Office of Advanced Fuels Technologies (NE-42)

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U.S. DEPARTMENT OF ENERGY

NE-42 Scope of Work

- Systems Analysis and Integration
- High-Assay, Low-Enriched Uranium Availability
- Advanced Fuels

Systems Analysis and Integration

- **The *Systems Analysis & Integration* campaign assesses nuclear energy systems (NES) to determine technical and economic viability, identifying benefits and challenges**
  - Assess performance and provide insights on legacy and newly proposed reactors and NES
  - Develop understanding of the role of nuclear energy in decarbonization and its competitiveness in current and future domestic and global energy markets
  - Identify/analyze strategies to improve economics, technical and social sustainability of nuclear energy
- **Utilize and enhance leading-edge systems analysis tools, models & capabilities**
- **Facilitate integration of DOE NE-4/NE R&D portfolio and strategy**
  - Technology maturation planning and economics of innovation assessments

High-Assay, Low-Enriched Uranium Availability

- **Near term:**
  - Make available small quantities of HALEU from limited DOE uranium inventories.
  - Leverage the HALEU enrichment demonstration capability in Piketon, Ohio.
- **Long term:**
  - Work with the private sector in its building out of commercial U.S. HALEU production and supply chain capability.

Advanced Fuels

Topic Area 5—Fuels

- Accident Tolerant Fuels (NE-42)
- Silicon Carbide Fuel Cladding (NE-42)
- TRISO-Particle Fuels (NE-52)
- Metallic Fuels (NE-42)
- Salt Fuels (NE-43)