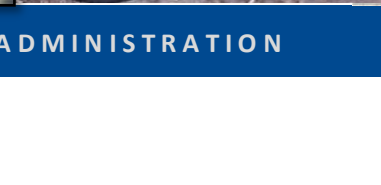




# NPT Review Conference

April 2015



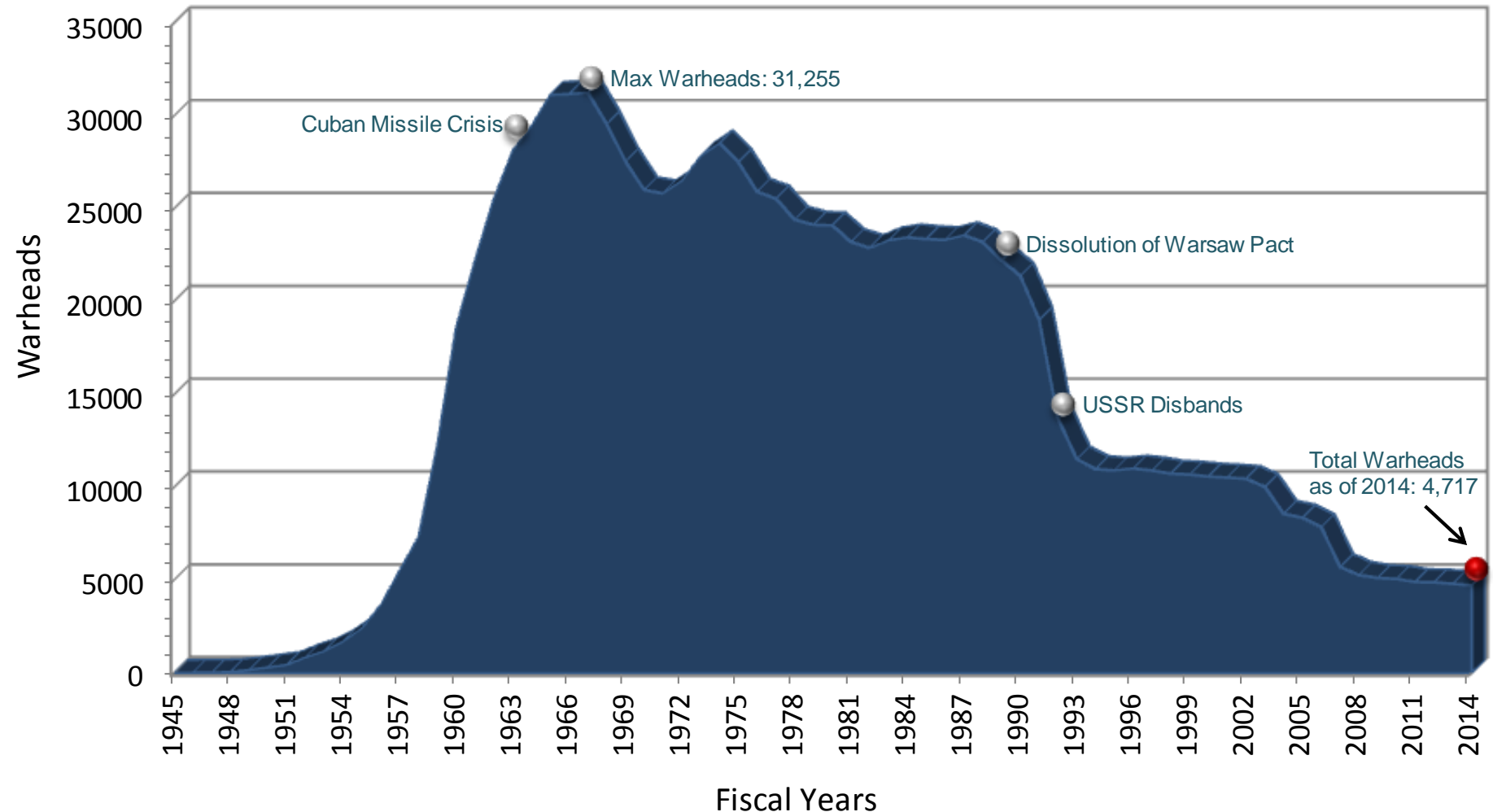
NATIONAL NUCLEAR SECURITY ADMINISTRATION



# When the Cold War ended, the U.S. had >23,000 nuclear weapons--today, it has 4,717

## U.S. Nuclear Weapons Stockpile, 1945-2014\*

\* Includes active and inactive warheads. Several thousand additional nuclear warheads are retired and awaiting dismantlement





# Dismantling the Cold War Stockpile

- NNSA has dismantled thousands of weapons and is ahead of schedule to meet Administration commitments
- Already dismantled:
  - FY 1994 thru FY 2014: 10,251
  - FY 2010: 352
  - FY 2011: 305
  - FY 2012: 308
  - FY 2013: 239
  - FY 2014: 299
- Commitment to seek funds in FY17 to accelerate the rate of dismantlement by 20 percent



*The President has committed to the dismantlement of all weapons systems retired prior to 2009, by the end of 2022. DOE is ahead of schedule in meeting that goal, with 42% of those weapons already dismantled over a period comprising 38% of the time allotted.*

*- DOE Strategic Plan, May 2011*







# A Smaller Nuclear Security Enterprise

Hanford	Los Alamos	Oak Ridge Y-12	Oak Ridge K-25
Inyokern	Sandia	Savannah River	Mound
Burlington	Livermore	Kansas City	Pinellas
Dayton	Nevada	Pantex	Rocky Flats
Albuquerque	Fernald	Weldon Spring	Scioto
Picatinny	Medina	Clarksville	Rock Island
Oak Ridge S-50	Portsmouth	Paducah	Newport

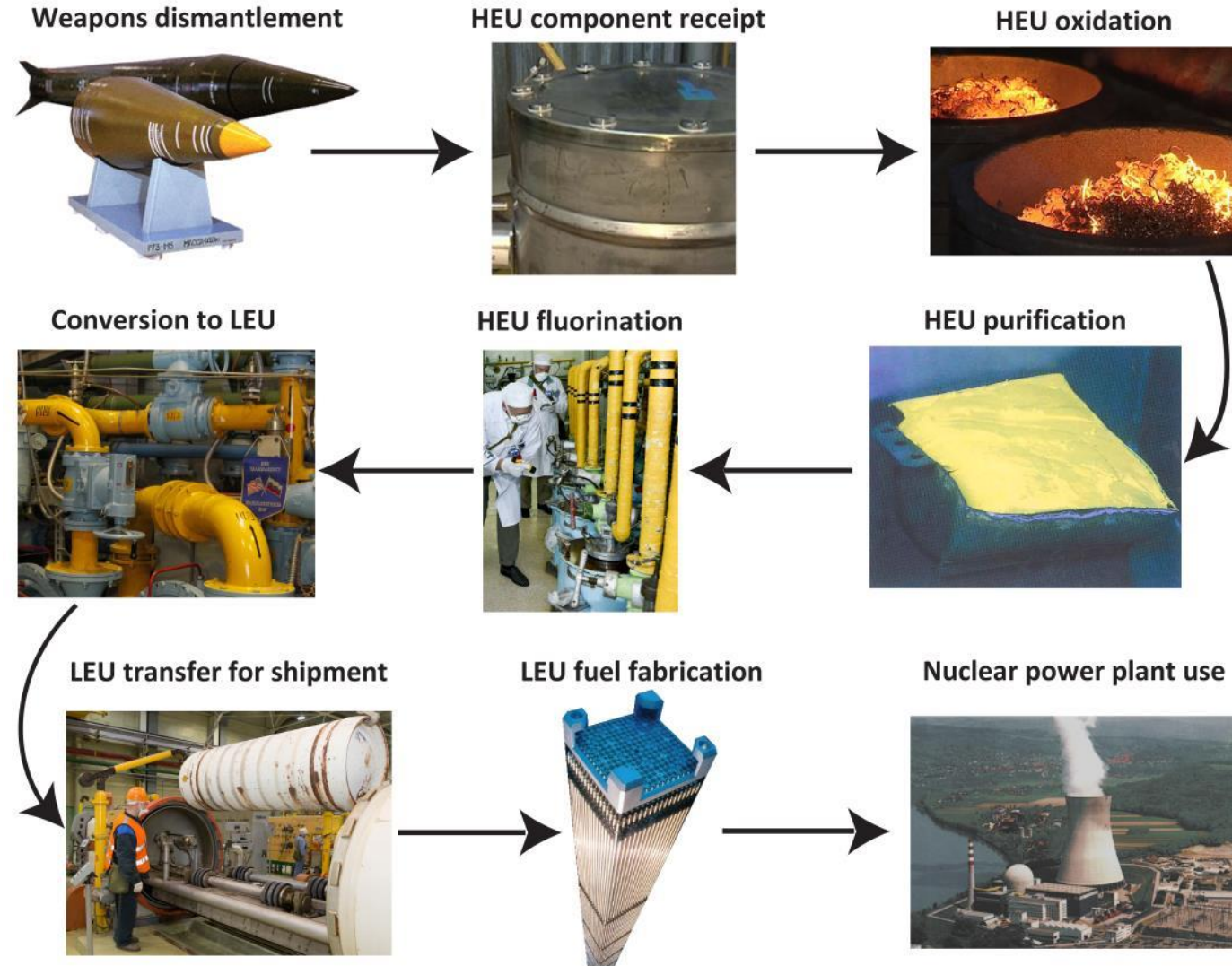
- » Existing sites shown in black
  - » Laboratories are indicated by yellow
  - » Plants are indicated by blue
  - » Sites are indicated by brown
- » Closed or retired sites are indicated by gray



# Equivalent of 20,000 Soviet-era Nuclear Weapons Transformed into Fuel for U.S. Commercial Power Reactors

Successfully converted 500 metric tons Russian weapons-origin highly enriched uranium (HEU) into 7 trillion kW hours of U.S. electricity

Deliveries under the 1993 U.S.-Russian Federation HEU Purchase Agreement completed on schedule in 2013





## R&D on Verification and IPNDV



U.S. developing computer models and new technologies to support future nuclear arms control treaty negotiations from warhead verification through dismantlement



Initialization



Storage



Maintenance



Transportation



Dismantlement





# Peaceful Uses of Nuclear Energy

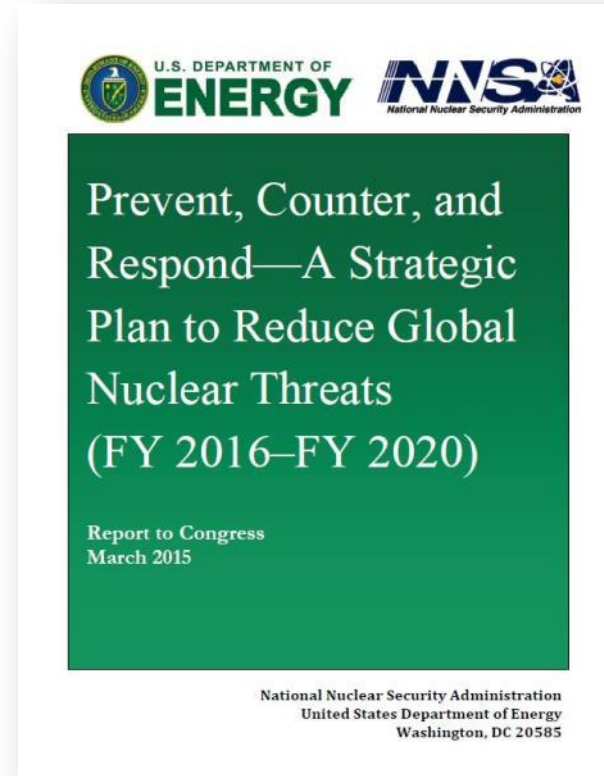
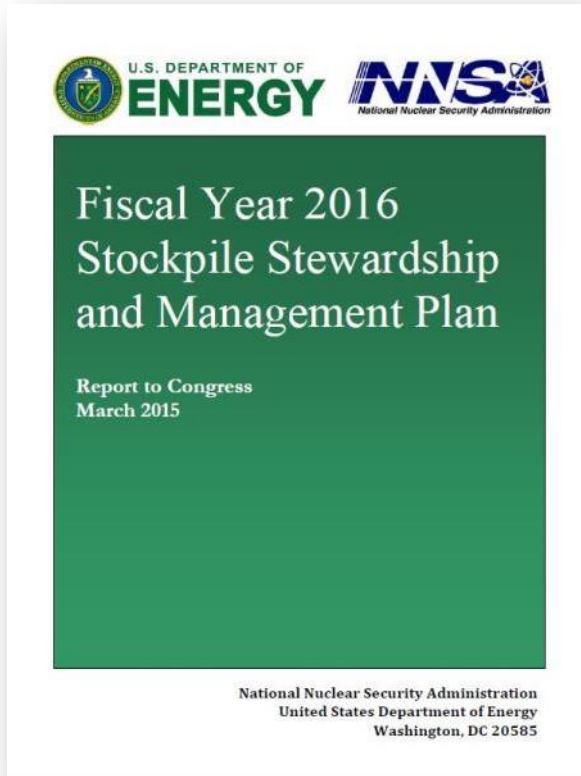
- U.S. 123 Agreements for Civil Nuclear Cooperation
  - Facilitate the expansion of civil nuclear power around the world in accordance with the highest standards of safety, security, and nonproliferation
  - 70 MW nuclear electricity production worldwide
  - 22 Agreements in force with 47 partners, the IAEA and Taiwan Authorities
  
- Multilateral Fuel Assurances
  - American Assured Fuel Supply
    - Became operational in 2011
    - 230 MT LEU
    - Available to U.S. nuclear cooperation partners through U.S. vendors
  - IAEA LEU Bank
    - Approved by IAEA BOG in 2010, not yet operational
    - \$50 Million contribution from DOE
    - Available to IAEA Member States







# A Clear Commitment to Transparency



**Available at [www.nnsa.energy.gov](http://www.nnsa.energy.gov)**



## NPT Transparency Visits

Diplomatic representatives from **11 non-nuclear weapons states + UN Office of Disarmament Affairs** spent two days at U.S. national laboratories exploring technologies behind **stockpile stewardship, nonproliferation, arms control, and peaceful uses**



### Results: increased understanding that –

- underground testing can be replaced by science
- warhead life extensions provide foundation for future arms reductions
- human & physical resources from U.S. nuclear enterprise can be applied to global challenges



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