

*Exceptional service in the national interest*



# Sandia National Laboratories

## *National Nuclear Security Administration Council*

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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. SAND Number 2014-19479C.

# Sandia's safety journey

Our culture and key drivers for change

# Engineered safety principles

*Providing structure to operational planning*

## Engineered safety principles

- Safe-by-design intent (as in our NW work)
- Understand technical basis (analyze safety issues BEFORE an accident)
- Identify and control energy sources
- Define unacceptable consequences
- Risk assessment approach (do not take credit for low probability)
- Positive verification

## Components of operational excellence

- Depth of expertise
- Clarity of requirements (ES&H, security, customer)
- Quality of approach (peer review, documentation, etc.)
- Facilities and tools investment
- Mentoring and professional development
- Personal engagement and ownership of safety

# Gaining broader validation of our engineered safety

- Recognition of Sandia's engineered safety approach by the Office of Environment, Health, Safety and Security

“Sandia National Laboratories has committed to implementing engineered safety, which requires that a safety case be prepared for all activities to ensure that a questioning attitude and critical thinking are applied to the hazards of all work activities . . .”

*—Feedback on Corporate Outreach and Awareness: Title 10, Code of Federal Regulations, Part 851, Worker Safety and Health Program*

- Partnering with academia on engineered safety—University of California, Los Angeles; Purdue University; University of Texas at Austin

# Sustaining Sandia's safety culture

- Engineered safety principles
- Safety discussions with 900+ managers
- Safety culture survey (DuPont)
- LiveSafe website
- Safety issues and achievements visible and celebrated
- Work Planning & Control Advisory Board

# Safety performance by fiscal year

## *Good metrics: A 10-year low*

