Integrating Respiratory Protection

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Introduction

- Respirators are one of many forms of PPE

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Introduction




- Airborne hazards are widespread and diverse
- Respirators come in a large variety of designs




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Regulatory Challenge

Some designs are much more popular than others

PAPRs offer great protection, mobility, and are favored by users

OSHA reduced APFs in 2006 causing employers and manufactures to step up to retain the higher APF

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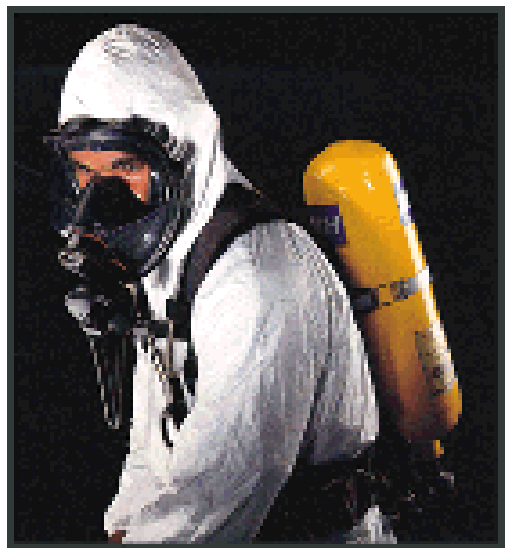
Complications (In Part)

- Difficult communications
- Compromised vision
- Reduced hearing
- Claustrophobic stress
- Potential heat stress



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Dealing With Multiple Hazards

And what if we have multiple hazards?

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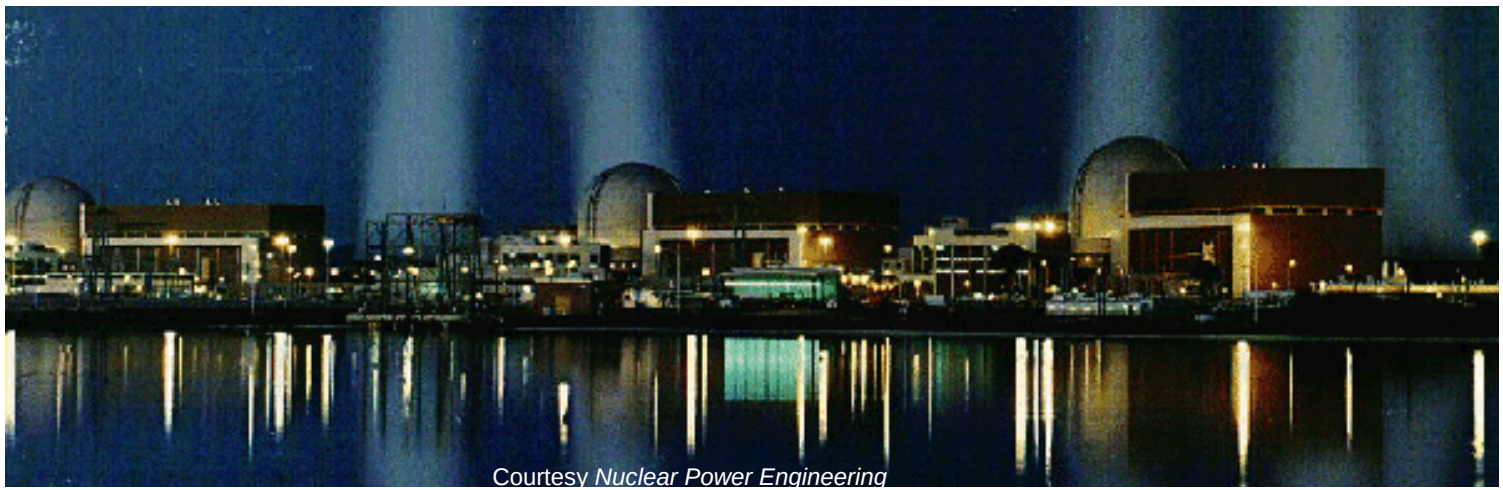
Practical Differences

- Commercial Nuclear Power Safety Integration
  - Acknowledges the potential that protection for one hazard may create a more serious hazard. For example – radiological respiratory use co-located in a contaminated, high heat, elevated area.
  - Solution? Consider reduced PPE which may result in skin contamination or low level uptake of radioactivity.



Courtesy *Nuclear Power Engineering*

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Practical Differences

- DOE Complex has essentially a zero tolerance for any skin contamination or uptakes.
  - Alpha contamination can cause significant exposures if taken internally.
  - Contractors can be fined or lose fee if violations occur.
  - DOE currently equates skin contamination/uptake with injury requiring hospital transport.

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Is There an Opportunity to Improve Integrated Safety at DOE Projects?

- Perhaps –
  - Reduce concern for skin contamination,
  - Focus uptake controls on alpha facilities,
  - Apply controls commensurate with the real risks.
- Benefits?
  - Possibly lower exposures due to increased efficiencies,
  - Production efficiency gain,
  - Address *Integrated Risk* potentials,
  - Focus on worker protection vs. *Perceived Risk.*

How to Change?

- Obtain buy-in from DOE leadership. Communication to contractors.
- Revise contracts as appropriate.
- Update contractor programs.
- Educate workforce clearly and carefully.

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Possible Mechanism for Change

- Industry groups offer the best path forward:
  - Work with DOE through Energy Facility Contractors Group (EFCOG),
  - Gather experience from the Institute of Nuclear Power Operations (INPO) and utilities,
  - Plan and execute.

EFCOG

INPO

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