture and manipulation of data
- Team Collaboration over Distances
- Decision Support Systems for Command and Control
- Training
- Live incident data recording
- Critique/After Action Recording

Typical Incident Command Structure Exercise

- Police
- Fire
- EMS
- Public Works
- Company Staff

Innovative Exercises

- Incident Command
 - Hazardous Materials
- Confined Space Emergency

Case Studies

- Case Study #1 – Incident Command Training
- Case Study # 2 – Confined Space Emergency

Case study #1

- Rail Car Transfer Area
- Transfer of Hydrochloric Acid (34%)
- Piped to a dilution area

- 0900 – Rail car 70% full punctured by fork lift
 - 50 GPM leak 1 foot below liquid line

- Discuss incident response using ebeam

Case Study #2

- CSB Videos
 - Nitrogen Asphyxiation
 - Workers entered to get a roll of duct tape
 - *What were the management issues involved?*
 - *What were the administrative policy problems*
 - *What positive and negative “corporate culture” led to this incident?*

eBeam Portability

- eBeam engage
- Quartet IdeaShare
- Mimio by Virtual ink