

Integrated Used Nuclear Fuel Management

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Steven P. Kraft
Senior Director
Used Fuel Management
Nuclear Energy Institute

Integrated Used Fuel Management

- **Interim storage at reactors and in centralized location(s)** 
- **Research, development, demonstration, and commercial operation of advanced fuel cycles** 
- **Permanent disposal facility** 

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**Near-Term
Used Fuel Management Issues**

- **DOE Standard Contracts for new plants signed**
 - Required by law for plant licensing
- **NRC Waste Confidence Rulemaking**
 - Industry supports NRC's proposed rule
 - Proposal is soundly based on vast experience with dry cask storage and thorough consideration of future integrated used fuel management scenarios
 - Industry encourages NRC to finalize rule in a timely



Interim Storage of Used Nuclear Fuel

- Move fuel from many sites to 1 or 2 voluntary locations: easier management and security; potential to lower costs
- Sustains public, political, industry confidence in used fuel management program
- DOE could meet statutory obligation to remove used fuel from operating plants to private facility
- Permit reactor operators to meet their obligation to local communities by completely decommissioning reactor sites at the end of their operating lifetimes
- Support for new nuclear plants
- Synergy with advanced fuel cycle development

Nuclear Renaissance Needs Advanced Fuel Cycles

- Nuclear renaissance means many new reactors providing electricity, hydrogen, desalinization, and more
- Fuel supply (recycle)
 - Fuel cost; fuel assurance
 - Advanced reprocessing, enrichment, fuel fabrication
- Waste management
 - Reduce volume, heat-load, and radiotoxicity
 - Develop technologies in parallel with current practices and phase in when available on a production scale
- Non-proliferation
 - Keep reprocessing and enrichment in the “club”

Regulating A Recycling Facility

- Why not Current Part 50 or 70 ?
 - Part 50
 - Focuses LWR design and technology
 - Does not have a design basis for a reprocessing plant
 - Does not address the chemical hazards of a reprocessing plant
 - Is not risk informed and performance based similar to Part 70
 - Has requirements that can not be met (i.e. remove HLW waste to a repository in 10 years)
 - Current Part 70
 - Recycling was not a clean fit
 - Existing Part 70 licensees concerned about burdening the regulation
- Regulation must
 - Move non-reactor production licensing out of Part 50
 - Utilize a risk informed performance based approach based on Part 70 model
 - Allow flexibility while assuring appropriate regulatory review processes
 - One or two step licensing
 - Single or multiple licenses on a site
 - Technology neutral

Disposal Required

- **Regardless of fuel cycle ultimately developed**
- **Yucca Mountain**
 - sound science has not changed
 - facing numerous challenges
 - remains the law of the land and DOE has an obligation to pursue and should continue
 - moving forward very slowly
- **Reduce Nuclear Waste Fee equal only to funding requested**

National Policy Review

- **Recommendation to President and Congress on how best to proceed managing used nuclear fuel**
 - Investigate critical issues
 - Public policy; science; environment
 - Define path forward
 - Organization and funding
- **POLICY review – not scientific or technical review**
- **Independent panel of best experts in these areas**
- **No longer than two years**

Integrated Used Fuel Management

- **Interim storage**
 - **Closing the fuel**
 - **Disposal needed in long term**
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- **Reduce Nuclear Waste Fee**
 - **National POLICY review needed**
