



U.S. DEPARTMENT OF
ENERGY

Office of
NUCLEAR ENERGY

EPRI

CNWRA



2024 Workshop on

**STORAGE AND
TRANSPORTATION
OF TRISO AND METAL
SPENT NUCLEAR FUELS**

SAVE THE DATE!

December 3-5, 2024 | Live Virtual Event

The U.S. Nuclear Regulatory Commission (NRC) is organizing a Workshop on Storage and Transportation of TRISO and Metal Spent Nuclear Fuels. The workshop is being held in coordination with the U.S. Department of Energy Office of Nuclear Energy as well as the Electric Power Research Institute, with assistance from the Center for Nuclear Regulatory Waste Analyses.

Subject matter experts will give presentations and discuss current technical and regulatory considerations on storage and transportation of advanced reactor TRISO and metal spent fuels. The expert panels may include vendors, NRC staff, and researchers. The workshop attendance is open to the public. An expanded list of workshop topics is available on the following pages. A workshop website and call for submissions will be forthcoming.

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2024 Workshop on

STORAGE AND TRANSPORTATION OF TRISO AND METAL SPENT NUCLEAR FUELS

Expanded Topics for TRISO Spent Nuclear Fuels Storage and Transportation

Physical Behavior of Fuel and Containers

- Structural Integrity
 - Matrix Fracture
 - Non-fuel Block Fracture
 - TRISO Particle Layer Fracture
- Materials Performance
 - PyC Creep and SiC fracture
 - Abrasive Wear
 - SiC Corrosion
 - Particle, Block, and Matrix Oxidation
 - Gas Pressurization (Including from Alpha Decay)
 - Fission Products Leaching
 - Fission Products Diffusion

Nuclear Physics

- Considerations for Spent Fuel Safety
 - Decay Heat
 - Neutron multiplication and Criticality
 - Shielding and Radiation Protection

Breakout Sessions: Current Regulations, Guidance Needs, and Crosscuts

- Provide Information on Current Regulations and Guides
- Assess Needs for New Guidance Development
- Discuss Crosscutting and Related Topics

[\[Expanded Topics for Metal Spent Nuclear Fuels Storage and Transportation on next page\]](#)

Expanded Topics for Metal Spent Nuclear Fuels Storage and Transportation

Physical Behavior of Fuel and Containers

- Structural Integrity
 - Cladding Rupture Due to Pressurization
 - Fuel Swelling
 - Deformation
- Materials Performance
 - Corrosion
 - Reactions with Water (For Case with Na still in Spent Fuel)
 - Fission Products Leaching
 - Fission Products Diffusion
 - Fission Gas Generation and Release

Nuclear Physics

- Considerations for Spent Fuel Safety
 - Decay Heat
 - Neutron Multiplication and Criticality
 - Shielding and Radiation Protection

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