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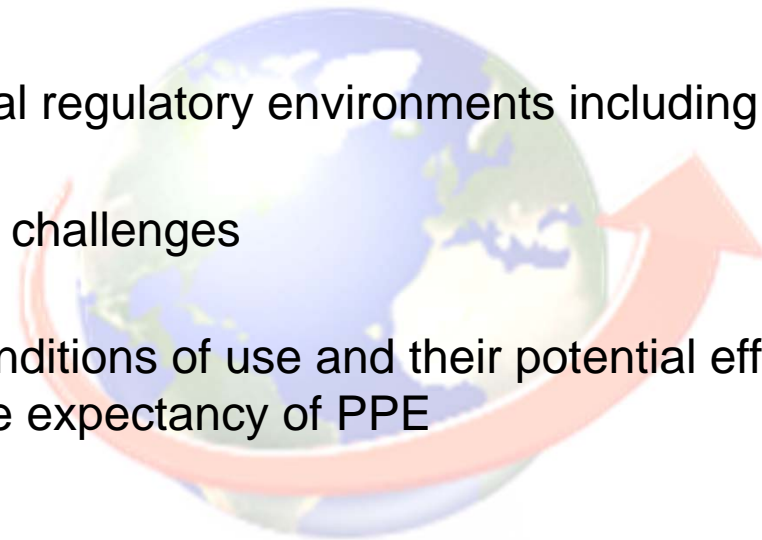
“PPE Selection, Use, And Expectations From An Industry Perspective”

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March 21, 2012

What's There to Talk About?

- PPE selection and use is significantly more complicated than its identification in a job hazard analysis process; considerations include:
 - U.S. and international regulatory environments including import & export
 - International cultural challenges
 - Environment and conditions of use and their potential effect on the effectiveness and life expectancy of PPE



International Work Introduces Unique Challenges

Challenges: U.S. Regulatory Environment

- The two regulatory frameworks that are most important to safety professionals (non-nuclear), relative to PPE programs, are:
 - International Traffic in Arms Regulations (ITAR), and
 - Export Administration Regulations (EAR)



United States Import/Export Regulations

Challenges: U.S. Regulatory Environment

▪ ITAR

- U.S. Department of State
- International Traffic in Arms Regulations (ITAR)
 - *ITAR contains the United States Munitions List (USML) of restricted articles and services.*
 - *Any manufacturer or exporter of articles or services found on the USML is required to register with the U.S. State Department's Directorate of Defense Trade Controls, which helps to validate entities engaged in the defense trade.*
 - *Applies to any item or data specifically designed, developed, adapted, configured, or modified for military application*
- What does ITAR have to do with PPE and what is the global challenge?

United States Import/Export Regulations

Challenges: U.S. Regulatory Environment

- ITAR - The 20 categories of articles on the USML are:
 1. Firearms, Close Assault Weapons and Combat Shotguns
 2. Guns and Armament
 3. Ammunition/Ordnance
 4. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines
 5. Explosives and Energetic Materials, Propellants, Incendiary Agents, and their Constituents
 6. Vessels of War and Special Naval Equipment
 7. Tanks and Military Vehicles
 8. Aircraft and Associated Equipment
 9. Military Training Equipment
 - 10. Protective Personnel Equipment**
 11. Military Electronics
 12. Fire Control, Range Finder, Optical and Guidance and Control Equipment
 13. Auxiliary Military Equipment
 14. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment
 15. Spacecraft Systems and Associated Equipment
 16. Nuclear Weapons, Design and Testing Related Items
 17. Classified Articles, Technical Data and Defense Services Not Otherwise Enumerated
 18. Directed Energy Weapons
 19. [Reserved]
 20. Submersible Vessels, Oceanographic and Associated Equipment
 21. Miscellaneous Articles
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United States Import/Export Regulations - ITAR

Challenges: U.S. Regulatory Environment

▪ EAR

- U.S. Department of Commerce, Bureau of Industry and Security
- Export Administration Regulations (EAR)
 - *The primary focus of the EAR is to control the export of "dual-use" technologies - i.e., items that are used, or have the potential to be used, for military as well as non-military purposes if such export could adversely affect the national interests of the United States.*
- What does EAR have to do with PPE and what is the global challenge?

Research the Regulatory Environment

- Foreign Country Import Export Regulations
 - Most countries administer their own regulations relative to import and export issues
 - Understanding these regulations will maintain your project on its critical path to success



Plan for Success

Challenges: Cultural Environment

- Foreign Culture Considerations
 - One of the most overlooked considerations when specifying PPE internationally
 - Properly addressing cultural norms will encourage worker use of PPE
 - Chinese superstition: Black is associated with evil, disaster and bad fortune, while red is associated with happiness, wealth, fame and good luck
 - South Africa: Red is the color of mourning
 - Japan: Yellow signifies courage, white carnation signifies death
 - Marshal Islands: Elders teach, the young learn

Sources: <http://www.chinatownconnection.com/chinese-superstitions.htm>, http://webdesign.about.com/od/colorcharts/l/bl_colorculture.htm

A Customized/Localized Approach is Critical

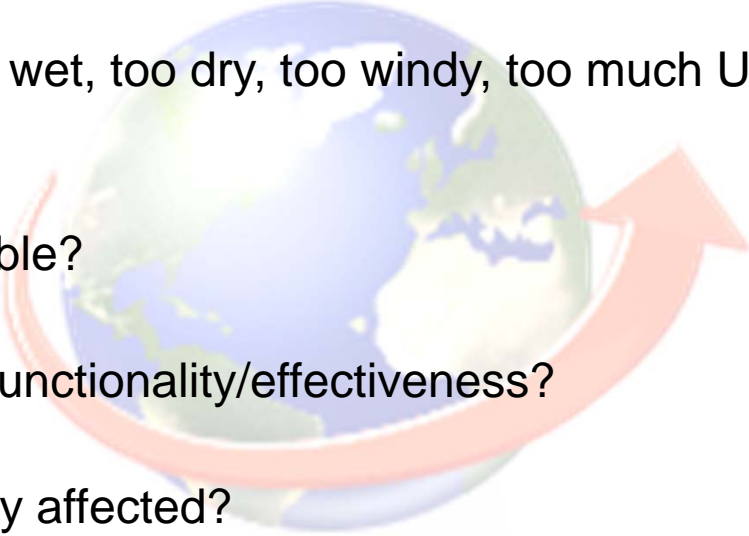
Challenges: Cultural Norms

- Foreign Culture Considerations
 - Articles of clothing and footwear
 - Can the worker replace their outer garments and cultural wear with fire rated clothing, fall arrest harnesses and hardhats?
 - Will the introduction of safety footwear cause more of a hazard?
 - Do religious/cultural beliefs permit:
 - the removal of facial hair for respirator use;
 - the use of technology such as noise cancelling hearing protection?
 - Is your data up to date? Do you have a local SME looking at potential issues?

A Little Research Will Pay Dividends

Challenges: Global Climate Extremes

■ Climate Considerations

- Location and timing is everything
 - Too hot, too cold, too wet, too dry, too windy, too much UV, too alkaline, too acidic
 - PPE material Durable?
 - PPE specification/functionality/effectiveness?
 - PPE life expectancy affected?
 - PPE required because of PPE?
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PPE Limitations May Affect Work Performance

Case Study - Industrial



Photo Credit: Christine Hush, National Science Foundation



Photo Credit: Dave Munroe, National Science Foundation

Where PPE is Used Matters

Case Study – Health Care



Photo Credit: Kristan Hutchison,
National Science Foundation



Photo Credit: Chris Kannen, National Science Foundation

PPE Requirements Change

Case Study – Emergency Response

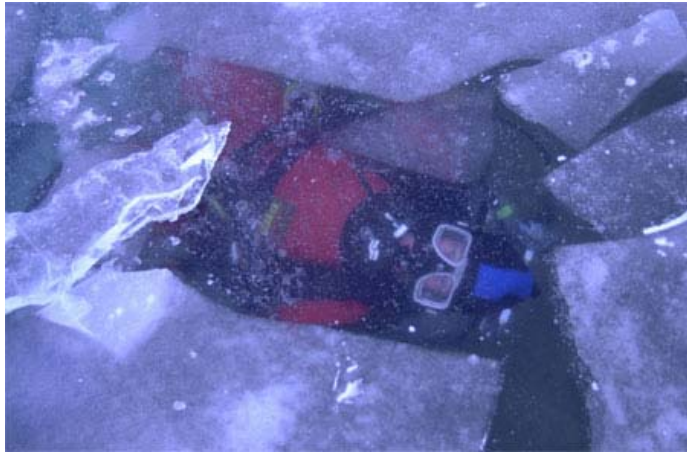


Photo Credit: Emily Stone, National Science Foundation



Photo Credit: Peter Rejcek, National Science Foundation



Photo Credit: Kalee Allen, National Science Foundation

Tailor PPE Selection, Use, and Expectations

Case Study – Pesticide Handling



Photo Credits: Keith Weller, US Department of Agriculture

PPE Limitations May Affect Health

Case Study – JHA



Photo Credit: Donald LeRoi, National Science Foundation

Any PPE Limitation Here?

Questions...



To Inquire is to Inspire...

The Bottom Line

- Optimal personal protection extends beyond hazard identification and logistics. Assuming there is a strong safety program that incorporates the provision of right PPE from trusted sources, the added challenges of the U.S. and international marketplace can be overcome through the process of awareness.
- Researching the regulatory environment; understanding and respecting local regulations and cultural norms, considering local climate extremes, PPE use and limitations, and supplying the right PPE at the right time will assist with the ultimate goal of protecting the user.

Schedule Success

Thank You

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South Pole, Antarctica

Resource Corner

- ITAR

- http://www.pmddtc.state.gov/regulations_laws/itar_official.html
- http://en.wikipedia.org/wiki/International_Traffic_in_Arms_Regulations

- EAR

- <http://www.bis.doc.gov/licensing/exportingbasics.htm>
- <http://en.wikipedia.org/wiki/Export>

