

# International Conference on Management of Spent Fuel from Nuclear Power Reactors: An Integrated Approach to the Back End of the Fuel Cycle



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## Spent Fuel Storage Integration in the United States – Planning for Storage and Transportation

Within the United States, the Nuclear Regulatory Commission (NRC) has the responsibility for licensing and inspection of spent fuel storage operations. This includes storage in the spent fuel pool, typically licensed under Title 10 Code of Federal Regulations (CFR) Part 50 regulations, and within spent fuel cask systems licensed by 10 CFR Part 72 regulations. The spent fuel cask systems are also referred to as dry cask storage systems. The spent fuel is adequately protected from criticality concerns and other events whether stored in the spent fuel pool or in a dry cask storage system. The licensee decides when to move the spent fuel to a dry cask storage system based on operational and economic needs. Over the past twenty-nine years, the United States dry cask storage systems have transitioned from single use storage-only cask systems to multi-use cask systems, with the ability to be transported to a centralized storage facility or ultimately to the final disposal site. Occasionally, these multi-use cask systems experience defects during fabrication or deficiencies during spent fuel loading operations that render the canister unable to meet storage requirements under 10 CFR Part 72 regulations and transportation requirements under 10 CFR Part 71 regulations. These defects and deficiencies may require exemptions by the NRC and tracking of the component by the licensee. This paper will briefly discuss the transition within the United States from single-use cask systems to multi-use cask systems, several strategies considered for deciding when to move the spent fuel from wet storage into dry cask storage, processes to transition the canister loaded with spent fuel from a storage system to a transportable system, and discuss deficiencies that can render a multi-use cask system into a single-use cask system.

### Country/ int. organization

United States/United States Nuclear Regulatory Commission

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