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

EM Transportation Update

Demitrous Blount
Office of Packaging and Transportation
Office of Environmental Management

Winter Meeting
Southern States Energy Board Radioactive Materials Transportation Committee

Discussion Topics

- Environmental Management Cleanup
  - Budget
  - 120 Day Initiatives
  - High Level Waste Interpretation
- Site Updates
- Organization of the Office of Environmental Management
  - Current Structure
- Update on the Office of Packaging and Transportation
  - Mission
  - Activities

Environmental Management Cleanup

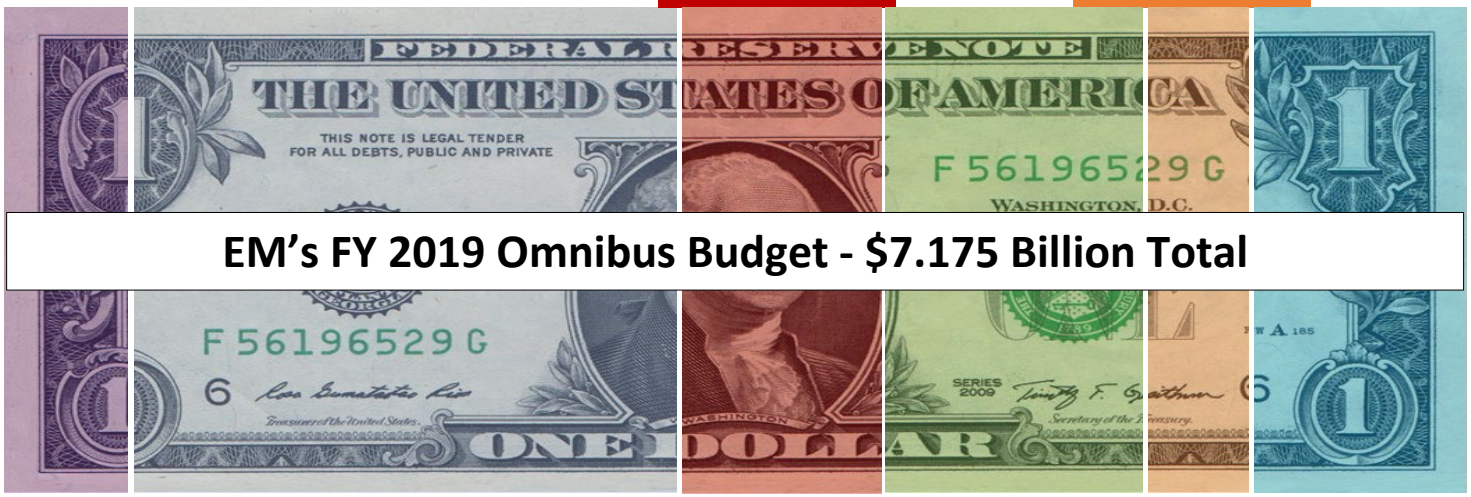
Fiscal Year 2019 Budget

EM Mission Areas

Special Nuclear Materials & Spent Nuclear Fuel
$ 573M / 8%

TRU & Solid Waste
$ 987M / 14%

Soil & Groundwater
$ 461M / 6%



EM's FY 2019 Omnibus Budget - $7.175 Billion Total

Radioactive Tank Waste
$ 2,621M / 37%

Facility D&D
$ 1,476M / 21%

Site Services
$ 1,057M / 14%

EM Sites							FY 19 Omnibus ($M)
Savannah River	✓	✓	✓	✓	✓	✓	1,551
River Protection		✓					1,573
Richland	✓		✓	✓	✓	✓	954
Idaho	✓	✓	✓		✓	✓	443
Oak Ridge	✓		✓	✓		✓	646
Portsmouth	✓			✓		✓	476
Paducah	✓			✓		✓	274
Carlsbad			✓			✓	404
Los Alamos			✓		✓	✓	220
West Valley			✓	✓		✓	78
All Others			✓	✓	✓	✓	556

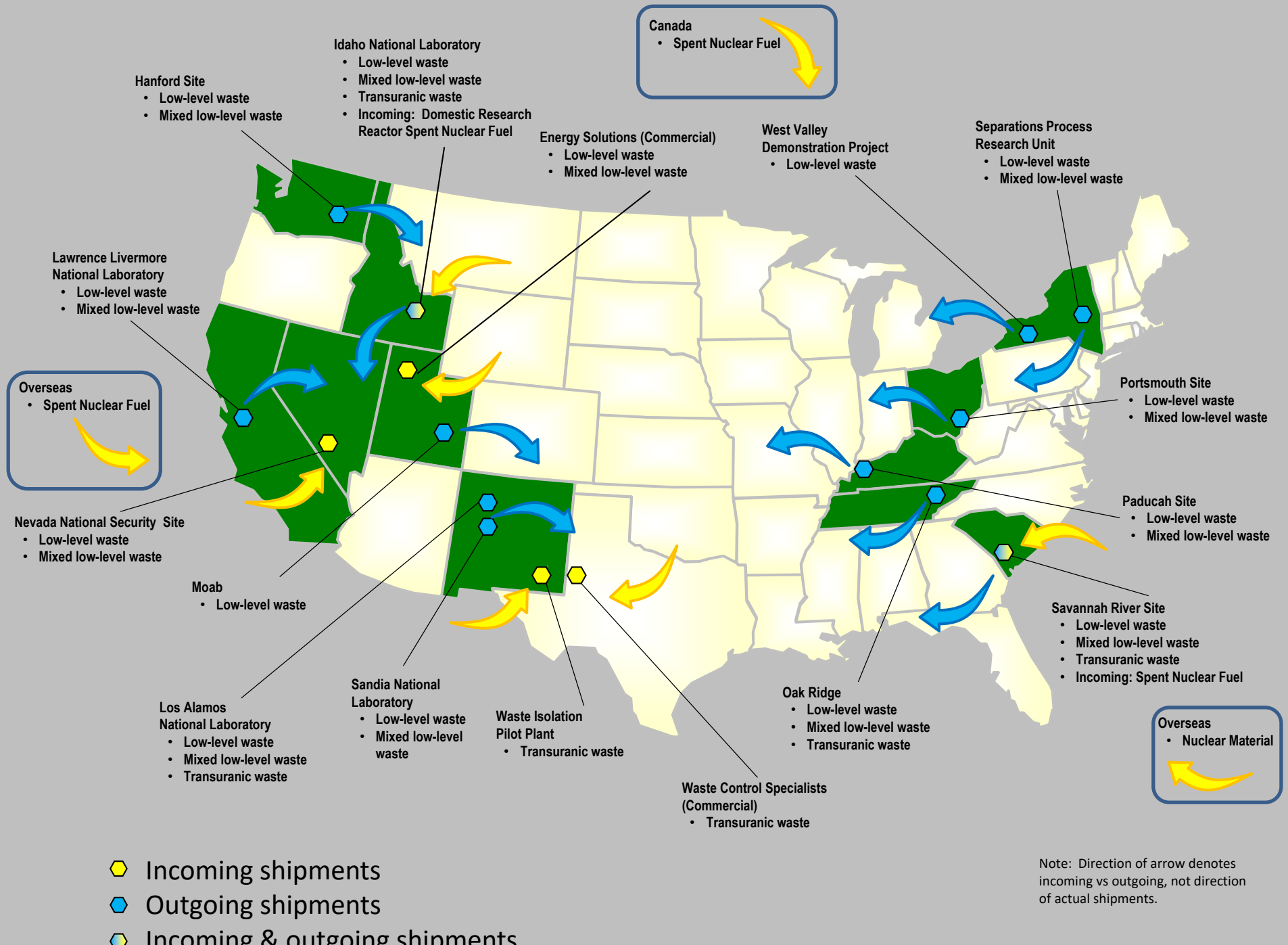
EM 120-Day Initiatives

- Implement End State Contracting to enable and drive the accelerated completion of work
- Examine the use of risk-based definitions for our waste to potentially allow us to strategically maximize the use of existing licensed disposal facilities and accelerate moving waste into permanent disposal facilities
- Align our regulatory agreements and commitments to ensure attainable outcomes that are tied to a risk-based analysis
- Advocate for changes to targeted orders and regulations to streamline and enable success
- Ensure ongoing excellence in our workforce through succession planning and retention of institutional knowledge and critical skill sets

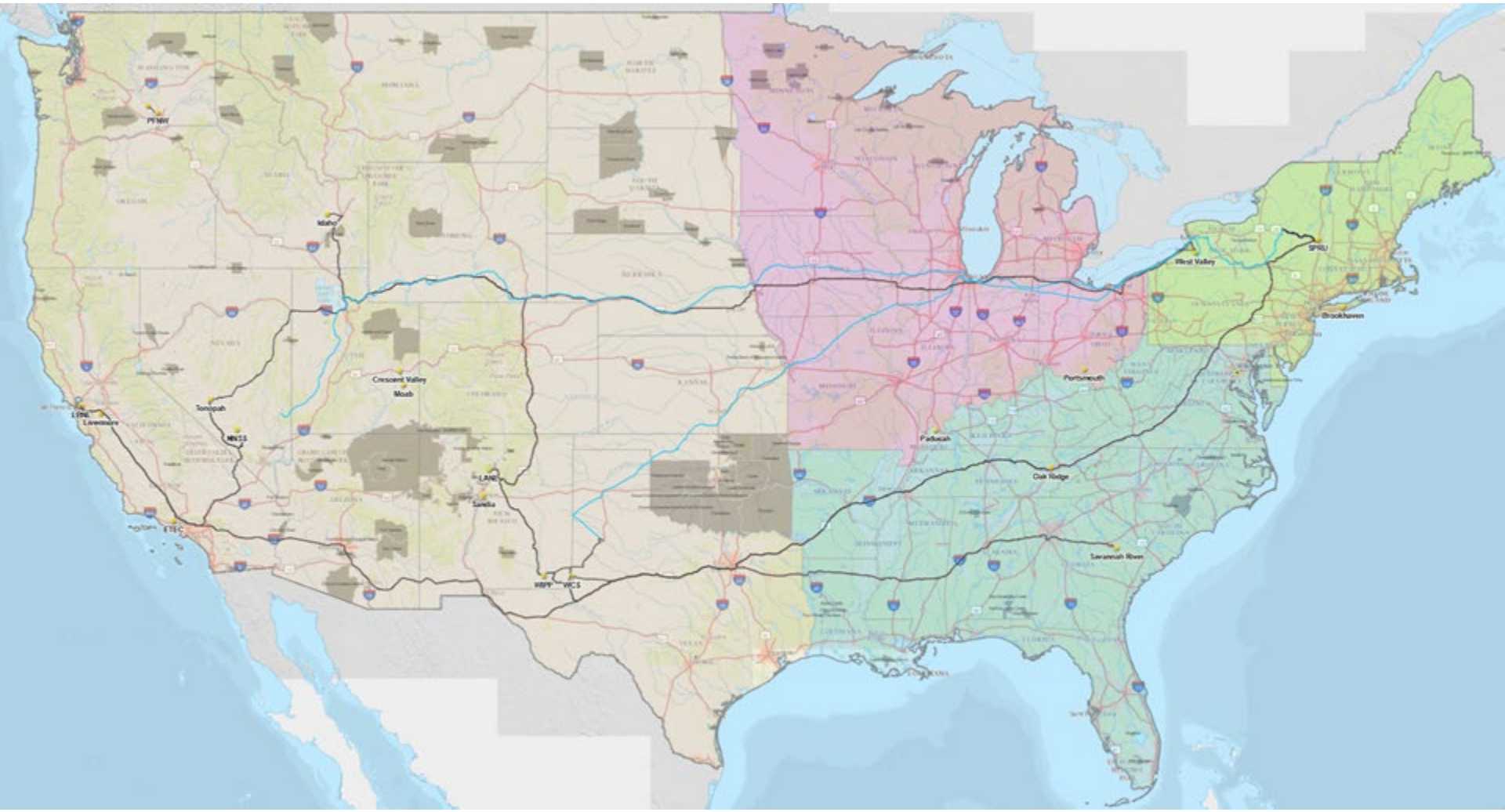
High Level Waste (HLW) Interpretation

- On October 10, DOE issued for public comment in the Federal Register its interpretation of the definition of HLW.
- The initial 60-day comment period has been extended to January 9, 2019.
- DOE wants to get the policy right and is requesting public comment.
- DOE has not made any decisions on the waste classification or disposal options in any state or locality.
- We welcome and greatly encourage comments from the public, Regulators, state and local officials, and all other stakeholders.

Site Updates


Canada
• Spent Nuclear Fuel
Idaho National Laboratory
• Low-level waste
• Mixed low-level waste
• Transuranic waste
• Incoming: Domestic Research Reactor Spent Nuclear Fuel
Hanford Site
• Low-level waste
• Mixed low-level waste
Energy Solutions (Commercial)
• Low-level waste
• Mixed low-level waste
West Valley Demonstration Project
• Low-level waste
Separations Process Research Unit
• Low-level waste
• Mixed low-level waste
Lawrence Livermore National Laboratory
• Low-level waste
• Mixed low-level waste
Overseas
• Spent Nuclear Fuel
Portsmouth Site
• Low-level waste
• Mixed low-level waste
Nevada National Security Site
• Low-level waste
• Mixed low-level waste
Paducah Site
• Low-level waste
• Mixed low-level waste
Moab
• Low-level waste
Savannah River Site
• Low-level waste
• Mixed low-level waste
• Transuranic waste
• Incoming: Spent Nuclear Fuel
Los Alamos National Laboratory
• Low-level waste
• Mixed low-level waste
• Transuranic waste
Sandia National Laboratory
• Low-level waste
• Mixed low-level waste
Waste Isolation Pilot Plant
• Transuranic waste
Oak Ridge
• Low-level waste
• Mixed low-level waste
• Transuranic waste
Overseas
• Nuclear Material
Waste Control Specialists (Commercial)
• Transuranic waste
Incoming shipments
Outgoing shipments
Incoming & outgoing shipments
Note: Direction of arrow denotes incoming vs outgoing, not direction of actual shipments.

Possible Shipping Routes



Oak Ridge Reservation (ORR) Cleanup

Y-12 Biology Complex

Y-12 – Artist rendering of Mercury Treatment Facility

ORNL TRU Waste Processing

ETTP Demolition of K-633 at Poplar Creek

Oak Ridge Reservation (ORR) Cleanup

ETTP

- Completed demolition of old water treatment plant
- Demolition of Poplar Creek K-633 complete
- Demolition of TSCAI facilities complete
- Deactivation of Building K-1037 nearing completion
- Implementing soil excavation projects
- Demolition of all Gaseous Diffusion Process buildings complete
- Planning to complete ETTP cleanup in 2020 timeframe

ETTP

Y-12

- Technology development activities focused on addressing mercury contamination
- Mercury Treatment Facility early site preparation began this fiscal year, completion scheduled for 4Q2019
- Planning for onsite disposal facility continues, CD-1 approved
- Alpha 4 COLEX equipment removal complete, 2.75 tons of mercury recovered
- Deactivation of Biology Complex began this fiscal year

Excess Facilities at Y-12

ORNL

- Resumed shipments to WIPP, 53 shipments completed
- Completed pump down reactive gas removal system - MSRE
- Completed replacement Granular Activated Carbon system at Bldg. 3608
- Completed Direct Disposition of U-233 material and initiated planning for processing

Excess Facilities at ORNL

Paducah Gaseous Diffusion Plant (PGDP)

Major Project Status, Plans, and Challenges

Major Project Status (last 6-8 months)

- Approximately 90% complete with deactivation of the C-400 Cleaning Building
- Approximately 80% complete with deactivation of the C-360 Toll and Transfer Building
- Completed the deactivation of C-535 and C-537 Switchyards

C-400 Cleaning Building

Plans (next 2-3 years)

- C-400 Cleaning Building demolition planned for FY2019
- Remedial investigation of the C-400 Complex is planned for FY2020
- C-400 Complex remedy Record of Decision expected to be issued by FY2023
- C-331 Process Building nondestructive assay and uranium deposit removal to be complete by FY2020
- C-360 Toll and Transfer Building declared criticality incredible and in long-term surveillance and maintenance by FY2019
- New electrical substation completed by FY2020
- Remaining 2 switchyards to be deactivated in FY2020
- Removal and disposition of 22 cold traps in FY2019

Switchyard

Challenges

- Currently working with regulatory agencies to resolve C-400 Building demolition CERCLA document disputes
- Dispute resolution could potentially delay the remedial investigation and subsequent remedy for the C-400 Complex

Portsmouth Gaseous Diffusion Plant

Recent Successes:

- Completed deactivation of the X-326 Process Building (29 acres)
- Initiated deactivation of the X-333 Process Building (33 acres)
- Completed transfer of Parcel 1 (80 acres) to the community for reindustrialization
- Operated 2 conversion lines safely converting DUF_6 into an oxide with commercial sales of the co-product HF acid.

Near Term Scheduled Activities:

- Complete deactivation of X-333 Process Building by Q2 FY21
- OSWDF Cell 1 liner complete Q1 FY20
- Prepared DUF6 SEIS needed for oxide disposal planned for FY22

Challenges to Success:

- Adequate, stable funding
- Flat future budgets likely will curtail number of lines operating at the DUF_6 facility

SRS Area Closures / Deactivation and Decommissioning

Site remediation continues with more than 79% of the total 515 number of waste units completed

Over 25% of 1,127 total excess facilities safely dispositioned to date

2 production reactors (R and P) decommissioned in place

85% reduction in total SRS industrial footprint made possible by American Recovery and Reinvestment Act

More than 15,000 environmental and groundwater samples collected annually and analyzed for radionuclides, metals or other chemicals that could be present

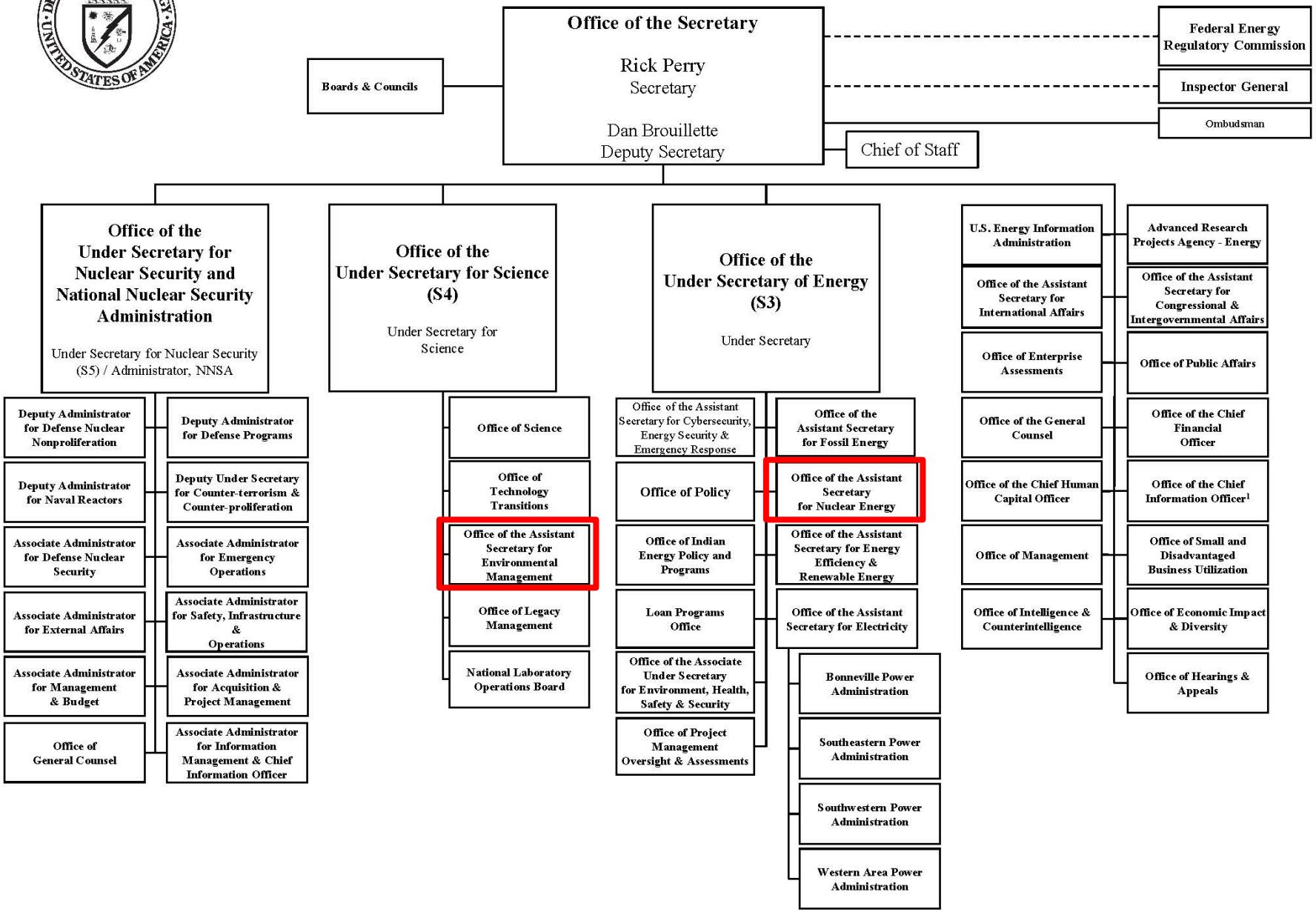
Savannah River Site

- Achieved 85 percent SRS industrial footprint reduction through accelerated remediation/cleanup and D&D (American Recovery and Reinvestment Act)
- Accelerated transuranic waste remediation, including remediating and repackaging more than 5,200 cubic meters of legacy TRU waste, most of which has been shipped to WIPP
- Strengthened nuclear materials management at SRS, including:
  - Renewal of H Canyon
  - Vault expansion in K Area for safe, secure storage for nation's excess plutonium
  - Modifications in L Area Basin for ongoing receipts of domestic and foreign research reactor fuels
- Met all tritium requirements for loading and shipments of limited-life components in support of national defense with efforts underway to prepare for increased production

Ship to WIPP

EM Organization

DEPARTMENT OF ENERGY



May 2018

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

Organization Chart
10-26-2018

Special Projects Office

EM-1 EM
EM-2

EM-2.1 Chief of Staff

- International Program
- Correspondence Center

Savannah River National Laboratory Policy Office

EM-4
Regulatory and Policy Affairs
APDAS

EM-4.1 Infrastructure Management and Disposition Policy
Director

- 4.11 Infrastructure and D&D
- 4.12 Subsurface Closure

Waste and Materials Management
DAS

- 4.21 National TRU Program
- 4.22 Waste Disposal
- 4.23 Nuclear Materials
- 4.24 Packaging & Transportation

EM-4.3 Regulatory Intergovernmental and Stakeholder Engagement
Director

- 4.31 Regulatory Compliance
- 4.32 Intergovernmental and Stakeholder Programs

EM-3
Field Operations
APDAS

EM-3.1 Safety, Security, and Quality Assurance
DAS

3.11 Field Operations Oversight/CNS
ADAS

- 3.111 Safety Management
- 3.112 Operational Safety
- 3.113 Standards and Quality Assurance
- 3.114 Safeguards, Security, and Emergency Preparedness

EM-3.2 Technology Development
Director

EM-3.3 Chief Engineer
Chief Engineer

- 3.31 Major Constructions and Modifications
- 3.32 Operations and Processes

Field Sites

- Carlsbad
- Idaho
- Los Alamos
- Oak Ridge
- Office of River Protection
- Portsmouth & Paducah
- Richland
- Savannah River Site
- EM Consolidated Business Center

EMCBC Field Sites
- Moab
- ETEC
- SPRU
- West Valley
- LBNL
- Brookhaven
- EM-NV

- EM NNSA Sites (NNSS, LLNL, SNL)

- HQ Field Liaisons

EM-5
Corporate Services
APDAS

EM-5.1 Resource Management
DAS
ADAS

- 5.11 Budget and Planning
- 5.111 Budget
- 5.112 Program Planning
- 5.12 Information Systems
- 5.13 Workforce Management

EM- 5.2 Acquisition & Project Management DAS

- 5.21 Acquisition and Contract Management
- 5.22 Project Management

EM-5.3 Communications
Director

- 5.31 External Affairs
- 5.32 Communications Services

Update on the Office of Packaging and Transportation

Our Mission

The Office of Packaging and Transportation protects people and the environment by ensuring safe, compliant, and efficient packaging and transportation of materials critical to successful Department operations. We achieve this mission by conducting packaging and transportation assessments and oversight; assisting field sites; and developing, managing, and advocating policies, orders, guidance and tools in accordance with DOE requirements and government regulations.

Update on Order Revision

Regulations and Standards

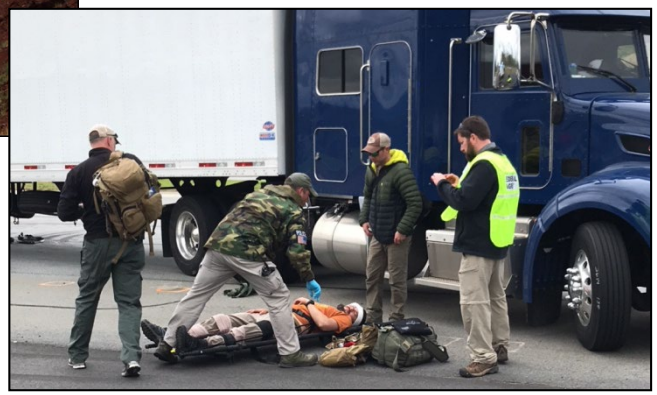
DOE Order 460.2A Revision Update:

- Integrated Project Team completed an extensive review of the Radioactive Material Transportation Practices Manual.
- Subgroups have begun to work with field packaging and transportation subject matter experts to develop specific requirements in each topical area.
- Review and comment process will be used IAW DOE Order 251.1D.
  - Public review period will commence after subgroup review.

Transportation Emergency Preparedness Program

Outreach & Emergency Preparedness

- Website re-design
- New TEPP Working Group with NTSF
- Tribal training
- National Radiological Training Coordination Group



TEPP: FY2018 Training Activities

Region	# Classes	TTT	Full	CMERRTT	Partial	TMERRTT	RAD Specialist	Hospital	Total
WGA	55	9	300	359	56	72	0	57	853
SSEB	76	81	303	319	75	342	32	0	1152
MWCSG	10	25	76	32	14	0	0	0	147
NECSG	19	20	134	68	2	37	0	42	303
Total	**160**	**135**	**813**	**778**	**147**	**451**	**32**	**99**	**2455**

Contact for Additional Information

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