



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# 2015 National Cleanup Workshop Managing Large Capital Projects

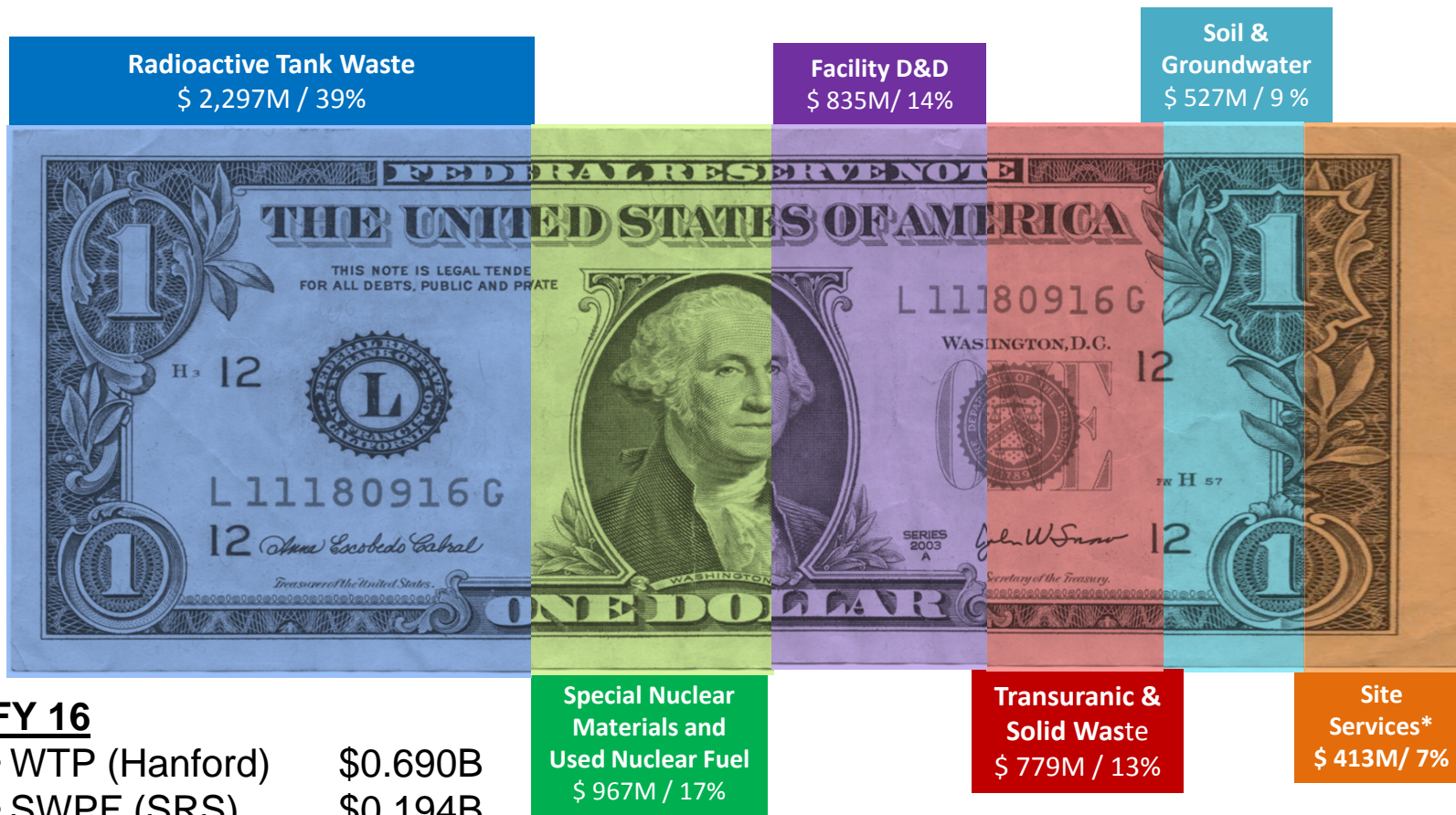
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**Ken Picha**

*Deputy Assistant Secretary for Tank Waste and Nuclear Material*  
Office of Environmental Management

**September 2015**

# Annual Funding by EM Mission Area (Major Tank Waste Projects)



## FY 16

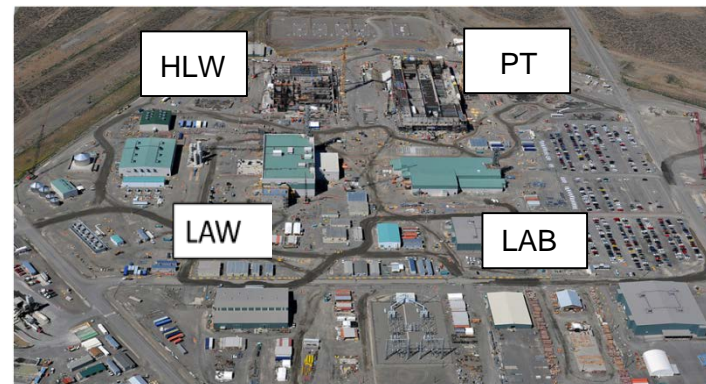
- WTP (Hanford) \$0.690B
- SWPF (SRS) \$0.194B
- LAWPS (Hanford) \$0.075B
- SDUs (SRS) \$0.034B

Total ~\$0.993B

\* Excludes \$472M UED&D Fund Contribution for FY 2016

# EM's Largest Capital Projects in Construction

- Salt Waste Processing Facility:
  - Total Project Cost = \$2.32Billion
    - Rebaselined August 2014
  - Construction Complete by 12/31/16
  - Initiating commissioning activities
- Waste Treatment Plant
  - Current focus on direct feed of low-activity waste capability
- Salt Disposal Unit #6
  - Total Project Cost = \$143.2 million
  - Capable of disposing up to 30 million gallons of treated low-activity waste
  - Expect to complete early and under budget



# EM Tank Waste Projects Moving Forward (Other than WTP and SWPF)

- Implement Secretary's project management initiative requirements
  - For projects prior to CD-1
  - Independent review of alternatives
  - Attain Technology Readiness Level of 6 prior to CD-2
  - Design reviews (30% and 90%)
  - Reviews by Project Management Risk Committee
    - Low Activity Waste Pretreatment System CD-1 decision
    - Tank Waste Characterization and Staging Facility CD-0 decision
- Status Briefings to reconstituted Energy Systems Acquisition Advisory Board
  - WTP
  - SWPF

# Low Activity Waste Pretreatment System

- Facility required to enable Direct Feed of low-activity waste to the WTP Low-Activity Waste Vitrification Facility
- Facility expected to support Direct Feed LAW operations
- Will have the capability to remove cesium through ion exchange and solids through filtration from supernate prior to transfer to the LAW Facility
- Provide sufficient feed to enable full capacity operations of both WTP LAW Facility melters – producing 30 metric tons of glass per day
- As a result of implementing DFLAW, WTP facilities will be able to begin processing some waste prior to completion of PT Facility

# Low Activity Waste Pretreatment System (Continued)

- Early in 2014, the Deputy Assistant Secretary, Tank Waste and Nuclear Material Mission Unit (EM-20) chartered an independent technical, cost and schedule team to consider past and present pretreatment alternatives and potential project vulnerabilities
  - The report validated the selections made by ORP
  - This independent review complies with a key recommendation from the *Improving Project Management*, November 2014, report
- The contractor will perform scaled integrated testing of LAWPS critical technology elements to achieve TRL-6 prior to Critical Decision-2, Approve Performance Baseline.
- A DOE organized 30% design review is anticipated November 2015


- Blend problematic wastes in order to meet waste acceptance criteria (WAC) for WTP (Pretreatment and potentially High-Level Waste Facility)
- Mix and characterize waste (samples) to ensure WAC for WTP is met
- Condition out-of-specification wastes in order to meet WTP WAC
- Simplify WTP test program to complete technical issue resolution
- Redundancy built in to allow for efficient waste transfers
- Could provide for direct feed to the High-Level Waste Facility
- CD-0, Mission Need Approved September 2015
- Mission Need briefed to Project Management Risk Committee

- EM is embracing Secretary's Project Management Initiative
  - Reviews by Project Management Risk Committee
  - Design Reviews
  - Independent Review of Alternative Analysis
  - Technical Technology Readiness Level of 6 prior to CD-2
  
- Implementation of Project Management Initiative increases probability of successful project execution



The Secretary of Energy  
Washington, DC 20585  
December 1, 2014

MEMORANDUM FOR HEADS OF ALL DEPARTMENT ELEMENTS

FROM: ERNEST J. MONIZ   
SUBJECT: Improving the Department's Management of Projects

The Department of Energy is managing some of the largest, most complex, and technically challenging projects in the public or private sector. Many are one-of-a-kind projects that involve the risks and challenges of nuclear operations. The Department has experienced significant management challenges associated with its projects over the last two decades. The Department has made significant progress over the last five years in improving the Department's overall project management, and in 2013 the Government Accountability Office narrowed its High-Risk List focus at the Department to the National Nuclear Security Administration's (NNSA) and Office of Environmental Management's projects valued at more than \$750 million. In addition, the Department has sought new and innovative ways to align contractor and taxpayer interest so that each party bears responsibility for its own actions.

Building on this progress, I have made improving project management a continuing priority. In August 2013, I established a special working group that includes project management experts from various program offices. Over the last year, this group's in-depth analysis culminated in the *Improving Project Management* report, which is enclosed with this memorandum and available at [www.energy.gov](http://www.energy.gov). It provides valuable case studies and recommendations regarding project ownership, independent oversight, funding, front-end planning, and culture from experienced project management leaders. I am grateful for the time and effort that these individuals dedicated to this report.

**Strengthening the Energy Systems Acquisition Advisory Board (ESAAB):** One of the important insights arising from the special working group is the need for a stronger enterprise-wide perspective on individual projects, including sharing of best practices and lessons learned. Accordingly, I am strengthening the ESAAB, which is responsible for providing recommendations to the Deputy Secretary in the Critical Decision-making process for capital asset projects with a total project cost (TPC) of \$750 million or greater. The ESAAB will now convene on at least a quarterly basis to review all capital asset projects with a TPC of \$100 million or greater – focusing on those projects at risk of not meeting their performance baselines, and will discuss project management and project execution across the Department. These changes, which will transform the ESAAB from an adhoc body to an institutionalized Board that meets regularly to discuss and review project management across the Department, are now formalized in the enclosed ESAAB charter. An integral part of the improved ESAAB will be the support it receives from a new committee comprised of the Department's project management experts, which is described below. In addition, to emphasize and clarify the roles of the