Data Driven, Risk-Based Infrastructure Planning
**Vision**
We contribute to national security now and in the future by managing the complex NNSA risks of safety, infrastructure, materials, and the environment.

**Mission**
Enable safe operations, ensure effective infrastructure, and provide enterprise services to meet National Nuclear Security Administration needs.
A **science-based infrastructure stewardship** approach using risk-based, data-driven metrics to prioritize investments in order to enable the mission.

**Tools**

**Enterprise Risk Management (ERM)**

- Highlights the risk posed by each asset and risk trending across the enterprise.

**Mission Dependency Index**

<table>
<thead>
<tr>
<th>MDI</th>
<th>Site</th>
<th>Asset Name</th>
<th>Condition</th>
<th>Haz</th>
<th>RPV</th>
<th>GSF</th>
<th>Age</th>
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</table>

**G2**

Award-winning program management system and Program Management Plan (PMP).
“There now is **no margin for further delay** in recapitalizing the physical infrastructure needed to produce strategic materials and components for U.S. nuclear weapons.”

-2018 Nuclear Posture Review

### Infrastructure Condition

- 34% of assets are insufficient to meet mission needs

### Infrastructure Condition by Age

- 60% of assets are 40+ years old

### Key Infrastructure in Insufficient Condition

- **Lithium**: 95%
- **Weapons Assembly & Disassembly**: 76%
- **Plutonium**: 56%
- **High Explosives**: 41%
- **Uranium**: 28%
- **Non-Nuclear Components**: 22%

### Infrastructure Capacity to Support Mission

- **Plutonium**: provide infrastructure to produce at least 80 pits per year by 2030
- **Manufacturing**: expand space for component manufacturing
- **Office and Lab Space**: meet growing needs of designers, engineers, etc.
Planning

Implementing mission-aligned infrastructure strategic planning

**Top Infrastructure Challenges:**
- **Condition, Age, and Excess Facilities**
  - 32% of assets are in *insufficient* condition
  - 57% of assets are more than 40 years old
  - 10% of assets are *excess* to mission needs

**Infrastructure Condition by Capability**
- BCI for all operating buildings, trailers & OSF and median LOB scores for any unassessed assets

$46.3B total replacement value of all assets

**Mercury Modernization**
The Mercury Modernization initiative will ensure long-term support for NNSA nuclear stockpile stewardship and nonproliferation programs, decrease energy costs, and halve the area’s managed footprint.

**Mission Need**
- Mercury is the gateway to NNSA and vital for partnering with the nuclear weapons laboratories to conduct experiments at the USA, Los Alamos, and BES complex that support nuclear stockpile stewardship and nonproliferation requirements. The current infrastructure is incapable of meeting these needs due to its size, age, and deteriorated condition. Its current infrastructure is not sustainable and lacks modern technology requirements needed to attract and retain a next generation workforce. For details on mission requirements, see XXXXX.

**Strategy**
- Improve sustainability and energy efficiency and create NNSA's
- Reduce the overall size of Mercury from 590,000 to 186,000

**Investment Strategies and Area Plans**

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*All data beyond 2023 are subject to change. For new buildings, “Year Built” is a projection upon which “Start to Revitalization” is estimated to be 20 years out and “Year Disposition” is 45 years out. For existing buildings, accurate past figures are provided whenever possible and projections used to estimate future activities.*
Using data informed metrics to forecast condition and conduct risk analysis to improve planning

Constrained Condition Projections

Specific Subset of NNSA’s Infrastructure, with No Investments
NNSA is on the path to modernizing its infrastructure to meet the mission. Progress has been made but more will be needed over the next two decades.

- The 2018 NPR highlights infrastructure as a vital component of nuclear deterrence.

- Science-Based Infrastructure Stewardship is improving NNSA’s ability to:
  - Identify infrastructure risks to meeting the mission;
  - Quantify and rank the risks; and
  - Prioritize projects based on risk reduction per project cost.