



State of the Labs Presentation

Delivering Today, Shaping Tomorrow

Jill Hruby

President and Laboratories Director

3 November 2015

Our people of today and tomorrow

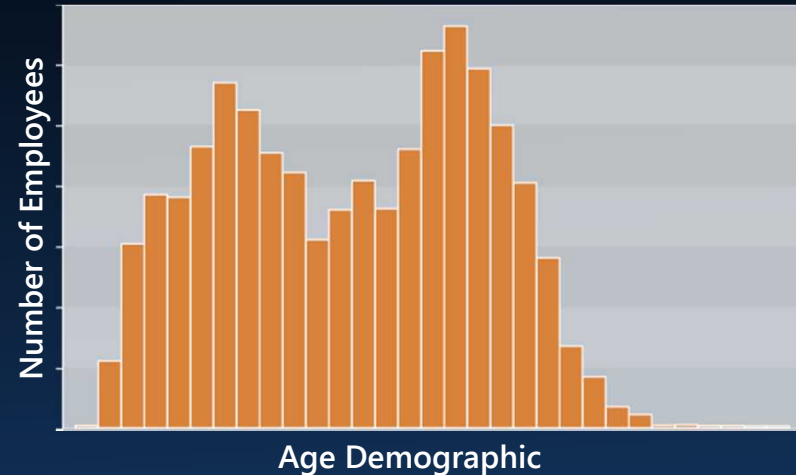
- 10% of our employees are FY15 new hires
- 24% of our employees were hired in the last 3 years
- 11% of management employees are in new positions

Total Sandia workforce: **12,600**

Regular employees: **10,300**

Advanced degrees: **5,790**

Today's Demographic Makeup

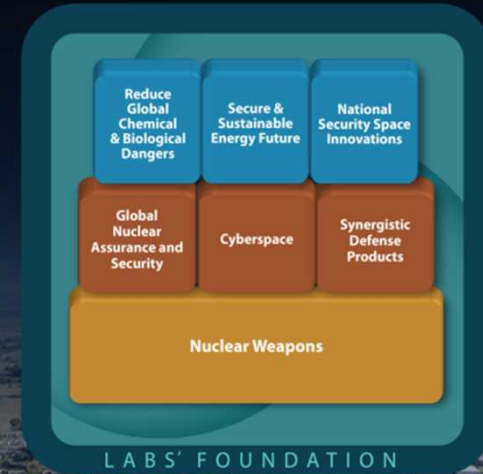


- ~3,500 with less than 5 years of service

Our institution is evolving

Multimission laboratory

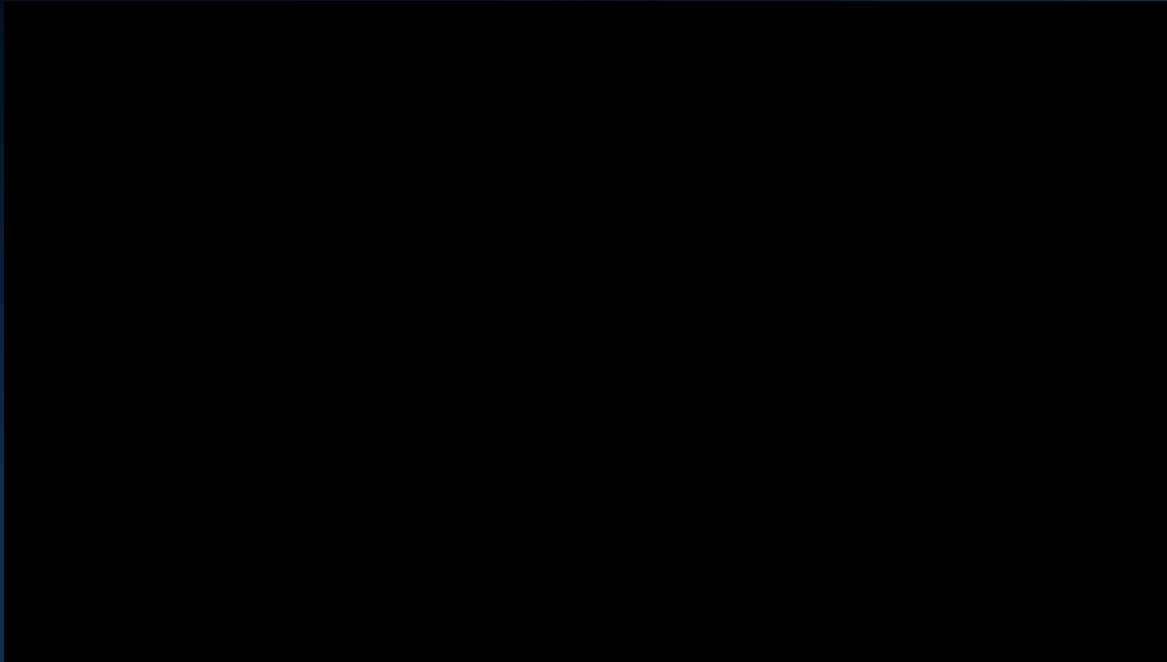
Maintain the nation's nuclear weapon
stockpile
while bringing solutions to broader national
security challenges



We Deliver on National and Global Security Challenges

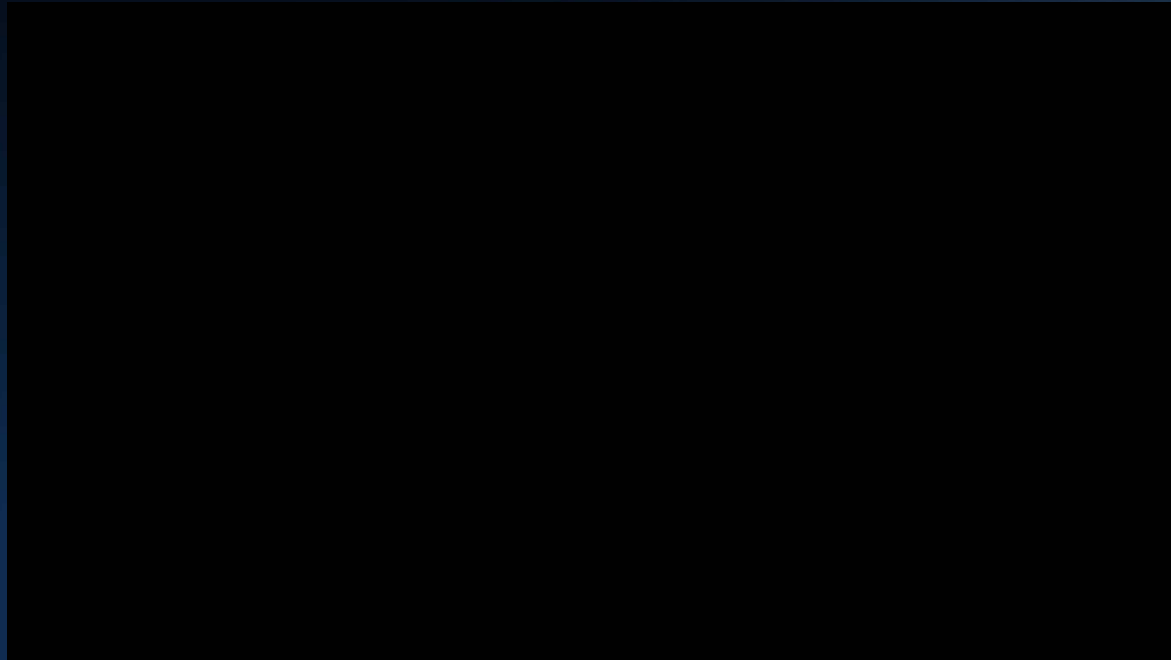
Paving the way for qualification testing starting in FY17

Three successful flight tests on the B61-12 Life Extension Program



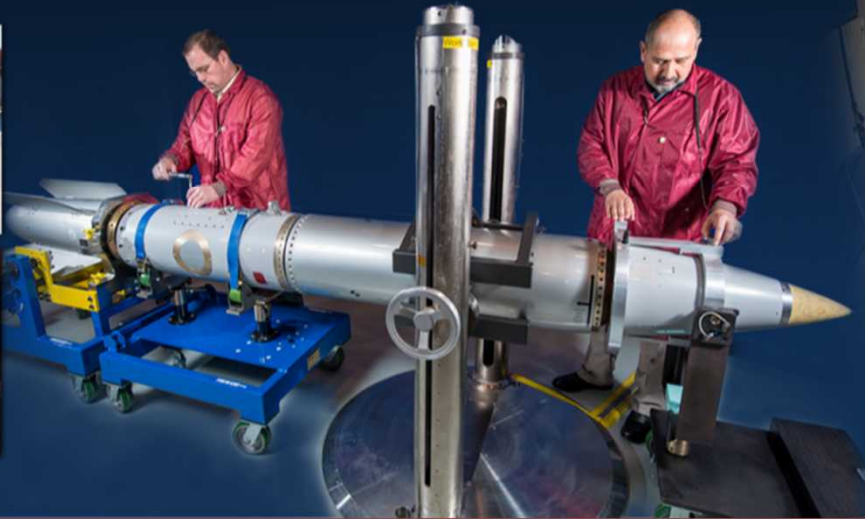
Paving the way for qualification testing starting in FY17

Three successful flight tests on the B61-12 Life Extension Program



Certifying the nation's nuclear weapon stockpile

Sandia's 2015 annual assessment letter was sent to the secretaries of Energy and Defense and the chairman of the Nuclear Weapons Council on September 28



Extending the life of the W80-4

California team develops non-nuclear components and subsystems for systems integration

Project is in feasibility study phase, which includes more detailed design work, maturing component technologies, and fabricating prototype hardware



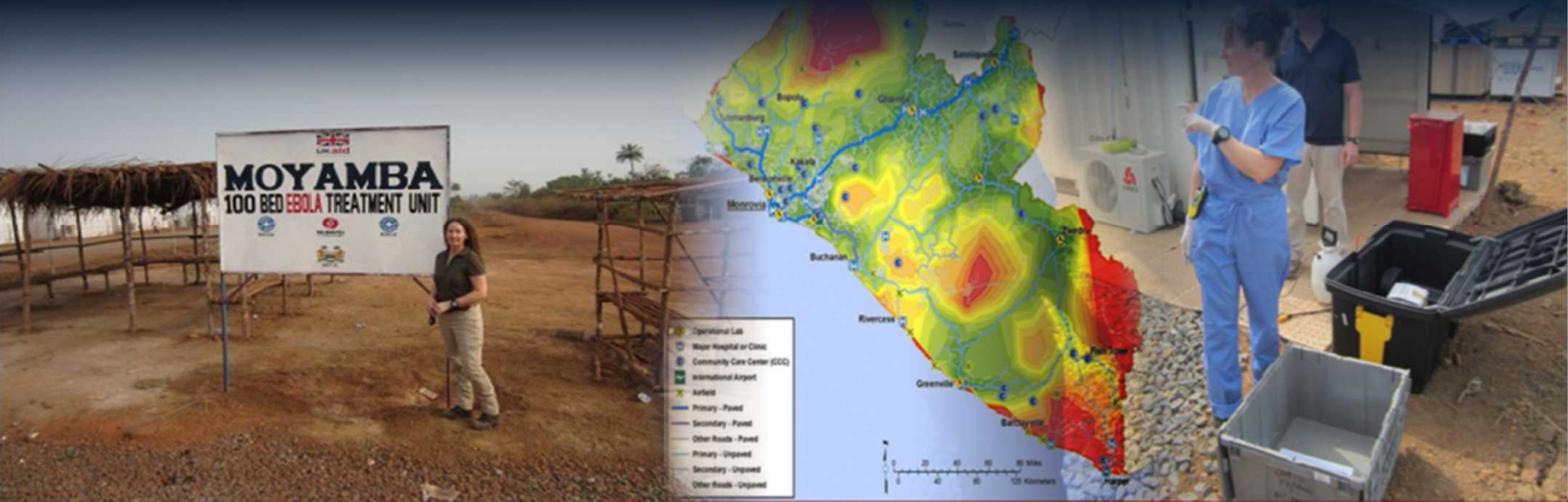
Solving global challenges

Representatives from several countries and guests from the United Nations and NATO became acquainted with our programs that support implementation of the Treaty on Non-Proliferation of Nuclear Weapons



Assisting West Africa with biosafety

- Used geospatial analytics and simulation to model national infrastructure and reduce sample transport time, ultimately saving lives
- Assessed international transportation policy and informed U.S. hospital response



Testing and evaluating systems at the Counterfeit Detection Center

A center of excellence supporting the U.S. government with assessments of systems ranging from the macro to the micro scale



Addressing the most demanding climate change issues

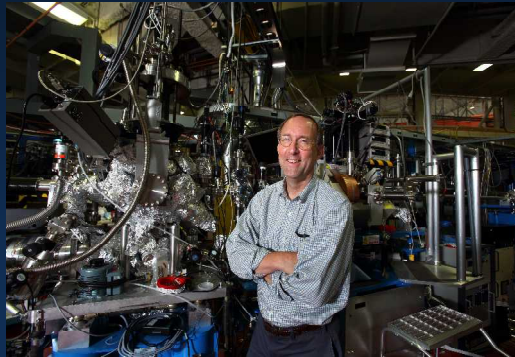
Accelerated climate modeling for energy (ACME)

- 15 institutions collaborate to develop the most complete climate and Earth system model, ACME
- Sandian Mark Taylor received the DOE's 2014 Secretary's Honor Award for his team's work to unify the DOE's climate modeling research community
- This work has brought recognition to Sandia as a leader in climate change science



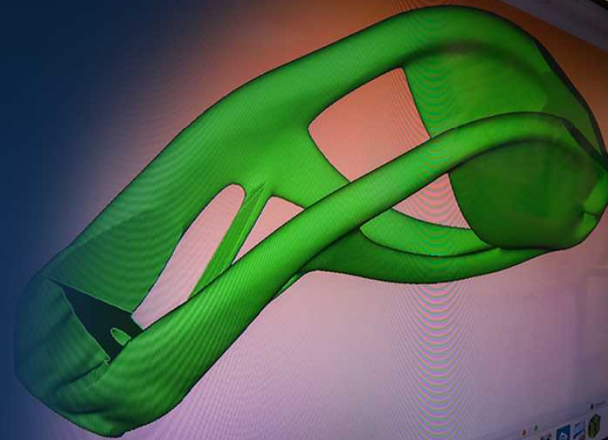
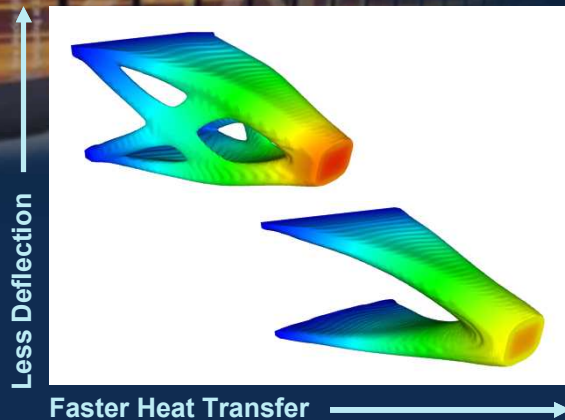
Contributing to a hydrogen-powered future

- HyMARC
- SF-BREEZE
- Maritime Hydrogen Fuel Cell
- Molybdenum disulfide (molly)



Coupling novel design tools and additive manufacturing

- Topology optimization takes advantage of design freedom
- Optimizing shapes while saving space and weight

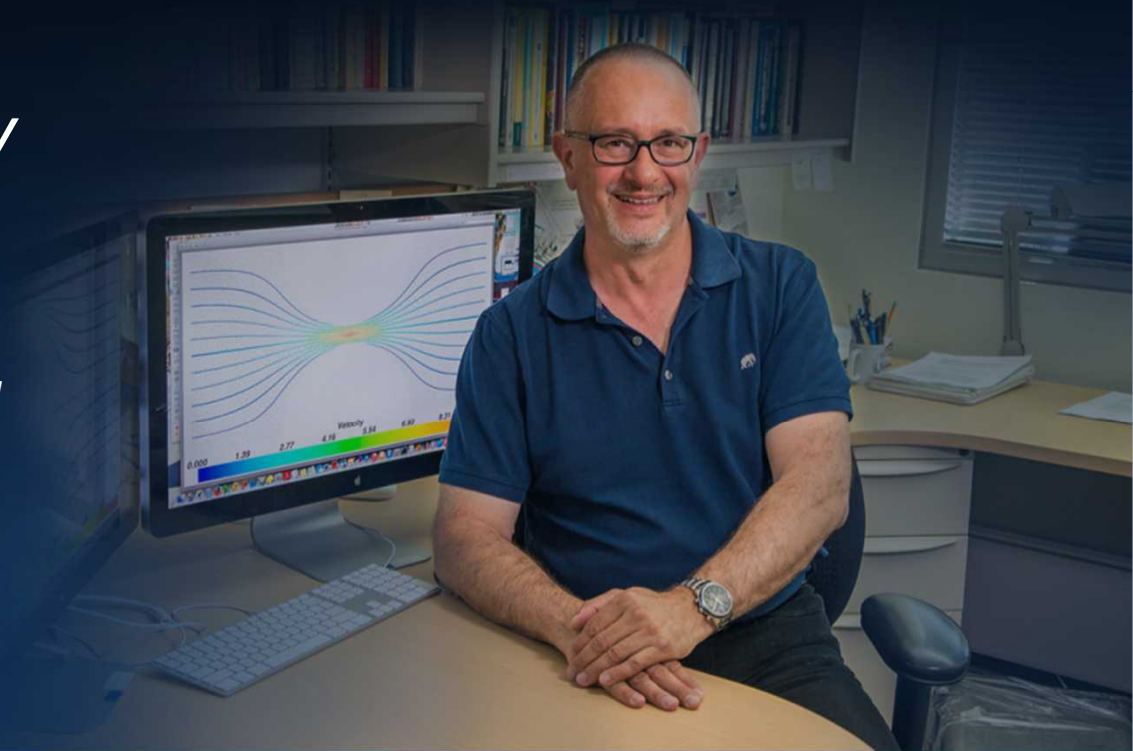


Stretching the limits of knowledge in mathematics

Pavel Bochev

DOE Ernest Orlando
Lawrence Award

*Advances in numerical
methods for partial
differential equations*



Supporting the mission



Investing into our infrastructure



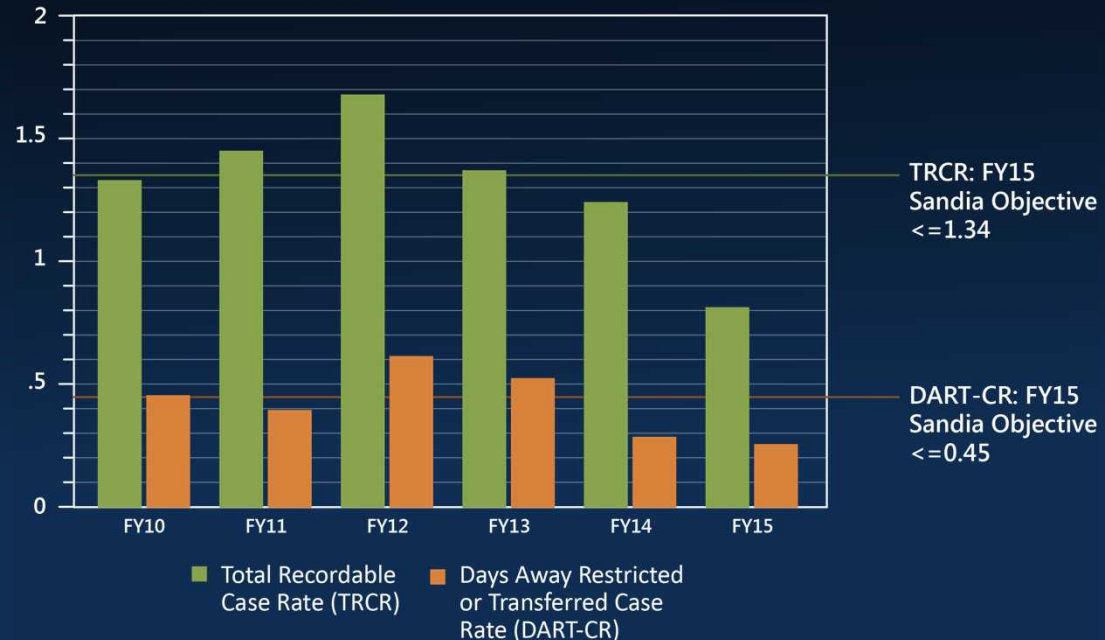
Centralizing waste disposal



We Continue
to Focus

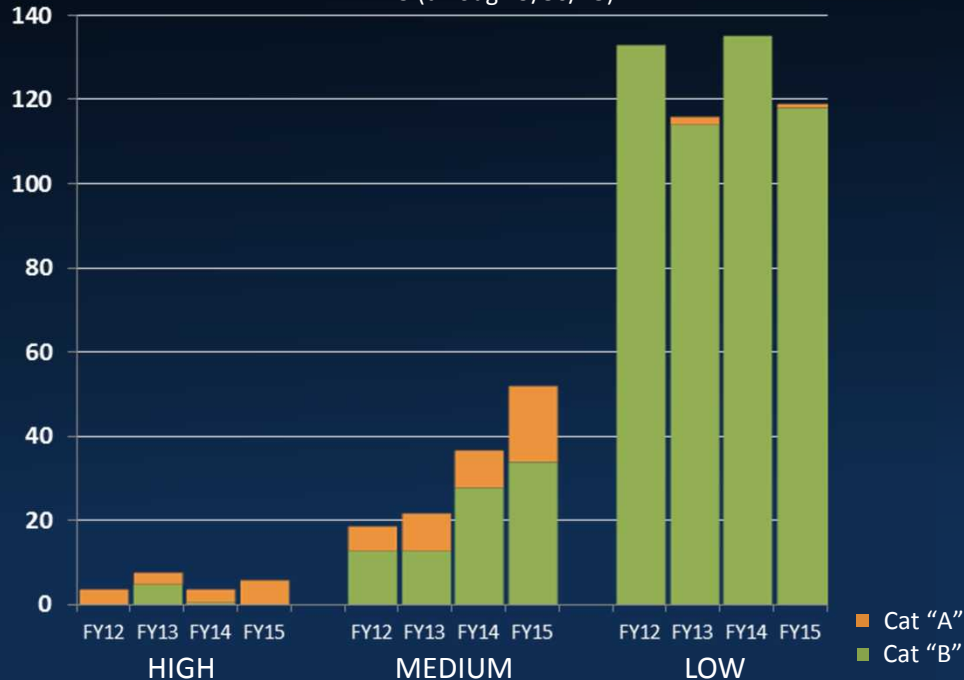
We are exceeding our safety goals, but we still have lessons to learn

- Use a structured approach to ensure safe operations through WP&C engineered safety
 - Anticipate known risks and unforeseen events
 - Examine safety risks where project intersections exist
- Demonstrate critical thinking and a questioning attitude
- Ask for help or an independent review



Increases in classified mission work create increased opportunity for security challenges

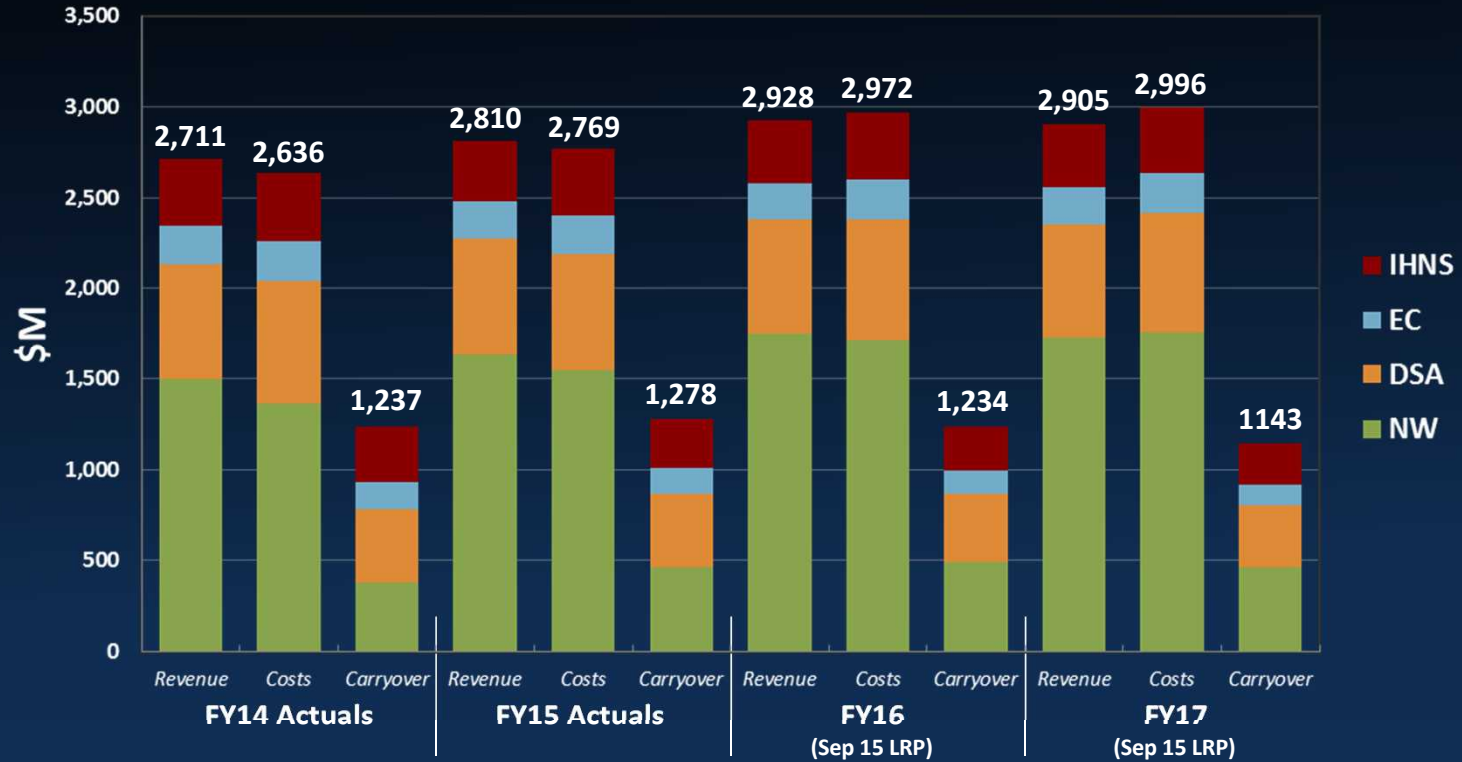
10CFR824 Security Incidents by Risk
FY12-FY15 (through 9/30/15)



- Ongoing work on four NW modernization programs
- Upward trend in security incidents involving classified information
- Implementation of division-specific improvement activities
- Structured security process planned to mirror the safety WP&C-ES process

We are in a strong financial position

Revenue, cost, and carryover



How did we do?

PO	FY15 PEAR	FY15 PER	FY14 PEAR	FY14 PER	FY13 PEAR	FY13 PER
PO-1 NW	Excellent	TBD	Excellent	Very Good	Excellent	Excellent
PO-2 Global Nuclear Security	Excellent	TBD	Very Good	Very Good	Excellent	Excellent
PO-3 DOE & SPP	Excellent	TBD	N/A	N/A	N/A	N/A
PO-4 ST&E	Excellent	TBD	Excellent	Excellent	Excellent	Excellent
PO-5 Infrastructure	Very Good	TBD	Very Good	Good	Very Good	Very Good
PO-6 Leadership	Good	TBD	Excellent	Very Good	Excellent	Very Good

We Are
Shaping
Tomorrow

FY16–FY20 Strategic Plan

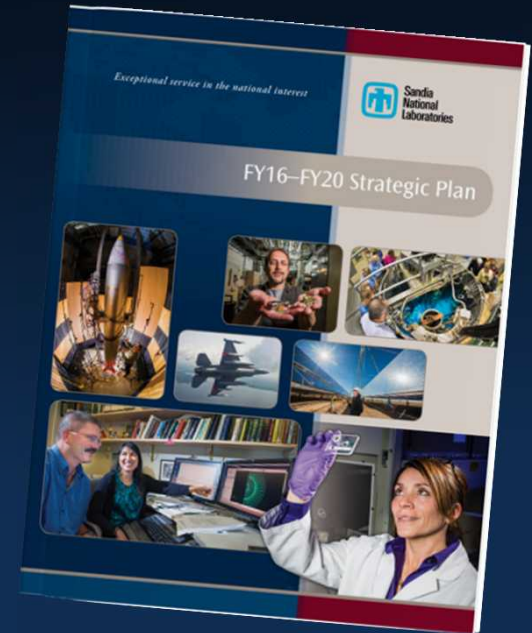
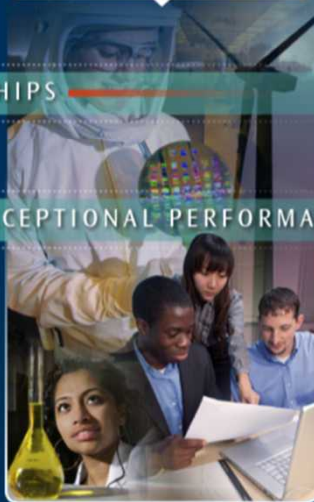
Amplify our national security impact

Strengthen our Laboratories' foundation to maximize mission impact

Advance an exceptional work environment that enables and inspires our people in service to our nation

TRUSTED PARTNERSHIPS

EXCEPTIONAL PERFORMANCE

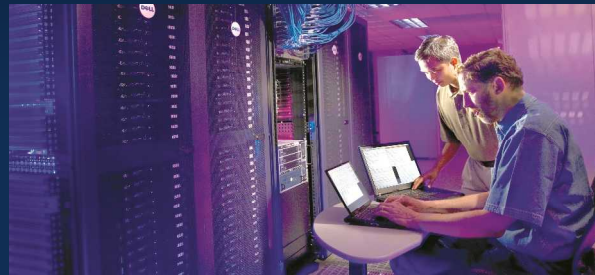


FY16 Milestones: A few examples

Milestone 1.3.1: Mature mission area strategies and clearly identify top priorities to enrich the dialogue at LLT and sharpen the focus on the Labs' priorities.

Milestone 2.3.1: Deploy the integrated strategy developed in 2015 to improve cyber, computer science, and computer engineering talent attraction and retention; apply best practices more broadly to people in key mission areas in the future.

Milestone 3.4.2: Reconcile and consolidate the Safety Basis Manual and the WP&C criteria manual and develop simplified tools to improve our application of engineered safety.



Academic alliances

- Strategic research
- National impact
- Attraction and retention
- Technology and knowledge transfer



Our work stirs interest from our nation's leaders

- DOE Undersecretary Sherwood-Randall
- Senators Tom Udall (D-NM), Barbara Mikulski (D-MD), and Martin Heinrich (D-NM) at a tech transfer roundtable
- NNSA Administrator Lt. Gen. Klotz
- 20th Anniversary of the stockpile stewardship program



Other hot topics

- FY 2016 budget situation
- Sandia M&O contract



U.S. DEPARTMENT OF
ENERGY





State of the Labs Presentation

Thank you for coming!