CONSUMERS ENERGY
SLIPPERY SURFACE TRAINING
PROGRAM

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Edison Electric Institute Fall Occupational Safety and Health Committee Conference
October 6-9 2013
Amway Grand Plaza Hotel – Grand Rapids Michigan
Tuesday October 8, 2013 – Who Cares?

- 1835-Charles Darwin reaches James Island, Galapagos archipelago, on HMS Beagle
- 1871-Great Fire kills 200, destroys over 4 square miles of Chicago buildings, & original Emancipation Proclamation
- 1896-Dow Jones starts reporting an average of selected industrial stocks
- 1933-Coit Tower dedicated in SF, a monument to firefighters
- 2013-EEI Conference in Grand Rapids, MI
- 1965-I was born
THE AUDIENCE....??

- Heard about it?
- Seen it?
- Done it?
Do we have common ground?

- Who has slipped on ice?

- Fell to the ground?

- What about other surfaces such as wet grass, oil, water, slick tile?

- Here in Michigan we have something called WINTER! In West Michigan its Everfrost!
APPLICABILITY

- If you walk – THIS applies!
The Slippery Surface Trainer (lovingly referred to as the slip simulator) is used to let employees experience a slip in a controlled environment.
Terrible Fall! – DO I have your attention NOW!

Play Terrible Fall Clip

terrible fall MR.mp4
NOT ME DUDE!
Consumers Energy has not hurt a single employee while conducting training with this program – over 4,000 employees have participated!
The overall concept was developed with guidance from Virginia Polytechnic Institute and State University (Virginia Tech).

- UPS link

- The mobile trailer is a unique concept developed by Consumers Energy
THE HARDWARE AND SOFTWARE

There are two mobile trailers used along with seven stationary units as a part of a comprehensive classroom and hands-on training program.
Combining motor learning theory with adult learning theory, the "kinetic learning" theory suggests that abstract concepts can be better understood and applied after a foundation of relevant information has been established.
In general, kinetic learning refers to a teaching and learning style in which the learning takes place while performing a similar real-world activity instead of watching movies or slides.
THE REAL APPLICATION

- These training methods specifically support transfer of training in terms of knowledge (e.g., the nature and location of hazards, in-class setting) and skills (practice in a simulated, real-world setting — i.e., kinetic learning) necessary to proactively reduce occupational falls.
The Bottom Line

UnSide

TO  foot onset  foot down

PerSide

slip start  slip peak  slip stop

Per HC

Time (ms)

Training

Control
START OF THE SALES PITCH OR BUSINESS CASE
HISTORY OF PROGRAM AND WHY!

- Slips and falls identified as high frequency
- Learned of UPS’s successes addressing slips and falls
- Worked with Virginia Tech
- Consumers Energy is on the leading edge in the Utility industry to approach slip prevention in this format. (one of only a few companies across different industries to use this approach)
TABLES ON SCOPE OF PROBLEM

Local, regional, company wide, national

SCOPE the issues!
Slippery Surface Training Unit
COMPONENTS OF UNIT

- Smooth ceramic tile floor
  (vinyl/laminate optional for trailer)
- Base for floor – glue to base or build platform
- Frame (600lb. Capacity)
- Beam Trolley
- Padding
SLIPPERY SURFACE TRAINING MOBILE UNIT
Slippery Surface Training Mobile Unit
Cost

- Slip Simulator purchase:
  - $300-$3,000 for floor
  - $1,000-$6,000 for unit
  - $1,000 supplies

  Trailer:
  - $10,000 + unit + floor = ready to use

- Consumers Energy has received requests for the program from utilities across the United States as well as other companies. (DTE Energy and National Grid as examples)
Making it work

- Fall protection harness
- Lanyard/Pick-off strap
- Stabilicers and nylon glides
- Secret slippery surface sprays (depending on application)
- Swiffer mop, cleaner
- Mats
- Rags
- Barricading devices
- Chairs
- Obstacles
- Heater/AC
- Generator
Units in operation

- Flint – Evolution 1 (pilot and first unit installed)
- Grand Rapids – Evolution 2
- Livonia – Evolution 3
- Midland
- Kalamazoo
- Jackson
- Essexville (Power Plant)
- Mobile unit trailer #1
- Mobile unit trailer #2
GETTING THE END PRODUCT

- Design shop, Facilities, Training

- Coordination of departments to:
  - Build
  - Find space
  - Setup
  - Train
  - Operations Implementation
PROGRAM IS TWO PARTS

- **Classroom**
  45 minutes on science of walking, body mechanics, and statistics of slip injuries
  *(the classroom stuff specific to your company)*

- **Hands on**
  One on one, participant experiences a slip in a controlled environment. The “Ah ha” moment.
  *(the do it stuff)*
HOW WAS TRAINING ACCOMPLISHED

- Initial Train the Trainer for core training group completed by Corporate Safety and Health, Field Safety and Gas Training

- Utilized Field Safety Team

- Utilized Employee Development Team

- Incorporated in BLOCK training for 2013
LEARNING

- First generation – buy off the shelf unit
- Second generation – contract with local machine shop with basic specifications
- Third generation – reverse engineer UPS unit in-house
- Fourth generation – no plans but the sky is the limit!
RESULTS

- One year snap shot – numbers showing decline

- Immediately heightened senses walking from simulator

- Long term use to verify

- UPS results...”technology is great, but let us do the work”
Other Results

- Los Alamos National Labs
- Diageo
- UPS
FUTURE PLANS

- Make units available to areas in the company that are interested
- Establish a period of time for repeat training
- Possibly utilize for post incident refresher
LESSONS LEARNED FROM THE PROGRAM

- Mandatory-vs- non-mandatory

- Time and resource commitment to implement

- Be ready for expansion!

- Frequency of use – pro-active and post incident
ADDITIONAL LESSONS LEARNED

- Cultural component of change and acceptance

(Show the in house DVD demo)
OTHER THOUGHTS

- Pilot group?

- Control group?
THOUGHTS FOR AFTER THE FALL

- Techniques to lessen injury during the fall
- Medical treatment after a fall
TEAM APPROACH

- Safety and Health
- Training
- Operations
- Fleet
- Facilities
THANKS TO:

• Dr. Thurmon Lockhart and others (concept)

• Corporate Safety and Health (support)

• Learning and Development Department (training)

• Operations Safety (reality check)

• Operations (willing to do it!)

• Fleet (the trailers!)

• Facilities (space!)

• UPS Integrad Training Center – Franklin Park, IL (validation!)
Questions?
References

Research:

Reality: Practice

*The making of a UPS driver*

*Fortune, VOL. 156, NO. 10 - November 19, 2007*

When Big Brown found that its twenty-something drivers were flunking out in droves, it had a serious problem: how to train Generation Y for a hard blue-collar job. By Nadira A. Hira