



**Sandia
National
Laboratories**

Exceptional service in the national interest

Nuclear Security Survey

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Presented at the
Center for Energy, Security, and Society
2016 Strategic Planning Meeting

December 14, 2015

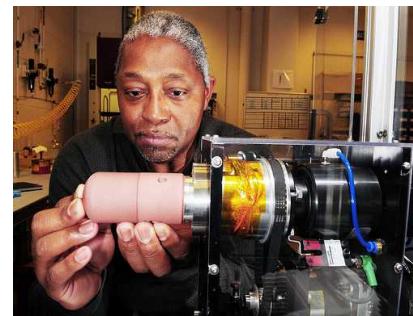
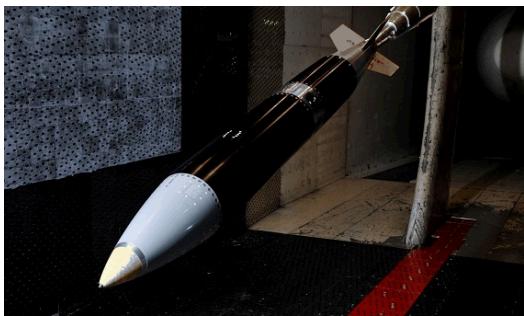


Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



Strategic Planning + Enterprise Integration

SAND2015-11122C



ANTICIPATE

INNOVATE



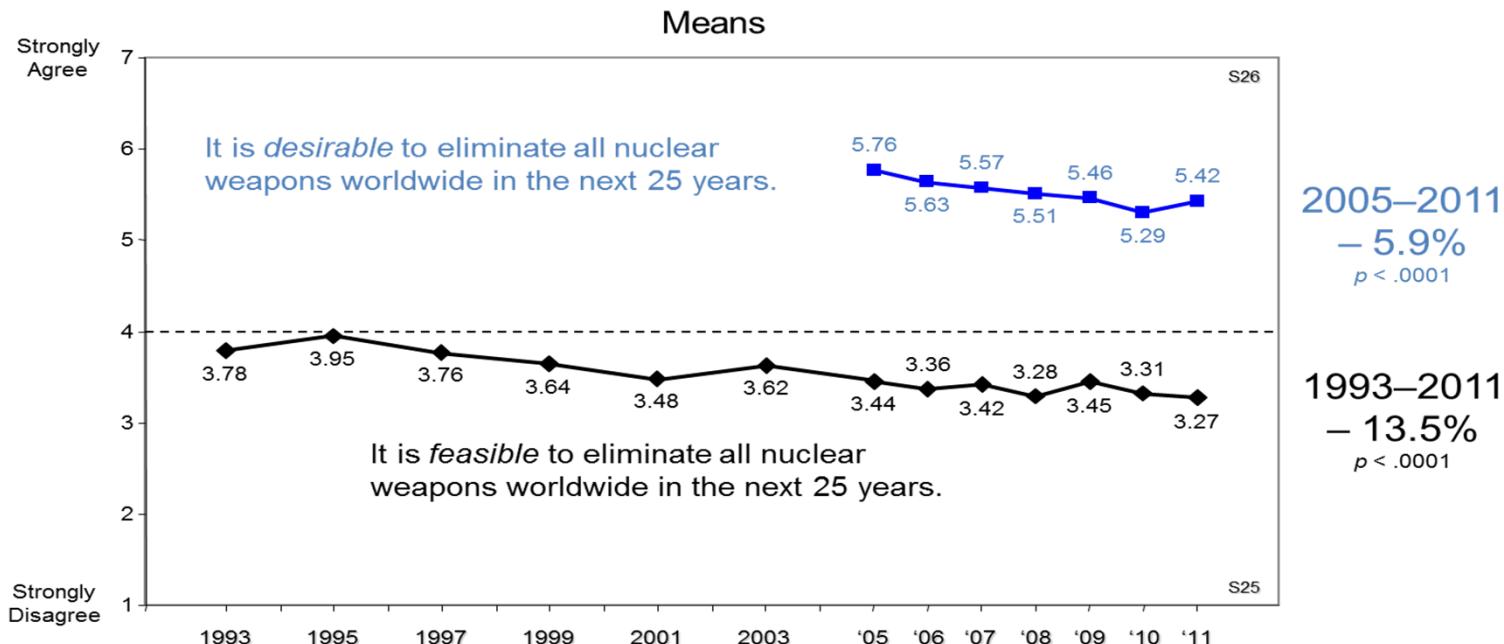
COLLABORATE



ADVOCATE



Continuation of the 1993-2011 Survey*



How will the end of the Cold War affect public views about nuclear deterrence?

- R. Hagengruber (c. 1993)

*Jenkins-Smith, H.C., Herron, K.G., Silva, C.L., 2011, "American Perspectives on Security, Energy, Nuclear Weapons, and Terrorism: 2010," SAND2011-1686, Sandia National Laboratories, Albuquerque, Nm, March

Why is this survey important to the NW Program?

Nuclear Weapons
Ensure a safe, secure, and effective nuclear deterrent in collaboration with our customers, partners, stakeholders, and other Sandia mission areas



Sustained Deterrence
Current Stockpile
Capabilities & Operations

Serving the nation by meeting the challenges of nuclear deterrence in the 21st century

Strategic Priorities:

- Reinvigorate a strategic FFRDC partnership with NNSA
- Challenge the status quo
- Exploit synergies with other mission areas
- Enrich the foundation

ASSURED AFFORDABLE AGILE INNOVATIVE

Life extending the Cold War stockpile is necessary, but is it sufficient?

Can we gain support for an Advanced Concepts and Architecture Program?

How do we assure Always/Never in the future?

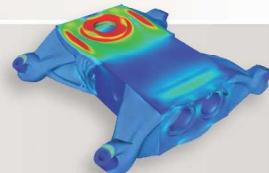
How do we prevent technology surprise?

Current Activities:

- Tri-lab whitepaper on 21st century deterrence
- Revolutionary Approaches to the Stockpile Research Challenge
- Strategic stockpile vision to drive A&E priorities
- Program alternatives to achieve affordability
- Surveillance transformation studies
- S&T portfolio to underpin the deterrent
- Cross-domain deterrence work
- Hypersonic reentry technologies

Key Investments:

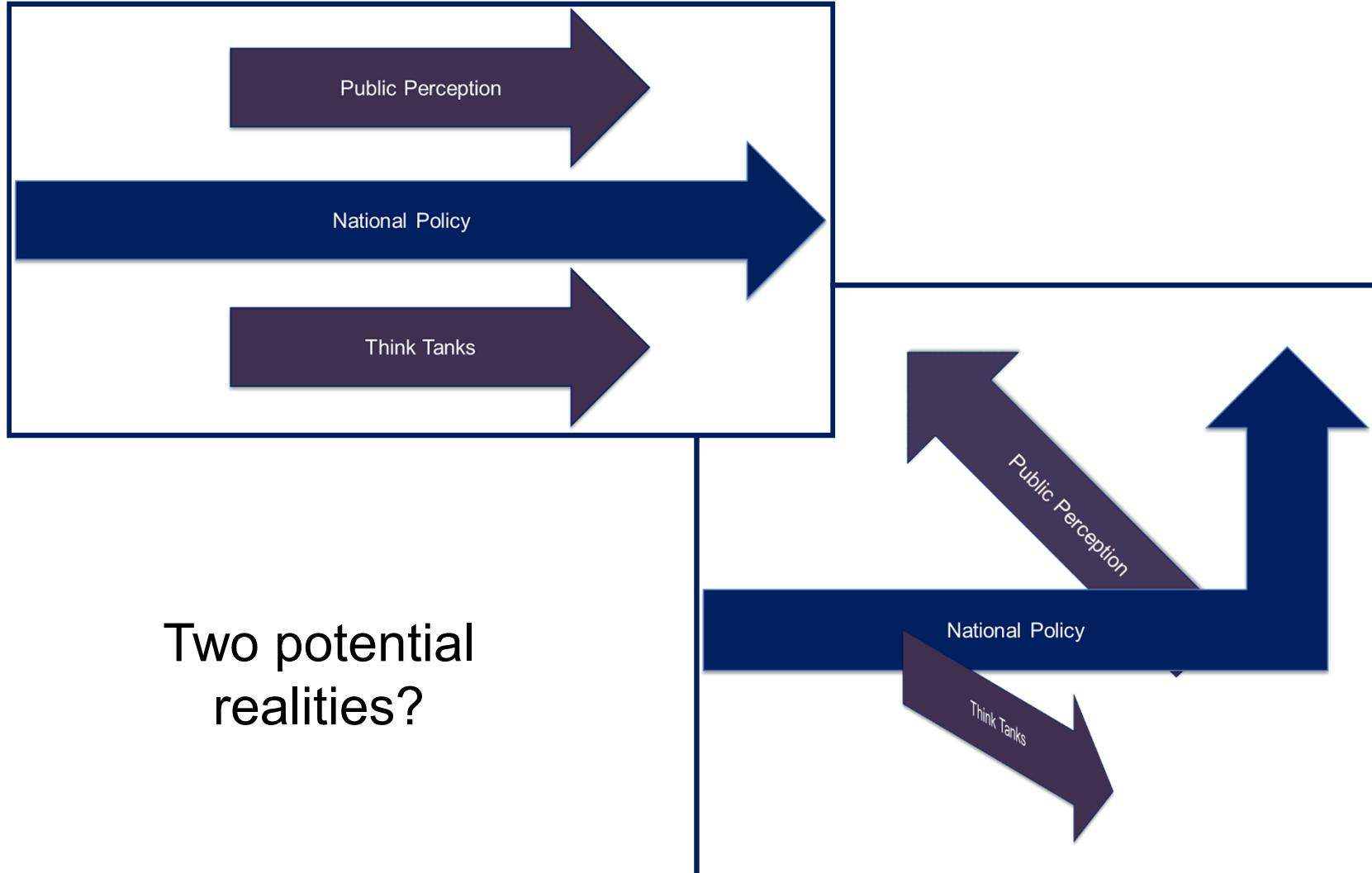
- Revolutionary Engineering & Product Realization: *Additive Manufacturing*
- SiFab 2.0 Mission Needs Study: *MESA Replacement*
- Blackjack: *Addressing Emerging Threats*
- System Trust for Operations, Resilience, & Management (STORM): *Trust Solutions*
- Z-300 Mission Needs Team: *Next Generation Facility*
- Advanced SCN Architecture for NW Design: *Identify Modern SCN Architecture*



U.S. DEPARTMENT OF ENERGY NNSA Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation for the U.S. Department of Energy's National Nuclear Security Administration. With main facilities in New Mexico, California, and Connecticut, Sandia also has facilities in Colorado, Texas, and Massachusetts. Sandia's core mission is managing the U.S. nuclear weapons stockpile and developing technologies that support national security, energy, and environmental programs. Sandia is an equal opportunity employer.

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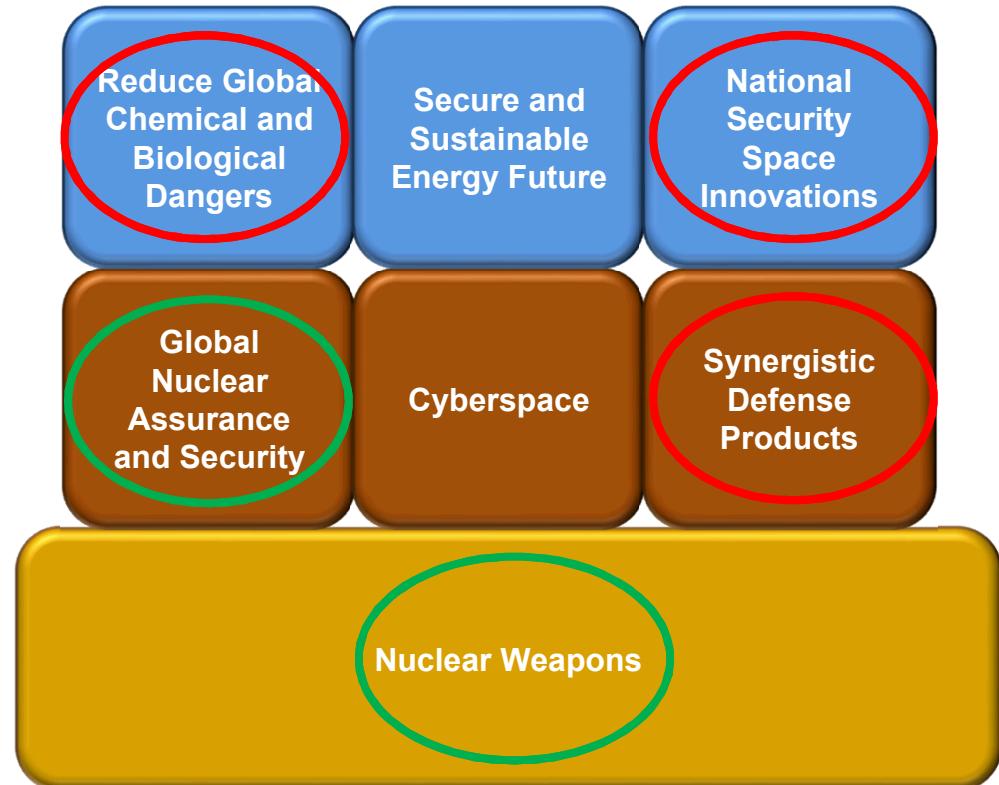
What is the national policy environment?



A Role for a Federally Funded Research and Development Center



The relevance
of the survey
extends
beyond the NW
mission area.



QUESTIONS?

Center for Energy, Security and Society



The screenshot shows the homepage of the Center for Energy, Security & Society. At the top left is a logo consisting of a red square divided into four quadrants, with a white exclamation mark in the top-left and a red circle in the bottom-left. To the right of the logo, the text "Center for Energy, Security & Society" is displayed in large, bold, black font. Below this, a smaller line of text reads "A Joint Center of The University of Oklahoma & Sandia National Laboratories". The top navigation bar includes links for "Home", "About", "People", "Projects", "Papers", and "Contact". The "About" link is highlighted with a black background and white text. The main content area contains a paragraph of text about the launch of the center and its mission. To the right of the text are two logos: the University of Oklahoma's "OU" monogram in red and Sandia National Laboratories' blue stylized "S" logo in a square.

The University of Oklahoma and Sandia National Laboratories announce the launch of the Center for Energy, Security, and Society—the latest in a 25-year history of collaborations between researchers at the two organizations. Together, OU and SNL have outlined a vision to enhance the nation's security and prosperity through sustainable, transformative approaches to the most challenging energy, climate and infrastructure problems.

<http://cess.ou.edu/>



Hank Jenkins-Smith, OU



Evaristo "Tito" Bonano, SNL



Carol Sylva, OU

National Security and Nuclear Policies

- Nuclear security
- Security from terrorism
- Energy security
- Environmental security

