

Energy Facility Contractors Group (EFCOG) Semi-Annual Meeting

Nuclear Industry Status Report – Post Fukushima

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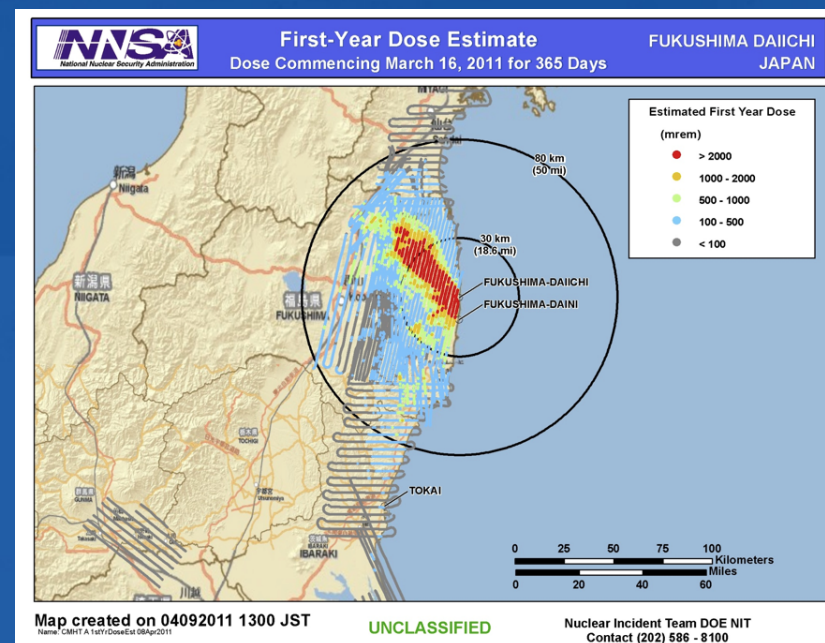
NUCLEAR
ENERGY
INSTITUTE

Ongoing Recovery Efforts

- Continue to cool and stabilize reactors 1-3
- Used long-term reactor and spent fuel pool cooling systems
- Installed large decontamination plant for radioactive water
- Conducting detailed evaluations of the events
- Developing plans for decommissioning damaged reactors
- Clearing debris from the site
- Assessing the impact of radiation releases

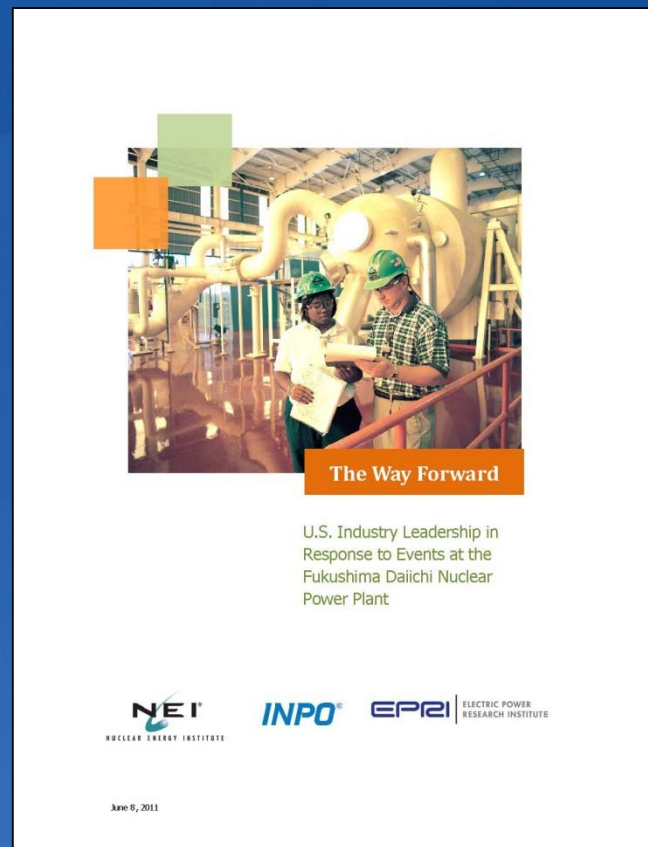
Radiological Impacts in Japan

- Significant releases occurred in the first week
- Land-use restrictions have been implemented in select locations
- Extensive monitoring will be ongoing
 - Land
 - Water
 - Crops
 - Livestock
 - Fish



U.S. Industry Steering Committee

- Includes executives and chief nuclear officers from
 - Electric utilities
 - Industry associations
 - Reactor technology groups



U.S. Industry Response

- Coordinating activity in 8 areas:
 1. Existing plant performance
 2. Lessons learned from Fukushima
 3. Effectiveness of industry response
 4. Strategic communications and outreach
 5. Regulatory response
 6. Support for international organizations
 7. Technical research and development
 8. Radiation monitoring

U.S. Industry Actions to Date

- Verified equipment, procedures and staffing are capable for mitigating extreme events
- Enhanced capability to protect spent fuel storage pools against extreme external events
- Assessed effectiveness of reactor operator training
- Improving ability to cope with an extended loss of AC power
- Assessing need for additional instrumentation for monitoring core and spent fuel pool

Validate Design Bases for Natural Phenomena

- Inspect protective measures in place for natural phenomena (e.g. seismic, flooding)
 - Deficiencies resolved through corrective action program
 - Assess external event threats
- Review modifications performed since IPEEE reviews
 - Assure adequate margin to address significant vulnerabilities

Diverse and Flexible Mitigation Capability (FLEX)

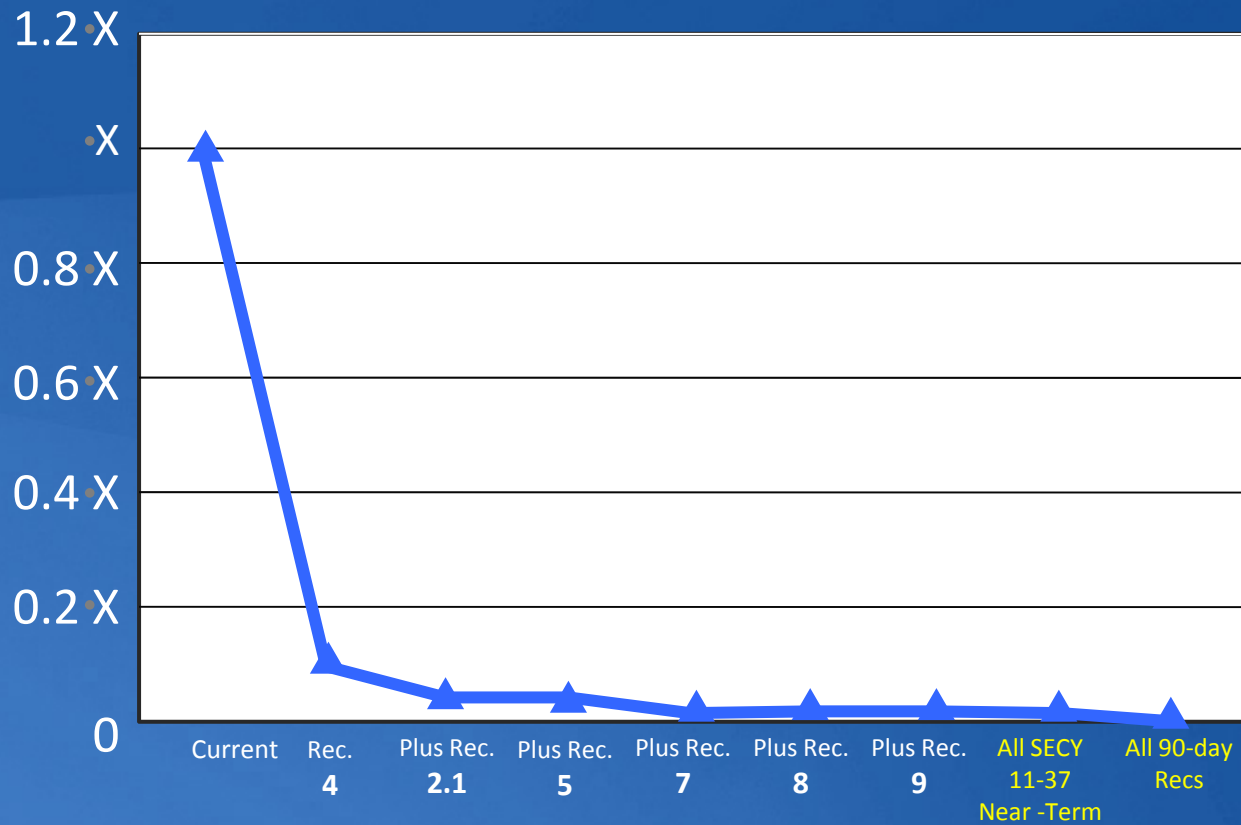
- Additional layer of safety to mitigate beyond design bases events
- Focuses on maintaining key safety functions
 - Core cooling, containment integrity, SFP cooling
- Multiple supplies of power and cooling water
- Portable equipment reasonably protected
- Symptom-based guidance and instructions
- Programmatic controls
- Regional support centers

Safety Benefit – SECY 11-0137

(Collective Reduction, Sequentially Applied)

(Mean Values Only – Linear)

Current
Risk

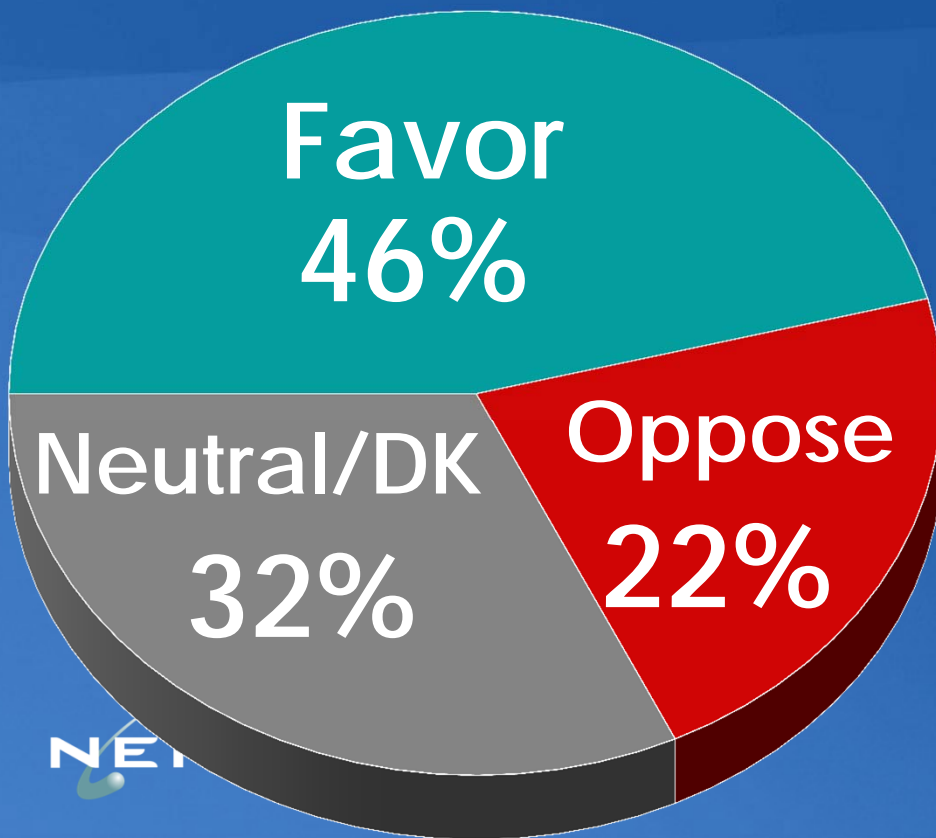


Support Has Slipped

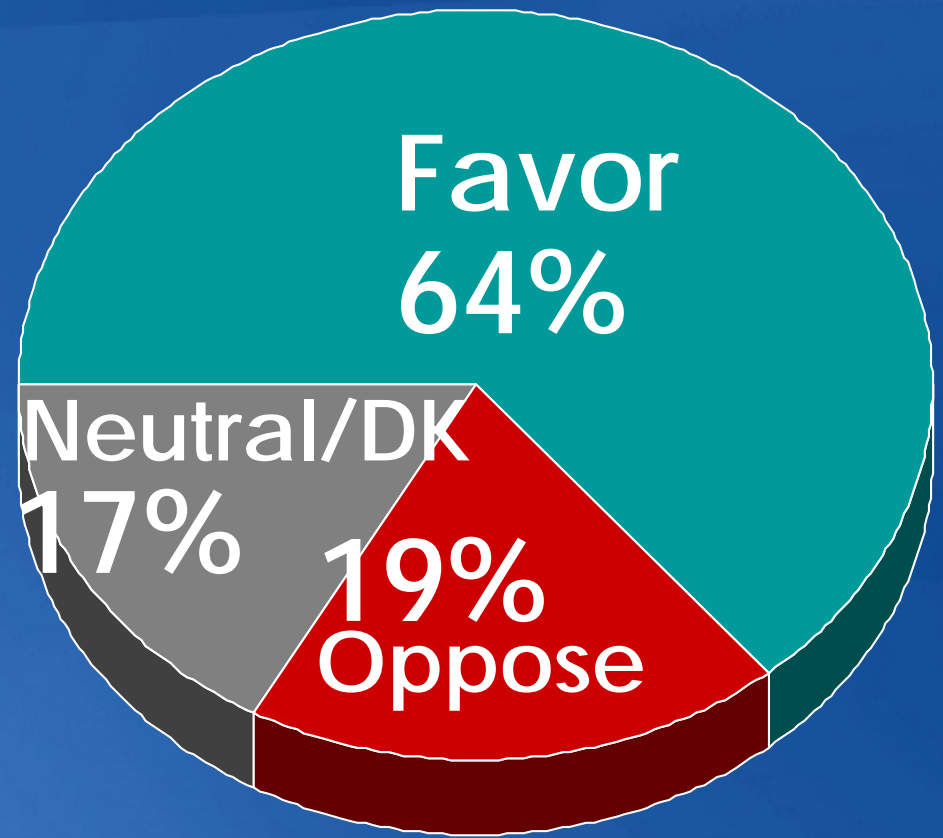
But it's gone to neutral, not negative

Overall, do you ... the use of nuclear energy as one of the ways to provide electricity in the United States?

2011



2009



Public Opinion Begins To Recover

- Slight increase in favorability of nuclear energy
 - February 2011: 71% favor
 - April 2011: 46% favor
 - September 2011: 62% favor
- 82% agree that U.S. should learn from Japan and license new plants rather than stop progress entirely
- 61% agree it would be acceptable to build a new reactor at plant closest to their home

Outlook for U.S. Nuclear Industry

- Significant capital investment of \$1.5-\$2 trillion required in electricity system over next 20 years for electricity production, transmission, distribution and environmental projects
- Demand for electricity will increase 24% by 2035
 - Nuclear energy will remain an option to provide low-carbon, affordable electricity
 - U.S. reactor manufacturers and suppliers will participate in the \$400 billion global market for nuclear energy
- Four to eight new U.S. reactors operational by