



DOE Perspectives

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(DOE AU-30)

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DOE AU Mission



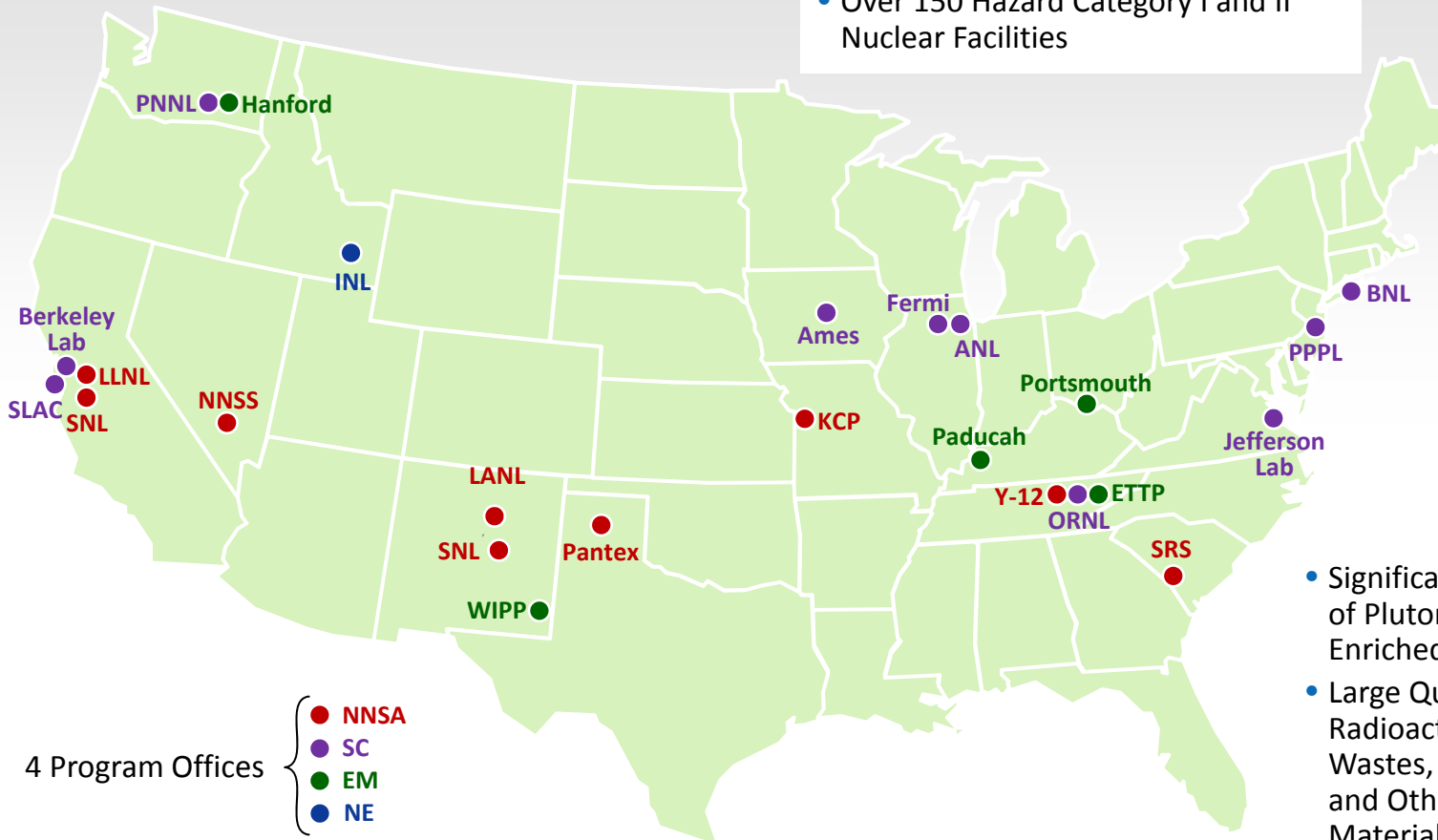
To provide corporate leadership and strategic approaches for protecting DOE's workers, the public, the environment, and national security assets.



DOE: Massive, Complex & Unique



- Over 20 Major Sites and Laboratories
- Over 150 Hazard Category I and II Nuclear Facilities



- Significant Quantities of Plutonium and Enriched Uranium
- Large Quantities of Radioactive/Mixed Wastes, Chemicals, and Other Hazardous Materials



DOE Safety Policy Structure



- Atomic Energy Act
- 10 CFR 830, *Nuclear Safety Management*
- DOE Order 420.1C, *Facility Safety*
- DOE-STD-1020-2016, *Natural Phenomena Hazards Analysis and Design Criteria for DOE Facilities*
- Industry Standards (e.g., ANSI/ANS-3.11-2015, ASCE/SEI 41-13, etc.)

"A technology having inherent public risk, a technology which is still new and evolving, must be built upon rising standards of excellence."

– Hyman Rickover



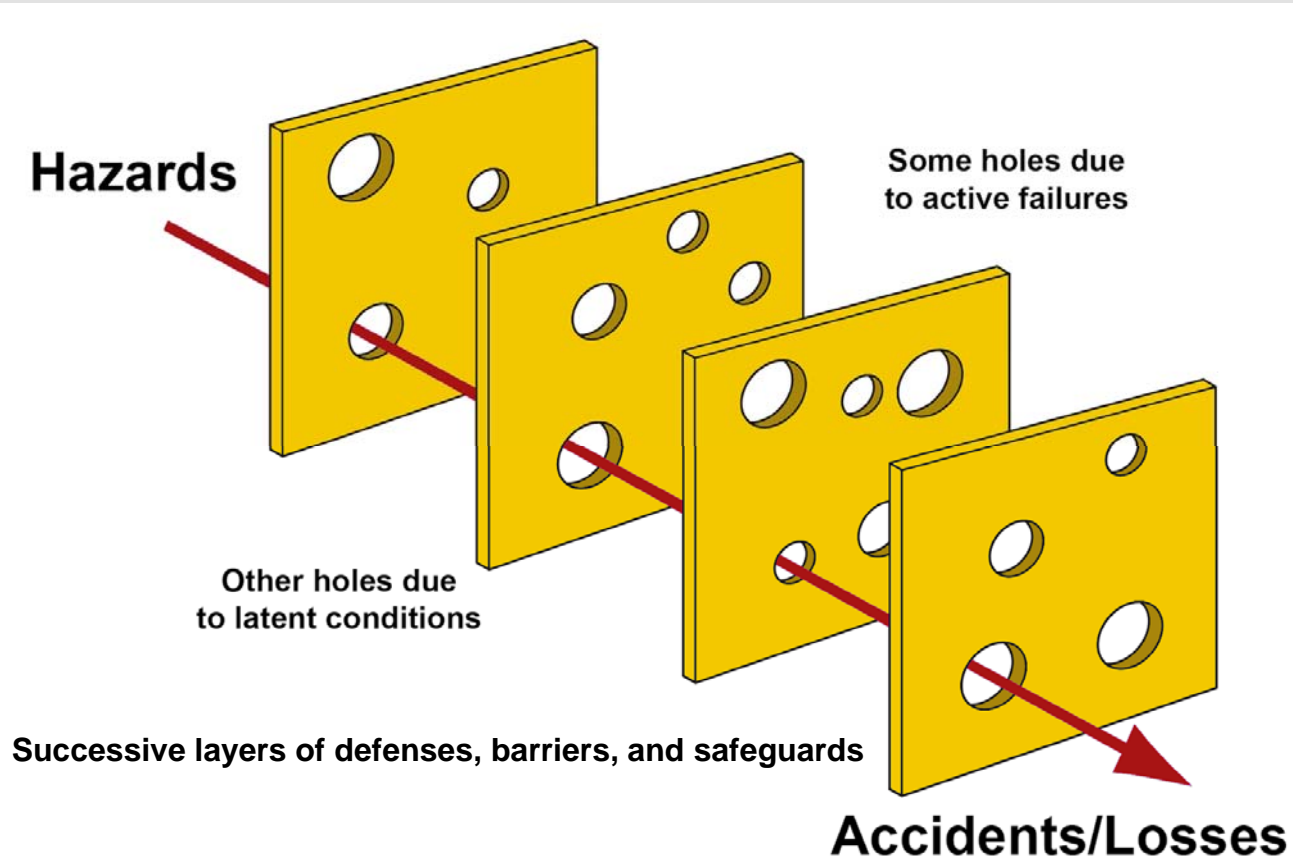
DOE Recent Improvements



- Updated requirements and guidance for NPH design – broadened types of NPH (DOE-STD-1020-2016)
- Updated 10-year Review and Update Process for NPH Assessments (DOE O 420.1C, DOE-STD-1020-2016)
- Formalized Design Upgrade Analysis Process (DOE-STD-1189-2016)
- Introduced “Inherently Safer Design” Concepts and Requirements for new DOE projects/modifications (DOE-STD-1189-2016)
- Updated guidance and implementation for mitigating Beyond Design Basis Event (DOE OE 2013-1, DOE-STD-3009-2014)



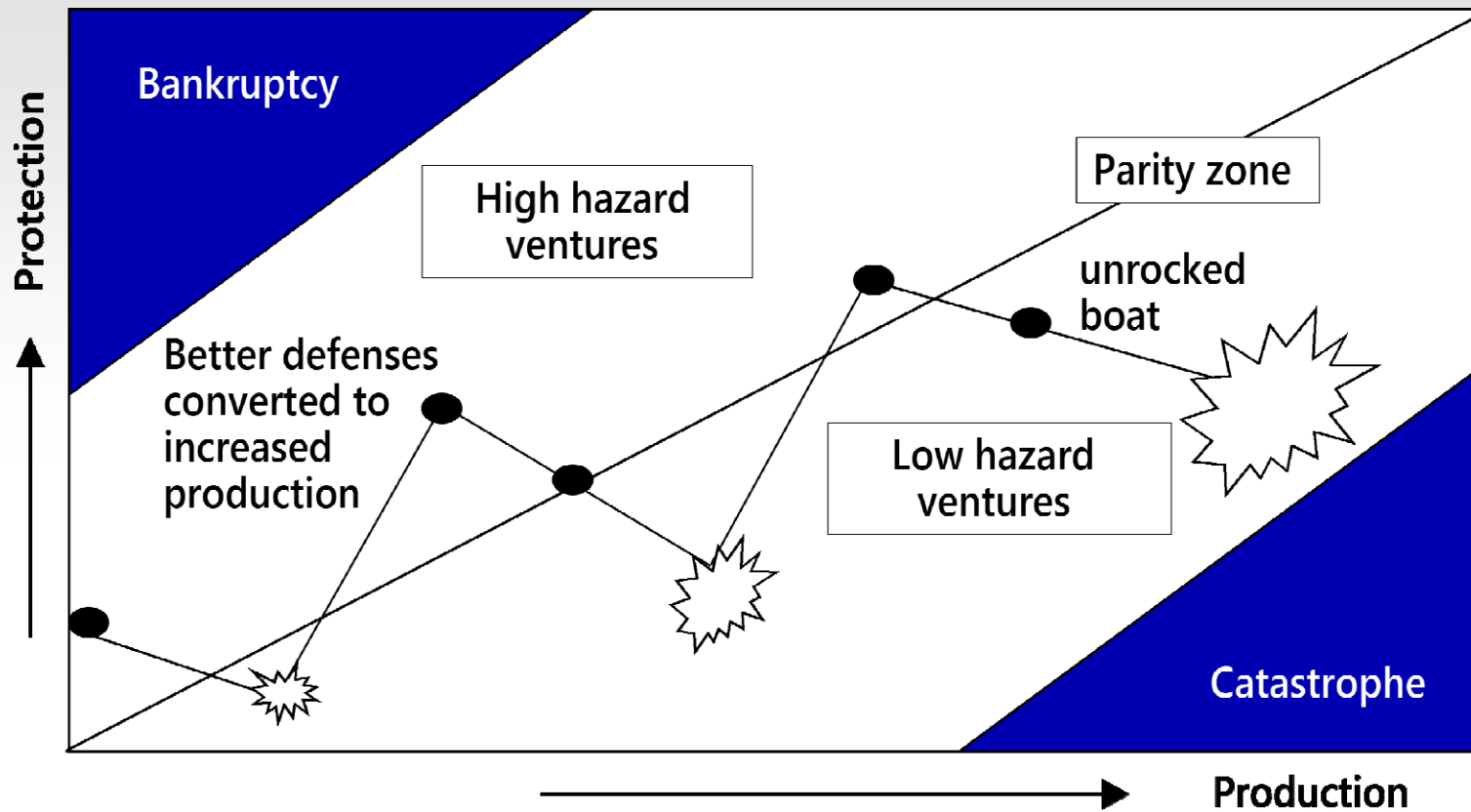
Defense in Depth



The 'Swiss Cheese' model of accident causation



Balancing Mission and Safety



James Reason, *Managing the Risks of Organizational Accidents*, 1997



Line Management Responsibility for Safety



- DOE Safety Management Principle: Line Management Responsibility for Safety (DOE P 450.4)
- DOE Program offices responsible/accountable for:
 - Accepting risk of operations; Balancing safety and mission
 - Flowing down safety management requirements
 - Reviewing adequacy of 10-year review of NPH assessment and making associated design upgrade decisions based on results
 - Accepting BDBE plans and preparation
- DOE Contractors design/operate facilities within DOE requirements and approved safety analyses



Context for Ongoing Discussions



- Robust Safety Policy Structure
- Continually Rising Standards of Excellence
- Continuous Learning About NPH and Design
- Strategies for Both Prevention & Mitigation
- Balancing Mission and Safety

"If eternal vigilance is the price of liberty, then chronic unease is the price of safety."

– James Reason



Thank You!



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