U.S. Response To the Nuclear Accident In Japan

INMM Conference

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Nuclear Energy Institute

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NUCLEAR ENERGY INSTITUTE

Lessons Learned from Different Accidents

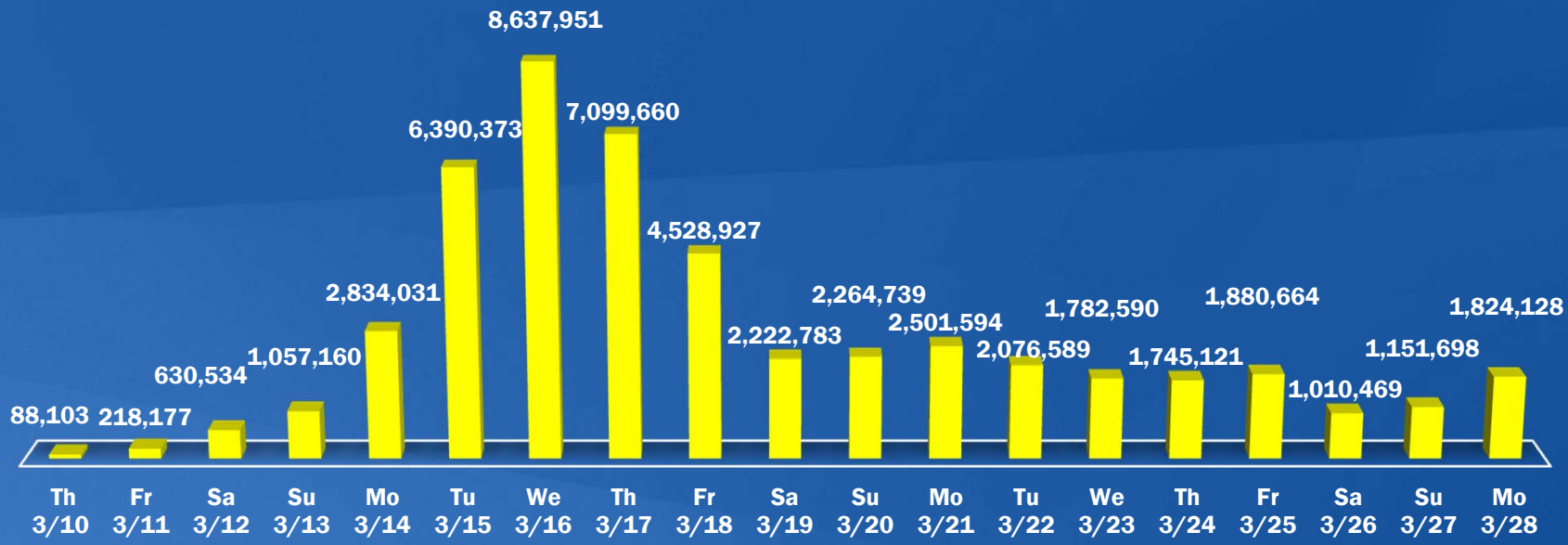
Three Mile Island

Deepwater Horizon

NEI's Response Mission

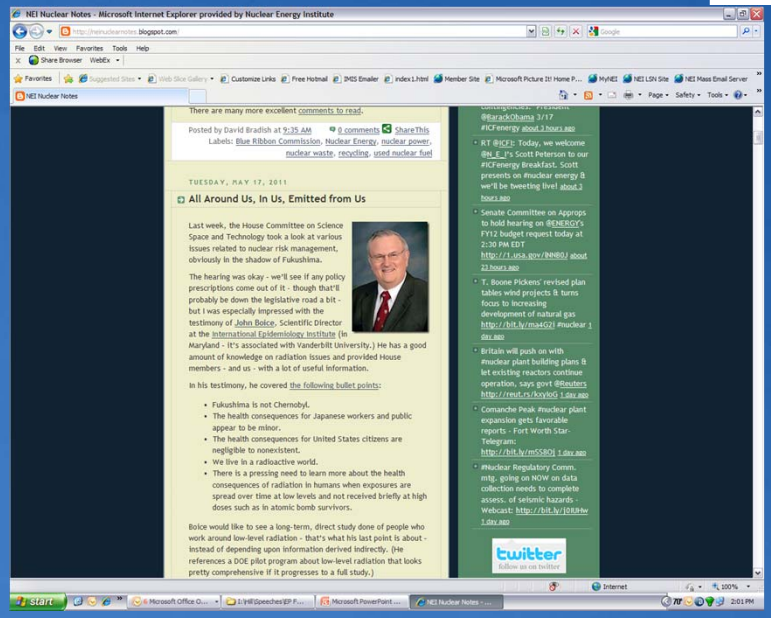
- Coordinate with NRC, DOE, INPO, EPRI
- Serve as an information source for NEI stakeholders
- Outreach to media, Congress, the financial community
- Provide timely and accurate event data, communication tools

NEI Website Hits Per Day



Playing Today's Game: Social Media

- Experts on YouTube
- Twitter
- NEI Blog



#fukushima

#japan

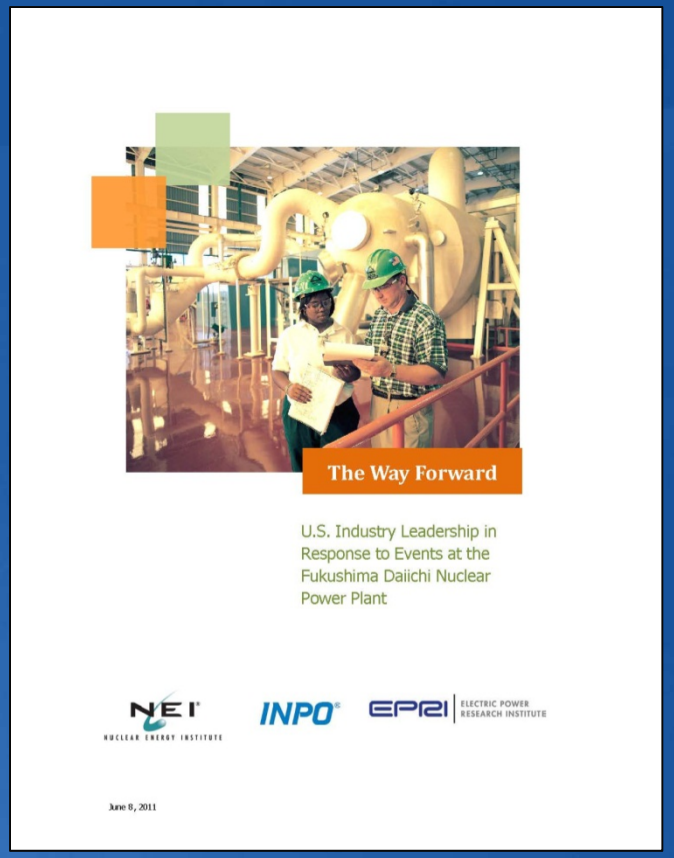
#nuclear

U.S. Nuclear Energy Industry's Aggressive Response

- Within a week began verifying that all critical safety components, procedures and staffing to mitigate potential damage from extreme events were in place and functioning.
- Completed inspections of systems that protect nuclear energy facilities against extreme events.

U.S. Industry Steering Committee

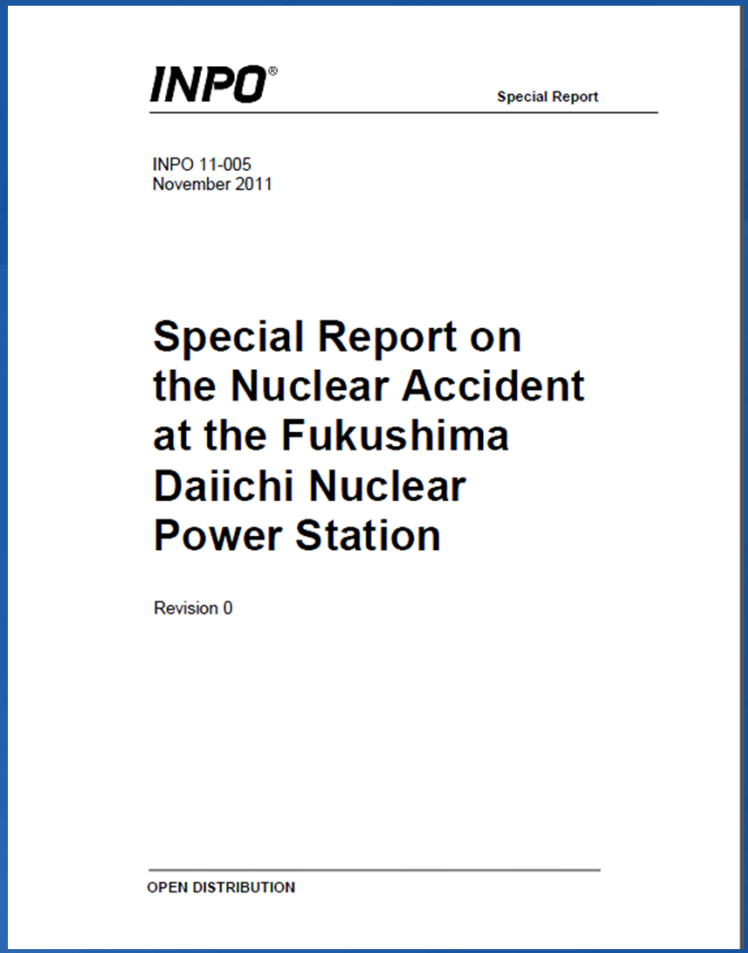
- Includes executives and chief nuclear officers from
  - Electric utilities
  - Industry associations
  - Reactor technology groups



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

Event Time Line Developed



INPO®

Special Report

INPO 11-005
November 2011

Special Report on the Nuclear Accident at the Fukushima Daiichi Nuclear Power Station

Revision 0

OPEN DISTRIBUTION

Industry Goal

- Apply the lessons-learned from the Fukushima accident to enhance the safety of the U.S. reactor fleet
- Implement an improved and integrated approach for Nuclear Regulatory Commission (NRC) near term recommendations
  - Achieve greater safety benefit in a shorter time
  - Establish Diverse and Flexible Mitigation Capability (FLEX)

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

FLEX Addresses

- Extended loss of all AC power conditions
- Loss of spent fuel pool cooling
- Loss of the Ultimate Heat Sink
- Large fires and explosions
- Reliability of BWR hardened vents
- Beyond-design-basis events:
  - Seismic
  - Flooding
  - Other extreme natural phenomena

Spent Fuel Pool Instrumentation

- NRC order expected
- Approach consistent with FLEX implementation
- Reliable indication of water level
  - Accessible location, following SBO and core damage
  - Continuously operable, display can be on-demand
  - One permanent and one back-up (fixed or portable)
  - Separation and missile protection
  - High radiation and saturation environmental conditions
  - Calibration maintained following power interruption

The Path Forward

- Public opinion is recovering
- Maintaining licensing activities with minimal schedule impacts while making appropriate modifications and enhancements
- Incorporate lessons learned into NEI and industry emergency response plan

Public Opinion Is Recovering

- Slight increase in favorability of nuclear energy:
  - Feb. 2011: 71%
  - April: 46%
  - September: 62%
- 82% agree U.S. should learn from Japan and license new plants rather than stop progress entirely.
- 61% said it would be acceptable to build a new reactor at the nuclear energy facility closest to where they live.

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Bisconti Research Inc./GfK Roper Sept. 2011

Political Response to Fukushima

- Increased attention has ebbed
- With a few exceptions, policy leader views remain as they were before the accident
  - Majority of members of Congress supportive
  - Some increased interest in used fuel storage
- Industry faces some legislative challenges

Managing Used Nuclear Fuel

- Broad agreement on policy direction: Blue Ribbon Commission recommendations generally consistent with industry strategy
  - Need to address budget treatment of NWF fee: FedCorp full access to ongoing collections and waste fund balance
  - Centralized storage
  - New management organization (FedCorp)
- Congressional hearings this week

Summary

- Nuclear safety in the US is built on a culture of continuous learning
- The lessons learned from the accident at Fukushima are being intensively addressed
- Industry actions and regulatory response are well underway
- FLEX approach to provide additional layer of safety
- Foundation of US nuclear industry remains strong

Information Sources

- Nuclear Energy Institute (www.nei.org)
- U.S. Nuclear Regulatory Commission (www.nrc.gov)
- U.S. Department of Energy (www.energy.gov)
- International Atomic Energy Agency (www.iaea.org)
- American Nuclear Society (www.ans.org)
- Health Physics Society (www.hps.org)
- Japanese Nuclear and Industrial Safety Agency (http://www.nisa.meti.go.jp/english)
- Japan Atomic Industrial Forum (www.jaif.or.jp/english)
- Tokyo Electric Power Company (http://www.tepco.co.jp/en/index-e.html)

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