U.S. DEPARTMENT OF ENERGY

Nuclear Fuels Storage & Transportation Planning Project
Office of Fuel Cycle Technologies
Nuclear Energy

Nuclear Fuels Storage and Transportation Planning Project (NFST) Program Updates and FY16 Planning

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CSG-MW MRMT Committee Meeting
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Waste Program Background

- 1982 – Nuclear Waste Policy Act is passed
- 1987 – Amendments to the Nuclear Waste Policy Act
- 2002 – H.J. Res. 87 – Congress approved the site
- 2009 – Administration withdraws the license application
- 2010 – Office of Civilian Radioactive Waste Management is closed
  - Office of Used Fuel Disposition established in Office of Nuclear Energy
- 2010 – President charters the Blue Ribbon Commission on America's Nuclear Future
- 2012 – Blue Ribbon Commission issues their final report to DOE
- 2012 – DOE establishes the Nuclear Fuels Storage and Transportation Planning Project
- 2013 – The Administration releases it's *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste*
- Currently – DOE is laying the groundwork

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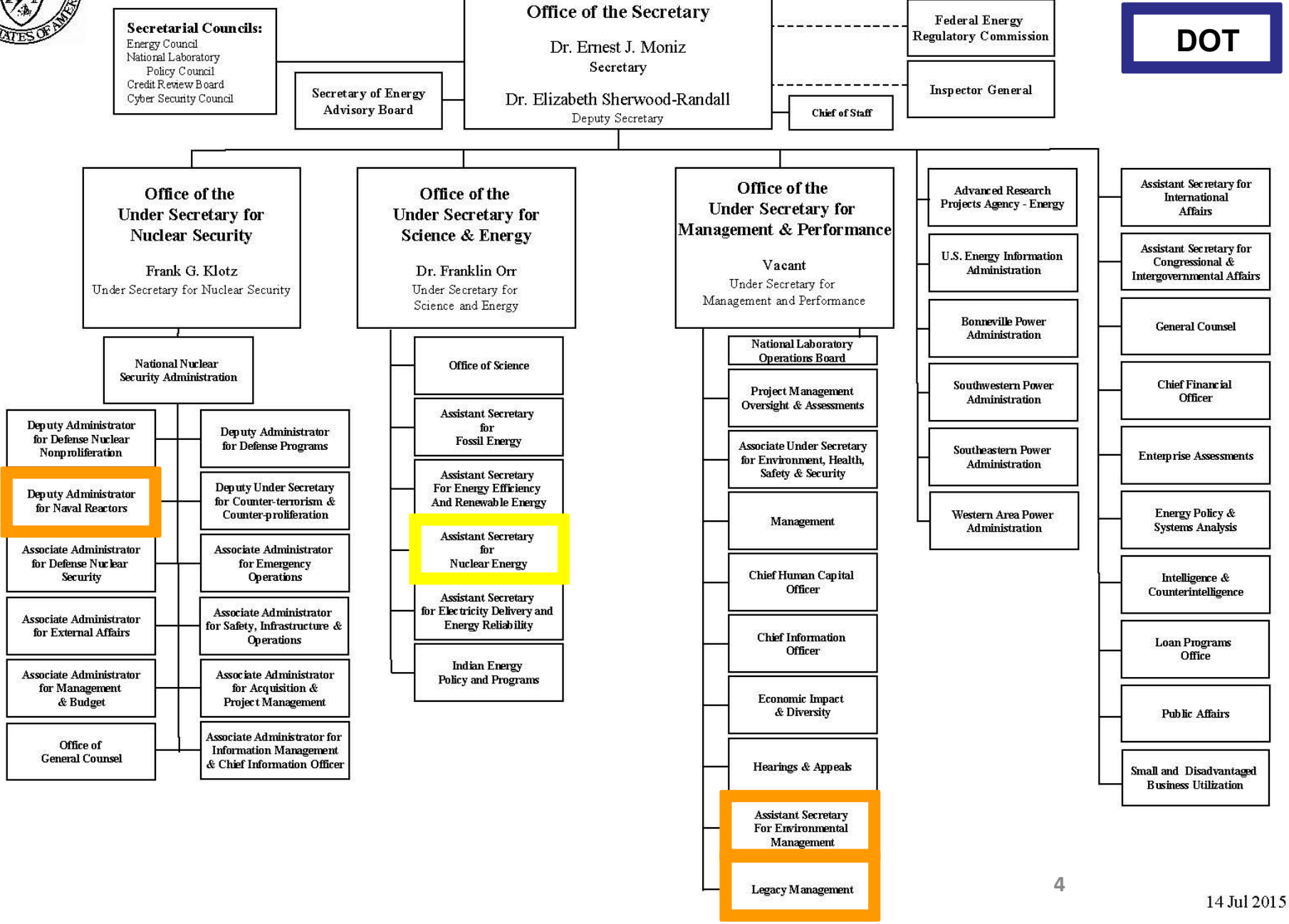

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Consent-Based Siting

On March 24, President Obama authorized the Energy Department to move forward with planning for a separate repository for high-level radioactive waste resulting from atomic energy defense activities.

- **Actions the Department will undertake**
  - Planning for a defense-only repository
  - Moving forward with planning for interim storage of commercial spent fuel
  - Moving forward with a consent-based siting process for both types of facilities

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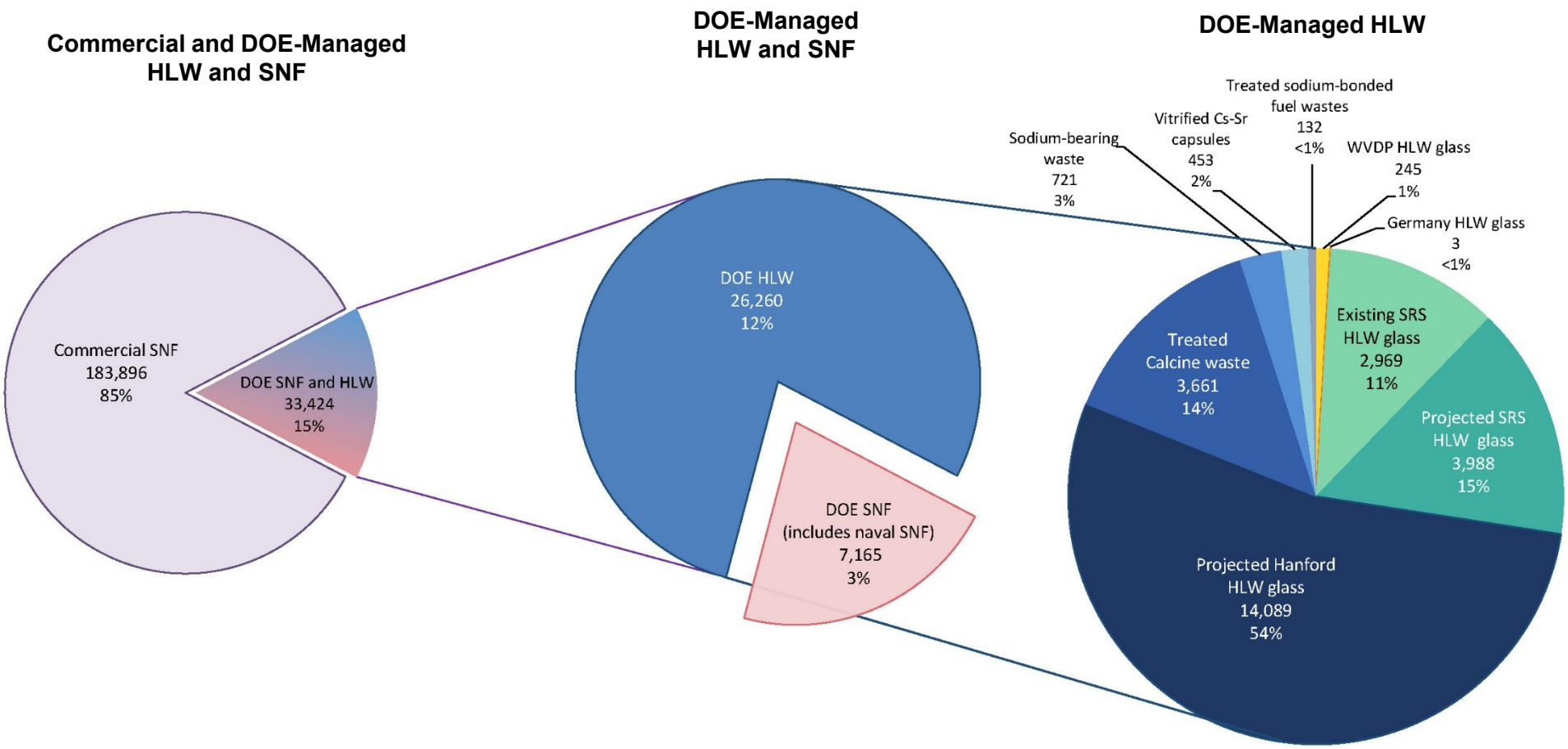
Projected Volumes of Commercial SNF, DOE-Managed SNF, and DOE-Managed HLW, in m^3



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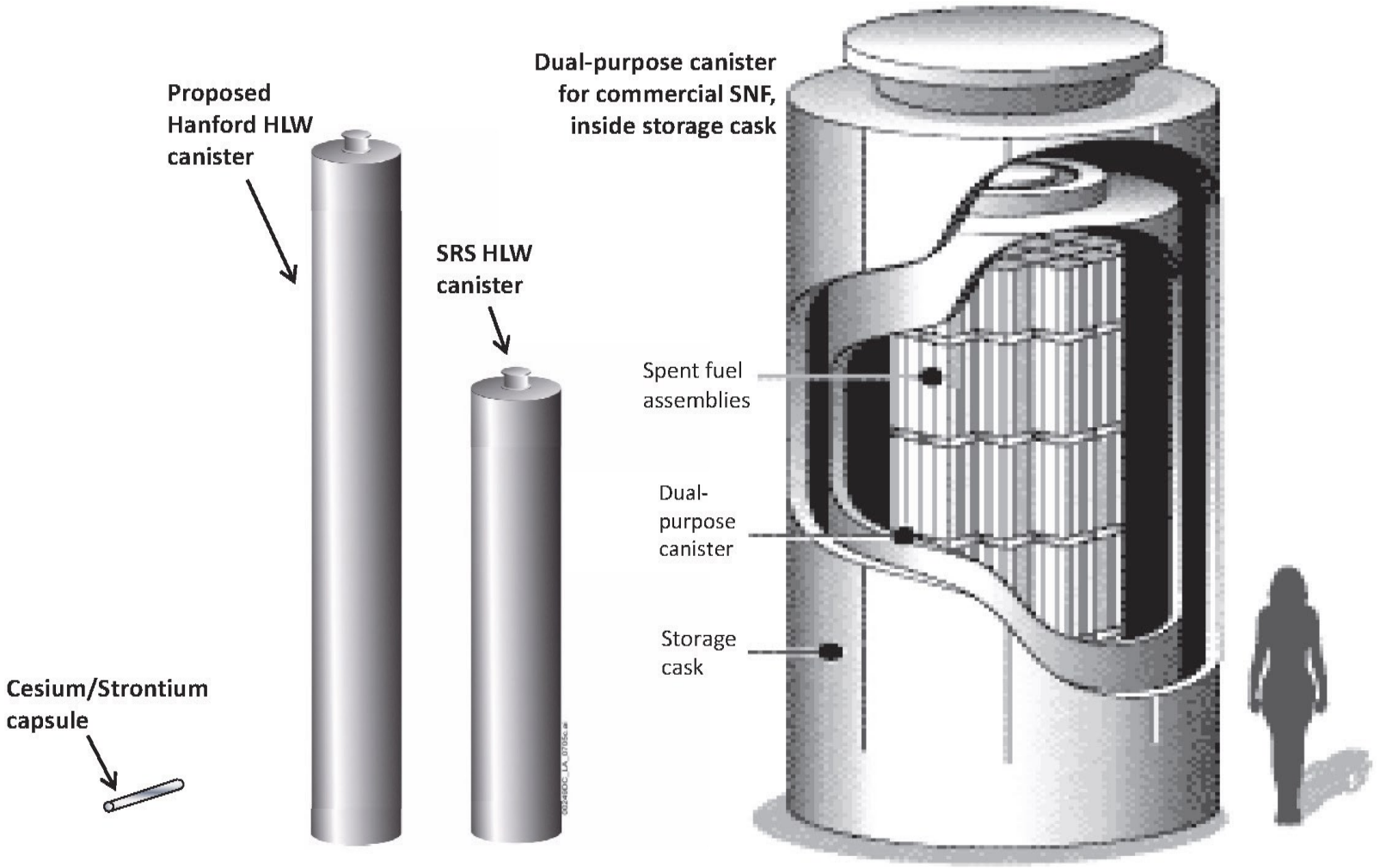
Waste Packages



Source: Assessment of Disposal Options for DOE-Managed High-Level Radioactive Waste and Spent Nuclear Fuel, October 2014

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Questions from Stakeholders

- How will siting a defense only repository affect siting commercial storage and disposal?
- Will modifications to the standard contract be needed to pursue storage?
- How do proposals for private interim storage affect DOE's plans?

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NFST FY16 Program Planning

FY16 Budget Scenarios

Subprogram	(dollars in thousands)			
	FY 2015 Enacted	FY 2016		
		Request	House Mark	Senate Mark
Material Recovery & Waste Form Development	35,300	35,300	*35,300*	*34,800*
Advanced Fuels	60,100	48,700	**60,100**	**60,100**
Systems Analysis and Integration	16,900	11,200	*11,200*	*11,100*
MPACT	7,600	8,600	*8,600*	*8,500*
Fuel Resources	5,600	5,600	*5,600*	*5,500*
Used Nuclear Fuel Disposition				
Research & Development	49,000	75,360	**55,000**	**64,000**
Integrated Waste Mgmt. System	22,500	30,000	**0**	**30,000**
DOE-Managed HLW & SNF	--	3,000	**0**	**3,000**
Total	**197,000**	**217,760**	**175,800**	**217,000**

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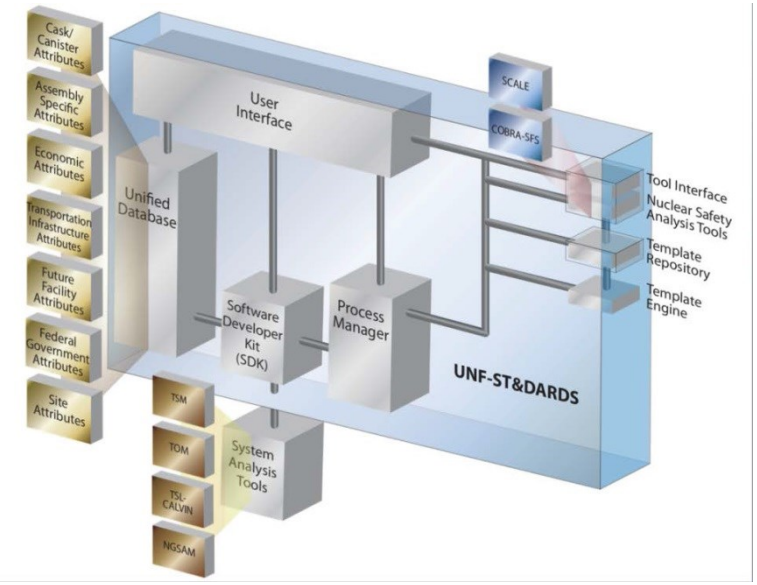
FY16 – Strategic Crosscuts

Objective: Activities to broadly support Siting, Storage and Transportation objectives

- **Continued development of systems-oriented modeling tools and analysis**
  - UNF ST&DARDS database
  - Transition from legacy tools
- **System Integration and standardization**
- **Knowledge and Document Management**



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FY16 – Storage

Objective: Plan for SNF storage

- **Generic Storage Facility Designs**
  - Pilot Interim Storage Facility and topical safety analysis report (TSAR)
- **Functional and Operational Requirements**
  - ASME Acceptance criteria
- **Environmental Considerations**
- **Regulatory Considerations**

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FY16 – Transportation

Objective: Prepare for large-scale transport of SNF to commence within 10 years

- **Engagement with Tribes and states**
  - Cooperative Agreements, Transportation Core Group, NTSF, ad hoc Working Groups
  - 180(c) Policy, SNF Rail/Routing, TPF
- **Transportation Operations**
  - Shutdown site visits
  - START web-GIS tool
- **Hardware**
  - S-2043 Railcar – design

Vermont Yankee

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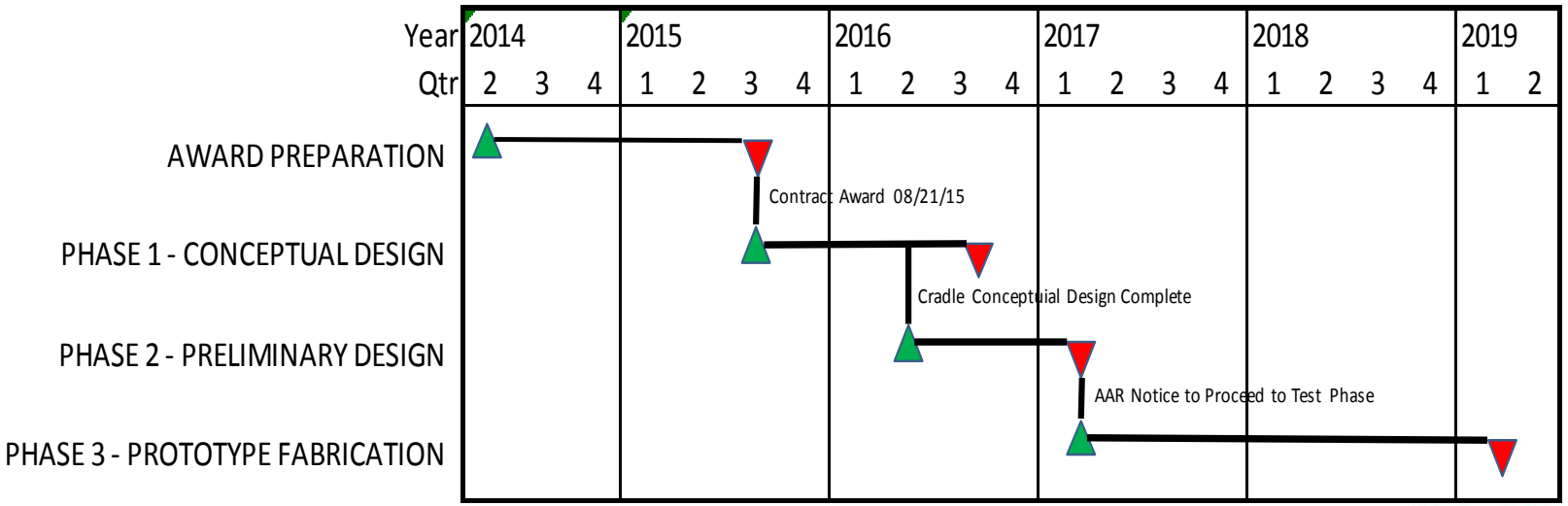
ATLAS Railcar

- **DOE is developing a railcar to comply with AAR S-2043**
- **August 2015 – DOE signed a contract with AREVA Federal Services**
  - Subcontractors – KASGRO rail, TTCI
  - Navy S-2043 railcar team
- **Contract covers design, analysis and prototype fabrication**
- **Future solicitations for prototype testing and large-scale fabrication**



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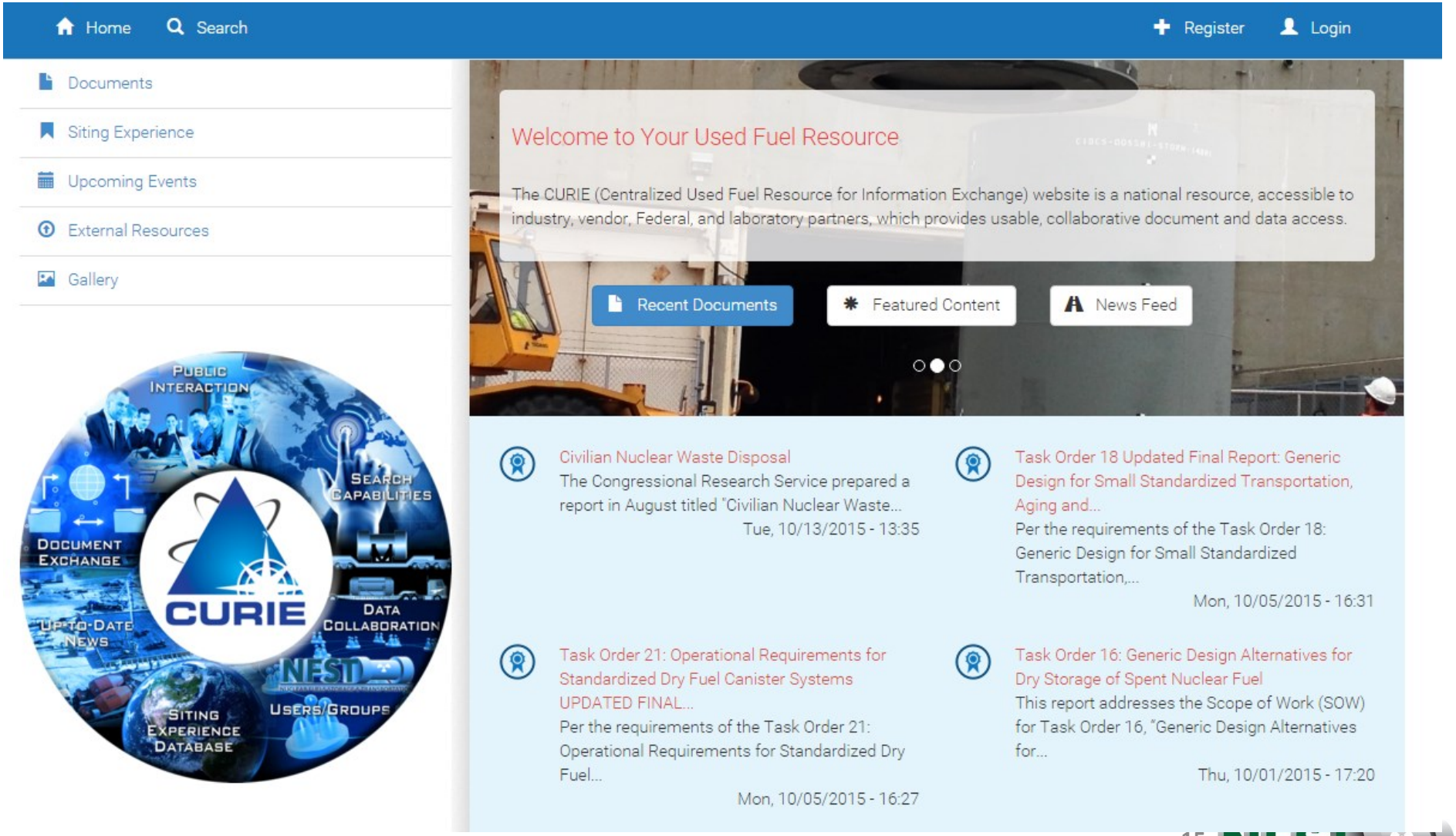
NFST Reports

- Updated Shutdown Sites Report, May 2015
- START v1.1 User Manual, May 2015
- Routing Paper, July 2015
- Performance Specification for STAD, July 2015
- Rationale for the Performance Specification for STAD, July 2015
- START v1.2 User Manual, July 2015
- Initial Standardized Canister System, Sep. 2015
- Generic Design Alternatives for Dry Cask Storage, Oct. 2015
- Generic Design for Small Size STAD, Oct. 2015
- Operational Requirements for STAD, Oct. 2015

NFST reports & documents available on CURIE Website http://curie.ornl.gov/



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Questions?

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