

Regulatory Issue Resolution Protocol (RIRP) for Graded Approach to Dry Cask Licensing

**The Division of Spent Fuel Management (DSFM)
Regulatory Conference (REG CON)**

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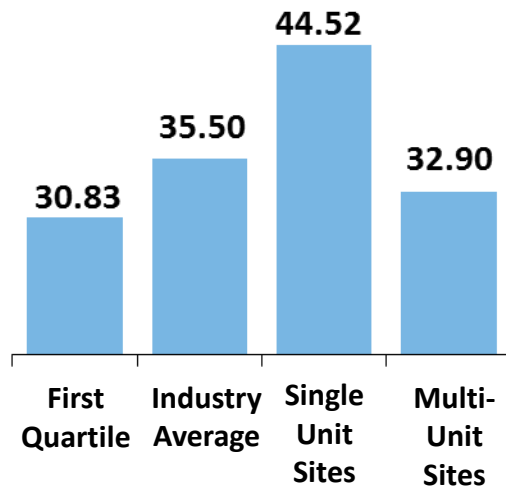


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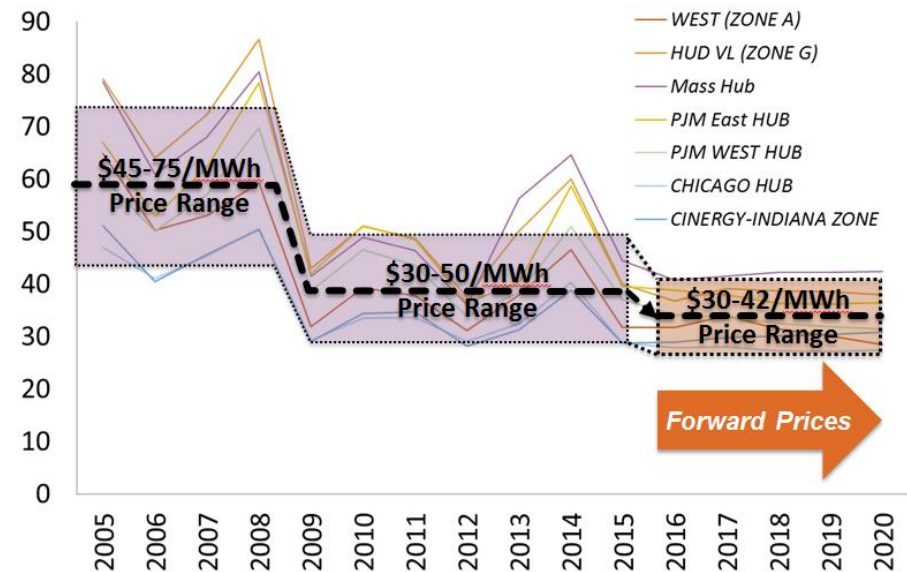
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Nuclear Economics 101

2015 Average Nuclear Generating Costs (\$/MWh)



Declining Wholesale Electricity Prices



Industry Response:

Delivering the Nuclear Promise Initiative

- Maintain Operational Focus
- Increase Nuclear Value (market reform)
- Improve Efficiency (30% cost reduction)

Basis for RIRP I-16-01

- Both NRC and industry recognize that there is a need to improve the efficiency of the licensing process for dry storage of spent nuclear fuel (SNF) under 10 CFR Part 72.
- The process continues to consume an inordinate amount of both NRC and industry resources.
- The level of detail in ISFSI licenses and cask CoCs is not commensurate with dry cask storage risk
- A collaborative effort between NRC and industry is underway to provide risk appropriate criteria for determining the content of ISFSI licenses and CoCs.

The Efficiency Improvement Precedent

- Industry has developed criteria for ISFSI license and CoC content
- Criteria based on principles from the power reactor Improved Technical Specification NRC Policy Statement of 1993
- Industry PRM 72-7 proposed an improved format for CoC content as well as criteria for determining the content

Used Fuel Storage and Transportation Regulatory Issue Resolution

Protocol Number: I-16-01

Improving the efficiency of the regulatory framework for dry storage of used nuclear fuel

- NRC and industry interact in public meetings and letters
 - Establish a structured process for determining what information should be in ISFSI licenses or CoCs, including Tech. Specs.
 - Implement one or more pilot CoC amendments using preliminary CoC format, content and selection criteria from PRM 72-7
 - Utilize lessons learned from pilot(s) to finalize CoC format, content and selection criteria
 - NEI develops guidance for NRC submittal and endorsement in the Standard Review Plans for licenses and cask CoCs

Actions To Date

- Public Meeting Kick-Off for RIRP issue resolution-8/8/2016
- Public Meeting to discuss proposed format, content and selection criteria for the graded approach and pilot-10/28/2016
- NRC/Industry Public Workshop to discuss preliminary license/CoC format, content and selection criteria for the graded approach for dry cask storage pilot-11/21/2016

Proposed CoC Format

1. Certified Design

- Technology
- Design Features

2. Inspections, Tests, and Evaluations

3. Technical Specifications

- Limiting Conditions for Operation (LCO)
- Surveillance Requirements
- Approved Contents
- Administrative Controls

Certified Design

- Technology
 - Concise description of dry storage system
- Design Features
 - Those that would have a significant effect on safety if modified, such as some materials of construction or geometric arrangement
- CoC holder has compliance responsibility

Inspections, Tests and Evaluations

- When performed and the acceptance criteria are met, a cask will operate in conformance with the certified design and fulfill its required safety functions
- Compliance demonstrated by CoC holder or general licensee

Technical Specifications

- Limiting Conditions for Operation (LCOs)
 - Lowest functional capability or performance levels of equipment required for safe operation of the ISFSI facility and cask
 - Selection Criteria 1 through 3
- Surveillance Requirements
- Approved Contents
 - Parameters that if modified would have a significant effect on safety
 - Selection Criteria 4 through 6

Administrative Controls

- Similar to those in Part 50 Tech Specs
- High level description of required programs
- Includes essential elements of the programs are required to assure safe ISFSI operation
- Details included in implementing procedures

LCO Selection Criteria

- Criterion 1. Installed instrumentation that is used to detect, and indicate a significant abnormal degradation of the cask confinement boundary;
- Criterion 2. An initial condition of a design basis accident that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
- Criterion 3. A structure, system, or component which operating experience or risk considerations have been shown to be significant to public health and safety.

Contents Selection Criteria

- Criterion 4. The characteristic or parameter is identified in 10 CFR 72.236(a);
- Criterion 5. A characteristic or parameter for which verification is a necessary condition to provide reasonable assurance that the cask safety functions of confinement, sub-criticality, and shielding will be performed;
- Criterion 6. A characteristic or parameter which operating experience or risk considerations have been shown to be significant to ensure public health and safety.

Future Actions

- Provide letter to NRC staff summarizing the take-aways and path forward from the 11/21/2016 public workshop – January 2017
- NRC staff to provide letter of concurrence on approach prior to initiation of pilot – February 2017
- Industry submit a pilot CoC amendment application to NRC implementing the proposed format and content-3/17/2017
- NRC complete safety review of pilot CoC amendment application- 12/15/2017
- NRC complete rulemaking to make CoC amendment effective- 5/31/2018

Future Actions (continued)

- NRC/industry hold public meeting to discuss lessons learned from pilot-2/15/2018
- NEI modifies license/CoC format and content changes, as required, and submits to NRC-4/13/2018
- Industry develops and submits guidance document based on final CoC format and content-8/15/2018
- NRC/industry review guidance, revise as needed, and make decision on endorsement of NEI guidance-11/15/2018
- NRC endorse guidance/incorporate into overall SRP for graded approach- FY-2019

Conclusions

- Economic challenges and resource constraints demand a more efficient approach to dry cask licensing
- Based on years of experience, and what is known about the relatively low risks of dry cask storage – there is a significant opportunity to attain a more efficient process
- Industry and NRC are committed to working together to achieve this goal

Questions?

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