STGWG and NGA Meeting

Mark Gilbertson

June 2018

Agenda

- Budget Cycle
- FY 2018 Budget Omnibus
- FY 2019 Budget Request Status
- FY 2020 Process Status

Primary Phases of the Budget Process

Formulation

- Executive Branch prepares the President's Budget
- OMB and the Federal agencies begin preparing the next budget almost as soon as the President has sent the last one to the Congress
- OMB officially starts the process by sending planning guidance to Executive Branch agencies in the spring
- The President completes this phase by sending the budget to the Congress on the first Monday in February

Congressional

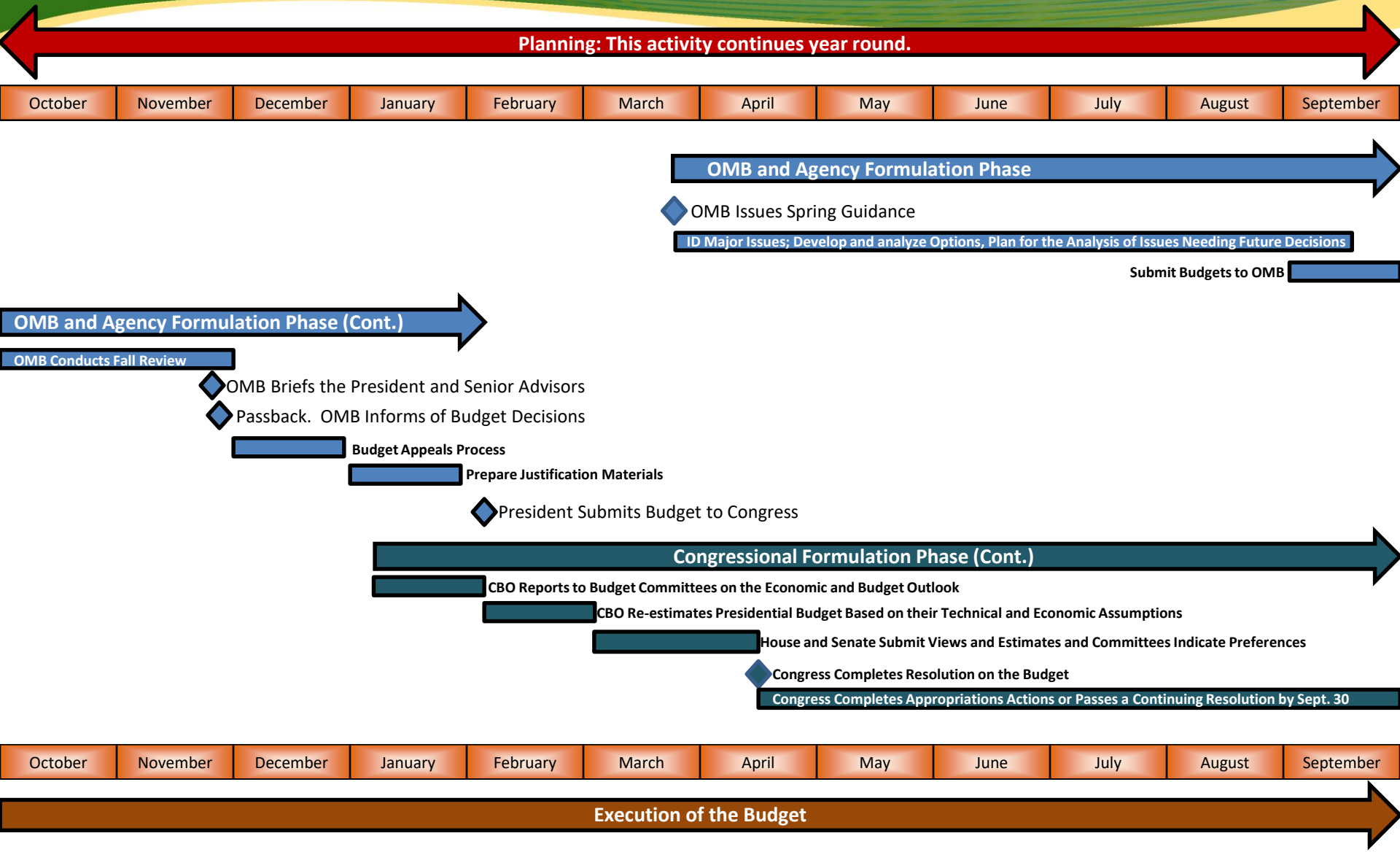
- Begins when the Congress receives the President's Budget
- The Congress does not vote on the President's Budget itself, and it does not enact a budget of its own
- It considers the President's Budget proposals, passes an overall revenue and spending plan called a "budget resolution," and enacts the regular appropriations acts and other laws that control spending and receipts

Execution

- This phase lasts for at least five fiscal years and includes two parts:
  - Apportionment – OMB must provide an Apportionment schedule allocating funds to agencies for spending
  - Spending and Reporting

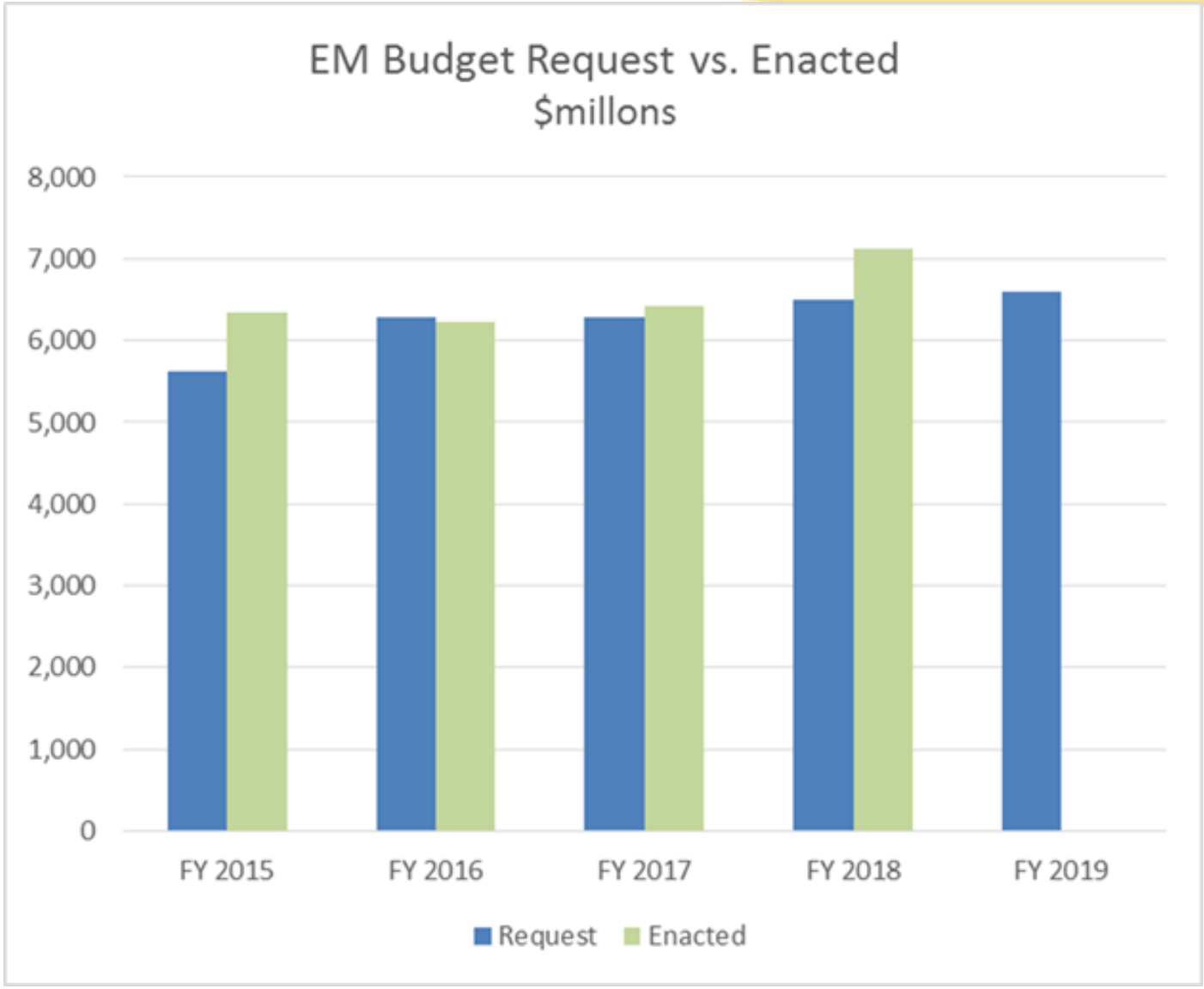
OFFICE OF ENVIRONMENTAL MANAGEMENT

Budget and Planning Timeline



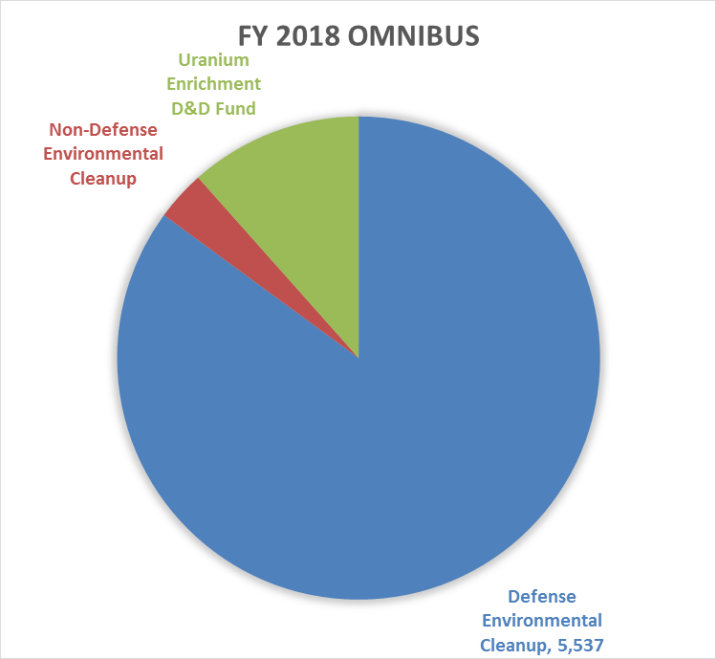
***During OMB's Agency Formulation Phase, Budget Allocations are Embargoed and NOT Releasable Outside of the Administration**

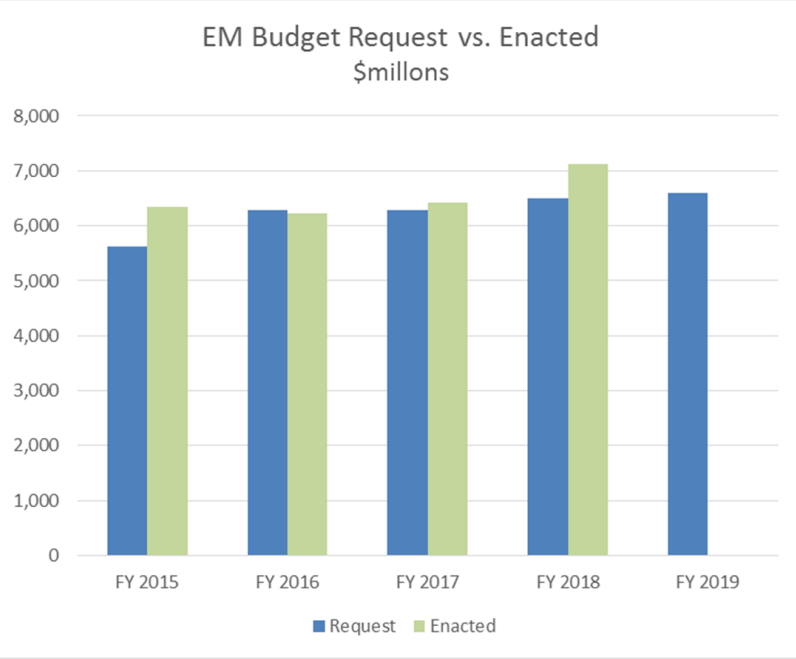
FY15-19 Budget Requests vs Enacted



Budget Trends

Site	FY 2017 Enacted	FY 2018 Request	FY 2018 Enacted	FY 2019 Cong Req.	FY 2019 HEWD	FY 2019 SEWD
Appropriation Summary						
Defense Environmental Cleanup	5,405,000	5,537,186	5,988,048	5,630,217	5,766,797	5,988,000
Defense Uranium Enrichment D&D	563,000	0	0	0	0	0
Non-Defense Environmental Cleanup	247,000	218,400	298,400	218,400	240,000	352,278
Uranium Enrichment D&D Fund	768,324	752,749	840,000	752,749	870,000	840,818
Subtotal	6,983,324	6,508,335	7,126,448	6,601,366	6,876,797	7,181,096
Offsets	-564,416	0	0	0	-7,577	0
Grand Total, EM	6,418,908	6,508,335	7,126,448	6,601,366	6,869,220	7,181,096





FY17-19 Budget

Site	FY 2017 Enacted	FY 2018 Request	FY 2018 Enacted	FY 2019 Cong Req.	FY 2019 HEWD	FY 2019 SEWD
Argonne	0	0	0	0	0	0
Brookhaven	0	2	2	2	2	25
Carlsbad	325	323	383	403	403	403
ETEC	10	9	9	8	8	8
Idaho	390	359	446	359	443	359
Los Alamos	194	192	220	192	198	230
Lawrence Livermore	1	1	101	2	2	52
Lawrence Berkeley	9	0	41	0	0	55
Moab	38	35	38	35	35	45
Nevada	62	60	60	60	60	60
Oak Ridge	498	390	640	409	508	646
Richland	916	800	947	747	952	937
River Protection	1,500	1,504	1,560	1,439	1,480	1,573
Paducah	272	270	273	270	291	275
Portsmouth	382	418	448	415	481	475
Savannah River	1,369	1,448	1,471	1,656	1,540	1,583
SPRU	4	2	5	15	15	15
Sandia	4	3	3	3	3	3
West Valley	70	64	78	64	78	78
Defense Closure Site Activities	9	5	5	5	5	5
Non-Defense Closure Site Activities	6	0	10	0	0	0
Program Direction	290	300	300	300	295	300
Mission Support Activities	15	43	15	13	13	13
Technology Development	25	25	35	25	32	29
Excess Facilities	0	225	0	150	0	0
Uranium Thorium Reimbursements	30	30	36	30	33	11
Subtotal, EM w/Mandatory	6,419	6,508	7,126	6,602	6,877	7,180

Congressional Support for the EM Program

- The FY 2018 Enacted Level $706M above our FY 2017 Enacted level will allow cleanup progress

+$235M investment to address Excess Facilities at Oak Ridge, LLNL, and Idaho

+$102M to support Savannah River's Nuclear Material and Liquid Waste Program

+$60M to reduce the Departments reliance on Barter at Portsmouth

+$60M to support ORPs WTP and Tank Waste program

+$58M investment to support the completion of the Ventilation System at Carlsbad

+$37M to continue completion efforts at LBNL and SEFOR

+$31M to address PFP completion and address PUREX tunnels at Richland

+$105M to support continued cleanup progress at ID ($56M), LANL ($26M), OR ($16M) and WV ($8M)

+$20M investment in Technology Development needs

+$10M for the Federal workforce

EM's Mission is Vital and Important

Environmental Management's Fiscal Year 2019 Budget Request is a record high for a second straight year and demonstrates the Administration's strong and continued support for cleanup.

The request allows EM to continue making progress on those capabilities necessary to tackle longer-term risks that are significant contributors to lifecycle costs:

- Ramps up efforts to address radioactive tank waste at Savannah River---the site's largest environmental challenge
- Supports ventilation system completion and critical infrastructure at WIPP to enable increased waste shipments and emplacement.
- Continues progress at Hanford's Waste Treatment Plant to support initiating waste treatment by December 2023, per the Consent Decree.
- Supports shifting to construction for the planned Mercury Treatment Facility and continued progress on the capability to address the remaining U-233 stockpile at Oak Ridge.

Tank 20 at the Savannah River Site

Waste Emplacement at the Waste Isolation Pilot Plant

Funding for Excess Facilities

EM will continue progress of work proposed in the FY 2018 Congressional budget with work on facilities at the Y-12 National Security Complex, and at Lawrence Livermore National Laboratory. ($150M)

Y-12

Y-12 National Security Complex – Biology Complex Building

Lawrence Livermore National Laboratory (LLNL)

LLNL– Livermore Pool Type Reactor Building 280

Status of FY 2019 Budget Request

- President's FY 2019 Budget was released on February 12, 2018

  Detailed justification's released on March 20, 2018

- EM has briefed HEWD and SEWD on FY 2019 budget request

- EM is currently addressing follow-on questions as needed

- Congressional Marks received in May

  Will continue to work with Congressional staffers to address any additional needs as the process moves forward. Impacts briefings on Marks in late summer/early fall

- Anticipate FY 2019 will operate a portion of the year under a continuing resolution (CR)

  Planning for a minimum of 3 month CR

FY 2020 Budget

- Spring formulation guidance from OMB to CFO to EM (pending)
- HQ/Field planning workshop (April 2018) provided the information for EM to begin formulation over the next few months
- Site Manager presentations to EM-1 (May 2018)
- Preparing EM recommendations to the Secretary early July
- Department will submit its request to OMB in September
- Passback from OMB occurs in November
- The President's Budget goes to Congress in February 2019

Opportunities for Stakeholder Engagement

- **When can stakeholders engage and provide input**
  - EM releases letter of engagement refresher to site offices
    - Letter outlines how/when site offices can engage with stakeholders for the upcoming fiscal year process
    - Letter is usually released prior to receiving guidance from OMB or the Department
    - Typically done in the February timeframe; however due to the delay in FY 2018 budget activities the FY 2019 letter was not released until late spring
- **How can stakeholders engage and provide input**
  - Site offices enlist specific engagement for next budget cycle from stakeholders usually in the February/March timeframe
  - Engagement is typically discussed in terms of priorities and overarching activities to be performed, not in terms of how much is needed for activities
  - Engagement should continue to occur year-round, you are not limited to communicating your priorities just in the initial timeframe -- If things change, let us know

We Need Your Involvement

Background

Budget Regulations and Drivers

- **What drives the budget requirements?**
  - The Budget and Accounting Act requires the President to submit a budget
  - Agencies have internal process that ultimately lead to the President formally transmitting budget proposals to Congress
  - The Congress considers the recommendations and uses the information included in the budget as it drafts and passes laws that affect spending
  - Neither branch of Government can unilaterally decide how budgets are distributed/executed, it is through the budget process the Government decides how much money to spend, what to spend it on, and how to raise the money it has decided to spend
- **All Government agencies are required to follow the governing steps laid out in the Office of Management and Budget (OMB) Circular No. A-11 "Preparation, Submission, and Execution of the Budget"**
  - Provides an overview of the budget process
  - Indicates what/when agencies can communicate externally

Color of EM Money

- **Defense Environmental Cleanup**
  - Often referred to as 050 funds
  - Funds legacy cleanup activities associated with Defense funded legacy waste
  - Subject to Defense fund caps

- **Non-Defense Environmental Cleanup**
  - Often referred to as non-050 funds
  - Funds legacy cleanup activities associated with non-defense funded legacy waste
  - Subject to non-defense fund caps

- **Uranium Enrichment Decontamination and Decommissioning (UE D&D)**
  - Often referred to as non-050 funds
  - Funds legacy cleanup activities under statutory requirements from the Energy Policy Act of 1992 for the sole purpose of uranium enrichment facility decontamination
  - Subject to non-defense fund caps

FY 2017 Enacted Structure - $6,418,908 net

(dollars in thousands)

$5,405,000 Defense Environmental Cleanup (050)	$563,000 Defense Uranium Enrichment D&D (050)	$247,000 Non-Defense Environmental Cleanup (non-050)	$768,324 Uranium Enrichment Decontamination and Decommissioning (UE D&D) (non-050)
1.Closure Sites 2.Hanford Site: Central Plateau Remediation 3.Hanford Site: Richland Community and Regulatory Support 4.Hanford Site: River Corridor and Other Cleanup Operations 5.Hanford Site: 15-D-401 Containerized Sludge Removal Project 6.Idaho National Laboratory: Idaho Cleanup and Waste Disposition 7.Idaho National Laboratory: Idaho Community and Regulatory Support 8.NNSA Sites: Los Alamos 9.NNSA Sites: Lawrence Livermore National Laboratory 10.NNSA Sites: Nevada 11.NNSA Sites: Sandia National Laboratories 12.NNSA Sites: Separations Process Research Unit 13.Oak Ridge: OR Cleanup and Disposition 14.Oak Ridge: OR Nuclear Facility D&D 15.Oak Ridge: OR Reservation Community and Regulatory Support 16.Oak Ridge: OR Technology Development and Deployment 17.Oak Ridge: U233 Disposition Program 18.Oak Ridge: 14-D-403 Outfall 200 Mercury Treatment Facility 19. Oak Ridge: 17-D-401 Onsite Waste Disposal Facility 20.Office of River Protection: Tank Farm Activities 21.Office of River Protection: 15-D-409 Low Activity Waste Pretreatment System 22.Office of River Protection: 01-D-16A-D WTP Subprojects A-D 23.Office of River Protection: 01-D-16E Pretreatment Facility 24.Office of River Protection: WTP Commissioning 25.Program Direction 26.Program Support 27.Safeguards and Security 28.Savannah River Site: Savannah River Site Risk Management Operations 29.Savannah River Site: Radioactive Liquid Tank Waste Stabilization and Disposition 30.Savannah River Site: SR Community and Regulatory Support 31.Savannah River Site: 05-D-405 Salt Waste Processing Facility 32.Savannah River Site: 15-D-402 Saltstone Disposal Unit #6 33.Savannah River Site: 17-D-402 Saltstone Disposal Unit #7 34.Technology Development and Deployment 35.Waste Isolation Pilot Plant: Waste Isolation Pilot Plant 36.Waste Isolation Pilot Plant: 15-D-411 Safety Significant Confinement Ventilation System 37.Waste Isolation Pilot Plant: 15-D-412 Exhaust Shaft 38.CB-010 Economic Assistance to the State of NM	1.UEDD Fund Contribution	1.Fast Flux Test Reactor Facility 2.Gaseous Diffusion Plants 3.Small Sites 4.West Valley Demonstration Project	1.Oak Ridge 2.Paducah Nuclear Facility D&D 3.Portsmouth Nuclear Facility D&D 4.Portsmouth: 15-U-408 On-Site Waste Disposal Facility 5.Pension and Community and Regulatory Support 6.Title X Uranium/Thorium Reimbursement Program

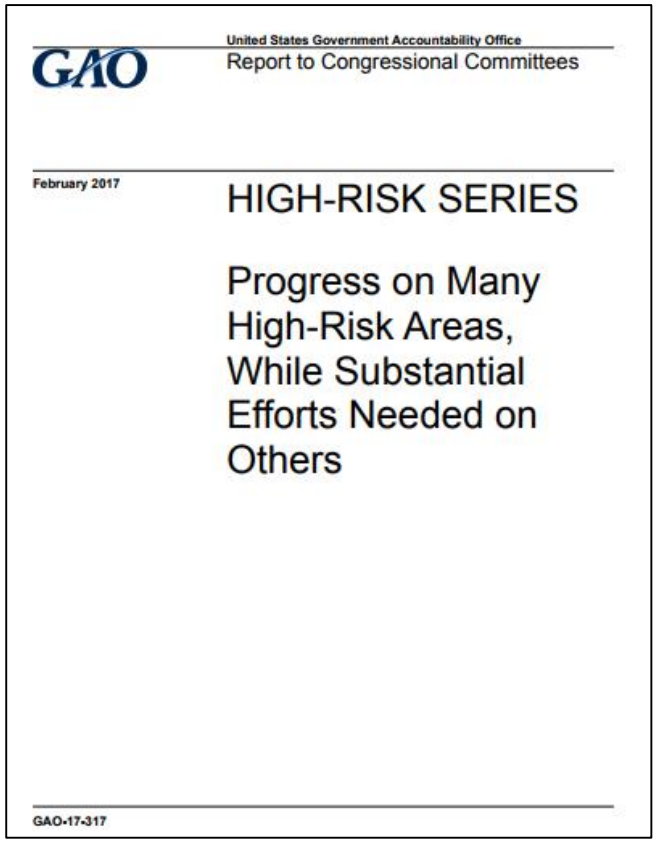
FY 2018 Enacted Structure - $7,126,448 net

(dollars in thousands)

$5,988,048 Defense Environmental Cleanup (050)	$298,400 Non-Defense Environmental Cleanup (non-050)	$840,000 Uranium Enrichment Decontamination and Decommissioning (UE D&D) (non-050)
1. Closure Sites Administration	1. Fast Flux Test Reactor Facility	1. Oak Ridge
2. Richland: Central Plateau Remediation	2. Gaseous Diffusion Plants	2. Paducah Nuclear Facility D&D
3. Richland: River Corridor and Other Cleanup Operations	3. Small Sites	3. Portsmouth Nuclear Facility D&D
4. Richland: Richland Community and Regulatory Support	4. West Valley Demonstration Project	4. Portsmouth: 15-U-408 On-Site Waste Disposal
5. Richland: 18-D-404 WESF Modifications and Capsule Storage		5. Pension and Community and Regulatory Support
6. Office of River Protection: Waste Treatment and Immobilization Plant Commissioning		6. Title X Uranium/Thorium Reimbursement Program
7. Office of River Protection: Rad Liquid Tank Waste Stabilization and Disposition		
8. Office of River Protection: 15-D-409 Low Activity Waste Pretreatment System		
9. Office of River Protection: 18-D-16 Waste Treatment and Immobilization Plant -LBL/Direct Feed		
10. Office of River Protection: 01-D-16 D High-Level Waste Facility		
11. Office of River Protection: 01-D-16E Pretreatment Facility		
12. Idaho National Laboratory: Idaho Cleanup and Waste Disposition		
13. Idaho National Laboratory: Idaho Community and Regulatory Support		
14. Idaho National Laboratory: ID Excess Facilities D&D		
15. NNSA Sites: Lawrence Livermore National Laboratory		
16. NNSA Sites: LLNL Excess Facilities D&D		
17. NNSA Sites: Separations Process Research Unit		
18. NNSA Sites: Nevada		
19. NNSA Sites: Sandia National Laboratories		
20. NNSA Sites: Los Alamos National Laboratory		
21. Oak Ridge: OR Nuclear Facility D&D		
22. Oak Ridge: OR Excess Facilities D&D		
23. Oak Ridge: U233 Disposition Program		
24. Oak Ridge: OR Cleanup and Disposition		
25. Oak Ridge: 17-D-401 On-site Waste Disposal Facility		
26. Oak Ridge: 14-D-403 Outfall 200 Mercury Treatment Facility		
27. Oak Ridge: OR Reservation Community and Regulatory Support		
28. Oak Ridge: OR Technology Development and Deployment		
29. Savannah River Site: Savannah River Site Risk Management Operations		
30. Savannah River Site: SR Community and Regulatory Support		
31. Savannah River Site: Radioactive Liquid Tank Waste Stabilization and Disposition		
32. Savannah River Site: 18-D-402 Saltstone Disposal Unit #8/9		
33. Savannah River Site: 18-D-402 Emergency Operations Center Replacement		
34. Savannah River Site: 17-D-402 Saltstone Disposal Unit #7		
35. Savannah River Site: 05-D-405 Salt Waste Processing Facility		
36. Waste Isolation Pilot Plant: Waste Isolation Pilot Plant		
37. Waste Isolation Pilot Plant: 15-D-411 Safety Significant Confinement Ventilation System		
38. Waste Isolation Pilot Plant: 15-D-412 Exhaust Shaft		
39. Program Direction		
40. Program Support		
41. Safeguards and Security		
42. Technology Development		

Environmental Liability

- GAO added a new high risk area in 2017: Environmental Liability
- The EM Environmental Liability is the estimated cost for DOE to meet its present environmental cleanup obligations, including all work required to complete cleanup of facilities; remediation of soil and groundwater; and management and disposition of wastes, spent nuclear fuel, and surplus nuclear materials managed by EM.
- EM annually updates its EL estimate prior to recording this amount in DOE's Consolidated Financial Statements.


GAO

United States Government Accountability Office

Report to Congressional Committees

February 2017

HIGH-RISK SERIES

Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others

GAO-17-317


FINANCIAL REPORT
OF THE UNITED STATES
GOVERNMENT
FY
2016

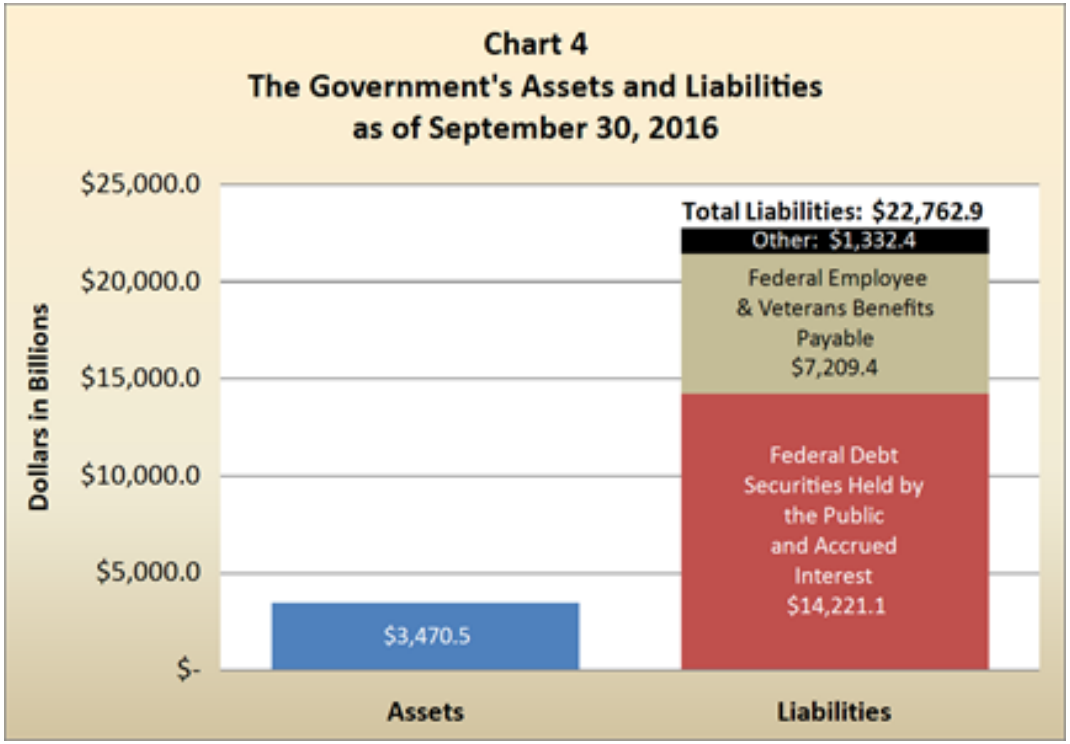
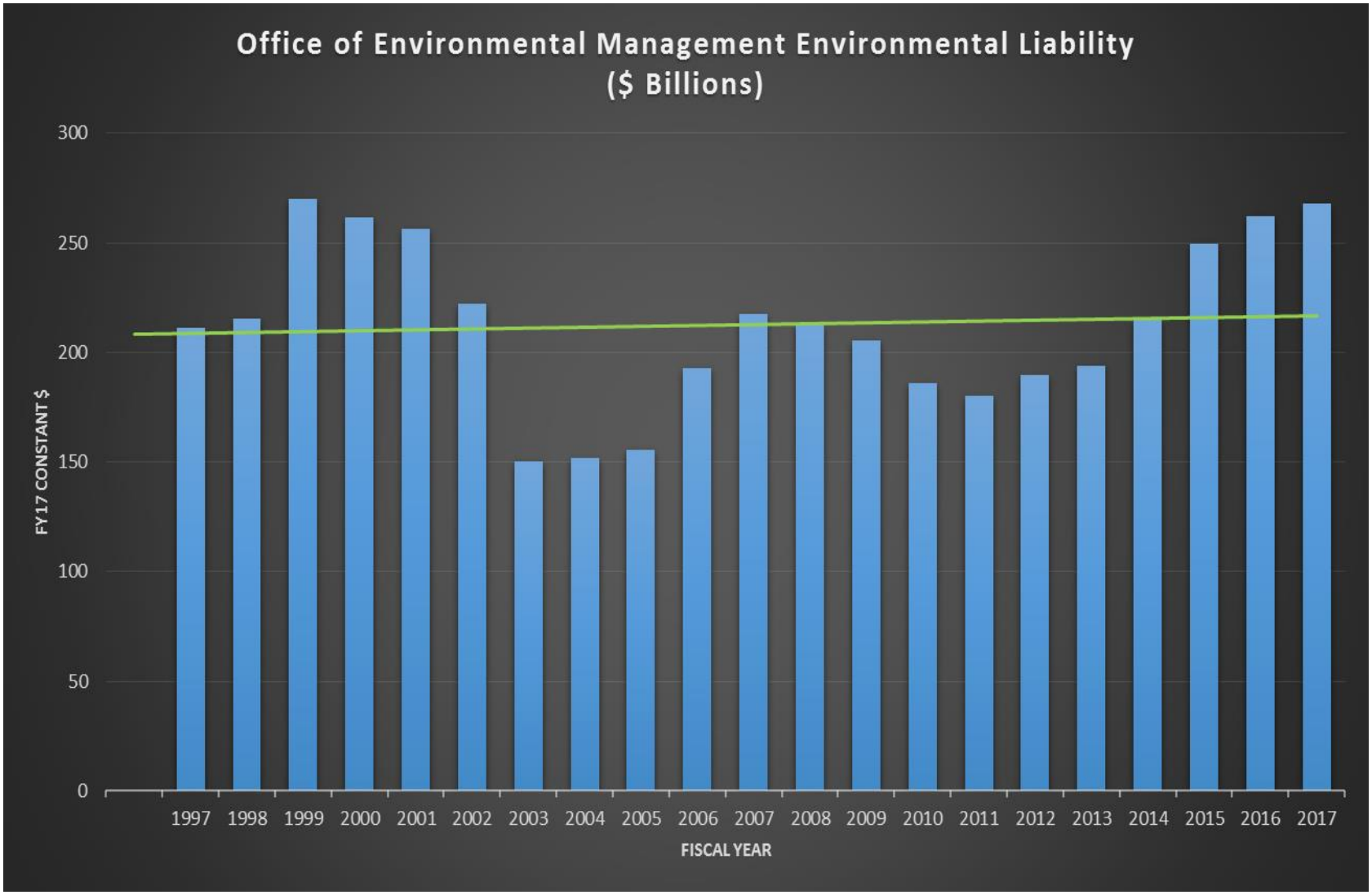


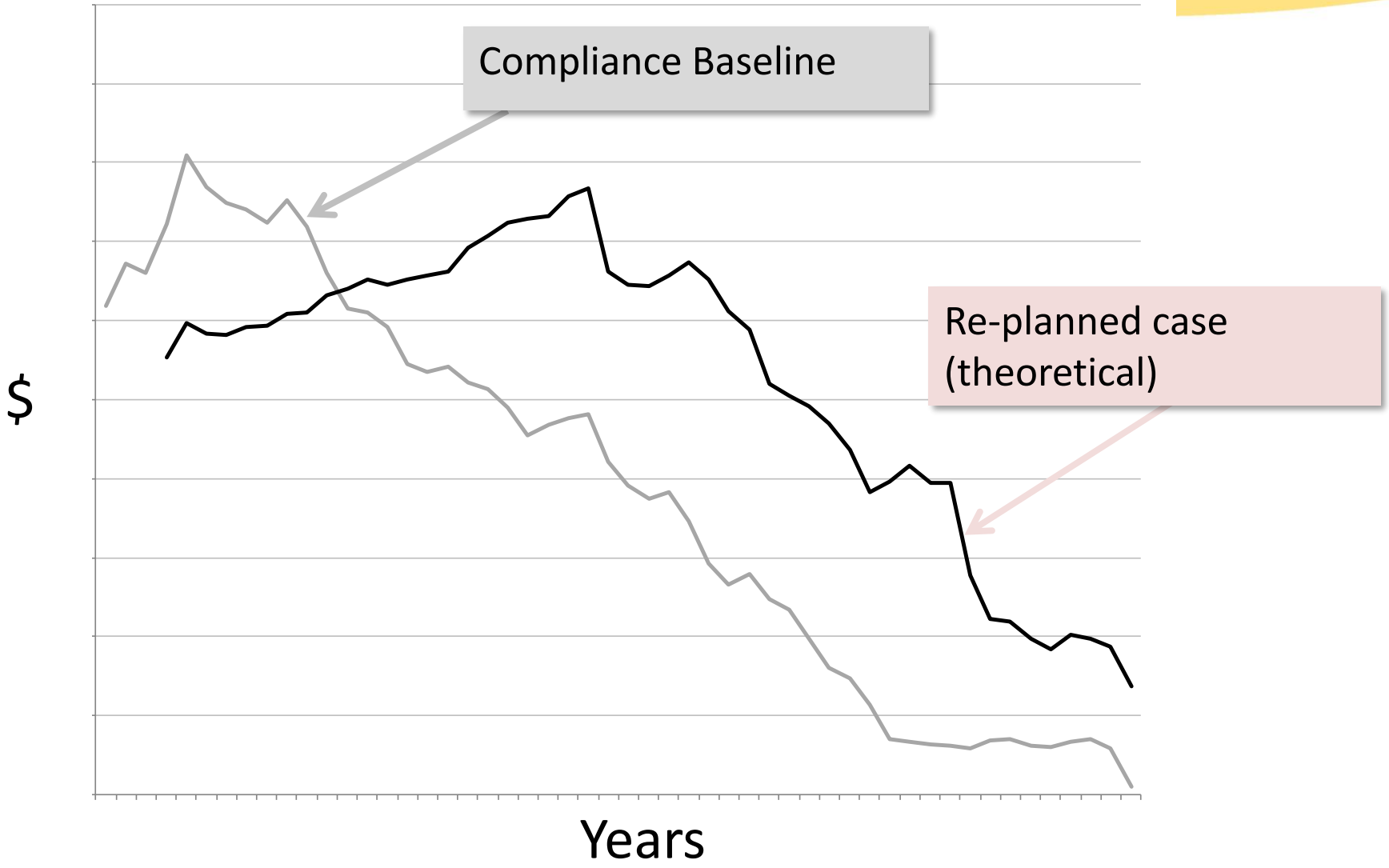
Chart 4
The Government's Assets and Liabilities
as of September 30, 2016
Dollars in Billions
$25,000.0
$20,000.0
$15,000.0
$10,000.0
$5,000.0
$-
Total Liabilities: $22,762.9
Other: $1,332.4
Federal Employee & Veterans Benefits Payable $7,209.4
Federal Debt Securities Held by the Public and Accrued Interest $14,221.1
$3,470.5
Assets
Liabilities

Assets[3]:							
Cash & Other Monetary Assets	$	464.6	$	305.1	$	159.5	52.3%
Loans Receivable, Net	$	1,277.6	$	1,216.0	$	61.6	5.1%
Inventories & Related Property, Net	$	314.3	$	320.6	$	(6.3)	(2.0%)
Property, Plant & Equipment, Net	$	979.5	$	925.3	$	54.2	5.9%
Other	$	434.5	$	494.2	$	(59.7)	(12.1%)
Total Assets	**$**	**3,470.5**	**$**	**3,261.2**	**$**	**209.3**	**6.4%**
Liabilities[3] :							
Federal Debt Held by the Public & Accrued Interest	$	(14,221.1)	$	(13,172.5)	$	1,048.6	8.0%
Federal Employee & Veterans Benefits	$	(7,209.4)	$	(6,772.4)	$	437.0	6.5%
Other	$	(1,332.4)	$	(1,559.9)	$	(227.5)	(14.6%)
Total Liabilities	**$**	**(22,762.9)**	**$**	**(21,504.8)**	**$**	**1,258.1**	**5.9%**
Net Position (Assets minus Liabilities)	**$**	**(19,292.4)**	**$**	**(18,243.6)**	**$**	**1,048.8**	**5.7%**

United States Liabilities	2016	2015	Change	
		(Billions)		
Federal Debt and Accrued Interest	14,221	13,173	1,048	8%
Federal Employee & Veterans Benefits	7,209	6,772	437	6%
Other	1,332	1,560	(228)	-15%
Total	22,762	21,505	1,257	6%
Other				
Environmental and Disposal Liabilities				
DOE	372	340	32	9%
DOD	63	60	3	5%
Other Agencies	12	12	-	0%
	447	412	35	8%
DOE				
EM	**257**	**240**	**17**	7%
Active Facilities	37	31	6	19%
Other Legacy EM EL	78	69	9	13%
	372	340	32	9%
Percent of total liability	1.1%		0.08%	

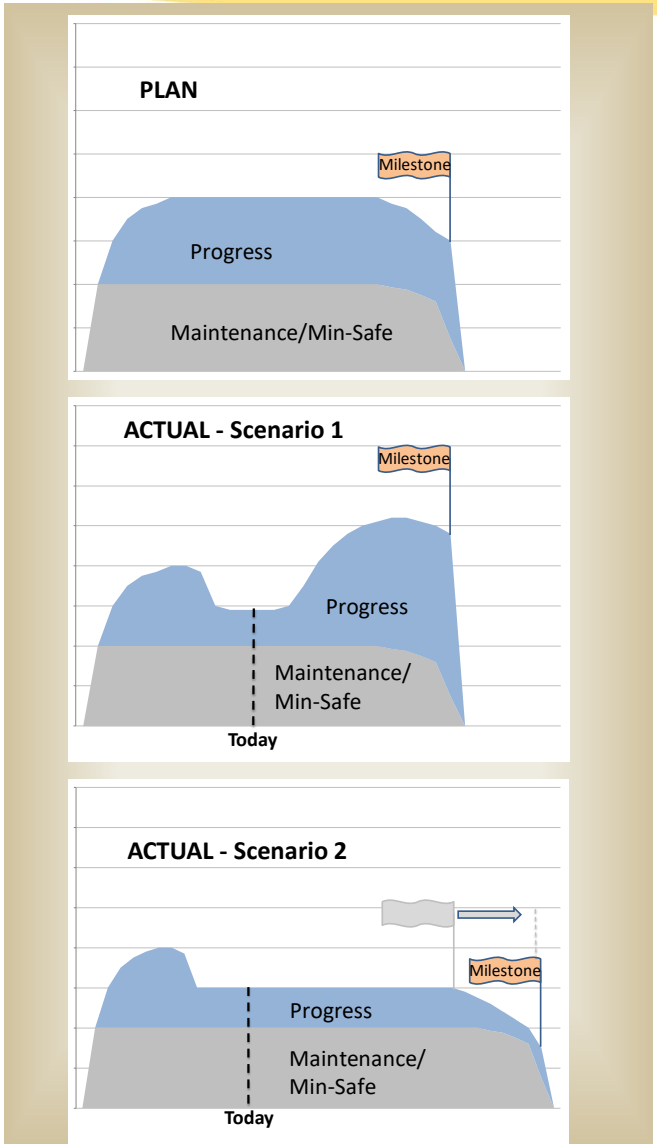

Office of Environmental Management Environmental Liability
($ Billions)
300
250
200
150
100
50
0
FY17 CONSTANT $
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
FISCAL YEAR

Site Cleanup Baselines Require Replanning to Accommodate Different Annual Funding, Scope Changes, Technical Issues



Accumulation of Technical Challenges and Funding Shortfalls Results in Unworkable Baseline

- Baselines reflect compliance requirements
- Baselines are ambitious in an effort to make progress at all sites
- Constrained funding in a given year delays progress
- Technical issues can cause delay and increase cost



Near-Term Planning & Budget Activities

- Currently developing life-cycle planning profiles.
  - Establish realistic cost and schedule expectations for each site and document underlying assumptions/basis.
  - Provide improved basis for measuring progress and evaluating alternative cleanup approaches.
- Expand HQ-Field EM planning and budget alternatives analysis.
  - Continue planning and budget workshops
  - Update/life-cycle planning profiles
  - Provide essential input for update EM Program long-term strategy
  - Support Administration transition





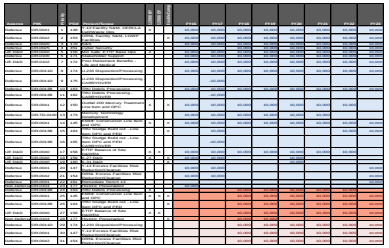

Planning Informs the Budget Process

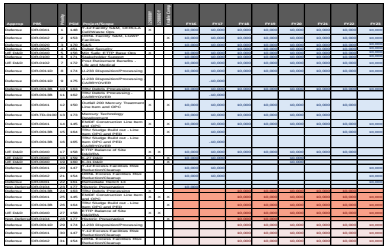
Site Prioritization

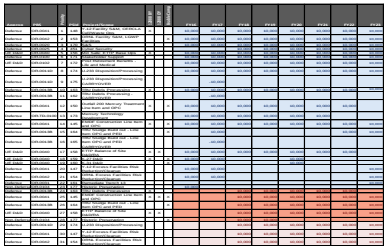
Site A

Site B

Site C







Program Prioritization

Department of Energy
FY 2018 Congressional
Budget Request

Environmental Management

Idaho National Laboratory

Amy Lientz

Director, Partnerships, Engagement and Tech Deployment

INL/MIS-18-44989

STGWG
June 28, 2018

www.inl.gov

Idaho National Laboratory

Our Vision and Mission Positions INL to be Relevant to Tomorrow's Energy Future

INL Vision

INL will change the world's energy future and secure our critical infrastructure.

INL Mission

Discover, demonstrate and secure innovative nuclear energy solutions, clean energy options and critical infrastructure.

The Idaho National Laboratory Site

Geography

- 890 square miles
- 1,350 miles of roads
- 21 miles of railroad lines
- 112 miles of electrical transmission and distribution lines

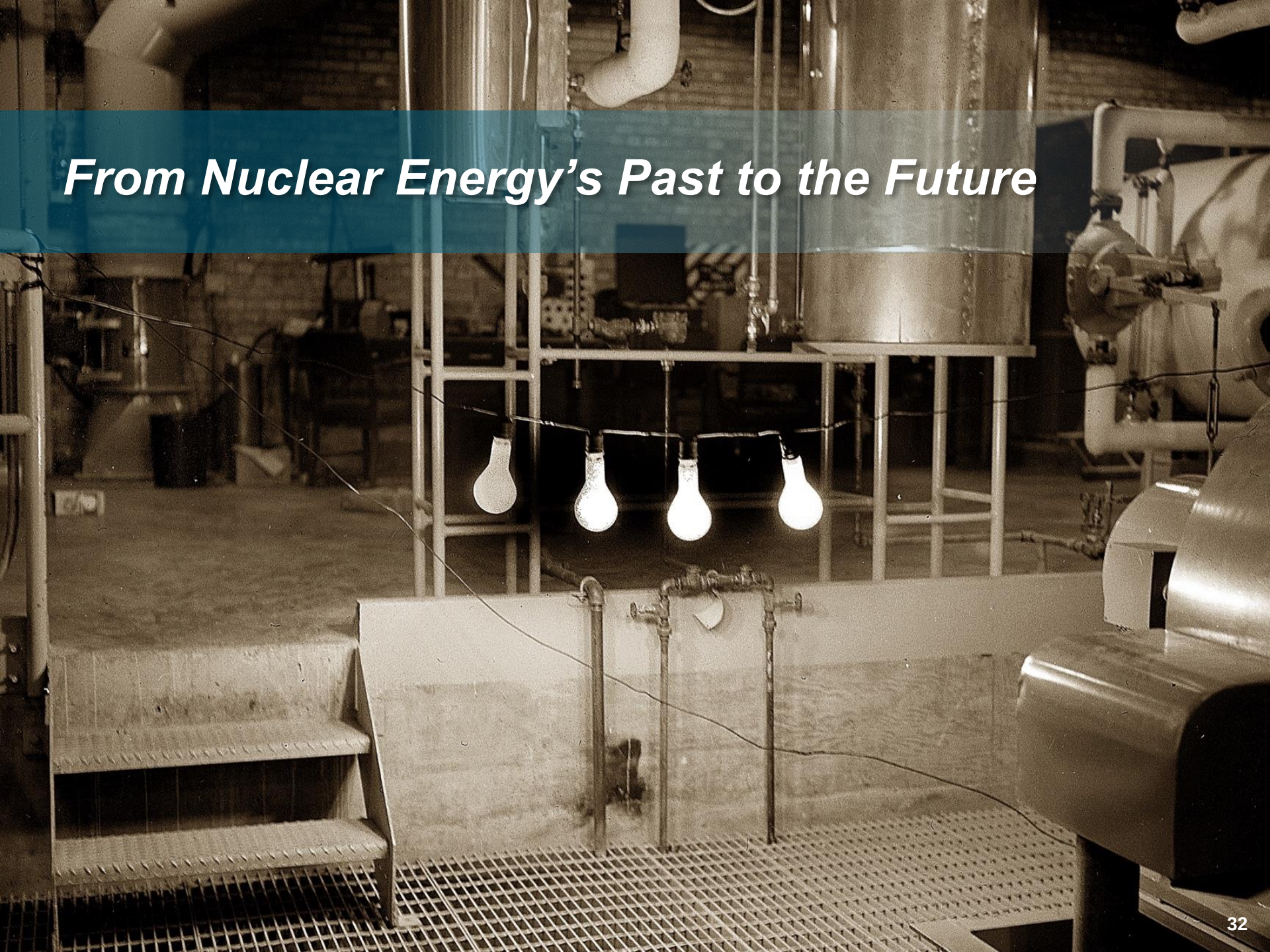
Infrastructure / Mission

- 4 reactors
- Nuclear and radiological facilities
- 2 spent fuel pools
- 400+ buildings
- 3 fire stations
- Mass transit system
- Explosive range
- Landfill
- Museum
- Significant security profile

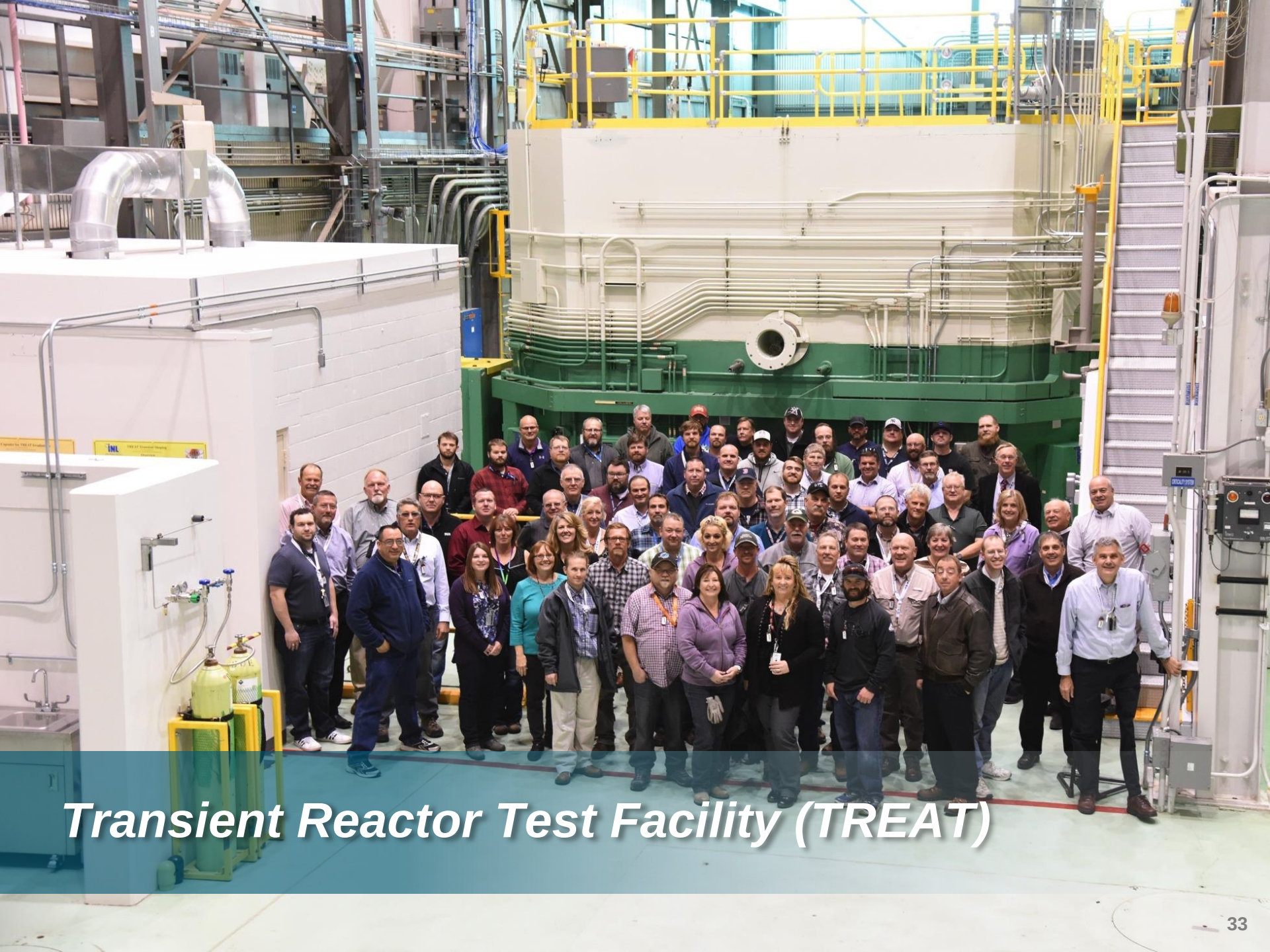
4,256 Employees

FY17 Business Volume $1,001 M

…the Nation's Nuclear Laboratory

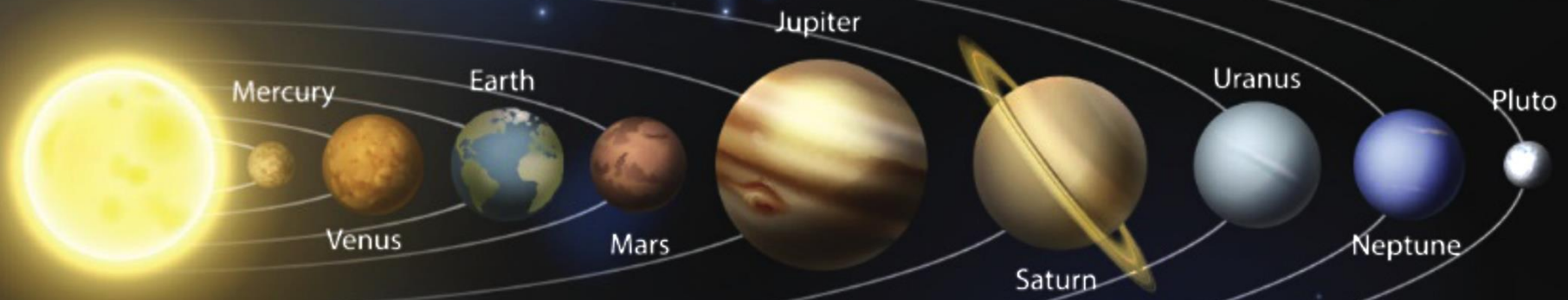


From Nuclear Energy's Past to the Future



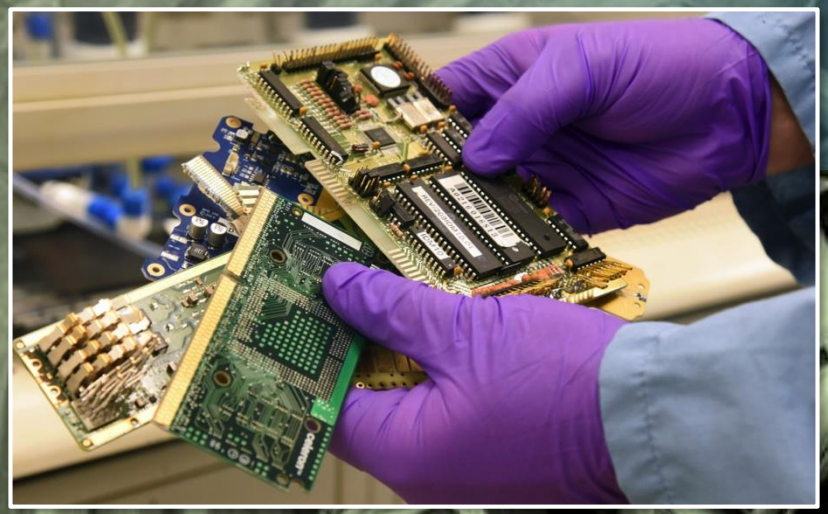
Transient Reactor Test Facility (TREAT)

Cool Science: Powering NASA Missions to Mars and Pluto



Protecting the Nation's Critical Infrastructure

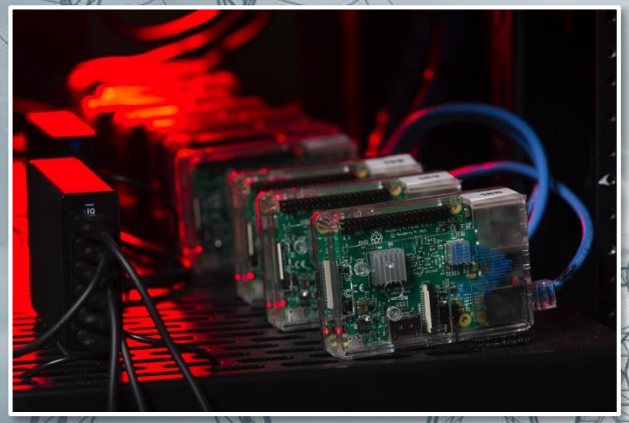
Cell Phone Recycling



Recovering Rare Earth Elements from Salvage Yards

Batteries and Electric Vehicles

Digital Blueprint



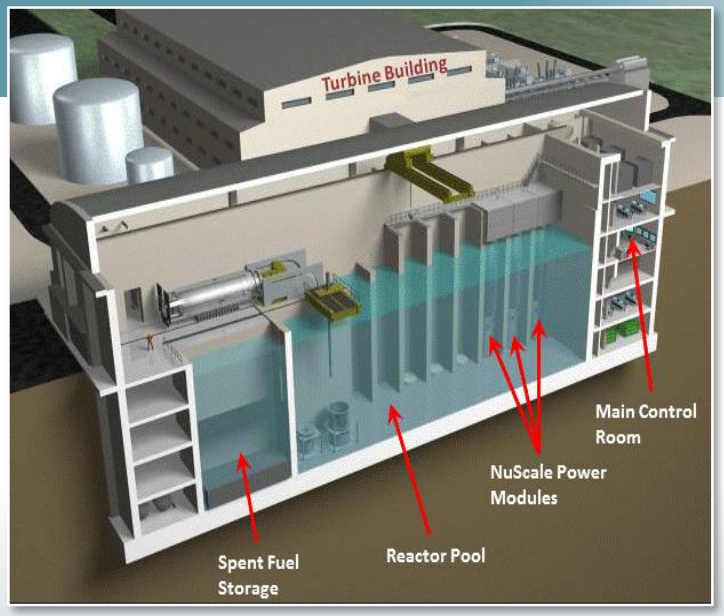
Real-Time Digital Simulator, Radiance Program

Self-Healing Microgrids

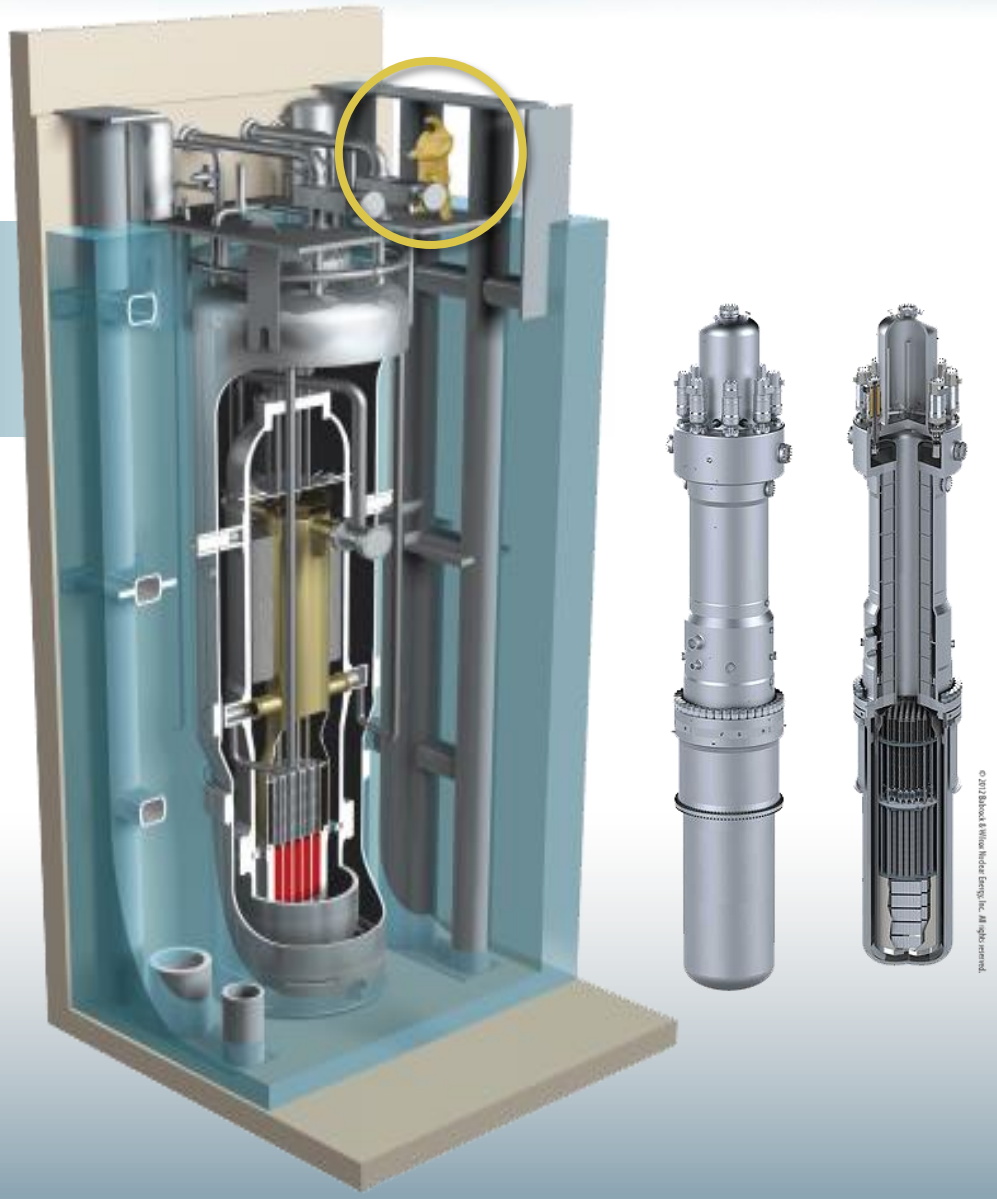
Nuclear Energy Reimagined

third way
fresh thinking

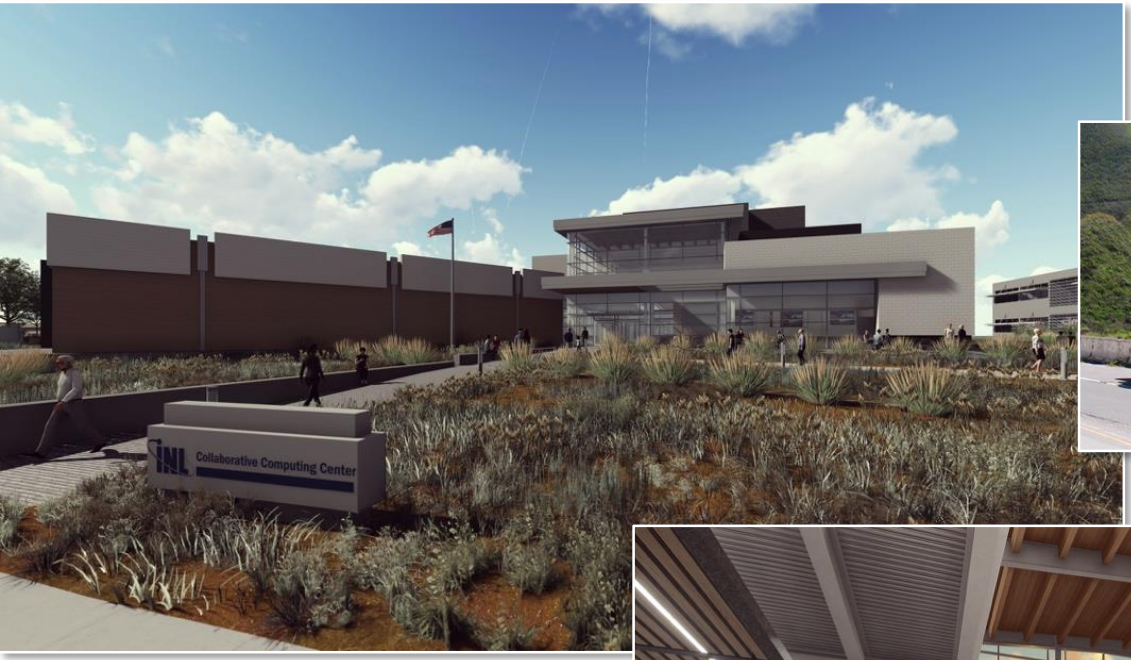
Small Modular Reactors – Potential Game Changer



3-D view of Six NuScale Modules



Collaborative Computing Center

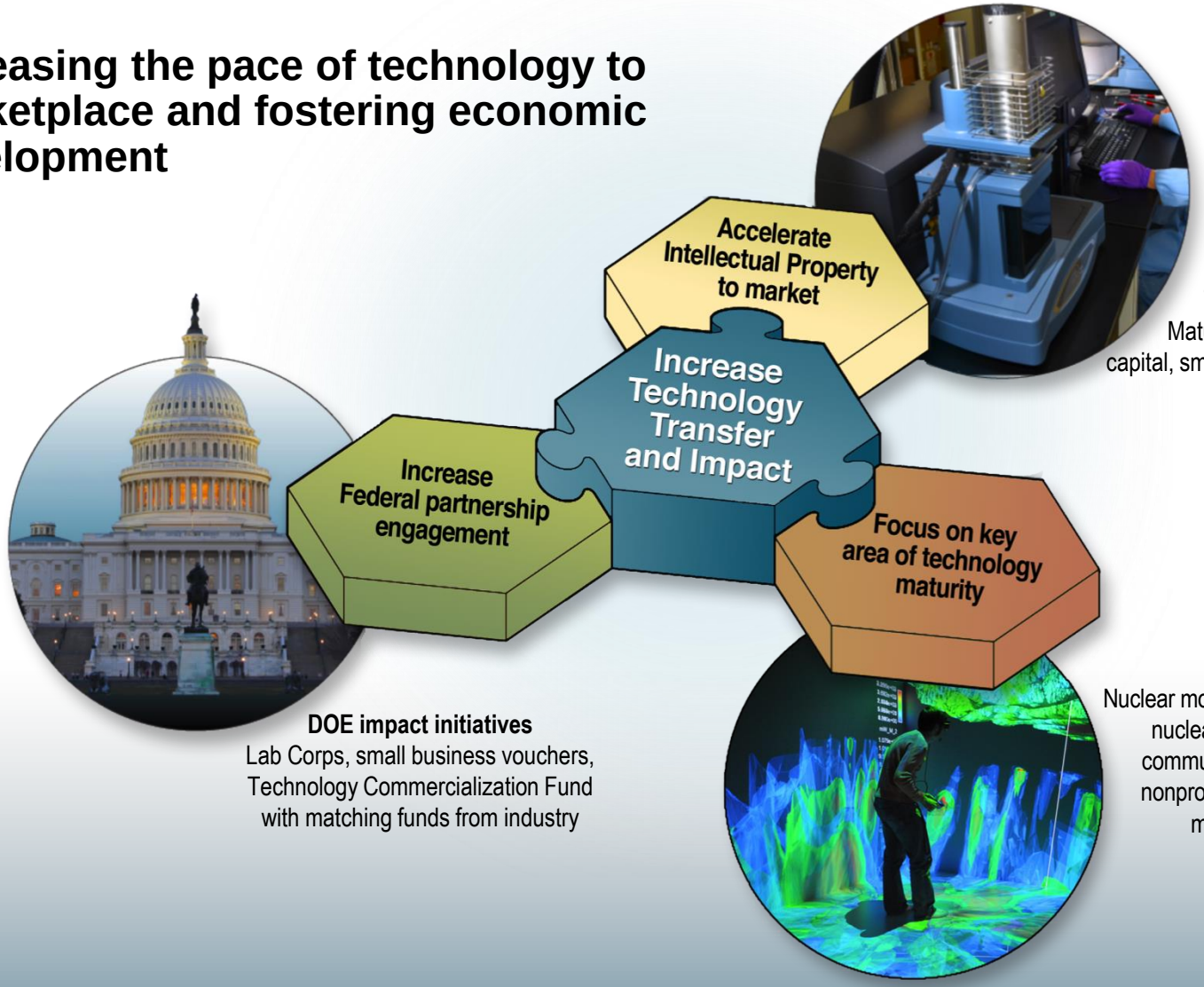


Cybercore Integration Center

IRON
Idaho Regional
optical Network

Working Hand-in-hand with Industry

Increasing the pace of technology to marketplace and fostering economic development



Technology Maturation, venture capital, small business vouchers

DOE impact initiatives
Lab Corps, small business vouchers, Technology Commercialization Fund with matching funds from industry

Nuclear modeling and simulation, nuclear cyber, wireless communications, nuclear nonproliferation, biomass manufacturing

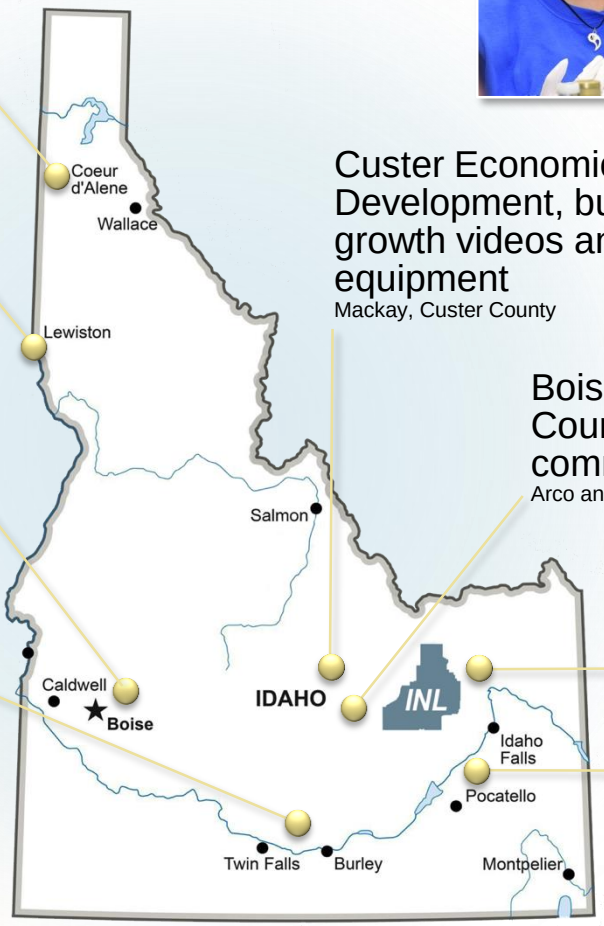
Idaho's National Laboratory – 2018 INL Technology-based Economic Development Grants

University of Idaho & Innovation Collective, CdAEDC
Apple Swift coding
Coeur D Alene

Clearwater Economic Development, igniting innovation and equipment
Lewiston

Trailhead, Women in entrepreneurship training program Boise, Treasure Valley

College of Southern Idaho Foundation, military veterans to workforce
12 cities in Southern Idaho



Custer Economic Development, business growth videos and equipment
Mackay, Custer County

Boise State University, Butte County economic development community guide
Arco and Butte County, Boise

REDI Science Technology and Research cluster
14 counties, Eastern Idaho

Shoshone-Bannock Tribes, business plan and feasibility study
Shoshone-Bannock Tribe

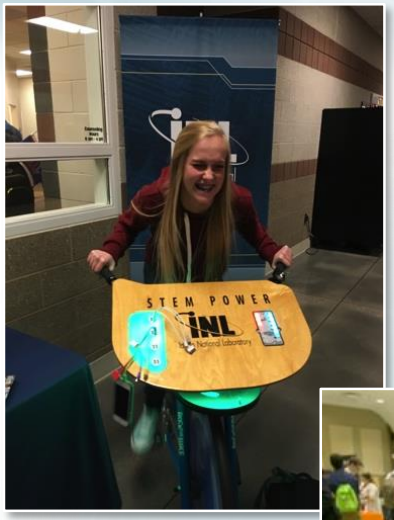
Statewide

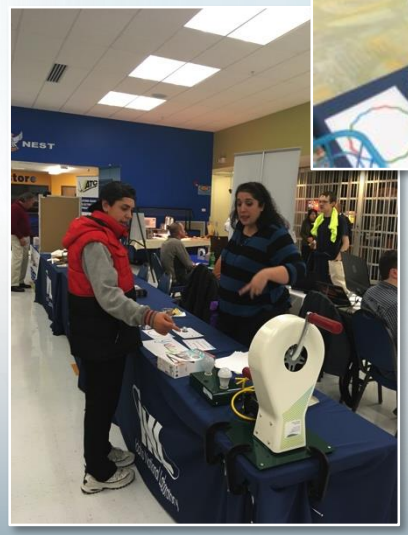
Idaho Technology Council, Idaho Knowledge Report

Idaho Rural Partnership, Turning ideas into action program

Initiatives to Increase Talent Attraction and Engagement

- **Partnering with universities, community colleges, and technical colleges for talent and research collaboration**
  - Investing INL resources to match STEM Action Center goals
    - Empowering teachers through professional development – **Reached 1,600 teachers in 95% of Idaho's school districts**
    - Motivating students through STEM outreach – **Benefited 56,000 students in FY17**
    - Collaborating with families and communities to explore STEM careers and develop STEM Literacy
    - Providing STEM grants – **Grants over $300,000 on annual basis**
  - Targeting rural and underrepresented, underserved, first generation populations
  - Supported key legislation to support education (Idaho Regional Optical Network maintenance increase, and Residency Bill)

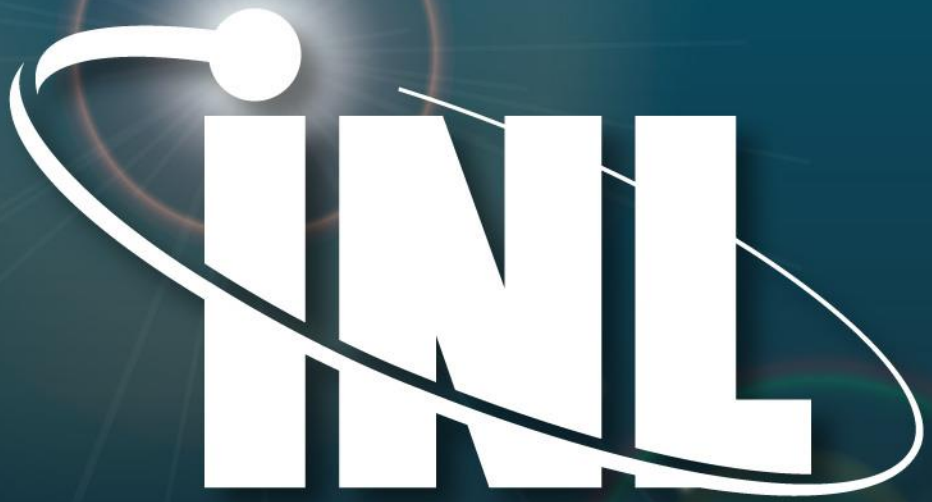




Internships, Postdocs and Joint Appointments

Our Differences Make a Difference

Diversity in Ideas, Approach and Background Is Key to OUR Success



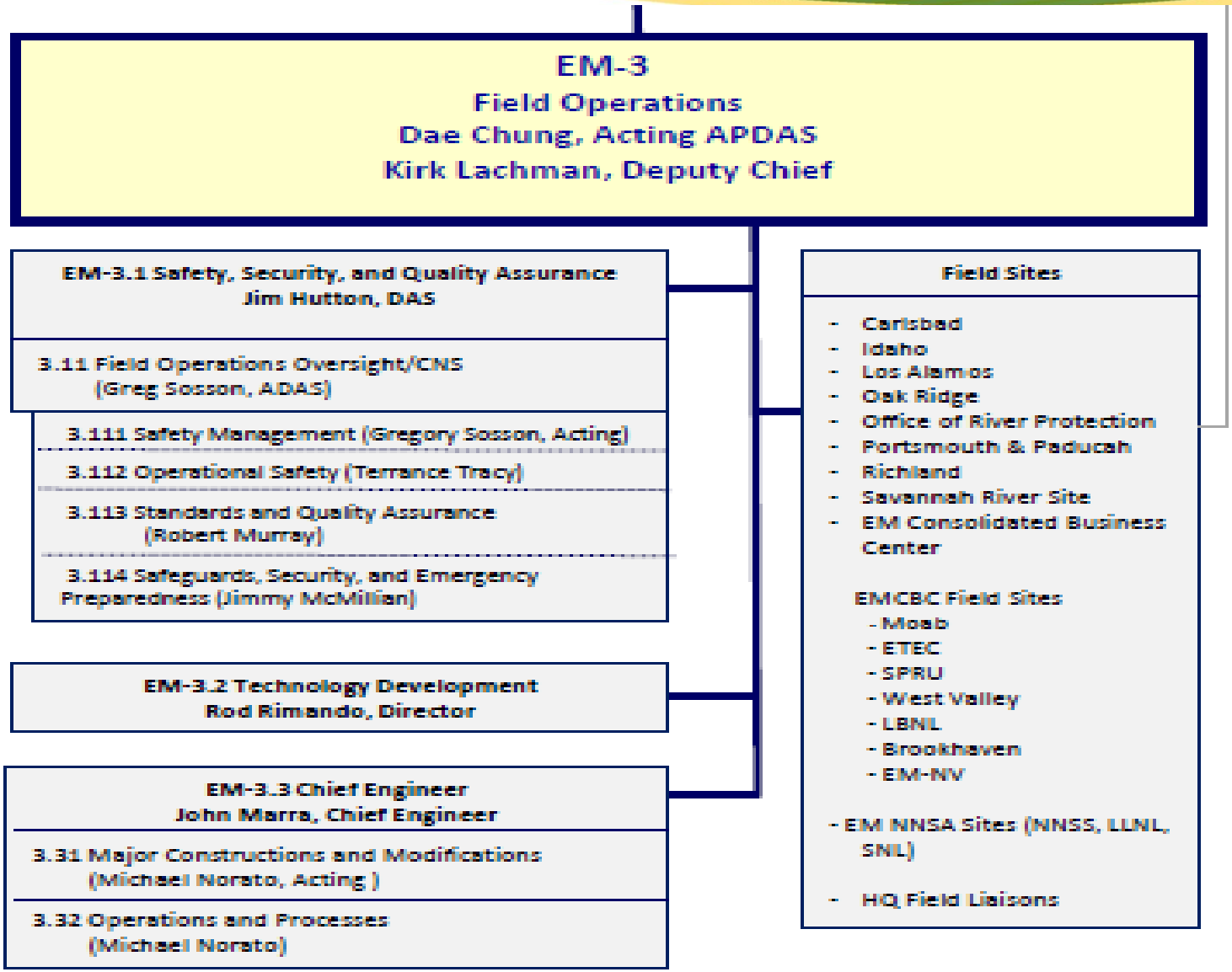
Idaho National Laboratory

EM Office of Field Operations Update

Ken Picha

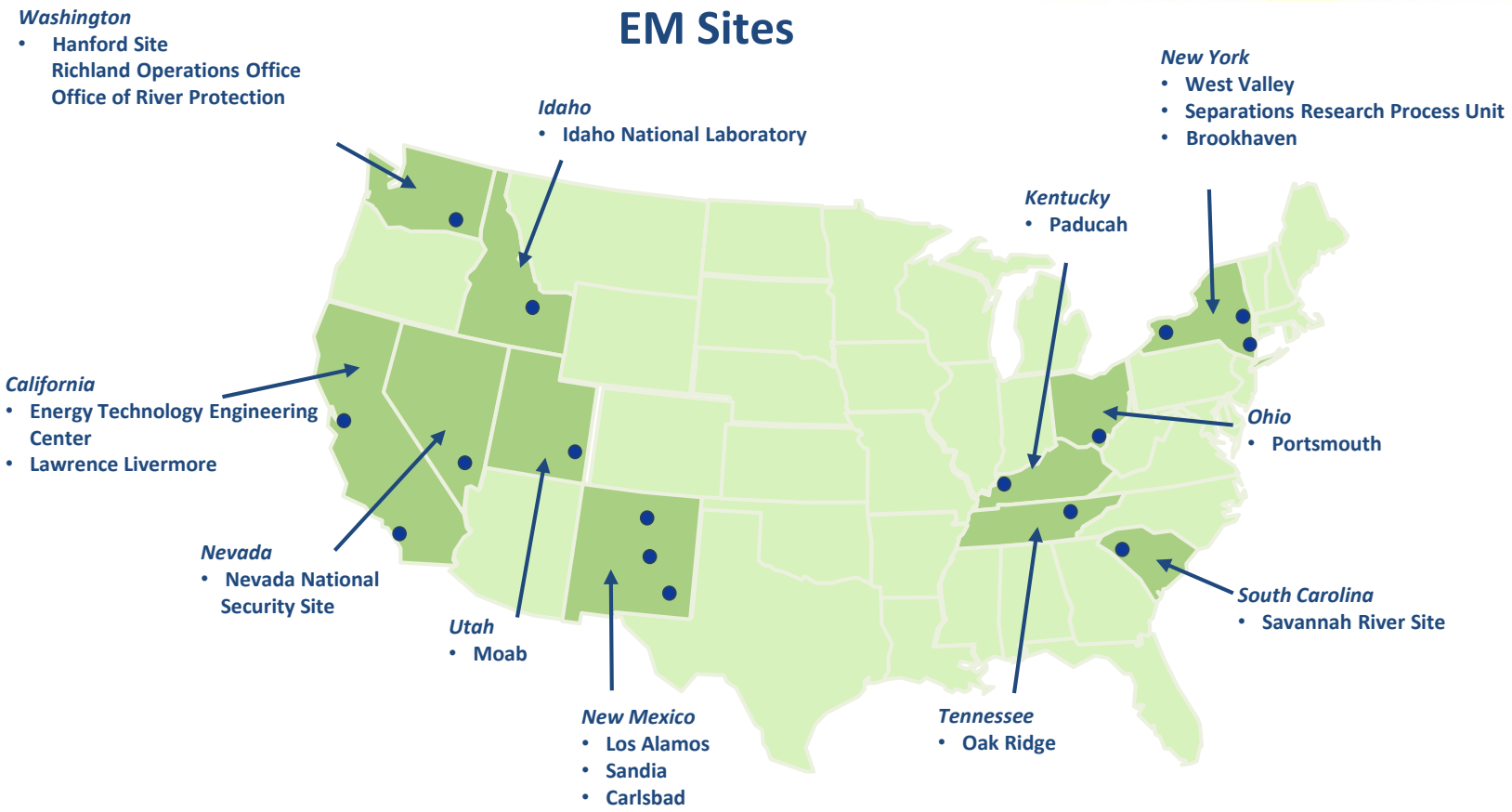
Acting Associate Principal Deputy Assistant Secretary
Field Operations
June 2018

EM Office of Field Operations



EM Continues Making Cleanup Progress

EM Sites



EM has 16 sites in 11 states and has reduced its footprint by 90% to less than 300 square miles

Progress across the EM Complex

EM to continue focus on risk reduction cleanup activities that are safe, environmentally responsible and cost effective.

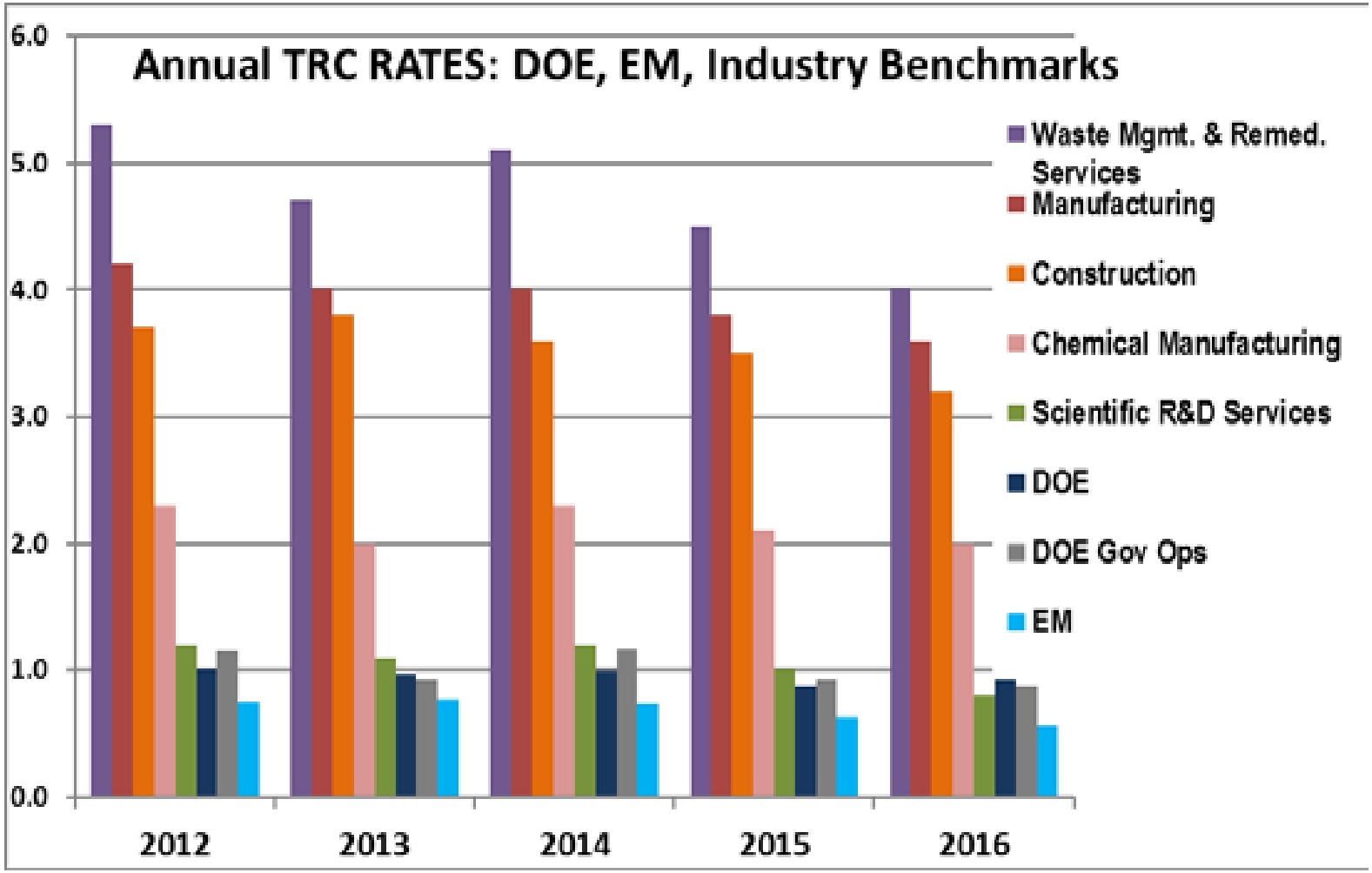
Key areas of focus include the following:

- Tank waste remediation at three sites
- Progress on key construction projects
- Safe receipt and management of special nuclear materials including spent nuclear fuel and non-proliferation program returns of US origin nuclear materials
- Management of integrated transuranic, low-level waste and mixed waste programs
- Soil and groundwater remediation
- Facility decontamination and decommissioning

Tank 20 at the Savannah River Site

Waste Emplacement at the Waste Isolation Pilot Plant

EM Safety Performance



Recent Accomplishments

- Los Alamos – safe treatment of nitrate salt drums to ensure they meet WIPP acceptance
- WIPP - Continues to receive shipments; recently received 12,000th shipment; ground-breaking for new ventilation system
- Oak Ridge – Ground-breaking for Mercury Treatment Facility, enabling further cleanup of Y-12
- SRS – Accepted 30 million gallon Salt Disposal Unit #6; replaced 3rd melter in DWPF
- Hanford – Final cleanup of 618-10 burial ground

Planned Cleanup Accomplishments for CY2018

EM will also be able to mark completion of significant cleanup activities across the complex:

- Complete deactivation of the C-400 Cleaning Building at Paducah
- Complete deactivation of the Vitrification Facility at the West Valley Demonstration Project
- Complete Building X-326 deactivation (~56 acres under roof on two floors) at Portsmouth
- Complete demolition of Buildings G2 and H2 at SPRU

Demolition of WVDP Vitrfication Facility

X-326 Building

Funding for Excess Facilities

EM will continue progress of work proposed in the FY 2018 Congressional budget with work on facilities at the Y-12 National Security Complex, and at Lawrence Livermore National Laboratory. ($150M)

Y-12

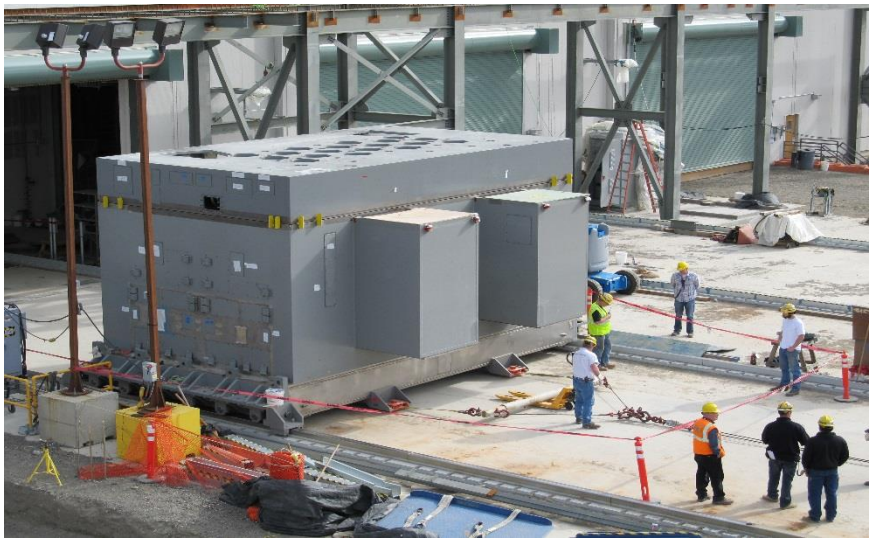
Y-12 National Security Complex – Biology Complex Building

Lawrence Livermore National Laboratory (LLNL)

LLNL– Livermore Pool Type Reactor Building 280

Tank Waste Progress

- SRS – Accepted 30 million gallon Salt Disposal Unit; replaced 3rd melter in DWPF; installing tank-side pretreatment system
- Idaho – Completed extensive modifications to IWTU and beginning heat-up for simulant runs; development of processes for calcine retrieval
- Hanford – Continued progress on WTP; modifications in tank farms to support Direct Feed LAW; exploring other waste disposition approaches



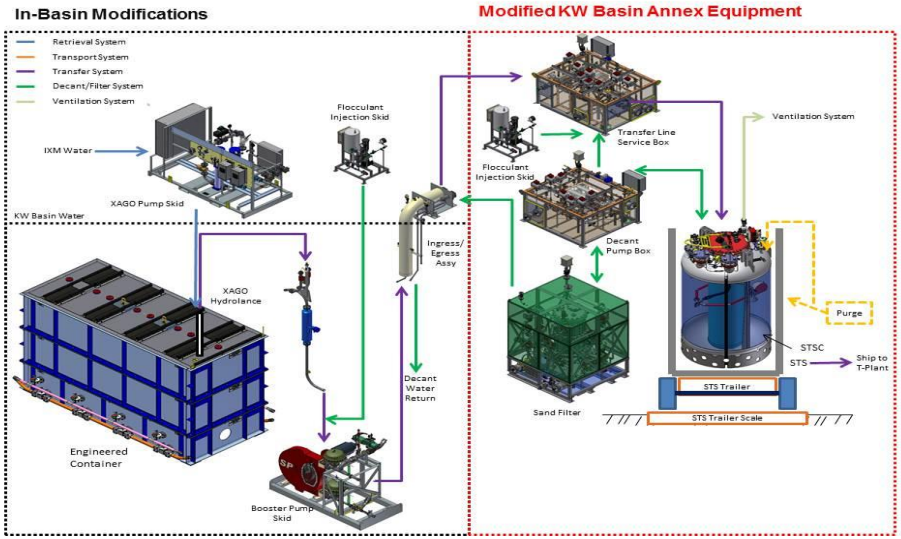
Significant Construction Projects

Salt Waste Processing Facility:

- Construction complete in 2016 ahead of schedule
- Startup and commissioning challenges (e.g., equipment obsolescence)

Engineered Container Retrieval and Transfer System

- Extensive testing and mock-up prior to equipment installation
- Construction and commissioning complete
- Operations started June 2018



Waste Treatment and Immobilization Plant

- Progress towards completing facilities required for Direct Feed Low Activity Waste approach
- Contractor declared LAW Facility construction complete

Nuclear Materials Progress

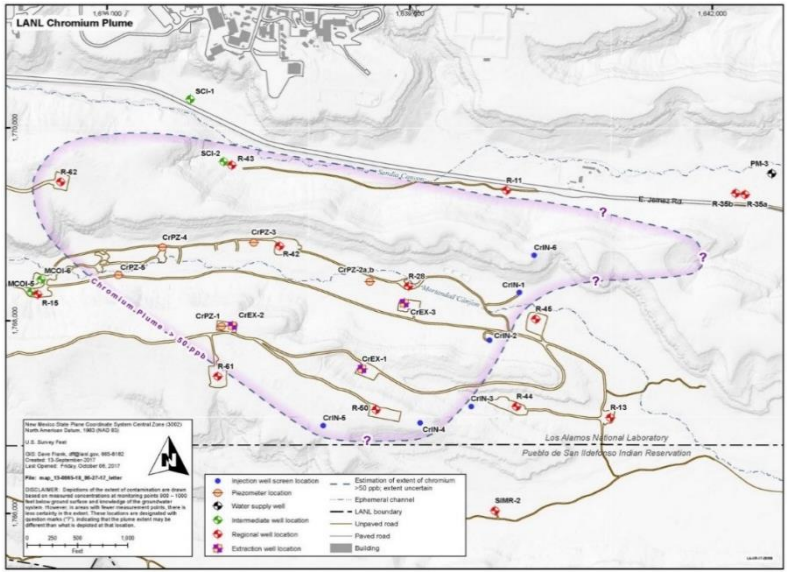
- Continuing to receive shipments of foreign and domestic research reactor spent fuel and other materials
- Began processing Office of Science High Intensity Flux Reactor spent cores
- Continued safe storage of plutonium and other materials; demonstrated ability to downblend plutonium oxide for disposition at WIPP

Transuranic and Low-Level Waste Disposition

- Ramping up number of weekly shipments to WIPP to 10
- Resumed salt mining in WIPP (10,000 tons of salt removed)
- Remediated all LANL nitrate salt drums (source of 2014 event)
- On track to dispose of 1.3 million FT^3 of LLW at Nevada in FY18

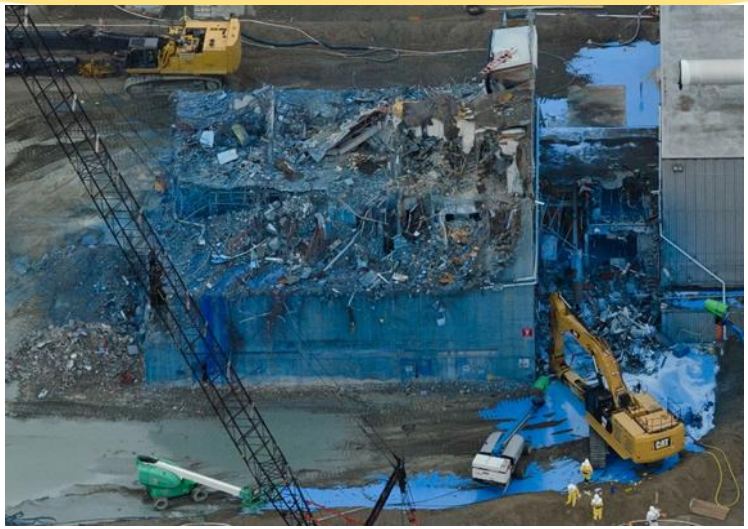
Soil and Groundwater Cleanup

- Continued operation of Hanford 200-W groundwater treatment system
- Continued mitigation of Chromium plume at LANL
- Cleanup of old coal-fired ash piles at SRS
- In February achieved milestone of over 9 million tons of material from



Decontamination and Decommissioning Progress

- Much of PFP structure demolished, but core portions of facility halted
- WVDP Vitrification Facility demolition
- D&D activities at SPRU completed; final site work by end of calendar year
- Continued completion of D&D work EM performs at LBNL
- PPPO D&D progress:
  - C-400 at Paducah
  - X-326 at Portsmouth



Challenges

- Infrastructure – Much of complex constructed over 50 years ago; challenge to maintain
- Commissioning – One of a kind facilities; transition from construction to testing/operations
- Quality Assurance – Lack of NQA-1 vendors; commercial grade dedication
- Regulatory challenges – Meeting milestone dates
- Nuclear materials infrastructure at SRS

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

EM Update for the State and Tribal Government Working Group and National Governors Association Federal Facilities Task Force

Mark Gilbertson

Associate Principal Deputy Assistant Secretary for
Regulatory and Policy Affairs
Office of Environmental Management

June 2018

Vision and Priorities

- Re-instill a *completion* mentality focused on getting complex jobs done through:

  * New mindsets in contracting and procurement, and
  * Regulatory reform

- Think bigger and smarter about how to get to completion as EM successfully demonstrated at Rocky Flats, Fernald, and recent demolition of the massive K-25 Building at Oak Ridge

- Reviving concept of “end state contracting” in major contracts and procurements that will shape EM over the next 10 years

EM-1's Vision and Priorities (cont.)

- End State Contracting defines work scope with specific end states that lead to limiting liabilities to get them off the books

  "The concept is that it will deliver real results that are measurable and reduce risk. That gets successes rolling a little more quickly in a more defined way. It creates some enthusiasm for the program, for the mission."

  Anne White (EM-1)

- Partnering with contractors is essential, as well as holding them accountable to accomplish the work safely as a priority.

Vision and Priorities (cont.)

- Contracting structures that incentivize performed work done properly and safely which bring the 'A-Team,' and "A-Game.'
- Tribal Contracting Opportunities – looking to see how we can continue to expand and utilize Tribes and Tribal owned business to help with our work and support STEM workforce and education where we can
- Regulatory reform as an overlay and insuring implantation is driven down into the Field in a meaningful way in order to provide cost savings and effectiveness.

EM's Mission is Vital and Important

- **EM continues to make measurable and meaningful progress towards cleanup, including several recent major accomplishments:**
  - Continues waste emplacement at the Waste Isolation Pilot Plant and needed infrastructure improvements
  - Completion of cleanup activities at Hanford's 618-10 burial ground
  - Construction of the Savannah River Site's 33 million-gallon Saltstone Disposal Unit 6
  - Retrieval of about 65,000 cubic meters of transuranic waste at the Idaho Site's Advanced Mixed Waste Treatment Project, bringing a nearly 15-year effort to closure
  - Groundbreaking of the new Mercury Treatment Facility at Oak Ridge, which will enable EM to carry out additional cleanup at the Y-12 National Security Complex
- **We will continue to build on our success by:**
  - Leveraging the expertise of the national lab complex and exploring potential project management and contract approaches used by the Office of Science
  - Placing emphasis on the need for and timeliness of executive decisions
  - Identifying opportunities to streamline the management team

Hanford

Idaho

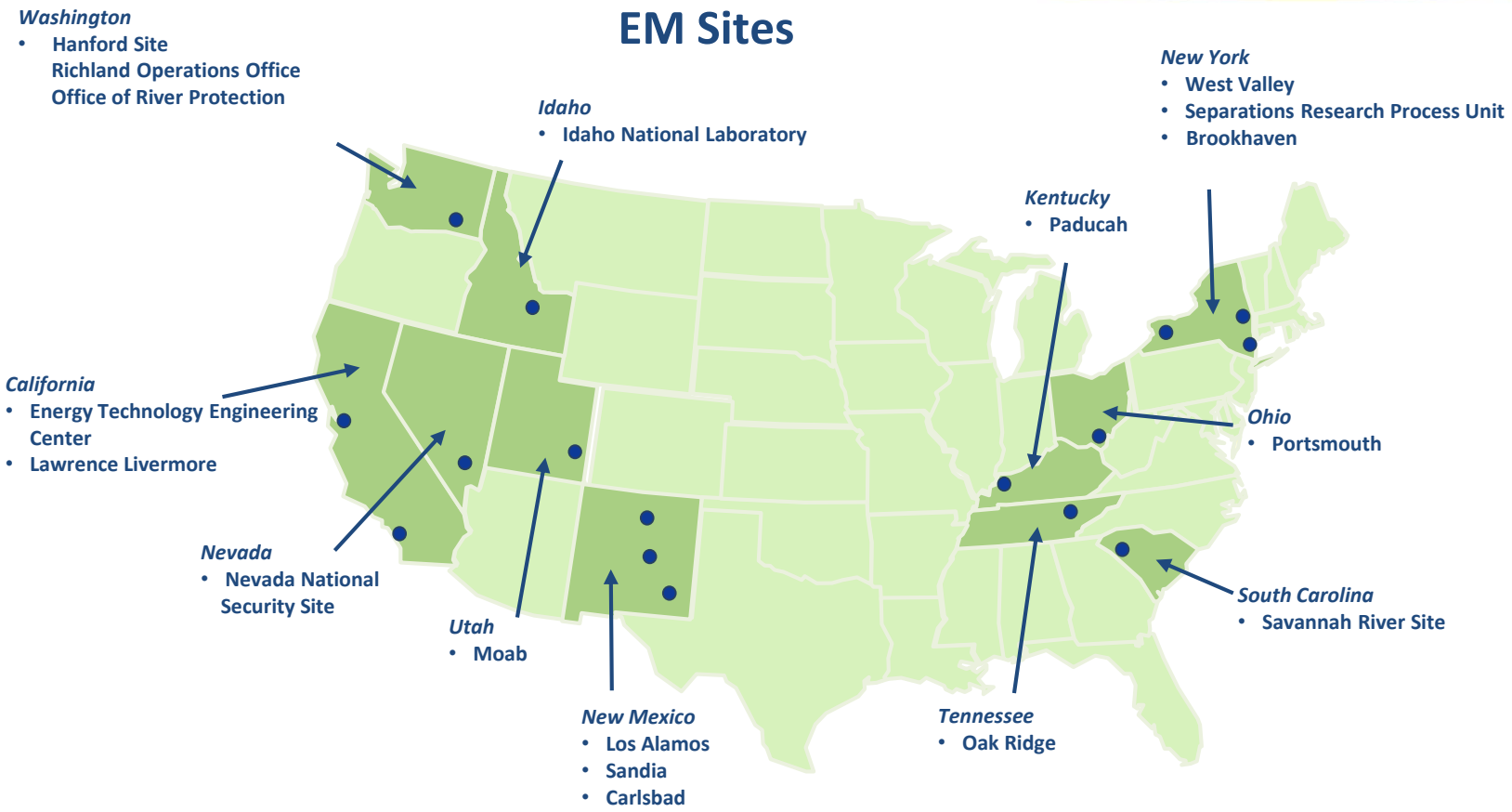
Waste Isolation Pilot Plant

Savannah River

Technology Development

EM Continues Making Cleanup Progress

EM Sites



EM has 16 sites in 11 states and has reduced its footprint by 90% to less than 300 square miles

Building on Successes

Environmental Management's Fiscal Year 2019 Budget Request is a record high for a second straight year and demonstrates the Administration's strong and continued support for cleanup.

The request allows EM to continue making progress on those capabilities necessary to tackle longer-term risks that are significant contributors to lifecycle costs:

- Ramps up efforts to address radioactive tank waste at Savannah River---the site's largest environmental challenge
- Supports ventilation system completion and critical infrastructure at WIPP to enable increased waste shipments and emplacement.
- Continues progress at Hanford's Waste Treatment Plant to support initiating waste treatment by December 2023, per the Consent Decree.
- Supports shifting to construction for the planned Mercury Treatment Facility and continued progress on the capability to address the remaining U-233 stockpile at Oak Ridge.

Tank 20 at the Savannah River Site

Waste Emplacement at the Waste Isolation Pilot Plant

Conclusion

- Important to continue to build upon our mutually successful relationships with the tribal nations and honoring our government-to-government relationship and working to protect tribal interests and resources around all our sites and activities.

- We need to continue to enhance our relationships with the regulators, the states, and local communities as well.

- And we will continue to tap the expertise through EMAB and boards, through FCOG, and Cleanup Caucus and others to forge a path to achieve EM's mission safely and cost effectively.

Background

EM Cleanup is a large liability that is growing

- EM is the 3rd largest liability of the federal government (behind only the federal debt and entitlement programs such as Medicare and Social Security)
- Focus on understanding of what's driving the growth
- Focus on completion of the EM clean-up mission in an efficient and cost-effective manner

Cleanup Accomplishments

EM will also be able to mark completion of significant cleanup activities across the complex:

- Completes demolition of the C-400 Cleaning Building at Paducah
- Completes buried waste exhumation activities at Idaho
- Complete decommissioning and begin demolition at the Main Plant Process Building at the West Valley Demonstration Project

Waste Exhumation at Idaho

C-400 Cleaning Building at Paducah

Funding for Excess Facilities

EM will continue progress of work proposed in the FY 2018 Congressional budget with work on facilities at the Y-12 National Security Complex, and at Lawrence Livermore National Laboratory. ($150M)

Y-12

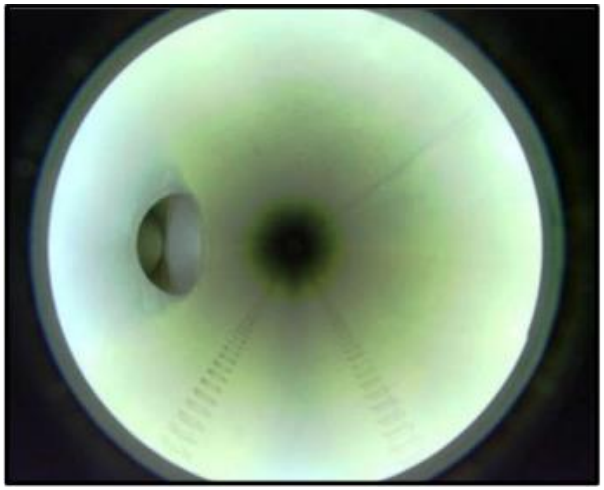
Y-12 National Security Complex – Biology Complex Building

Lawrence Livermore National Laboratory (LLNL)

LLNL– Livermore Pool Type Reactor Building 280

Technology Development

- EM's Technology Development (TD) efforts are focused on alternative solutions that enhance safety, improve performance and help reduce environmental liability
- EM has focused on potential to use robotic and remote systems
- For example, EM is currently undergoing performance testing for the "RadPiper" to be used at in large processing pipes at the Portsmouth GDP



Making Cleanup Progress in South Carolina

South Carolina

Savannah River Site

- Supports Salt Waste Processing Facility start-up
- Operate Defense Waste Processing Facility producing 135 -175 canisters.
- Continue construction of Saltstone Disposal Units 7, 8, and 9
- Complete D Area Ash Project including closure of the 488-1D Ash Basin and the Coal Pile Runoff Basin.
- Supports foreign and domestic fuel receipts in L Area.
- Supports disposition of spent (used) nuclear fuel in H-Canyon

Recent Accomplishments

- Completed construction of Saltstone Disposal Unit (SDU) 6 (FY 2017).
- Completed significant tie-in work to connect the Salt Waste Processing Facility to the liquid waste facilities (FY 2017).
- Removed failed Melter 2 in the Defense Waste Processing Facility and installed Melter 3 (FY 2017/FY 2018).
- Produce 40 Canisters of highly radioactive waste at the Defense Waste Processing Facility (DWPF) and Treat and disposition 700,000 gallons of tank waste salts (FY 2018).

Defense Waste Processing Facility

Salt Waste Processing Facility

Making Cleanup Progress in Washington

Washington

Richland

- Continues Cesium Strontium Capsule activities to move capsules from wet to dry storage
- Continues waste site remediation and groundwater treatment
- Continue focus on canyon and waste site risk mitigation

Recent Accomplishments

- Treated 2.2 billion gallons of contaminated groundwater and completed T Plant modification for receipt of K Basin sludge (FY 2017)

Office of River Protection

- Continues construction, startup and commissioning activities at the Waste Treatment Plant supporting direct feed of low-activity waste for immobilization by December 2023.
- Continues design activities for the Low Activity Waste Pre-treatment System.
- Pursue a complementary pretreatment capability using tank-side cesium removal equipment to provide initial feed by December 2023, per the Consent Decree.
- Continues tank vapors work and supports Single Shell Tank retrievals

Recent Accomplishments

- Completed testing for WTP switchgear building (FY 2017).
- Completed the retrieval and transfer of high-level radioactive waste from tank AY-102 (FY 2017).

Waste Encapsulation and Storage Facility

Waste Treatment and Immobilization Plant

Making Cleanup Progress in Idaho

Idaho

Idaho

- Continues commissioning and the startup of Integrated Waste Treatment Unit Project
- Repackaging and characterizing contact-handled TRU waste
- Continues buried waste retrieval activities completing exhumation of the ninth and final retrieval area
- Experimental Breeder Reactor-II and Advanced Test Reactor spent (used) nuclear fuel will be transferred from wet to dry storage.

Recent Accomplishments

- Completed retrieval of about 65,000 cubic meters of transuranic waste at the Idaho Site's Advanced Mixed Waste Treatment Project (FY 2017).
- Moved 20 percent of Advanced Test Reactor spent fuel of the Idaho Nuclear Technology and Engineering Center (INTEC) wet storage basin to dry storage (FY 2017).

Integrated Waste Treatment Unit

Accelerated Retrieval Project Enclosure 9

Making Cleanup Progress in Tennessee

Tennessee

Oak Ridge

- Continues capital asset project with modifications to the Building 2026 to support processing of U-233 materials
- Completes design and begins site preparation of the Outfall 200 Mercury Treatment Facility
- Continues demolition of remaining facilities at East Tennessee Technology Park
- Continue slab and soil remediation at East Tennessee Technology Park
- Initiates design for a new On-Site Waste Disposal Facility
- Continues mercury-related technology development

Recent Accomplishments

- Completed demolition of the K-732 Switchyard, K-832, K-832-H, and K-1203 at ETTP (FY 2017).
- Receive Critical Decision 2/3 Approval for the Building 2026 Uranium-233 Processing Preparation Project (FY 2018).
- Completed 13 contact-handled Transuranic waste shipments to the Waste Isolation Pilot Plant in FY 2017.

Demolition of East Tennessee Technology Park facilities

Outfall 200 Mercury Treatment Facility Rendering

Making Cleanup Progress in Ohio and Kentucky

Ohio

Portsmouth

- Continues operations of the Depleted Uranium Hexafluoride (DUF6) conversion facility
- Continues to clean out and prepare Gaseous Diffusion Plant (GDP) buildings for demolition: Deactivation focused on the second and third process buildings and achieving deactivation requirements for three additional units
- Supports continued construction of On-Site Waste Disposal Facility (OSWDF)

Recent Accomplishments

- Resumed DUF6 Operations after 3-year shutdown of operations (FY 2018).
- Completed construction of the On-Site Waste Disposal Facility Sediment Pond 3 (FY 2018).

X-333 Process Building at Portsmouth

Kentucky

Paducah

- Continues operations of the Depleted Uranium Hexafluoride (DUF6) conversion facility
- Continues building stabilization activities at the C-400 Complex

Recent Accomplishments

- Reached final regulatory agreement to accelerate the investigation and cleanup of the C-400 Complex (FY 2017).
- Complete Limited Area footprint reduction for the administrative facilities (C-100, C-101, C-102, and C-304) (FY 2018).

C-400 Complex at Paducah

Making Cleanup Progress in New Mexico

New Mexico

Carlsbad ($403M)

- Continues waste emplacement and increases transuranic waste shipments to 10 per week
- Continues work on the new ventilation system and addresses needs for major repair or replacement of critical infrastructure

Recent Accomplishments

- Resumed waste emplacement and mining activities at the Waste Isolation Pilot Plant (FY 2017).
- Achieve Critical Decision-2/3 to commence construction on the Safety Significant Confinement Ventilation System (15-D-411) and Utility Shaft (formerly Exhaust Shaft) (15-D-412).

Transuranic waste shipments arrive at the Waste Isolation Pilot Plant in Carlsbad, New Mexico

Los Alamos ($192M)

- Planning for retrieval and repackaging of the below-grade transuranic waste
- Continues execution of New Mexico Environment Department approved groundwater remedies for the high explosives plume in Cañon de Valle (RDx)
- Continue activities for Chromium plume investigation through modeling and hydrology studies, installation of extraction and injection wells, and interim measure activities progression towards an approved Corrective Measures Evaluation.

Recent Accomplishments

- Completed cleanup of the final two known legacy sites in the Los Alamos townsite (FY 2017).
- Complete Remediated Nitrate Salt processing (FY 2018).

Chromium project extraction wells at Los Alamos, New Mexico

Sandia ($3M)

- Continues field work for implementation of groundwater interim measures

Making Cleanup Progress in Nevada and Utah

Nevada ($60M)

Nevada National Security Site

- Continues soil and groundwater remediation activities
- Continues disposal operations for low-level and mixed low-level Waste

Recent Accomplishments

- Disposed more than 900,000 ft^3 of classified, low-level, and mixed low-level radioactive waste at the Area 5 Radioactive Waste Management Site (FY 2017).
- Commenced cleanup of the historic Clean Slate II site on the Tonopah Test Range (FY 2017).

Groundwater Well Drilling

Utah ($35M)

Moab

- Continues excavation, transportation and disposal operations
- Continues groundwater monitoring

Recent Accomplishments

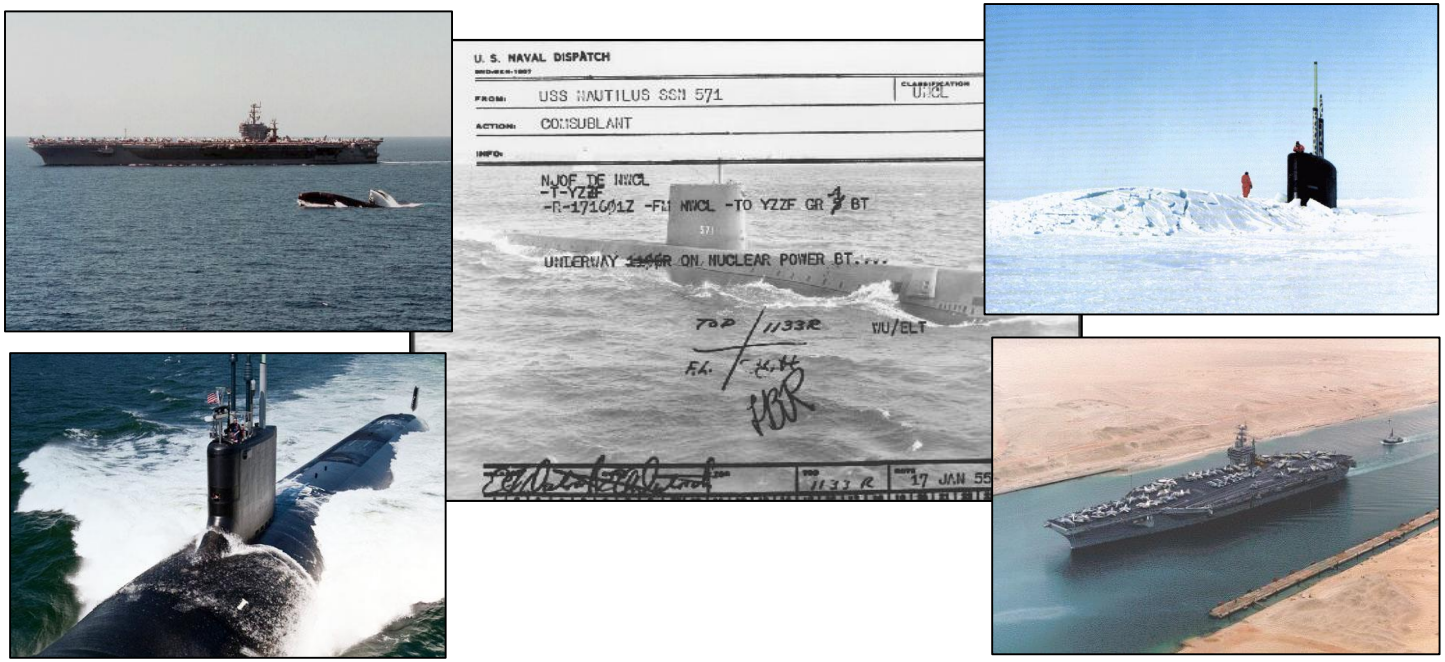
- Exceeded 2017 goal of shipping 450,300 tons of uranium mill tailings by 8,600 tons (FY 2017).
- Extracted almost 8.4 million gallons of contaminated groundwater from wells, preventing contaminants from reaching the Colorado River (FY 2017).

Locomotive transports sealed containers of tailings from Moab to a disposal site

United States Naval Nuclear Propulsion Program

Presentation to Idaho National Governors Association

June 2018



Integrated Navy and DOE Program

FOCUSED MISSION

- **Provide militarily effective nuclear propulsion plants and ensure their safe, reliable, and long-lived operation**

CRADLE TO GRAVE RESPONSIBILITY AND ACCOUNTABILITY FOR ALL ASPECTS

- **Research, development, design, construction**
- **Maintenance, repair, overhaul, disposal**
- **Radiological controls, environment, safety, health matters**
- **Officer operator selection, operator training**
- **Administration (security, nuclear safeguards, transportation, public information, procurement and fiscal management)**

PROGRAM RECORD

- **Program founded in 1948**
- **Over 7,000 reactor-years of safe operations**
- **Over 162,000,000 miles safely steamed**
- **101 operating reactors (compared to 99 commercial power reactors)**
- **Welcomed in more than 150 ports in over 50 countries worldwide**

Admiral James F. Caldwell, Jr.

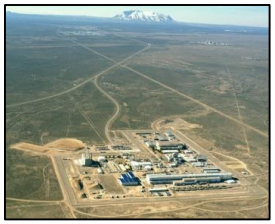
EXECUTIVE ORDER 12344 SET FORTH IN PUBLIC LAW 98-525 AND 106-65

Naval Nuclear Propulsion Program

Field Offices

REPORT TO DIRECTOR
- Ensures focus on mission
- Immediate identification of concerns

Naval Reactors

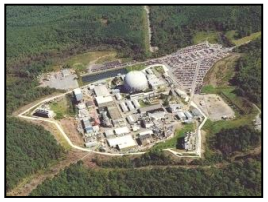


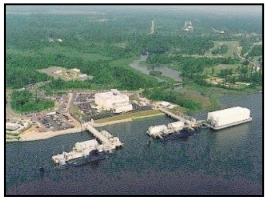
NAVAL REACTORS FACILITY
- Dry Storage Program
- Expended Core Facility

NUCLEAR POWERED FLEET
- 81 warships
- About 45% of major combatants

DEDICATED LABORATORIES
- Bettis Laboratory Site
- Knolls Laboratory Site
- Government Owned / Contractor Operated

SHIPYARDS
4 Public / 2 Private





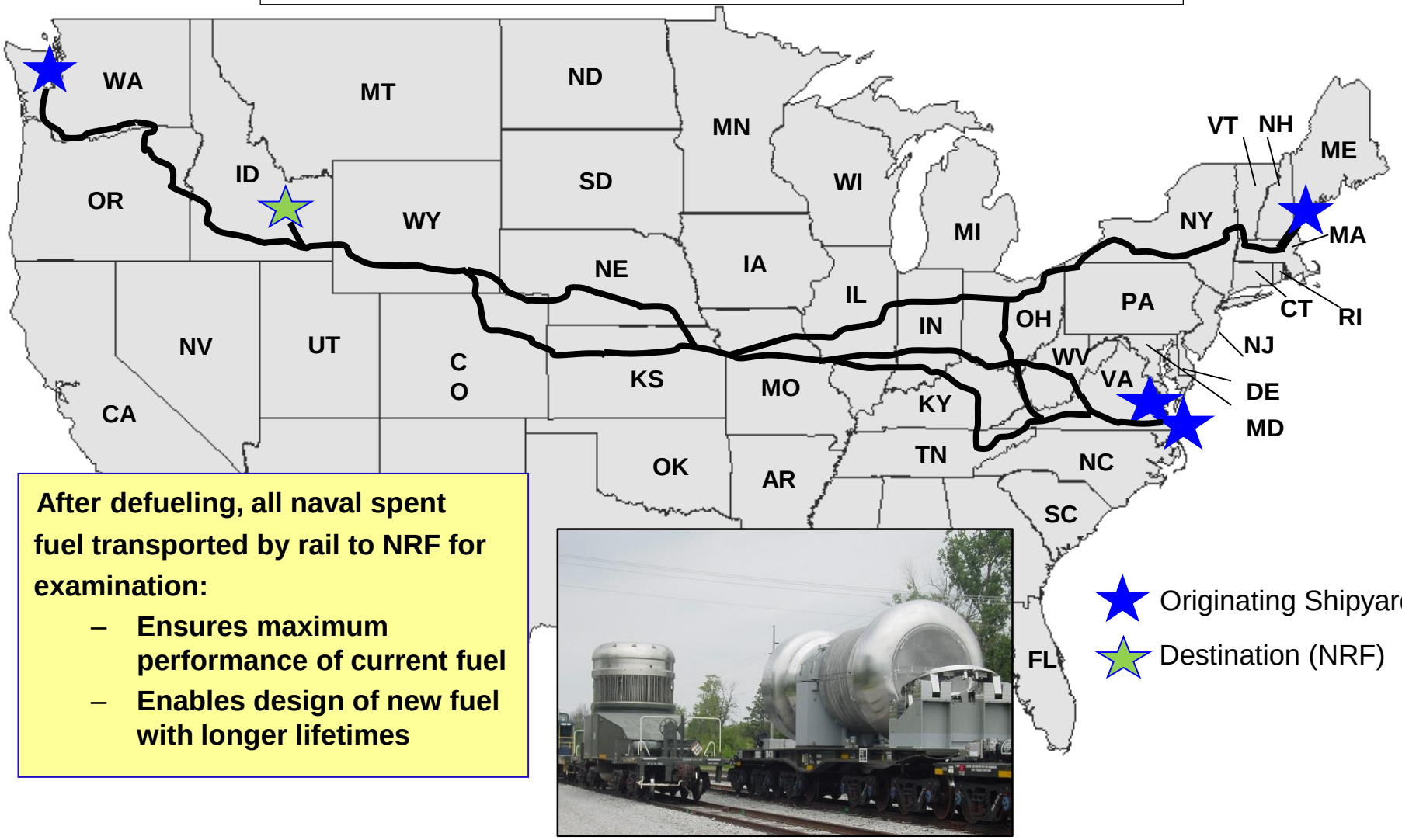
R&D/TRAINING REACTORS
- Train 3000 students/year

SPECIALIZED INDUSTRIAL BASE
- Single dedicated prime contractor
- Hundreds of suppliers

SCHOOLS
- Nuclear Power School
- Nuclear Field “A” School

Naval Spent Fuel Shipping

874 CONTAINERS SAFELY SHIPPED
(March 1957 to Present)



After defueling, all naval spent fuel transported by rail to NRF for examination:

- **Ensures maximum performance of current fuel**
- **Enables design of new fuel with longer lifetimes**

State of Idaho Agreement and Consent Order

The 1995 Agreement and Consent Order governs management of all spent nuclear fuel and transuranic waste at the Idaho National Laboratory

BACKGROUND

- The agreement resolved litigation related to concern of Idaho officials that the INL was becoming a de facto permanent repository for spent fuel and transuranic waste.
- Litigation also led to preparation of a Programmatic EIS for management of spent nuclear fuel across the DOE.

ONGOING NAVY OBLIGATIONS

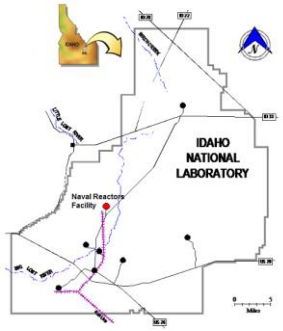
- Limit shipments of naval spent nuclear fuel to Idaho to a running average of 20 containers per year.
- Provide to Idaho annual reports on actual shipments made in the prior calendar year and expected shipments during the next calendar year.
- Include naval spent nuclear fuel among the early shipments to a permanent geologic repository or interim storage site.

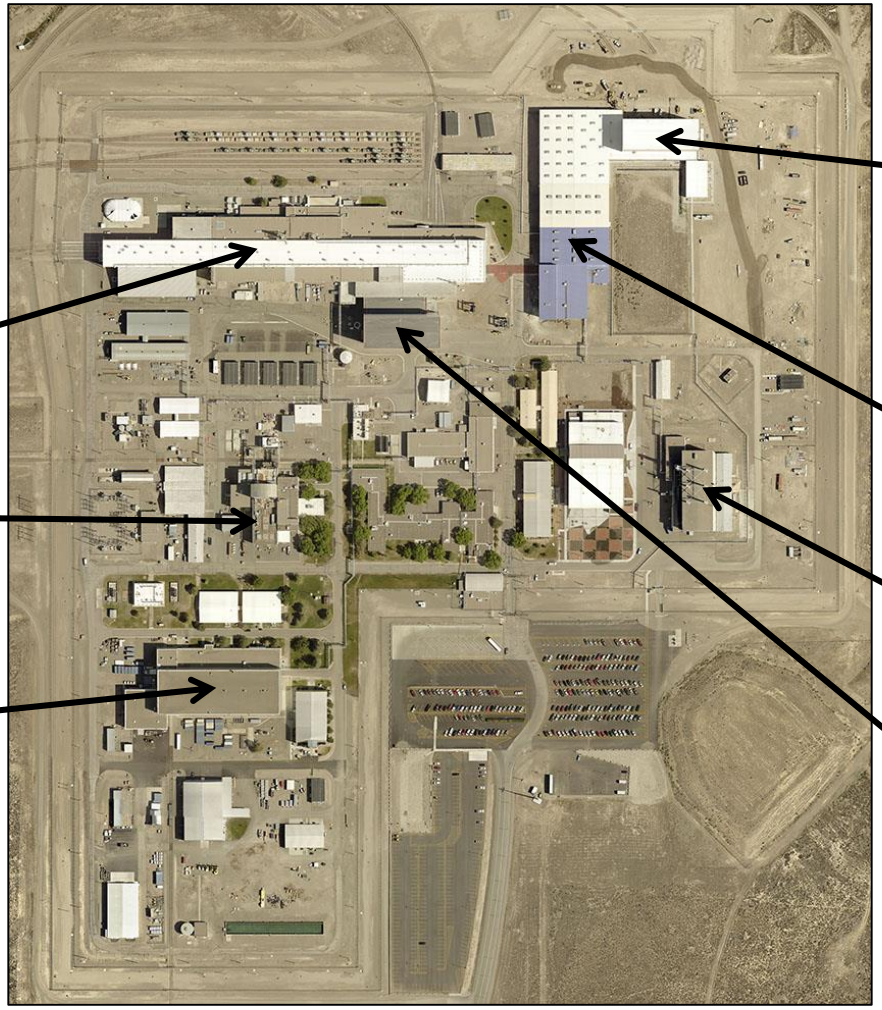
2008 ADDENDUM TO AGREEMENT

- Continued use of the water pool at the Naval Reactors Facility beyond 2023.
- Continued management of a limited in-process inventory of naval spent nuclear fuel at the Naval Reactors Facility in Idaho beyond 2035.

NAVAL REACTORS IS COMPLIANT WITH THE AGREEMENT AND ADDENDUM

Naval Reactors Facility





Expended Core Facility

A1W Prototype

S5G Prototype

Cask Shipping and Receiving Facility

Overpack Storage

S1W Prototype

Spent Fuel Packaging Facility

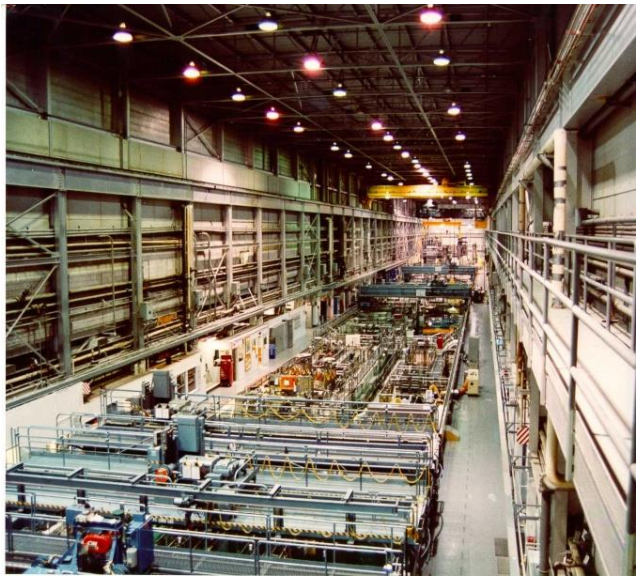
SERVING A VITAL ROLE SUPPORTING THE NATION'S NUCLEAR POWERED FLEET FOR OVER 60 YEARS

Expended Core Facility

Providing unique capabilities to the Naval Nuclear Propulsion Program

CAPABILITIES AND ACCOMPLISHMENTS:

- Began operations in 1958
- Large water pool
  - Visual examination, processing, and storage of spent fuel
  - Assembly/disassembly to support irradiation testing of new materials
- Shielded hot cells for detailed examination of test specimens
- Specialized facilities for placing spent fuel in sealed canisters for dry storage/disposal



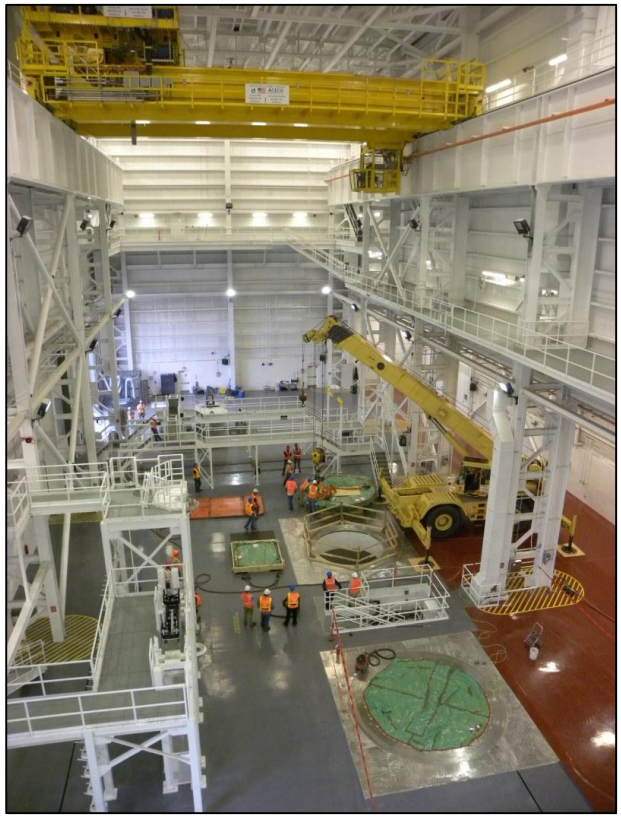
Dry Storage Packaging Operations

Placing Naval Nuclear Fuel into Dry Storage Canisters since 2003

- Dry Storage Packaging is on track to meet the 2023 provision of the Idaho Settlement Agreement and Consent Order.
- Over 150 spent fuel canisters have been loaded since 2003.
- Spent fuel canisters are ready to be shipped to a permanent repository.

OVER 70% OF NAVAL SPENT FUEL INVENTORY SUBJECT TO 2023 PROVISION HAS ALREADY BEEN PLACED IN DRY STORAGE

Cask Shipping and Receiving Facility

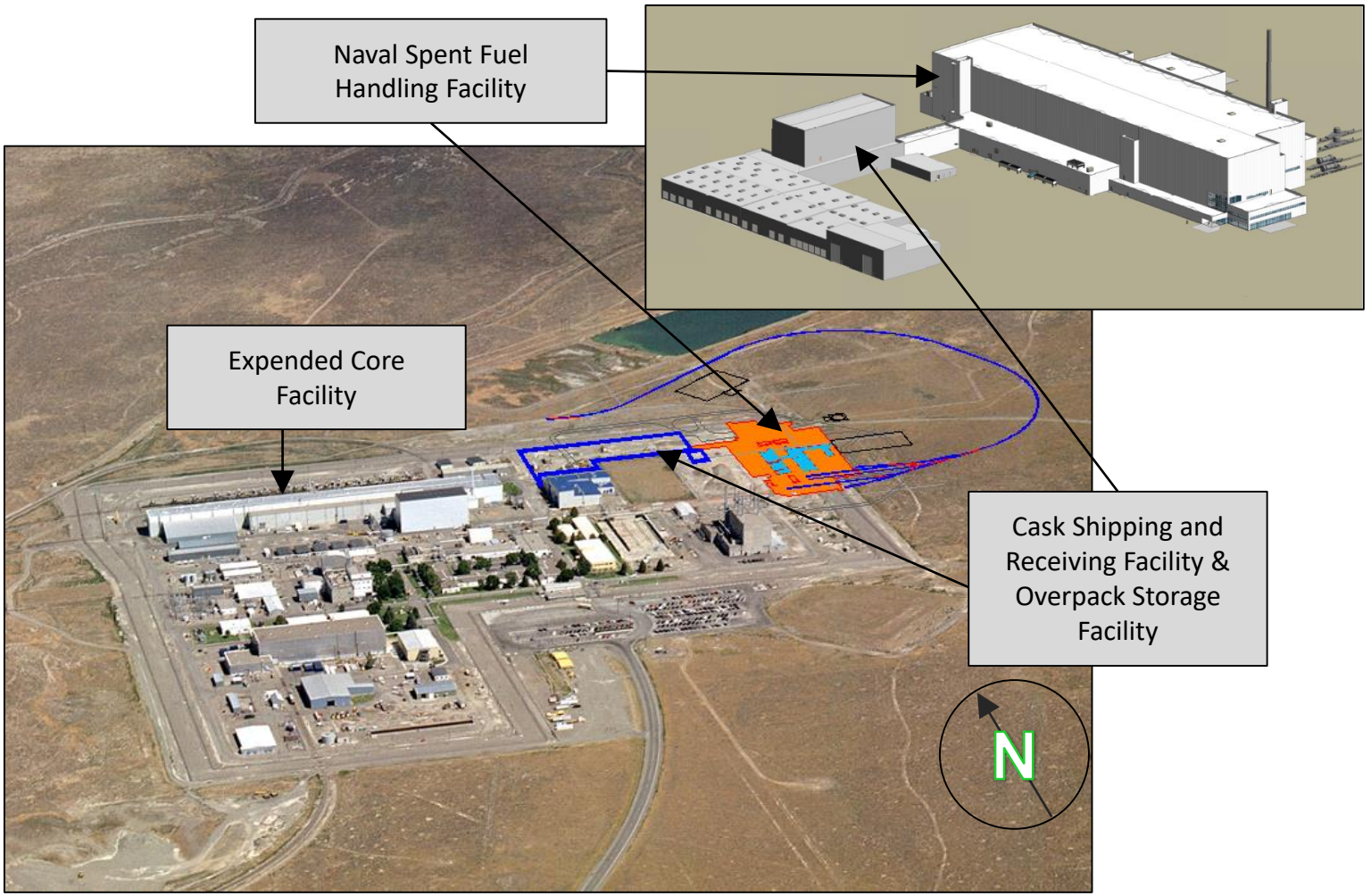


Cask Shipping and Receiving Facility was constructed for:

- Unloading aircraft carrier fuel from M-290 shipping containers.
- Loading spent fuel into shipping containers for rail transport to a permanent repository or interim storage facility.

NAVAL SPENT FUEL CANISTERS ARE ROAD-READY FOR SHIPMENT

Spent Fuel Handling Recapitalization Project



VITAL RECAPITALIZATION EFFORT TO SUSTAIN THE NAVAL REACTORS FACILITY MISSION INTO THE FUTURE

Socioeconomic Impact Summary

- Naval Reactors invests more than $400M in Idaho each year
- Approximately 1,500 employees at NRF
- Spent Fuel Handling Recapitalization Project will provide additional jobs during construction
- Each job at NRF adds about one to two jobs in the community