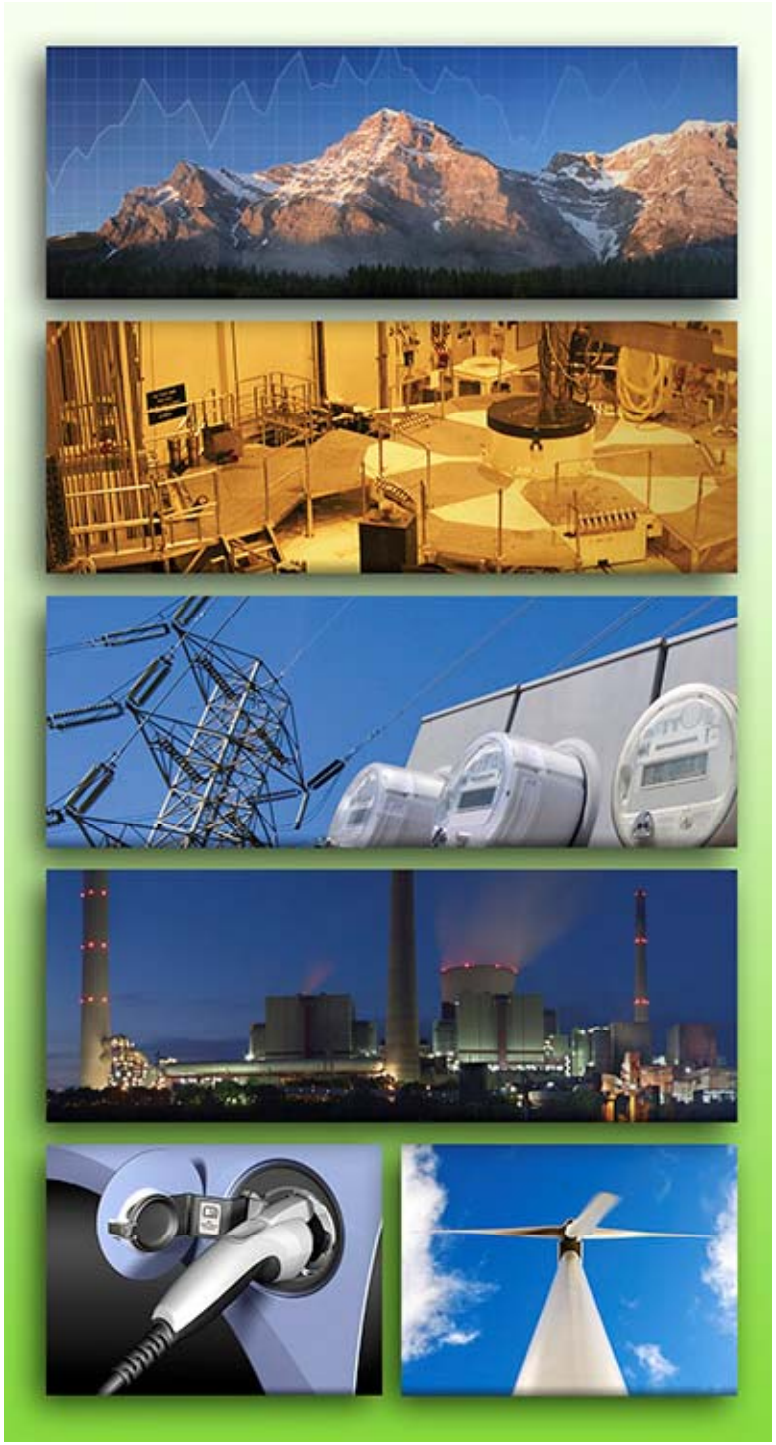

ELECTRIC POWER RESEARCH INSTITUTE

Extended Storage:

Research Perspective

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NRC Commissioners Meeting
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BKS1

Extended Storage Guiding Principles

- Reprocessing or disposal options may not be available for many decades
- Combination of wet and dry storage up to 120 years under existing regulatory precedent
  - 60 years wet storage; 60 years dry storage
  - By 2055: more used fuel in dry rather than wet storage
- Global interest: Not just a U.S. issue
- Existing and future storage systems are expected to perform their intended function beyond the current licensing period

BKS2

Extended Storage Aging Management R&D Needs

- Near-term: Maximize life of existing systems and ensure transportability
  - Additional data and analyses of long-term degradation mechanisms
  - Enhanced monitoring and inspection
- Intermediate-term: Evaluate mitigation/design options
  - E.g., anti-corrosion coatings; new cask designs
- Long-term: Develop risk-informed approach to extended storage

BKS3

"Extended Storage Collaboration Program" Initiated November 2009

- "Provide the technical bases to ensure safe, long-term used fuel storage and future transportability"
- Modeled on prior ISFSI license extension research
- Participants: EPRI, NRC, DOE, NEI, utilities, vendors, international
- Phased approach
  - Phase 1: Review current technical bases and conduct gap analysis for storage systems
  - Phase 2: Conduct experiments, field studies, and additional analyses to address gaps
  - Phase 3: Coordinate research that results in a demonstration of a representative licensed dry storage system loaded with high burnup fuel (>45 GWd/MTHM)

Together…Shaping the Future of Electricity