

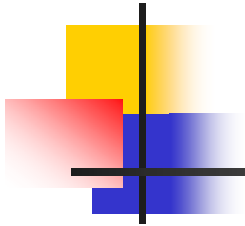
# Regulators Experiences in Licensing and Inspection of Dry Cask Storage

June 2006

International Conference on Management of Spent Fuel from Nuclear Power Reactors  
IAEA-CN-1444/56

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# Overview

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- Spent Fuel Storage Facility Status
- Types of licenses
  - Site specific
  - General
- Inspection
- Conclusion



# Spent Fuel Project Office Responsibilities

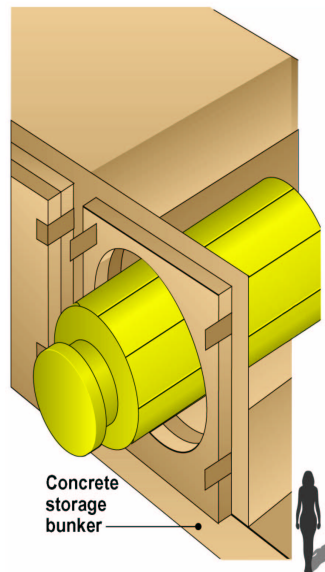
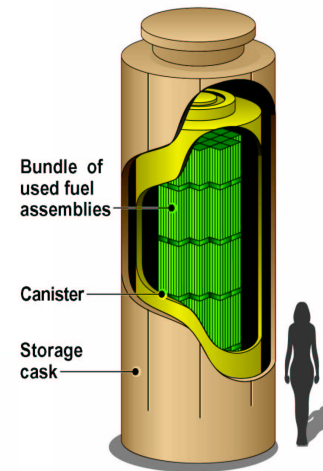
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- Licensing and Inspection of Spent Fuel Storage Casks and Facilities
- Certification and Inspection of Spent Fuel and Radioactive Material Transportation Casks
- Coordination with State and Federal Agencies, International Regulatory Agencies, and Native American Tribes
- Public outreach

# Spent Fuel Dry Storage Single & Dual Purpose Cask

At some nuclear reactors across the country, spent fuel is kept on site, above ground, in systems basically similar to the ones shown here.

**1** Once the spent fuel has cooled, it is loaded into special canisters which are designed to hold Pressurized-Water Reactor and Boiling-Water Reactor assemblies. Water and air are removed. The canister is filled with inert gas, welded shut, and rigorously tested for leaks. It may then be placed in a "cask" for storage or transportation.



**2** The canisters can also be stored in above-ground concrete bunkers, each of which is about the size of a one-car garage. Eventually they may be transported elsewhere for storage.



# Current Independent Spent Fuel Storage Installation (ISFSI)

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- 42 Licensed ISFSIs in 26 States
- 14 announced plans for new ISFSIs
- Over 800 loaded dry casks
- 15 approved storage cask designs
- 8 approved dual purpose cask design
- ISFSIs currently use or plan to use dual purpose casks for the future

# Dresden Dry Cask Storage



# Susquehanna Dry Cask Storage





# Options for Spent Fuel Storage Licensing

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- Site Specific License
  - Available to Part 50 (reactor) licensees and other applicants
  - Required for away-from-reactor sites
  - Application submitted to NRC for approval
  - Opportunity for Hearing
- General License
  - Available only to Part 50 licensees
  - Require use of certified cask design
  - Requires site evaluation for compatibility with cask design
- Inspection Oversight
  - Same for both options
  - Inspection (site construction, cask fabrication, dry runs, cask loading)





# Spent Fuel Storage Oversight

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- Inspections are important element in SFPO's oversight of its licensees and certificate holders
- NRC task is to ensure that planned and existing licensed operations can be and are conducted without undue risk to the public
- NRC conducts periodic inspections to ensure licensees meet NRC's regulatory requirements

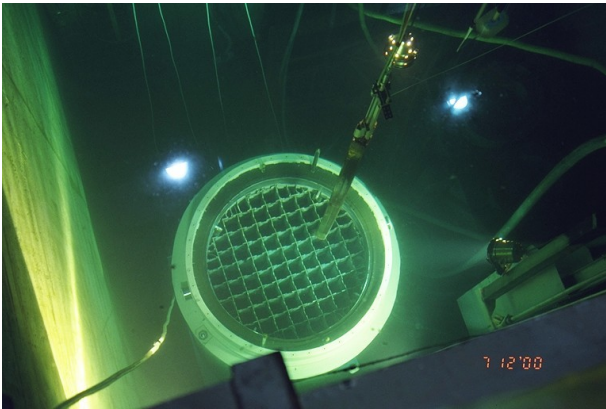
# Inspection Lessons Learned Overview



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- Complete on-site evaluation is very important
- Maintain questioning behavior
- Importance of QA and oversight at all phases of a project

# Inspection Lessons Learned





# Summary

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- Safe and secure storage and transportation of spent fuel provided by:
  - Comprehensive regulations
  - Regulatory oversight and enhancements
  - Significant experience base & safety record
  - Robust cask and package designs
  - Continued vigilance & oversight