

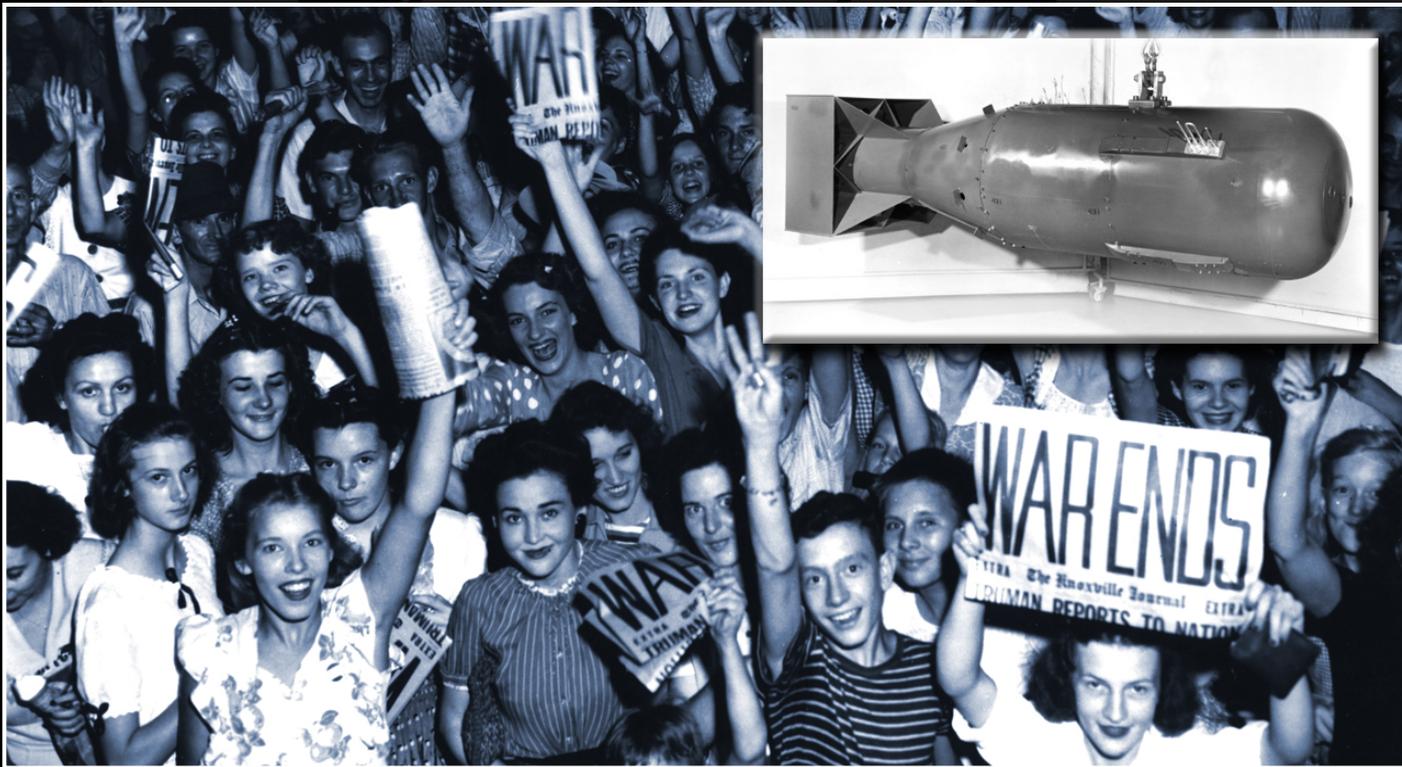
Y12 NATIONAL SECURITY COMPLEX **MAKING THE WORLD SAFER**

ROBERT GEE
MANAGER, EMERGENCY MANAGEMENT PROGRAM
Y-12 NATIONAL SECURITY COMPLEX



History of Uranium Expertise

- Created in 1943 as part of the Manhattan Project
- Provided the enriched uranium for “Little Boy,” the atomic bomb used to end WWII



Y-12's Missions

- Sustain a safe, secure and effective nuclear arsenal
- Supply the U.S. nuclear Navy
- Prevent nuclear proliferation and nuclear terrorism
- Solve global security challenges



Sustain a Safe, Secure and Effective Nuclear Arsenal

Responsibilities

- Certify reliability
- Maintain and refurbish to extend weapon's life
- Dismantle and dispose of retired weapons



Challenges

- No nuclear testing
- No new nuclear weapons
- Lower stockpile numbers
- Aging weapons



Supply the U.S. Nuclear Navy

Y-12 is the only supplier of highly enriched uranium

- Navy's current annual requirement is more than 3.7 MTU
- MOA between Defense Programs and Naval Reactors requires HEU through 2050



Prevent Nuclear Proliferation and Nuclear Terrorism

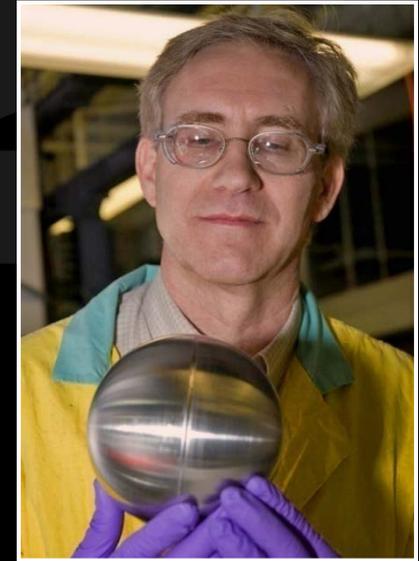
- Detect uranium and the proliferation of weapons of mass destruction
- Secure nuclear materials globally
- Convert and disposition uranium for peaceful uses



Rolling Mill



Training Exercise



Radiological Signature
Training Device

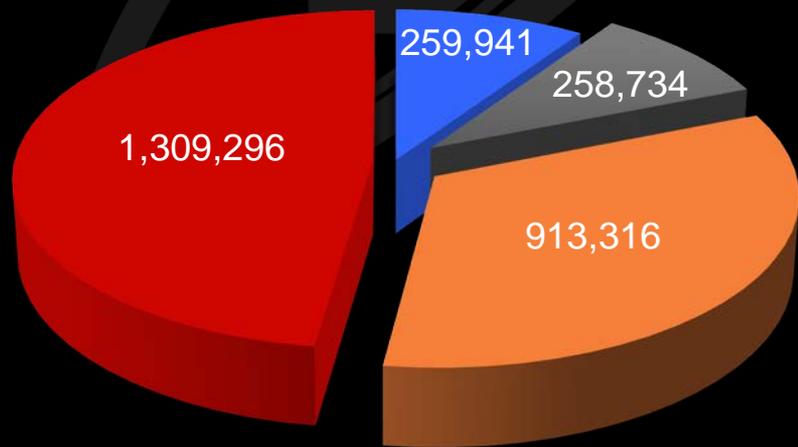
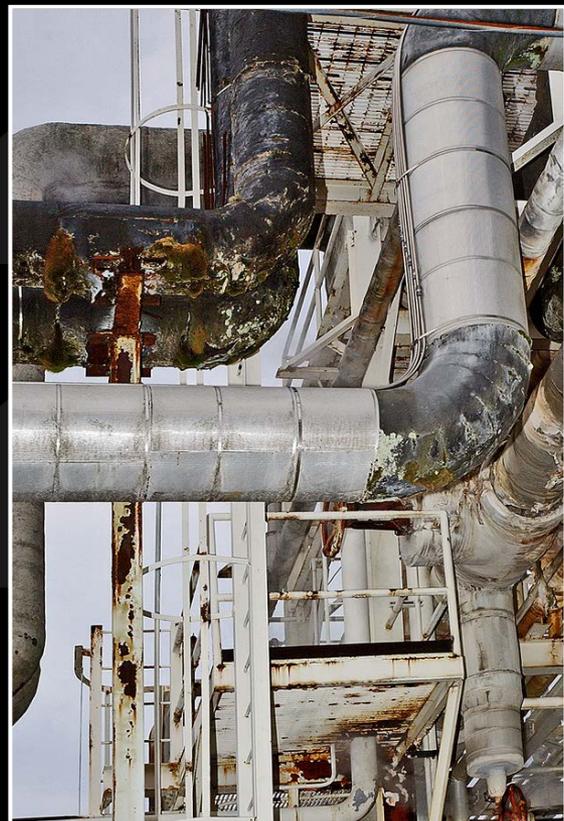
Recover and Secure Nuclear Material



Supply Material for Research Reactors



Transformation—Why It's Important



- 0-39 YEARS
- 40-49 YEARS
- 50-59 YEARS
- 60-65 YEARS

VALUES IN FT²

HEUMF & UPF—The Transformation Backbone

- Replaces all EU operations at Y-12 in 35% of current space
- Reduces security footprint
- Upgrades the process technologies

Transformation of the Y-12 Site

Today



Future



Y-12 Transformation—Vital to Future



“Without an ability to produce uranium components, any plan to sustain the stockpile, as well as support for our Navy nuclear propulsion, will come to a halt. This would have a significant impact, not just on the weapons program, but in dealing with nuclear dangers of many kinds.”

— Nuclear Posture Review 2010

Y-12 Emergency Services

- Emergency Management
- Fire Protection Operations
- Plant Shift Superintendent
- Operational Compliance

Types of Hazardous Material

Chemical

Acetic Acid
Acetonitrile
Beryllium/Beryllium
oxide
Hydrogen fluoride
Lithium compounds
Methanol
Methylene chloride
Methyl chloroform
Nitric Acid
Potassium hydroxide
Sodium hydroxide
Sulfuric acid
Tributyl phosphate
Uranium

Radioactive

Uranium



Questions?



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