U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

# Maintaining the Infrastructure to Support the Nuclear Security Enterprise

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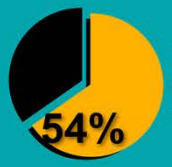
# NNSA INFRASTRUCTURE SNAPSHOT

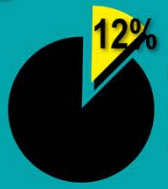
## MAINTAIN, OPERATE, AND MODERNIZE


### THE CHALLENGE: Aging and Declining Infrastructure




BUILDINGS OVER 40 YEARS OLD


BUILDINGS OVER 60 YEARS OLD




BUILDINGS NO LONGER IN USE

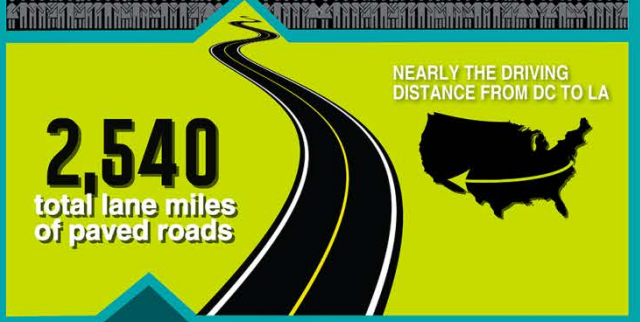
## Vision

**Safely operate and modernize our facilities to meet demands now and in the future.**

## Mission

**Maintain, Operate, and Modernize NNSA Infrastructure in a safe, secure, and cost-effective manner to enable program results.**

**41,000** LABORATORY & PLANT EMPLOYEES









# ENABLING MULTIPLE PROGRAMS


NONPROLIFERATION

EMERGENCY RESPONSE


OTHER DOE PROGRAMS

**NNSA Infrastructure**

NAVAL REACTORS

INTERAGENCY: DoD, DHS, DNI

DEFENSE PROGRAMS

# INFRASTRUCTURE CHALLENGES

**Facilities and systems are well beyond end-of-life**

- More than 50% of facilities by square footage are 40 years old, nearly 30% are Manhattan project era, and 12% are excess to program needs
- Block obsolescence limits maintenance and repair abilities

**Failures are increasing in frequency and severity**

**FY 2014 Examples:**

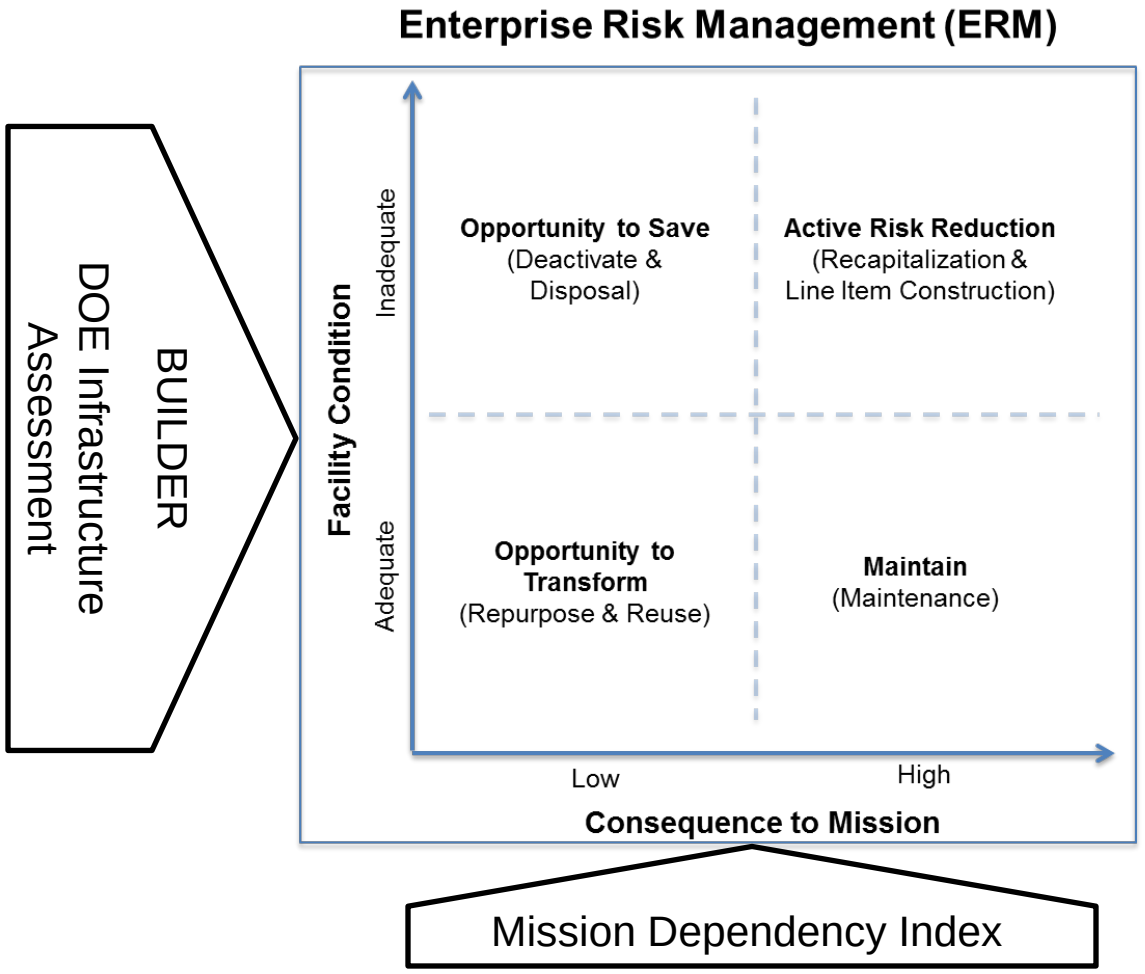
- Concrete ceilings fell in Y-12 building 9204-2 in March 2014 and building 9215 in July 2014
- Multiple fire suppression leaks at Pantex closed one cell and one bay and a major fire suppression leak at Nevada shut down operations at the Device Assembly Facility for 10 days
- Three HVAC failures at LLNL resulted in program delays in optics, machining and inspections
- Three utility poles failed at Y-12 and many more are near failure
- Excess facilities are vulnerable, e.g., Alpha 5 at Y-12 had a window fall several stories to the street, electrical panels are fire hazards

**INFRASTRUCTURE RISK BECOMES SAFETY & PROGRAM RISK**

# Improvement Strategy

**Our Strategy to Ensure a Sustainable Nuclear Security Enterprise...**

- Revolutionize infrastructure investment decision making
- Accelerate recapitalization efforts
- Repurpose, reuse, deactivate, or dispose of facilities
- Increase purchasing power
- Execute new Program Management Plan
- Implement award-winning G2 Program Management System



# Recent Example Successes

**In FY2014 ...**

- Razed building 9744 at Y-12
- Completed move to new National Security Campus in Kansas City
- Enclosed Y-12 Post 8 Pedestrian Checkpoint
- Completed the Nuclear Facility Risk Reduction Project at Y-12
- High Explosive Pressing facility completed $30M under budget at the Pantex Plant
- Completed ten recapitalization projects for Sandia Silicon Fabrication Refurbishment (SSiFR)

**Building 9744 at Y-12**

**National Security Campus**

**High Explosive Pressing Facility**

# Summary

- Infrastructure problems are increasing in frequency and severity
- Infrastructure risk becomes safety and program risk
- NNSA is using a multi-pronged strategy of enterprise infrastructure management, program management improvements, and accelerated recapitalization efforts to manage risk
- FY2014 boasted many infrastructure successes

Snow in interior passageways

Aging electrical distribution system