

## U.S. Nuclear Weapons Cost Study Project

This project was completed in August 1998 and resulted in the book *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940* edited by Stephen I. Schwartz. These project pages are only occasionally updated and should be considered historical.

## 50 Facts About U.S. Nuclear Weapons

- Except where noted all figures are in constant 1996 dollars -

1. Cost of the [Manhattan Project](#) (through August 1945):  
**\$20,000,000,000**

**SOURCES:** Richard G. Hewlett and Oscar E. Anderson, Jr., *The New World: A History of the United States Atomic Energy Commission, Volume 1, 1939/1946* (Oak Ridge, Tennessee: U.S. AEC Technical Information Center, 1972), pp. 723-724; Condensed AEC Annual Financial Report, FY 1953 (in *Fifteenth Semiannual Report of the Atomic Energy Commission*, January 1954, p. 73)

2. Total number of nuclear missiles built, 1951-present: **67,500**

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3. Estimated construction costs for more than 1,000 ICBM launch pads and silos, and support facilities, from 1957-1964: **nearly \$14,000,000,000**

Maj. C.D. Hargreaves, U.S. Army Corps of Engineers Ballistic Missile Construction Office (CEBMCO), "Introduction to the CEBMCO Historical Report and History of the Command Section, Pre-CEBMCO Thru December 1962," p. 8; U.S. Army Corps of Engineers Ballistic Missile Construction Office, "U.S. Air Force ICBM Construction Program," undated chart (circa 1965)

4. Total number of nuclear bombers built, 1945-present: **4,680**

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5. Peak number of nuclear warheads and bombs in the [stockpile](#)/year: **32,193/1966**

Natural Resources Defense Council, Nuclear Weapons Databook Project

6. Total number and types of nuclear warheads and bombs built, 1945-1990: **more than 70,000/65 types**

U.S. Department of Energy; Natural Resources Defense Council, Nuclear Weapons Databook Project

7. Number currently in the [stockpile](#) (2002): **10,600 (7,982 deployed, 2,700 hedge/contingency stockpile)**

Natural Resources Defense Council, Nuclear Weapons Databook Project

8. Number of nuclear warheads requested by the [Army](#) in 1956 and 1957: **151,000**

*History of the Custody and Deployment of Nuclear Weapons, July 1945 Through September 1977*, Prepared by the Office of the Assistant Secretary of Defense (Atomic Energy), February 1978, p. 50 (formerly Top Secret)

9. Projected operational U.S. strategic nuclear warheads and bombs after full enactment of the Strategic Offensive Reductions Treaty in 2012: **1,700-2,200**

U.S. Department of Defense; Natural Resources Defense Council, Nuclear Weapons Databook Project

10. Additional strategic and non-strategic warheads not limited by the treaty that the U.S. military wants to retain as a "hedge" against unforeseen future threats: **4,900**

U.S. Department of Defense; Natural Resources Defense Council, Nuclear Weapons Databook Project

11. Largest and smallest nuclear bombs ever deployed: **B17/B24 (~42,000 lbs., 10-15 megatons); W54 (51 lbs., .01 kilotons, .02 kilotons-1 kiloton)**

Natural Resources Defense Council, Nuclear Weapons Databook Project

12. Peak number of operating domestic uranium mines (1955): **925**

*Nineteenth Semiannual Report of the Atomic Energy Commission*, January 1956, p. 31

13. Fissile material produced: **104 metric tons of plutonium** and **994 metric tons of highly-enriched uranium**

U.S. Department of Energy

14. Amount of plutonium still in weapons: **43 metric tons**

Natural Resources Defense Council, Nuclear Weapons Databook Project

15. Number of thermometers which could be filled with mercury used to produce lithium-6 at the Oak Ridge Reservation: **11 billion**

U.S. Department of Energy

16. Number of dismantled plutonium "pits" stored at the **Pantex Plant** in Amarillo, Texas: **12,067 (as of May 6, 1999)**

U.S. Department of Energy

17. States with the largest number of nuclear weapons (in 1999): **New Mexico (2,450), Georgia (2,000), Washington (1,685), Nevada (1,350), and North Dakota (1,140)**

William M. Arkin, Robert S. Norris, and Joshua Handler, *Taking Stock: Worldwide Nuclear Deployments 1998* (Washington, D.C.: Natural Resources Defense Council, March 1998)

18. **Total known land area** occupied by U.S. nuclear weapons bases and facilities: **15,654 square miles**

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19. Total land area of the District of Columbia, Massachusetts,

and New Jersey: **15,357 square miles**

*Rand McNally Road Atlas and Travel Guide*, 1992

20. Legal fees paid by the Department of Energy to fight lawsuits from workers and private citizens concerning nuclear weapons production and testing activities, from October 1990 through March 1995: **\$97,000,000**

U.S. Department of Energy

21. Money paid by the State Department to Japan following fallout from the 1954 "Bravo" test: **\$15,300,000**

Barton C. Hacker, *Elements of Controversy: The Atomic Energy Commission and Radiation Safety in Nuclear Weapons Testing, 1947 -1974*, University of California Press, 1994, p. 158

22. Money and non-monetary compensation paid by the the United States to Marshallese Islanders since 1956 to redress damages from nuclear testing: **at least \$759,000,000**

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23. Money paid to U.S. citizens under the Radiation Exposure and Compensation Act of 1990, as of January 13, 1998: **approximately \$225,000,000 (6,336 claims approved; 3,156 denied)**

U.S. Department of Justice, Torts Branch, Civil Division

24. Total cost of the [Aircraft Nuclear Propulsion \(ANP\)](#) program, 1946-1961: **\$7,000,000,000**

"Aircraft Nuclear Propulsion Program," Report of the Joint Committee on Atomic Energy, September 1959, pp. 11-12

25. Total number of nuclear-powered aircraft and airplane hangars built: **0 and 1**

Ibid; "American Portrait: ANP," WFAA-TV (Dallas), 1993. Between July 1955 and March 1957, a specially modified B-36 bomber made 47 flights with a three megawatt air-cooled operational test reactor (the reactor, however, did not power the plane).

26. Number of secret Presidential Emergency Facilities built for use during and after a nuclear war: **more than 75**

Bill Gulley with Mary Ellen Reese, *Breaking Cover*, Simon and Schuster, 1980, pp. 34- 36

27. Currency stored until 1988 by the Federal Reserve at its [Mount Pony facility](#) for use after a nuclear war: **more than \$2,000,000,000**

Edward Zuckerman, *The Day After World War III*, The Viking Press, 1984, pp. 287-88

28. Amount of silver in tons once used at the Oak Ridge, TN, [Y-12 Plant](#) for electrical magnet coils: **14,700**

Vincent C. Jones, *Manhattan: The Army and the Bomb*, U.S. Army Center for Military History, 1985, pp. 66-7

29. Total number of U.S. nuclear weapons tests, 1945-1992: **1,030** (1,125 nuclear devices detonated; 24 additional joint tests

with Great Britain)

U.S. Department of Energy

30. First and last test: **July 16, 1945 ("Trinity")** and **September 23, 1992 ("Divider")**

U.S. Department of Energy

31. Estimated amount spent between October 1, 1992 and October 1, 1995 on nuclear testing activities: **\$1,200,000,000** (0 tests)

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32. Cost of 1946 [Operation Crossroads](#) weapons tests ("Able" and "Baker") at Bikini Atoll: **\$1,300,000,000**

Weisgall, *Operation Crossroads*, pp. 294, 371

33. Largest U.S. explosion/date: **15 Megatons/March 1, 1954 ("Bravo")**

U.S. Department of Energy

34. Number of islands in Enewetak atoll [vaporized](#) by the November 1, 1952 "[Mike](#)" H-bomb test: **1**

Chuck Hansen, *U.S. Nuclear Weapons: The Secret History*, Orion Books, 1988, pp. 58-59, 95

35. Number of nuclear tests in the Pacific: **106**

Natural Resources Defense Council, Nuclear Weapons Databook Project

36. Number of U.S. nuclear tests in Nevada: **911**

Natural Resources Defense Council, Nuclear Weapons Databook Project

37. Number of nuclear weapons tests in Alaska [[1](#), [2](#), and [3](#)], Colorado [[1](#) and [2](#)], [Mississippi](#) and New Mexico [[1](#), [2](#) and [3](#)]: **10**

Natural Resources Defense Council, Nuclear Weapons Databook Project

38. Operational naval nuclear propulsion reactors vs. operational commercial power reactors (in 1999): **129 vs. 108**

Adm. Bruce DeMars, Deputy Assistant Director for Naval Reactors, U.S. Navy; Nuclear Regulatory Commission

39. Number of attack ([SSN](#)) and ballistic missile ([SSBN](#)) submarines (2002): **53 SSNs and 18 SSBNs**

Adm. Bruce DeMars, Deputy Assistant Director for Naval Reactors, U.S. Navy

40. Number of [high level radioactive waste tanks](#) in [Washington](#), [Idaho](#) and [South Carolina](#): **239**

U.S. Department of Energy

41. Volume in cubic meters of radioactive waste resulting from weapons activities: **104,000,000**

U.S. Department of Energy; Institute for Energy and Environmental Research

42. Number of designated targets for U.S. weapons in the Single

Integrated Operational Plan (SIOP) in 1976, 1986, and 1995:  
**25,000** (1976), **16,000** (1986) and **2,500** (1995)

Bruce Blair, Senior Fellow, The Brookings Institution

43. Cost of January 17, 1966 nuclear weapons accident over [Palomares, Spain](#) (including two lost planes, an extended search and recovery effort, waste disposal in the U.S. and settlement claims): **\$182,000,000**

Joint Committee on Atomic Energy Interoffice Memorandum, February 15, 1968; Center for Defense Information

44. Number of U.S. nuclear bombs lost in accidents and never recovered: **11**

U.S. Department of Defense; Center for Defense Information; Greenpeace; "Lost Bombs," Atwood-Keeney Productions, Inc., 1997

45. Number of Department of Energy federal employees (in 1996):  
**18,608**

U.S. Department of Energy, Office of Worker and Community Transition

46. Number of Department of Energy contractor employees (in 1996): **109,242**

U.S. Department of Energy, Office of Worker and Community Transition

47. Minimum number of classified pages estimated to be in the Department of Energy's possession (1995): **280 million**

*A Review of the Department of Energy Classification Policy and Practice*, Committee on Declassification of Information for the Department of Energy Environmental Remediation and Related Programs, National Research Council, 1995, pp. 7-8, 68.

48. Ballistic missile defense spending in 1965 vs. 1995:  
**\$2,200,000,000 vs. \$2,600,000,000**

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49. Average cost per warhead to the U.S. to help Kazakhstan dismantle 104 SS-18 ICBMs carrying more than 1,000 warheads:  
**\$70,000**


U.S. Nuclear Weapons Cost Study Project; Arms Control Association

50. Estimated 1998 spending on all U.S. nuclear weapons and weapons-related programs: **\$35,100,000,000**

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U.S. Nuclear Weapons Cost Study Project  
The Brookings Institution, 1775 Massachusetts Ave., NW, Washington, DC 20036  
(202) 797-6000 · Fax (202) 797-6004 · E-mail [Stephen I. Schwartz](mailto:Stephen.I.Schwartz@brookings.edu)