



Idaho
Cleanup
Project

Radiological Control Personal Protective Equipment

Ken Whitham

March 2013

Use of Personnel Protective Equipment (Back ground Information)

- *DOE Policy continues to be no exposure to radiological materials without commensurate benefit. To do that exposures to materials are controlled through various methods.*
 - *Three broad sources of exposure, Direct Radiation exposure, Radiological Contamination, and Airborne Radiological Exposure*
- *10 CFR835 “Radiological Protection sets forth DOE’s hierarchy of controls for protecting exposures to radiological materials is:*
 - *Physical Design Features e.g. Hot Cell*
 - *Engineered Controls e.g. interlocks*
 - *Administrative Controls e.g. PPE*
 - *PPE is anti-contamination clothing*
 - *Respiratory protection*



What are the requirements?

- 10CFR835.1102(e) Protective clothing shall be required for entry into areas in which removable contamination exists at levels exceeding the removable surface contamination values specified in Appendix D of this part.
 - 1000 dpm/100cm sq. beta/gamma and 20 dpm/100 cm sq. alpha contamination
 - 10,000 dpm/100 cm sq. Tritium and special tritiated compounds
- CWI implements the regulation through its Radiological Control Manual and other implementing procedures
- ***We also consider other safety requirements when assigning PPE***

Requirements (cont.)

- *-851.21 Hazard identification and assessment.*
 - *(a) Contractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness.*
 - *Procedures must include methods to:*
 - *(1) Assess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring;*
 - *(8) Consider interaction between workplace hazards and other hazards such as radiological hazards.*

Examples



Examples



Examples



Examples



Examples



Actual PPE sort of Demonstration

- *Specific Donning and Doffing Procedure*
 - *Purpose of the procedure is to minimize the potential for personnel contamination*
 - *While working*
 - *When exiting the area*
- *Anti-contamination clothing does provide some protection from beta and alpha contamination*

