Industry Perspective on Fukushima Accidents

10 years after the Accidents

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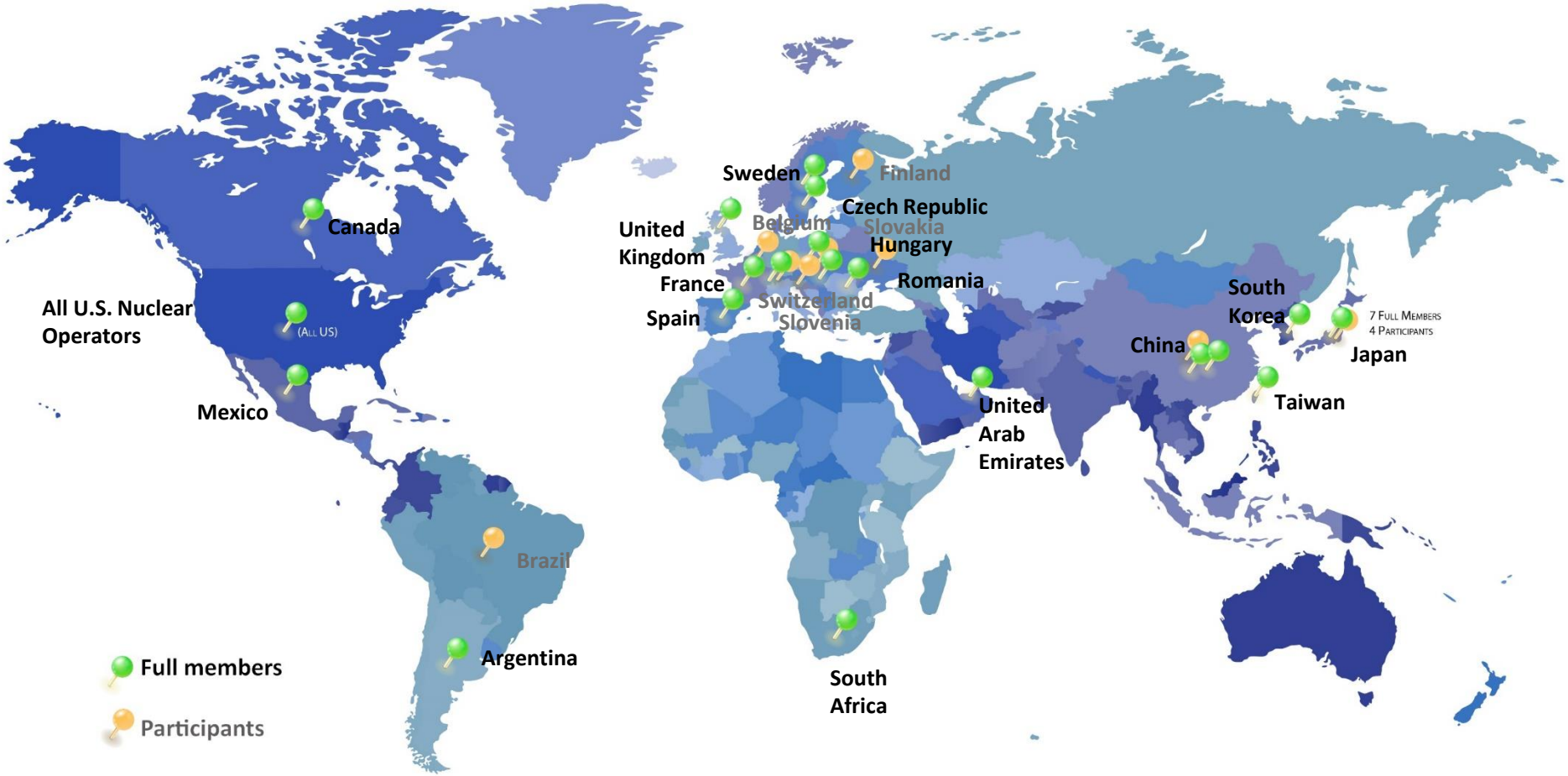
NEA Expert Roundtable: The Fukushima Daiichi Nuclear Power Plant Accident, Ten Years On: Progress, Lessons and Challenges

EPRI Perspective – 10 Years after the Fukushima Accidents

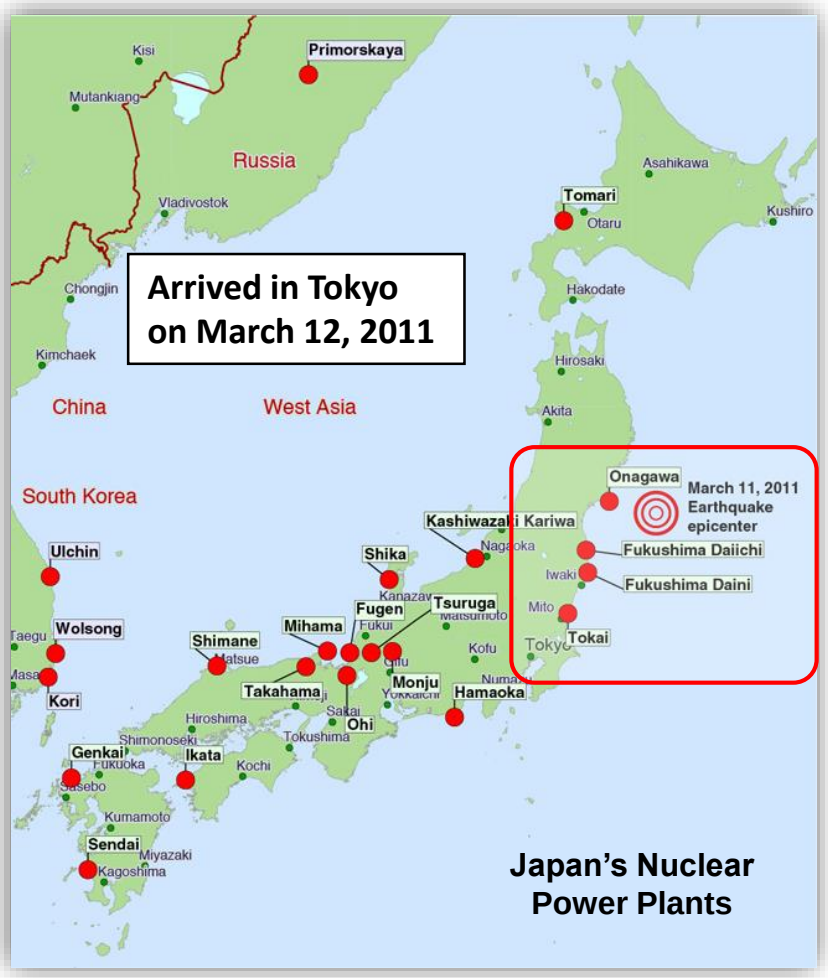
- Significant lessons have been learned from the three (3) severe accidents, resulting in a stronger, safer nuclear power industry worldwide
- The global nuclear industry is committed to assisting our Japanese colleagues in addressing re-start, decommissioning, and technical evaluation needs
- Collaboration and a technology focused approach are essential to EPRI's mission

EPRI's Global Engagement Exhibits Collaboration and Credibility



Immediately After the Accidents

- Provided technical support to TEPCO using the Kurion contaminated water cleanup system
  - Prevented/minimized radioactivities flowing into the ocean
  - First system operational at Fukushima Daiichi



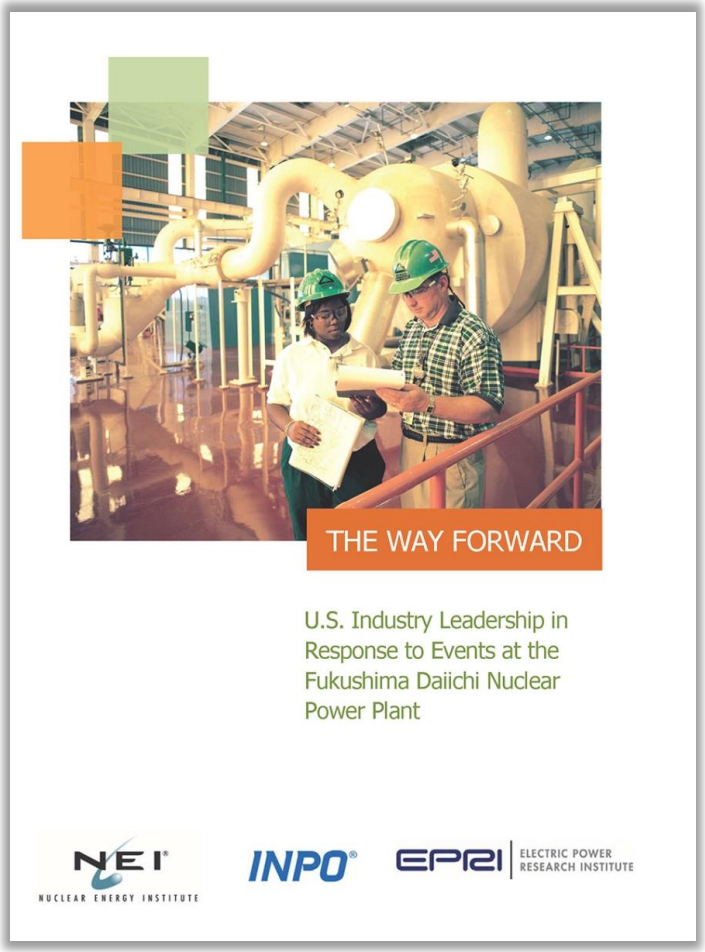
- Performed Fukushima Daini walk down in May 2011
  - Confirmed safe shutdown
  - Observed limited damage to safety systems, mostly from tsunami
- Provided documents on lessons learned from TMI on recovery and decommissioning

EPRI Support for Fukushima Decommissioning

- Perform analysis and benchmarking of root causes of the accidents with both TEPCO and the global nuclear community, using the upgraded MAAP code
  - Enhance nuclear plant safety
  - Forensic information for decommissioning
- Member of the International Expert Group (IEG) to assist TEPCO with decommissioning efforts
- Introduce innovative technologies for decommissioning

Fukushima Long Term R&D Scope - Global Applicability

- Root Cause Technical Evaluation, using the MAAP/GOTHIC codes
  - Updated MAAP code incorporates lessons learned from the Fukushima accidents
- External Events and Probabilistic risk assessment (PRA)
  - Seismic
  - Flooding
- Severe Accident Management
- Spent Fuel Pools
- Radiological Release Mitigation



Nuclear Plants are Safer Today

- Plants that have re-started or in continuous operation have implemented safety measures to prevent accidents from happening
  - Stationary and mobile equipment
  - Using Probability Risk Assessment (PRA) to identify and quantify vulnerabilities
  - Risks of multi-units
  - Increased and enhanced operator training

- Incorporation of innovative technologies to enhance existing procedures and reduce operational costs to ensure the long-term safety and viability of nuclear power
  - Delivering the Nuclear Promise in the US and worlwide

- EPRI is committed to the coordination of global assistance to our Japanese colleagues in addressing re-start, decommissioning, and continued reliable and efficient performance and safety