

SRNS: Supporting the Delivery of Strategic Materials

Proposed Savannah River Plutonium Processing Facility (pSRPPF)

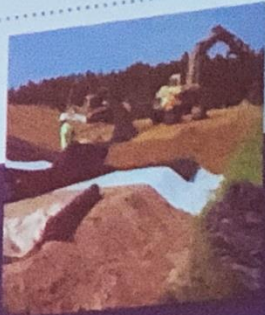
Dave Olson

SRPPF Mission Director

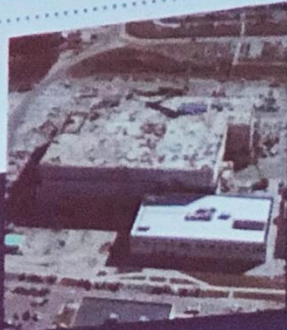
Annual Nuclear Deterrence Summit

February 12, 2020

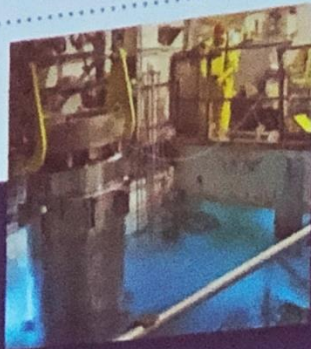
SRNS: Supplying solutions around the world



Environmental Stewardship
for soil, water and facilities



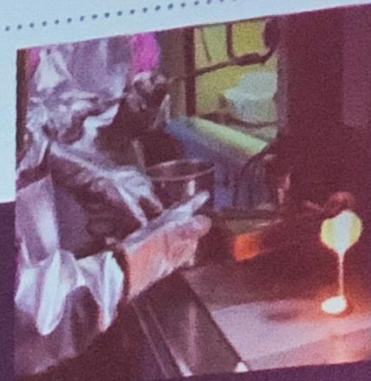
Nuclear Materials for National Security
nuclear weapons deterrent



Securing Nuclear Materials
to prevent unwanted proliferation



Transforming Nuclear Materials
into assets and stable wasteforms



Savannah River National Laboratory
putting science to work



Additional Support Services

Emergency Services • Water • Electrical
Cyber/IT • Roads • Construction • Maintenance

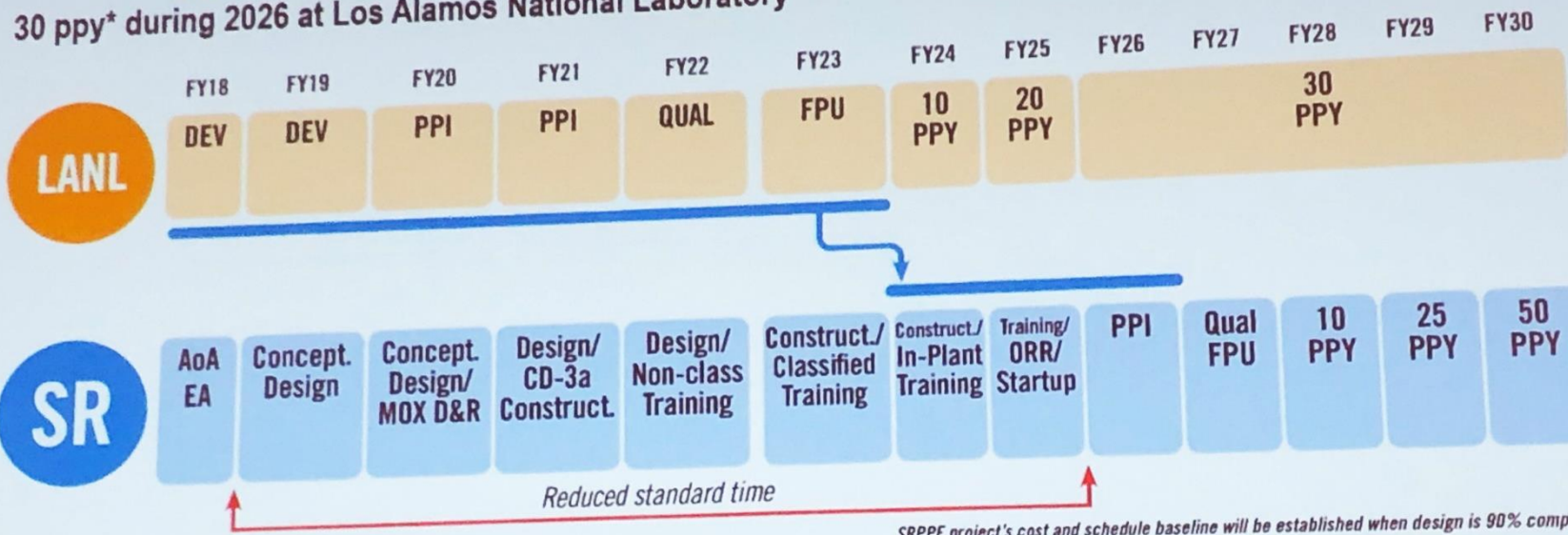
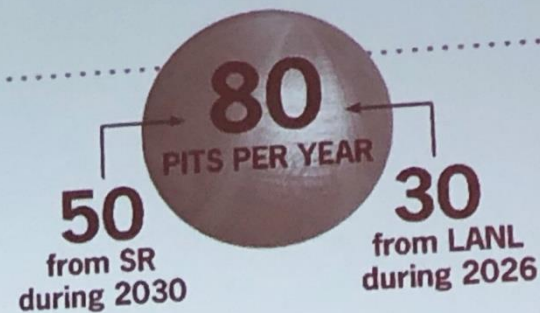
6,800
Employees
"Making the World Safer"

World-class safety culture
•
Strong community support

Plutonium Processing Mission Objective

Reliable delivery of
No fewer than 80 pits per year*

50 ppy* during 2030 at Savannah River
30 ppy* during 2026 at Los Alamos National Laboratory



- Two facilities provide more confidence that production goals will be met
- Leverages NNSA investment in MOX facility and resources
- Maximizes transfer of LANL and LLNL technical and process knowledge
- SRS brings plutonium production experience

Repurposing the 226-F Complex for the Proposed SRPPF

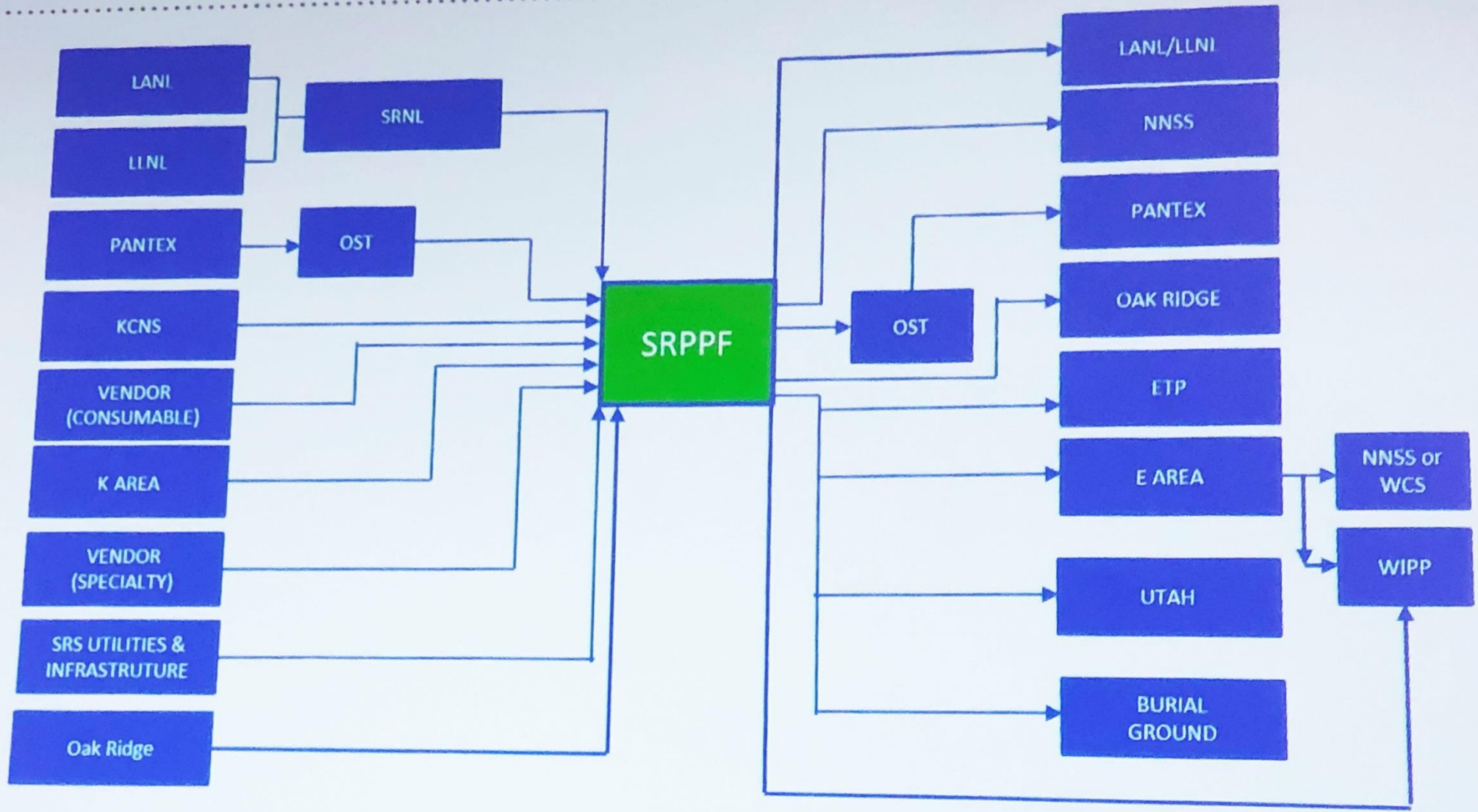


- 500,000-square-foot seismically qualified production facility
- 11 support facilities on ~110 acres
- >100 construction storage and support structures
- Site infrastructure includes electrical; domestic and fire protection water; sanitary/sewage systems in all occupied buildings
- 225,000 sq.ft. of office space available within the 226-F Complex

The 2020 Current State



pSRPPF Programmatic Material Interfaces



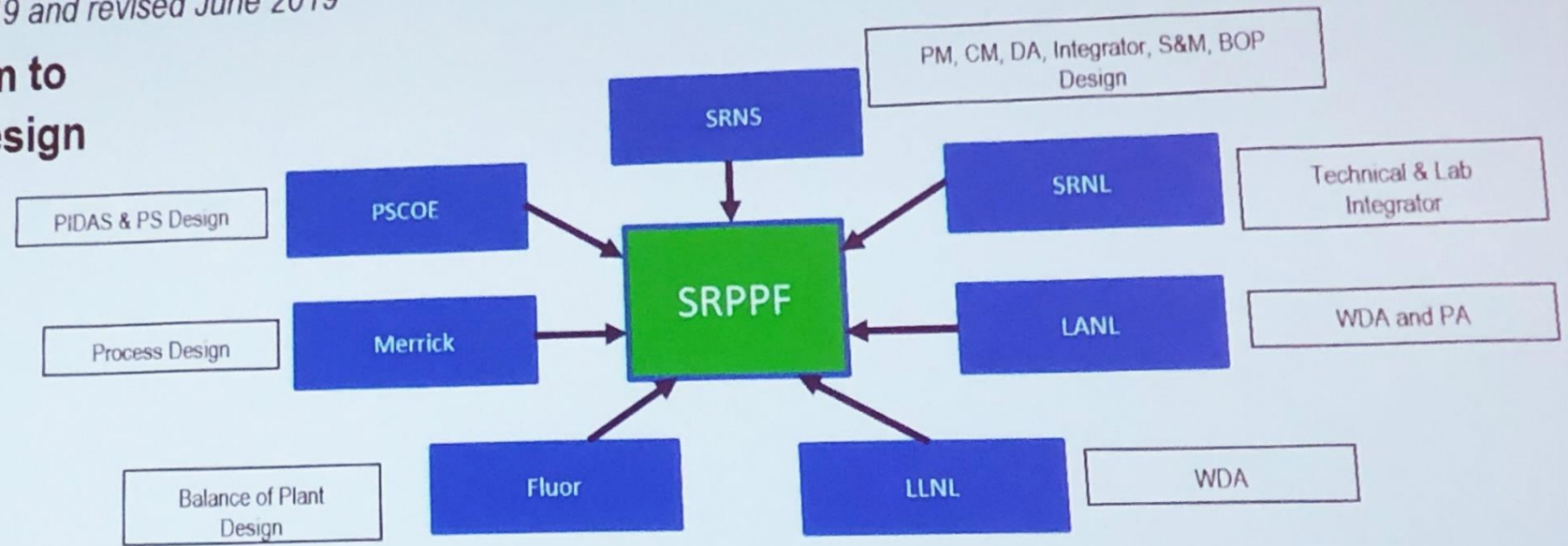
pSRPPF Project Progression

• Proposed Savannah River Plutonium Processing Facility (SRPPF)

- Execute per DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets
 - CD-0 Approve Mission Need – Complete
 - Analysis of Alternative (A of A) and a supplemental Engineering Assessment (EA) - Complete
 - Cost and schedule plan for CD-1 submitted in January 2019
 - Direction to proceed with Conceptual Design in February 2019
 - PRD specific to SRPPF issued April 2019 and revised June 2019

• Assembled contractor Project team to produce and deliver conceptual design by NNSA by September 2020.

- Scope is to design the process and non-process equipment and infrastructure support facilities

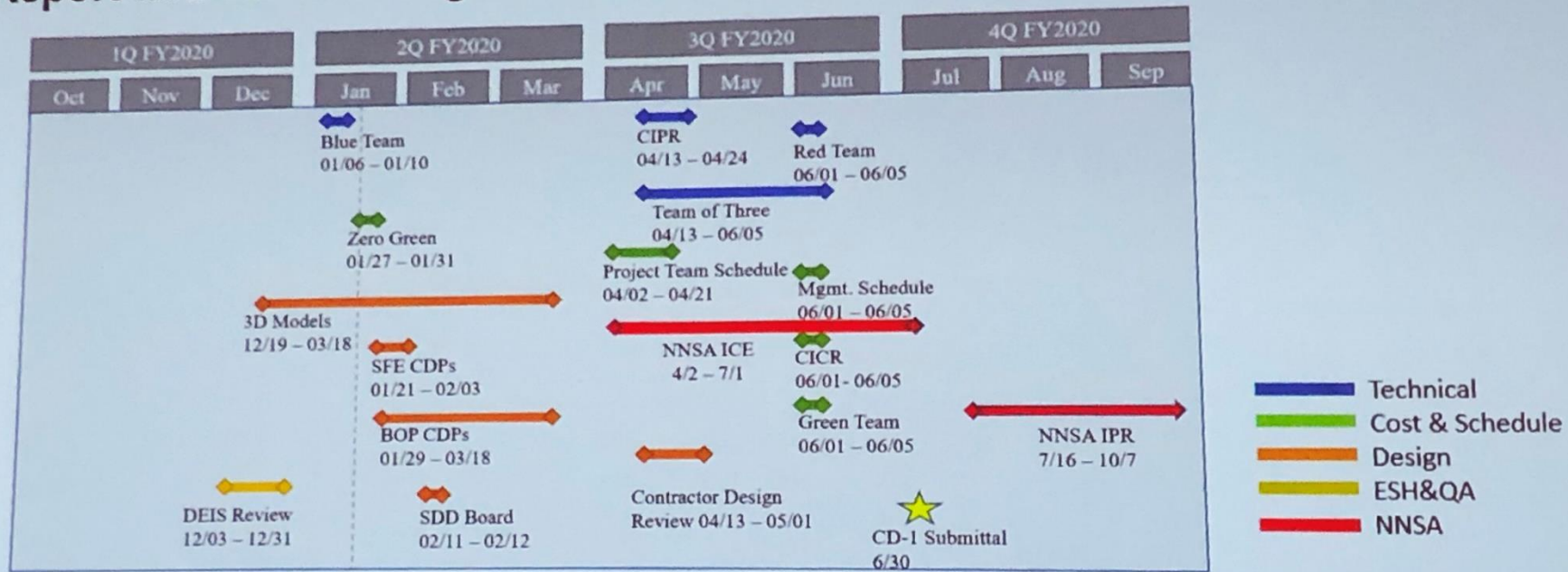


pSRPPF Project Progression - continued

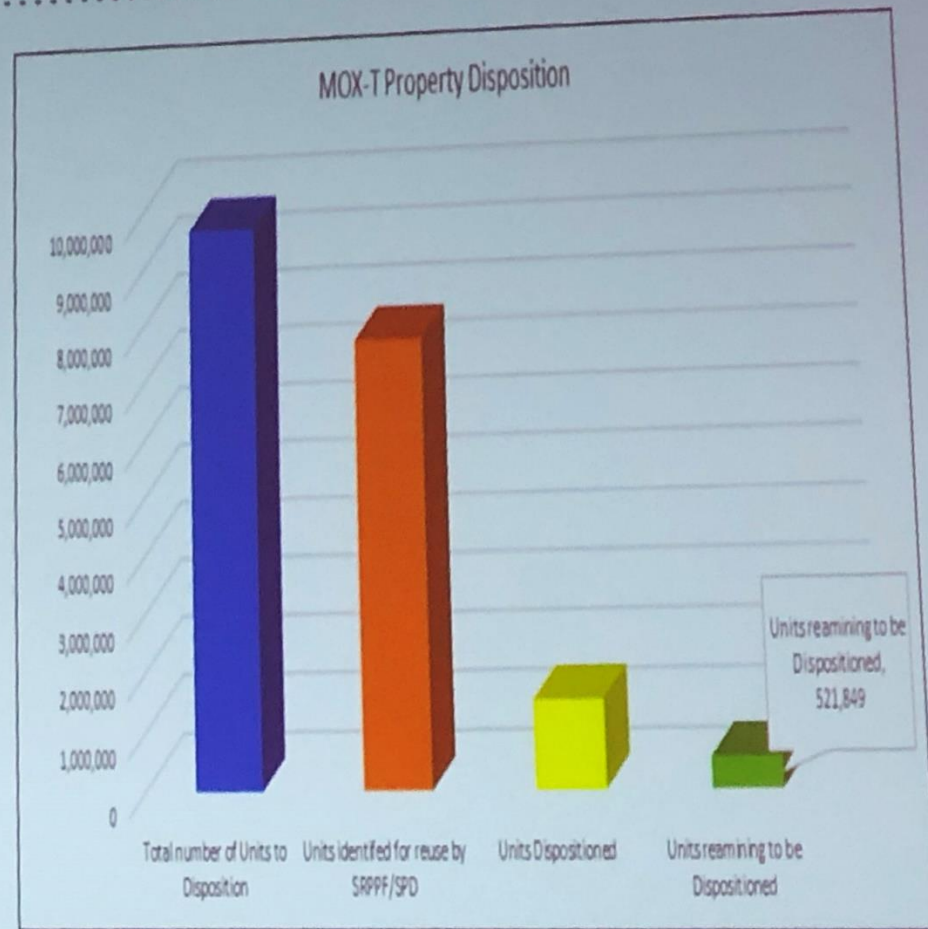
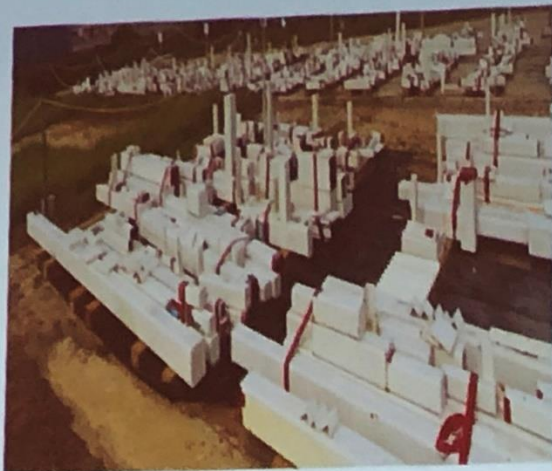
- **Conducted benchmarking of UPF for project management and several nuclear sites for Pu processing**
 - Incorporating Lessons Learned and Best Practices from LANL, LLNL, RF, UPF, AWE, and SRS
- **Drafted Technology Readiness Assessment on critical technology elements; all elements at TRL 6**
- **Replicated LANL flowsheet and utilizing LANL and SRS production throughput models to validate equipment count and layout**
- **NNSA began developing a NEPA Environmental Impact Statement to evaluate the impacts of establishing a pit mission at SRS**
- **Initiated knowledge transfer and training for SRS team using two prong approach**
 - Assignment rotations at LANL
 - Activating Training and Operations Center

CD-1 Deliverables – Status of Major Milestones

- Conceptual Design Packages complete by March 31, 2020
- Key plans, reports and documents complete by April 30, 2020
 - Regulatory and Environmental; Safety Design; Safeguards and Security
 - Project Management, Construction and Acquisition
- Cost and Schedule complete by May 31, 2020 with reviews through June 5, 2020
- Conceptual Design Report and CD-1 Package submitted by 4th Quarter 2020



Disposition and Identified Potential Reuse of Uninstalled MOX Project Equipment and Commodities



SRNS pSRPPF Project Staffing Plan



Changing SRNS Workforce Landscape

3,664

new full-service employees

FY14-present

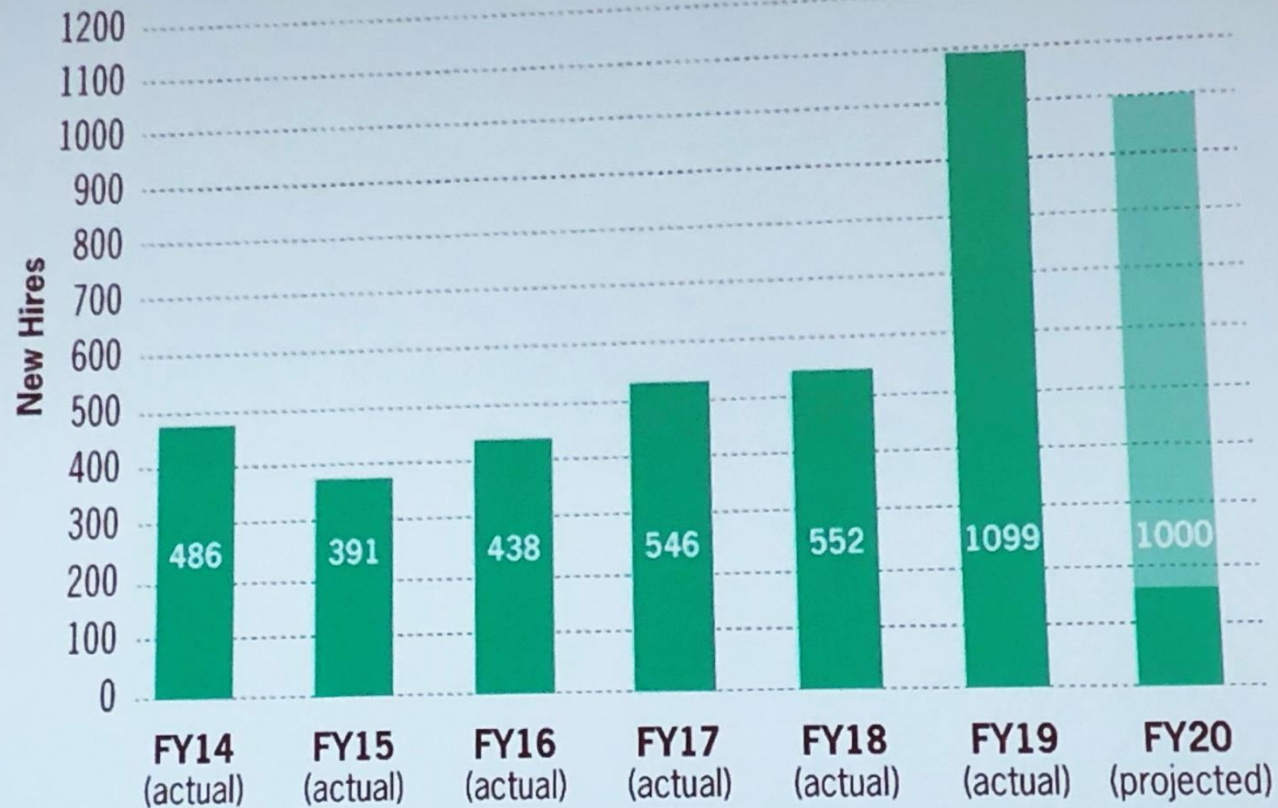
80%

hired from local area

46

average age of employees

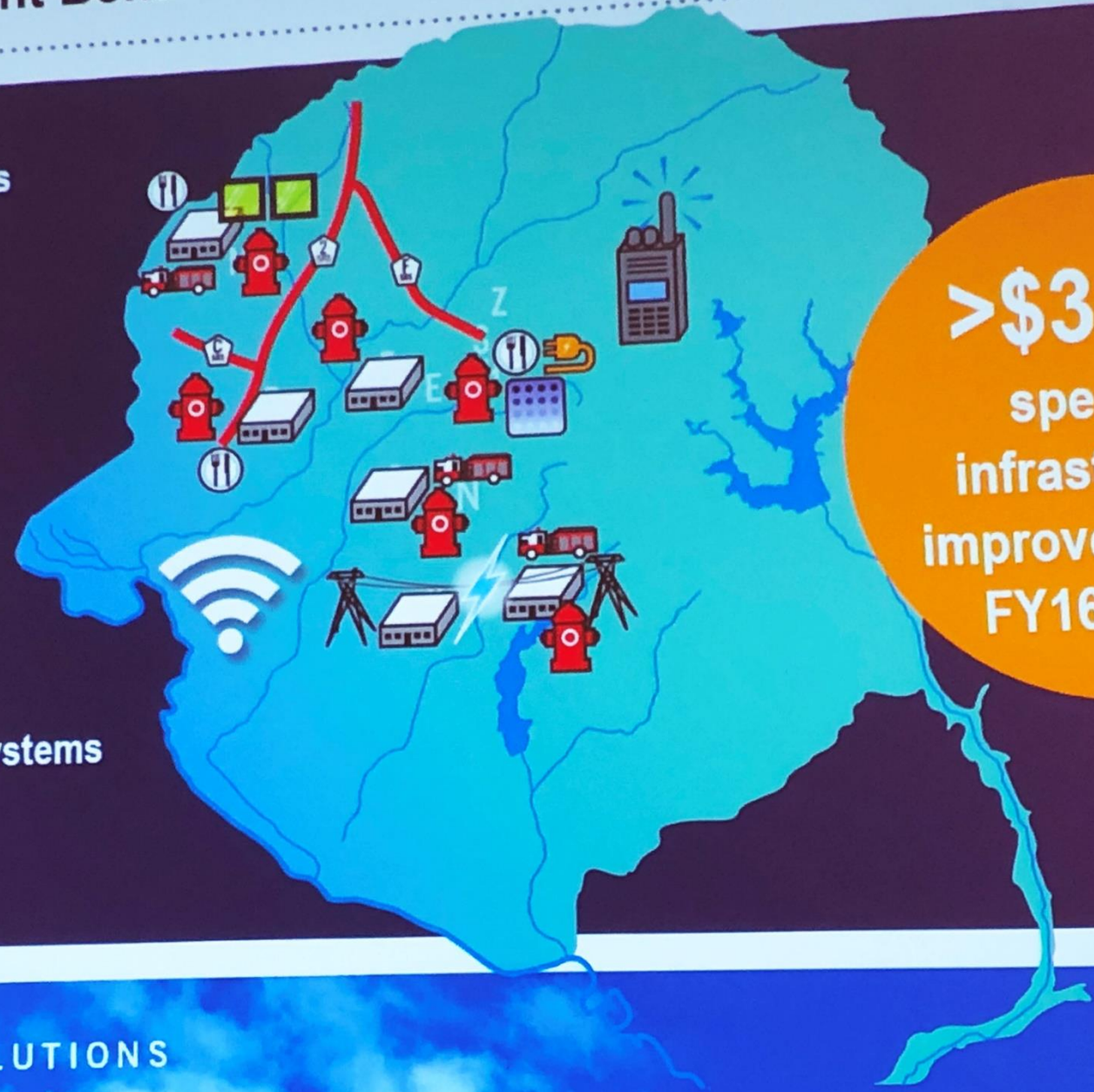
Hiring Profile



Jan20

SRS Infrastructure Investment Behind the NNSA Mission

- Refurbished ~40 miles of paved roads
- Replaced 22 roofs
- Refurbished 29 firewater systems
- Replaced all emergency vehicles
- Replaced 13 of 16 SRNL shielded cell windows
- Replaced radio systems
- Replaced major power distribution systems
- Habitability upgrades



>\$350M
spent on
infrastructure
improvements in
FY16 - FY19

pSRPPF Project Execution Challenges

- Continue accelerated ramp up of staffing, including large EPC experience, backfill for longstanding Pu processing expertise, and obtaining security clearances
- Manage the design integration of multiple design agencies in multiple locations
- Confirm the approach to the IT infrastructure
 - classified and unclassified
- Accelerate schedule of final design, long lead procurement and construction to meet production commitment during 2030
- Drive supply chain availability, capability and capacity
- Stable funding is required for the project

