

International Panel on Fissile Materials

Fostering initiatives to reduce stocks and end the production and use of highly enriched uranium and plutonium

HOME IPFM BLOG PUBLICATIONS LIBRARY ABOUT IPFM

Search...



Countries: United States

The United States is a nuclear weapon state member of the Non-Proliferation Treaty. In January 2022, U.S. nuclear weapon stockpile was [estimated](#) to include 5,044 warheads. Of these, about 3,700 weapons are in active stockpile and about 1,300 weapons are awaiting dismantlement. The active stockpile includes 1,770 deployed warheads, assigned to strategic and non-strategic delivery systems, and an estimated 1,938 warheads in reserve.

The current stock of fissile materials in the United States is estimated to include 87.6 tonnes of plutonium and 483 tonnes of unirradiated highly-enriched uranium. The United States has no separated plutonium produced by a civilian program.

The United States is not producing fissile materials for weapons. Production of HEU for weapons ended in 1964. Additional HEU was produced for naval-reactor fuel through 1992. All U.S. production reactors were shut down in 1987.

Highly-enriched uranium

The United States has a HEU stockpile estimated to be about 483 tons as of the beginning of 2023. In 2016 it declared that as of 30 September 2013 its HEU inventory was 585.6 tons, of which 499.4 tons was declared to be for "national security or non-national security programs including nuclear weapons, naval propulsion, nuclear energy, and science." This material was estimated to include about 360.9 MT of HEU in weapons and available for weapons, 121.1 tonnes of HEU reserved for naval fuel and 17.3 MT of HEU reserved for research reactors. The remaining 86.2 tonnes of the 2013 declaration was composed of 41.6 tonnes 'available for potential down-blend to low enriched uranium or, if not possible, disposal as low-level waste', and 44.6 tonnes in spent reactor fuel.

As of the end of 2022, the amount available for use had been reduced to about 465.1 tonnes, which is estimated to include 89.5 tonnes of HEU in naval reserve and 14.6 tonnes reserved for research reactors. It is estimated that at the end of 2022 the amount of material to be downblended had been reduced to 18 tonnes.

Separated plutonium

According to the most recent official plutonium balance, in 2009 the United States measured inventory was 95.4 tons. According to U.S. INFICRC/549 declarations, since 2009 the United States disposed of additional 0.4 tons of plutonium in WIPP and lost 0.2 tons to radioactive decay. It also added 0.4 tons of research reactor plutonium transferred from abroad. Taking into account that the plutonium stock includes 7.8 tons of irradiated plutonium, the amount of separated plutonium is 87.6 tons.

SUBSCRIBE

IPFM site feed

IPFM on Twitter

IPFM on Facebook

COUNTRIES

- Russia
- United States
- United Kingdom
- France
- China
- Pakistan
- India
- Israel
- North Korea
- Non-nuclear weapon states
- Countries

FACILITIES

- Research reactors
- Naval reactors
- Reprocessing plants
- Enrichment facilities
- Facilities

MATERIALS

- Plutonium
- Highly enriched uranium
- Materials

ABOUT IPFM

About IPFM

Of the total amount of 87.6 tons of unirradiated plutonium, 79.7 tons are considered military stock. Even though the United States reports 49.4 tons of separated unirradited plutonium in its INFCIRC/549 declaration, most of this material is in weapons or weapon components or other weapon-origin material that retains classified attributes. Some of this material (4.6 MT) is in unirradiated MOX fuel. While all this material is covered by a pledge not to use it for military purposes, only 3 MT of separated plutonium is safeguarded. These are 3 tons of plutonium at the Savannah River Site that are placed under IAEA safeguards.

- Members
- Staff
- Contact

APRIL 13, 2024   