

Fukushima at 15: U.S. Lessons for an Expanding Nuclear Enterprise

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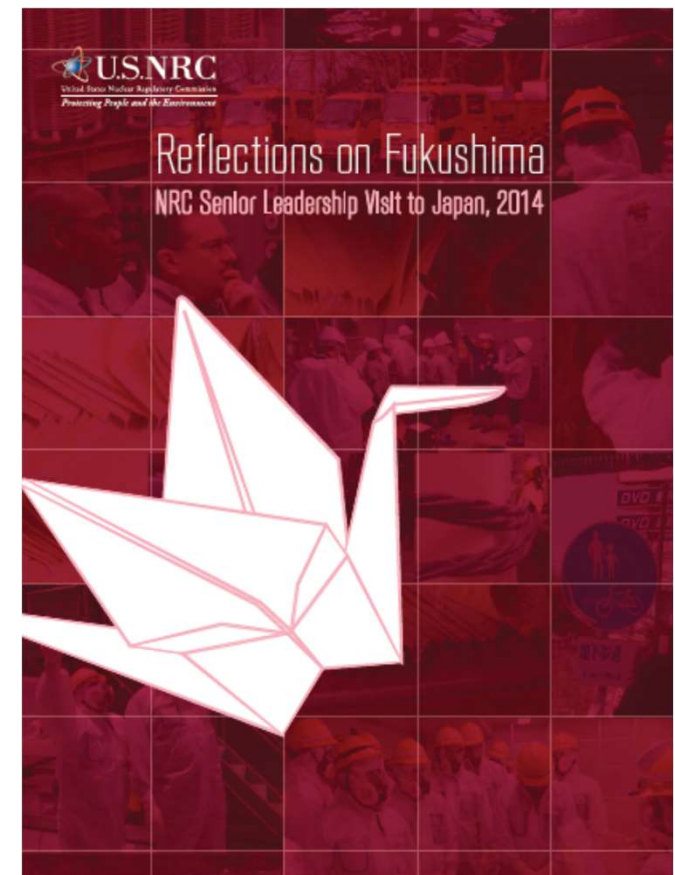
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U.S. Nuclear Regulatory Commission

2026 Regulatory Information Conference

USNRC – Vision and Leadership

- Commission – call for action
- Executive Steering Committee
 - Dedicated Directorates/Division
 - Three Tiers of Actions (orders, rulemaking, external hazards re-evaluations)
 - Guiding Principles
- Highly engaged, **performance-based** innovative solutions between regulator and industry
- Post implementation oversight – sustaining knowledge transfer and addressing portable equipment reliability experience



NUREG/KM-0008, "Reflections on Fukushima: NRC Senior Leadership Visit to Japan, 2014"



Global Learning and U.S. Contribution



Continuous engagement with international safety learning through the International Atomic Energy Agency



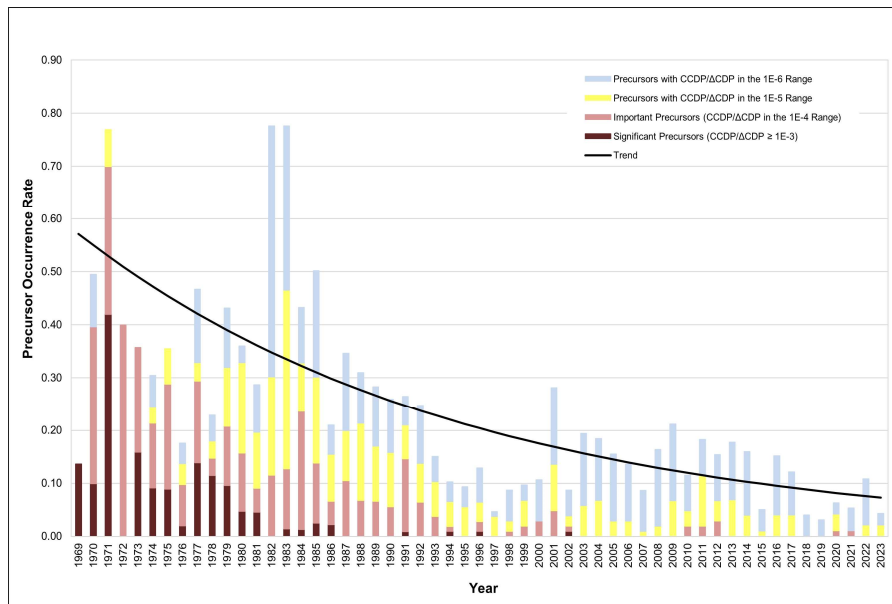
Close alignment and exchange with European counterparts through European nuclear safety frameworks - European Union Stress Test



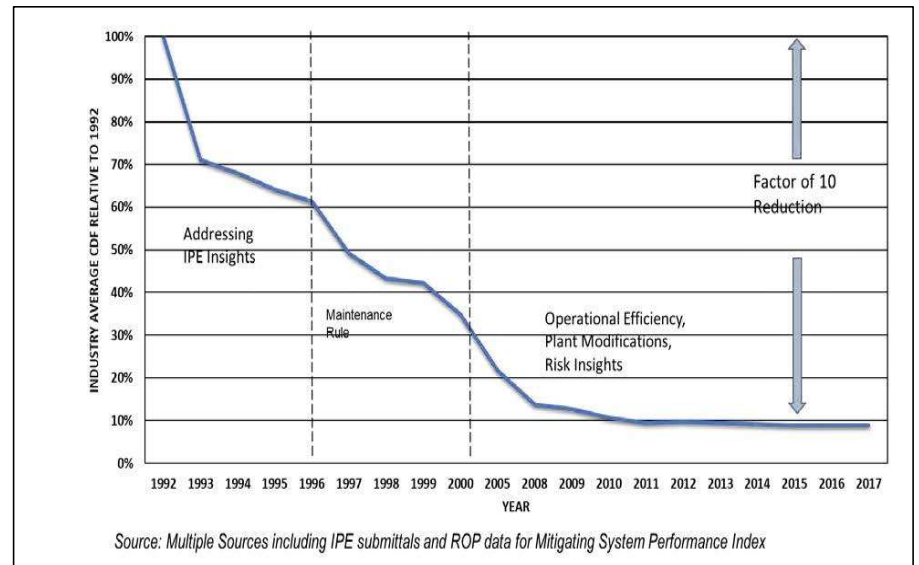
An exceptionally strong, two-way technical and institutional partnership between the United States and Japan

FLEX, among other risk-informed enhancements, has shaped U.S. industry risk trends and reduced safety significance of events and inspection issues.

NRC Accident Sequence Precursor Trend

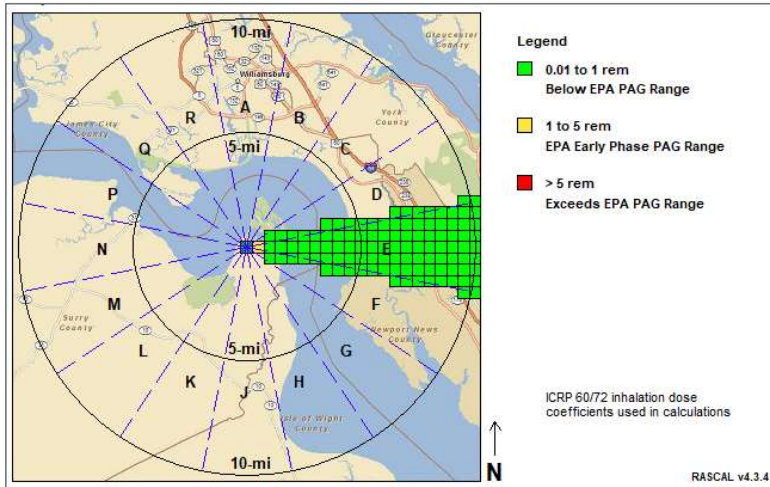


Industry Safety Trend Based on Nuclear Energy Institute (NEI) 20-04*



*NEI 20-04, “The Nexus Between Safety and Operational Performance in the U.S. Nuclear Industry,” issued March 2020

Strengthening Emergency Preparedness and Shaping Regulatory Approach for Next Generation Plant EPZs

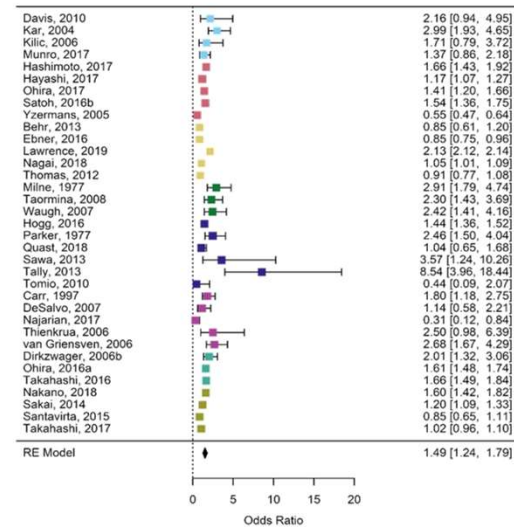


EP Enhancements include:

- multi-unit dose assessment
- reliable communications
- adequate staffing



NRC examined the non-radiological health impacts of evacuation and relocation to risk-inform protective actions



Health Outcome	Special Populations Included
Anxiety	
Depression	Children
Diabetes	Elderly
General Health Effects	Elderly, Males
Healthcare Accessibility	Elderly
Heart Disease	Elderly
Mortality	Hospital Patients, Nursing Home Residents
Other	Low-educated Mothers
Psychological Distress	Children, Hospitalized Patients
PTSD	University Students, Children
Respiratory Problem	Elderly
Sleep Problems	
Substance Abuse	Children
Weight Problem	

Meta-analysis of Odds Ratio for All Health Effects

NUREG/CR-7285, "Nonradiological Health Consequences of Evacuation and Relocation"

Enduring U.S. Lessons

Fukushima taught the United States that safety is not achieved by caution alone—but by coordinated action under uncertainty.

As nuclear grows again, success will depend on whether we move just as decisively—
together, adaptively, and at scale.