



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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DOE-NFST

SSEB Joint Meeting
December 9-10, 2015
New Orleans, LA

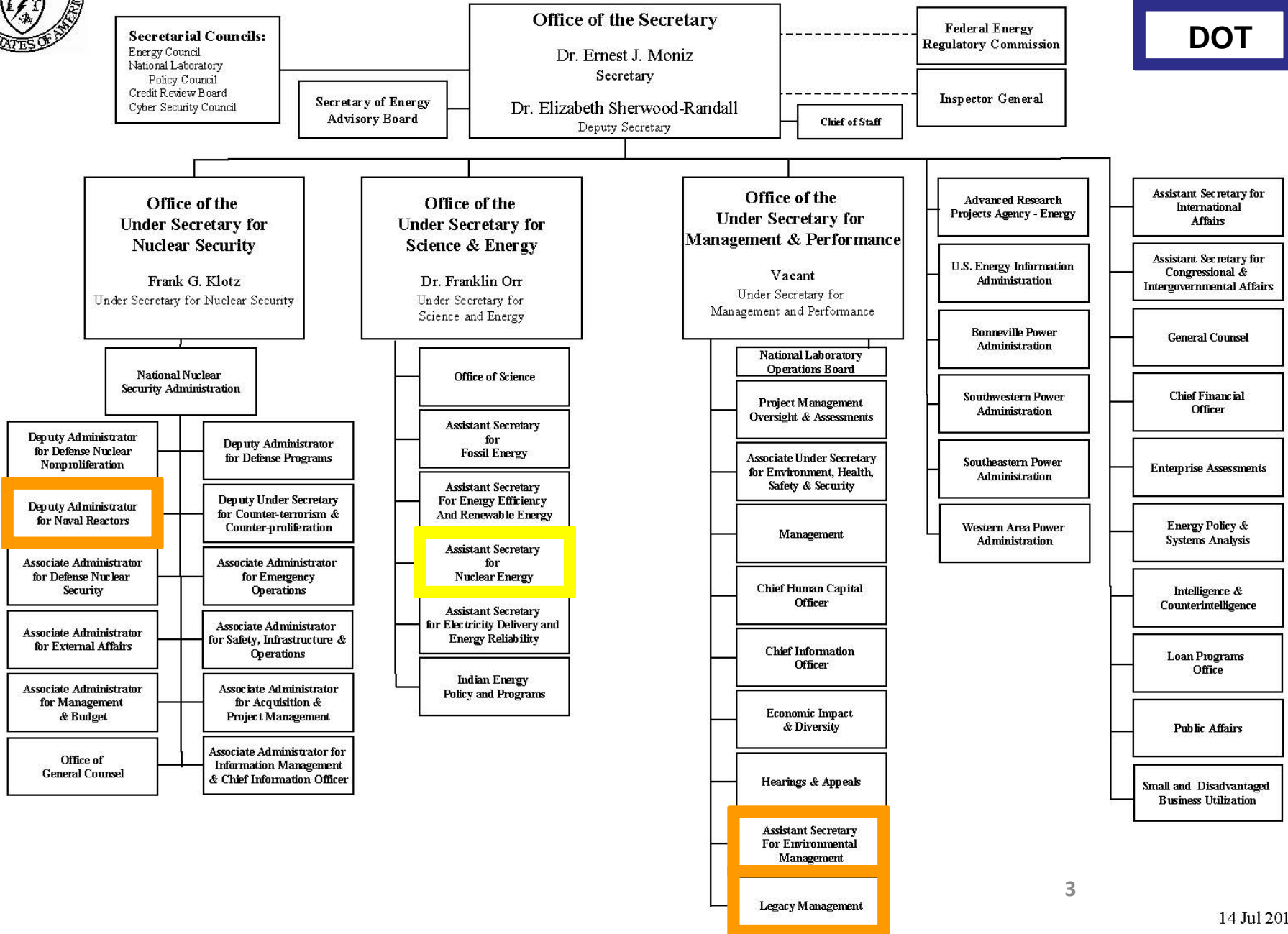
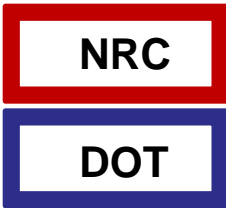


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Consent-Based Siting



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

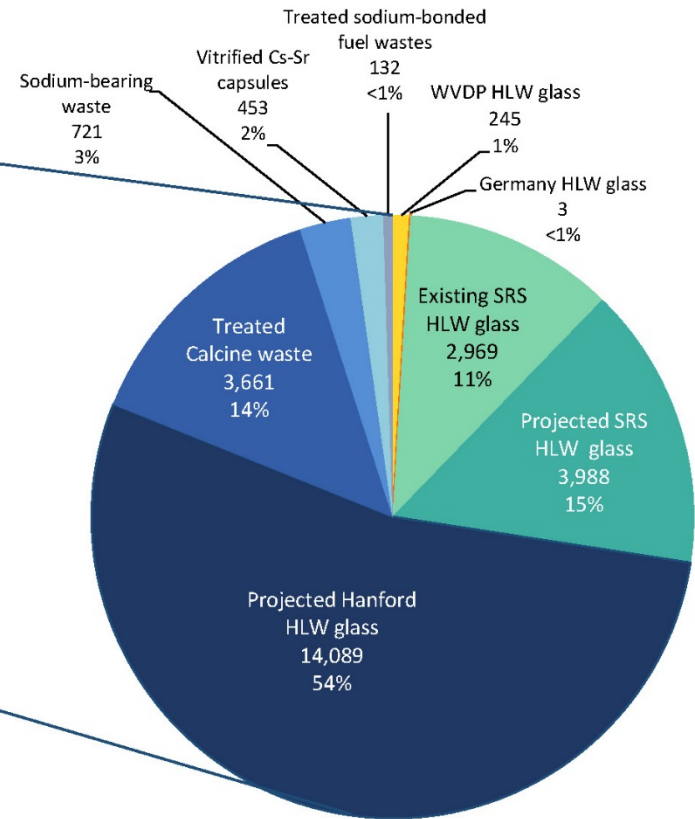
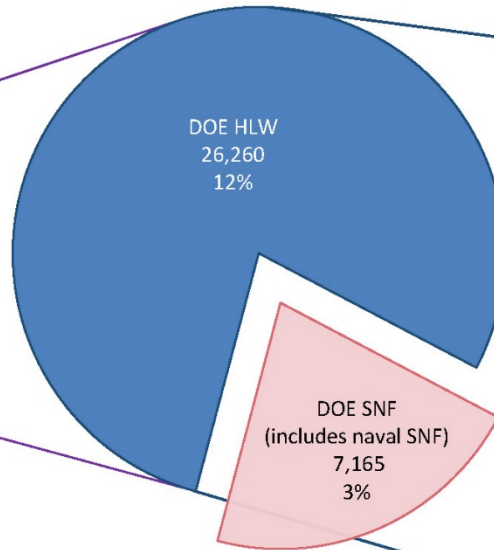
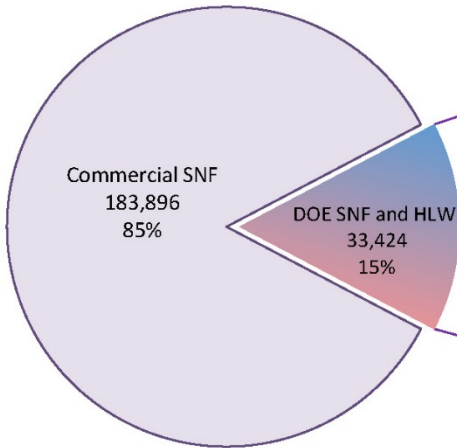


Projected Volumes of Commercial SNF, DOE-Managed SNF, and DOE-Managed HLW, in m³

Commercial and DOE-Managed HLW and SNF

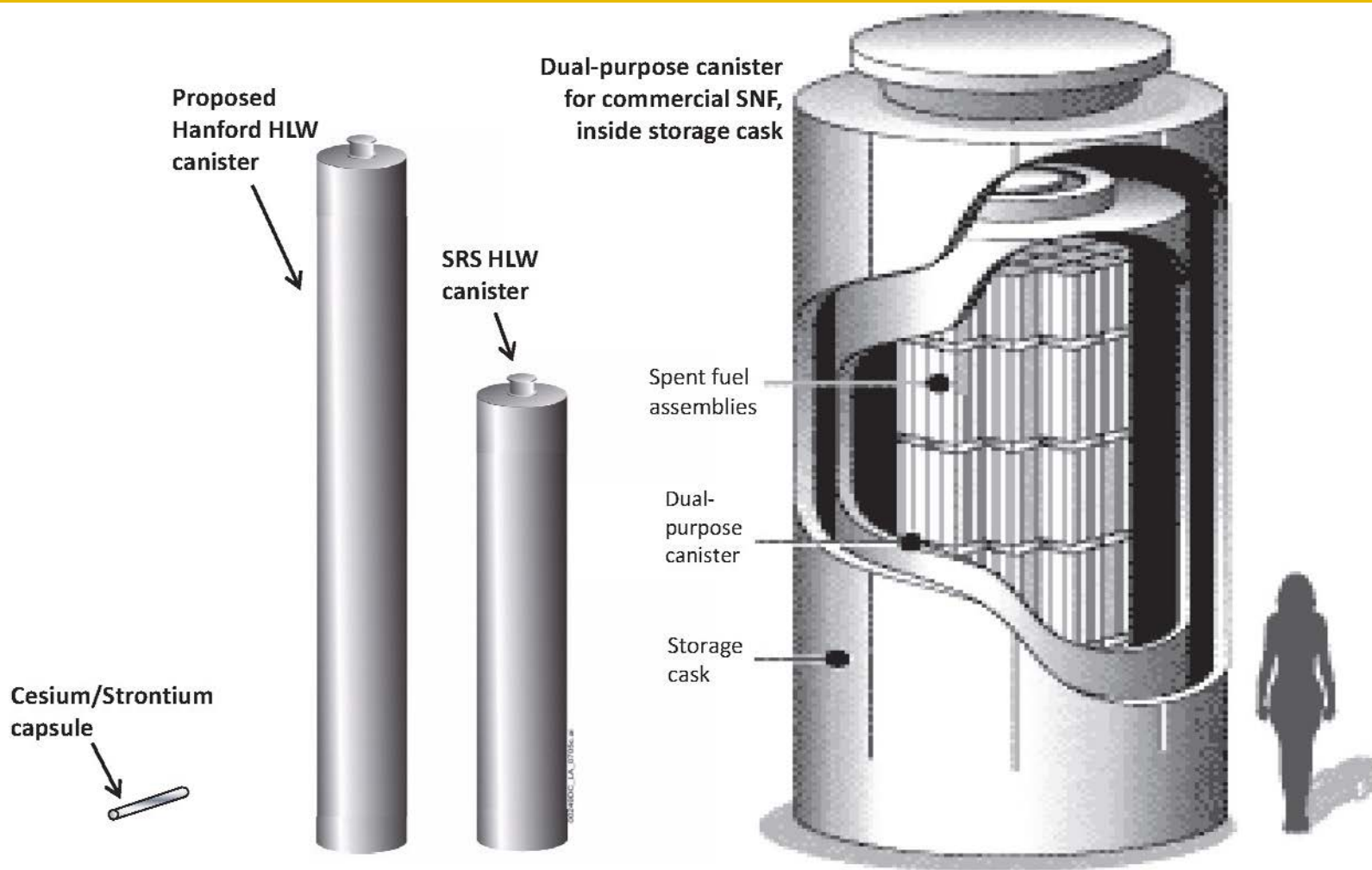
DOE-Managed HLW and SNF

DOE-Managed HLW





Waste Packages




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?



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



FY16 – Strategic Crosscuts

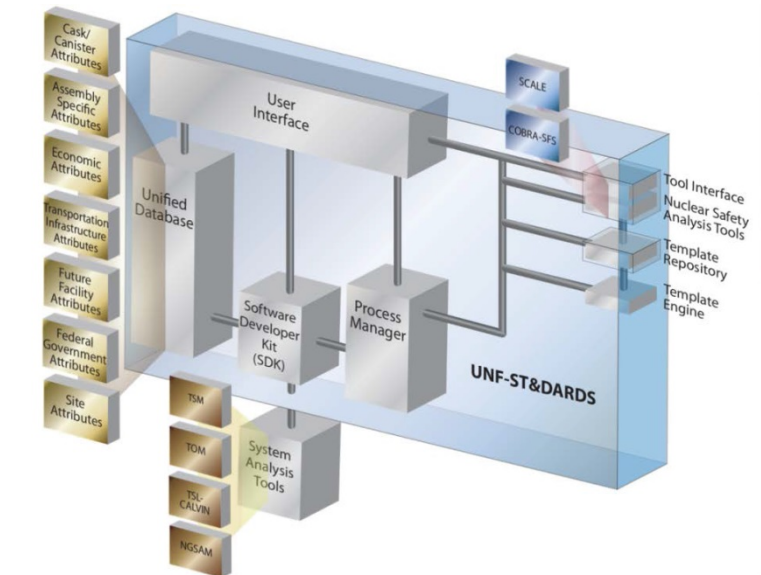
Objective: Activities to broadly support Siting, Storage and Transportation objectives

■ **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**



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





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 - <https://gis.inl.gov/START>

■ Hardware

- S-2043 Railcar – design



Vermont Yankee





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ATLAS Railcar



- **DOE is developing a railcar to comply with the Association of American Railroads (AAR) S-2043**
- **August 2015 – DOE signed a contract with AREVA Federal Services**
 - Subcontractors – KASGRO rail, Transportation Technology Center Inc. (TTCI)
 - Navy S-2043 railcar team
- **Contract covers design, analysis and prototype fabrication**
- **There will be future solicitations for prototype testing and large-scale fabrication**



Projected Railcar Timeline

Tasks	2014	2015	2016	2017	2018	2019	2020	2021	2022
Issue RFI & Sources Sought Notice	4/28/14								
RFI/SSN Responses Due to DOE	7/2/14								
Issue Presolicitation Notice		11/21/14							
Issue RFP		12/8/14							
Preproposal Teleconference		12/22/14							
RFP Responses Due to DOE		2/23/15							
Contract Award			8/21/15						
Phase 1: Mobilization and Conceptual Design									
Phase 2: Preliminary Design									
Phase 3: Prototype Fabrication and Delivery									
Testing and Approval of Railcars									

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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Welcome to Your Used Fuel Resource

The CURIE (Centralized Used Fuel Resource for Information Exchange) website is a national resource, accessible to industry, vendor, Federal, and laboratory partners, which provides usable, collaborative document and data access.

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Designing a Process for Selecting a Site for a Deep-Mined, Geologic Repository for High-Level...

If policymakers decide to launch a new repository-siting effort, an understanding of previ-ous...

Mon, 11/30/2015 - 15:26



NFST Overview - Nuclear Decommissioning & Used Fuel Strategy Summit

NFST Overview presentation given at the Nuclear Decommissioning...

Tue, 11/24/2015 - 12:51



Fuel Cycle Technologies Annual Review Meeting Transactions Report

The Fuel Cycle Technologies (FCT) program supports the Department of Energy's (DOE's) mission to "...

Fri, 11/06/2015 - 13:22



NAC LWT Certificate of Compliance

This certificate is issued to certify that the package (packaging and contents) described in Item 5...

Fri, 11/06/2015 - 08:40



NAC-LWT Safety Analysis Report (SAR), Revision 44 Non-proprietary Version

Safety Analysis report for the NAC International, Legal Weight Truck spent fuel shipping cask



Civilian Nuclear Waste Disposal

The Congressional Research Service prepared a report in August titled 'Civilian Nuclear Waste...

Tue, 10/13/2015 - 13:35

Questions?

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