Protecting America's Future

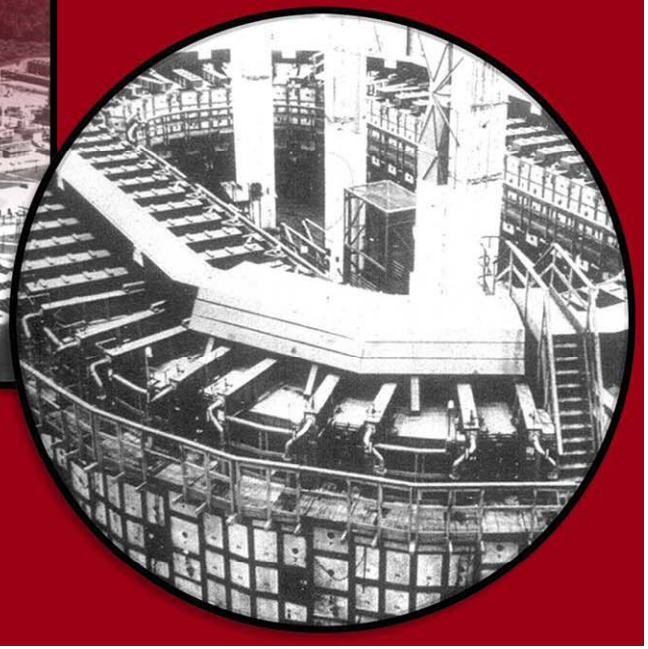
Y-12 National Security Complex

2009 Regional Emergency Management Forum

The Manhattan Project

- Y-12 began as part of the Manhattan Project during World War II

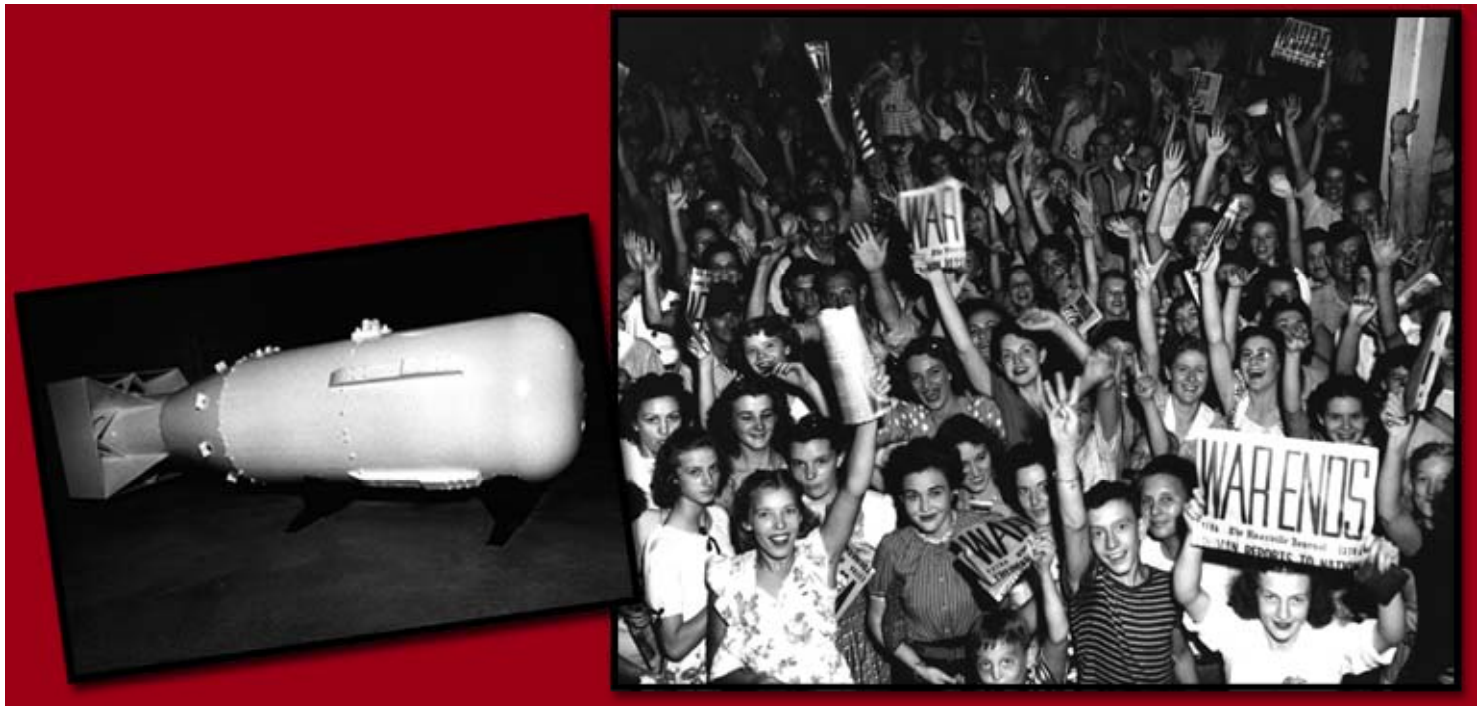
Electromagnetic Process



Y-12 was built as a facility to separate U-235 for the first atomic bomb.

Y-12's Legacy

- Provided the enriched uranium for "Little Boy" to help America and her allies win World War II



Y-12's Transformation

- In the 1950s, Y-12 became a nuclear weapons component plant
- In the 1970s and 1980s, Y-12 played a key role in building nuclear defense

Components for Every System

Y-12 Today

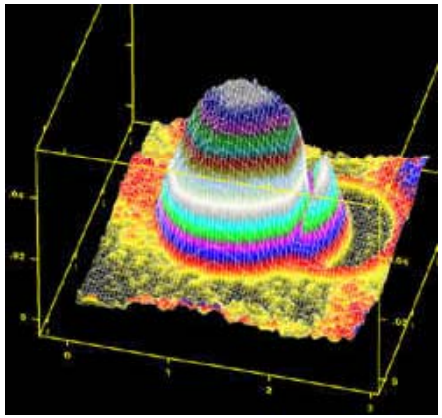
- More than 6,000 people work at Y-12 each day:
  - 4,600 B&W Y-12 employees
  - 81 NNSA employees
  - Wackenhut Services and construction
- 380 NNSA facilities (5.1 million ft^2)
- 2 1/2 miles long, 1/2 mile wide
- FY 2009 annual budget of ~$800 million

B&W Y-12

- B&W Y-12 Management and Operating (M&O) contract in place since FY 2000
- Current contract extends to 2010
- B&W Y-12 has received among the highest award fee ratings in the Nuclear Weapons Complex
- Pantex, Los Alamos National Laboratory, Savannah River Site

Y-12 Missions Today

- Ensure stockpile safety and reliability
- Refurbish/remanufacture nuclear weapons components
- Safeguard and secure strategic materials
- Support nonproliferation activities
- Work for other federal agencies and technology transfer



Y-12 Modernization

- **Purification Facility**
  - first new production facility in 30 years
  - completed in August 2004
- **Highly Enriched Uranium Materials Facility (HEUMF)**
  - construction completed in 2009
  - undergoing readiness reviews
- **Uranium Processing Facility**
  - currently in conceptual design phase
- **Complex Command Center**
  - undergoing DOE review/approval

Y-12 Complex Command Center

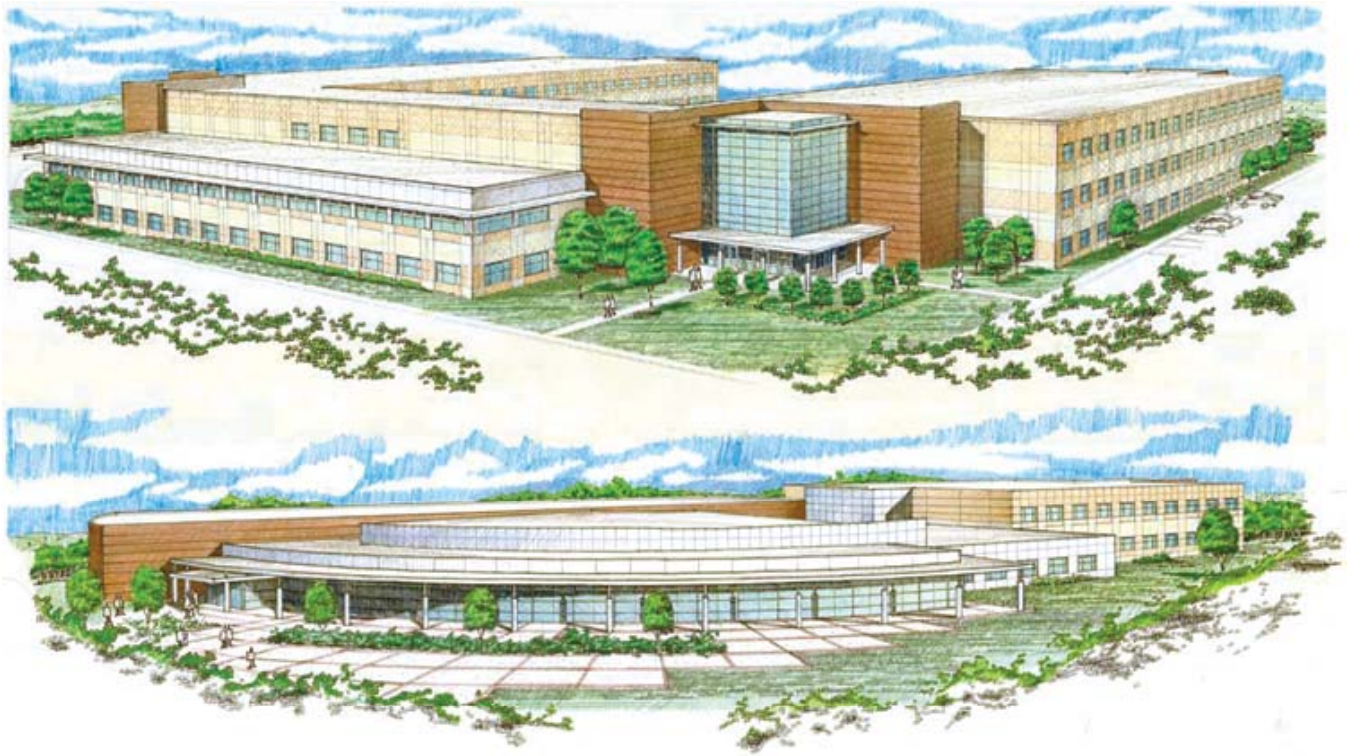
Y-12 Complex Command Center

- Consolidates fire department, PSS and emergency management
- Private sector financing approach
- ~$70 million total project
- 49,354 square feet
- Construction start March 2010
- Construction complete October 2011

Y-12 Modernization (cont.)

- Administrative and technical facilities constructed using private-sector financing

  Jack Case Center (top) and New Hope Building



ARRA at Y-12

- Work began mid-May
- $292 million
- Prepare large excess buildings for demolition
  - 9201-5, 9204-4
- Demolish five excess buildings
  - Four in Biology Complex, 9735
- Clean up salvage yard
- 9206 filter housing and recovery furnace
- WEMA storm sewer remediation

Y-12 Emergency Management

- Y-12 Specific Emergency Plan
- Technical Planning Baseline Documentation
- Posted/marked Emergency Response Boundary
- Emergency Planning Zone (5 miles)
- Immediate Notification Zone (2 miles)
- Public Warning Siren System
- Aggressive Drill and Exercise Program
- Trained Emergency Response Organization
- Full-time onsite emergency responders
- Emergency Management Information System (EMInS)

Types of Hazardous Material

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

Potential Operational Emergencies

Emergency Class			Radionuclide/Chemical Material
A	SAE	GE	
22	22	18	Chemicals
7	7	5	Radionuclides