

# U.S. NRC Approach for Ensuring Safety During Extended Operation

June 29, 2011

# Overall Approach

- **Atomic Energy Act**
  - 40-year initial license period
  - 20-year license renewal period
- **Continuous oversight process**
  - Updated requirements and ongoing oversight and inspections assure safety
- **Two-track review**
  - Targeted safety evaluation
  - Environmental analysis

# Safety Review

- **Staff review**
  - Focuses on passive, long-lived structures and components
  - Evaluates effectiveness of aging management programs
- **Advisory Committee on Reactor Safeguards review**
  - Independent analysis by diverse panel of technical experts
- **Public participation**

# Environmental Review

- **Environmental Impact Statement (EIS)**
  - Generic analysis
  - Site-specific analysis
- **Typical issues examined include:**
  - Land use
  - Air and water quality
  - Radiological impacts
- **Public participation**

# Subsequent License Renewal



- **Research and resolution of technical issues are key**
  - Can plants operate safely beyond 60 years?
  - What additional steps would licensees need to take?
  - Primarily an industry responsibility
- **Potential issues include:**
  - Reactor vessels and internals
  - Electric cable insulation
  - Buried piping
  - Concrete

# U.S. NRC's Aging Management Research



- **Expanded Materials Degradation Assessment**
  - Capture our current understanding of materials degradation
  - Ascertain knowledge gaps for operation beyond 60 years
  - Prioritize research needs
- **Aging management programs (AMPs)**
  - Evaluate licensee AMPs for first renewal period
  - Identify possible enhancements

# International Cooperation

- **Ongoing efforts**
  - International Forum for Reactor Aging Management (IFRAM)
  - International Conference on Nuclear Power Plant Life Management for Long Term Operation
- **Benefits of cooperation**
  - Exchange information
  - Avoid redundancies
  - Leverage resources

# Conclusion

- **Effective process in place**
  - Commitment to continuous improvement
  - Ongoing post-Fukushima safety review
- **Proactive research is essential**
  - Key to identifying and resolving issues
  - Industry bears the primary responsibility
- **Continue international cooperation**
  - Support efforts to work together where there are common challenges