

NUCLEAR WEAPONS AND GENOCIDE NEWSLETTER # 9, August 4, 2011, OMNI Building a Culture of PEACE, Dick Bennett, Editor for Special Issues. (See #1, June 14, 2007; #2, January 8, 2008; #3 May 16, 2008; #4 June 10; 2009, #5 July 23, 2009, ; #6 Sept. 21, 2009; #7 August 29, 2010; #8 April 11, 2011.) An OMNI leader for this subject alone is needed, for public programs in addition to the Newsletter.

Here is the link to all OMNI newsletters:

<http://www.omnicenter.org/newsletter-archive/>

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VETERANS FOR PEACE COMPARES WEAPONS BUDGETS

Nuclear weapons forever? New nuclear power plants? Check out these federal budget choices! Washington policymakers are figuring out how much money they'll spend next year on a long list of important issues. And there are real differences among three budget blueprints that have been offered: the **Obama budget, the Congressional Progressive Caucus People's Budget and the Ryan (GOP) budget**. As we approach the August 6th and 9th anniversaries of the U.S. atomic bombings of

Hiroshima and Nagasaki in 1945, consider how the three budgets deal with nuclear weapons. Full Story http://www.veteransforpeace.org/news_detail.php?id=94

BOOK

Rosenbaum, Ron. *How the End Begins: the Road to a Nuclear World War III*. Simon & Schuster, 2011. Rev. *Mother Jones* (March/April 2011). Itchy trigger fingers, security lapses, etc. “Only luck has saved us, and our luck is bound to run out.” Rosenbaum wrote the article that helped inspire the 1983 *War Games*.

Thursday August 4, 2011

50 Facts About U.S. Nuclear Weapons

<http://www.brookings.edu/projects/archive/nucweapons/50.aspx>

The [U.S. Nuclear Weapons Cost Study 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 should be considered historical.

New research on arms control and nuclear weapons is being conducted by the [Brookings Arms Control Initiative](#).

- 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**

U.S. Nuclear Weapons Cost Study Project

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**

U.S. Nuclear Weapons Cost Study Project

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**

U.S. Nuclear Weapons Cost Study Project

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**

U.S. Nuclear Weapons Cost Study Project

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)

U.S. Nuclear Weapons Cost Study Project

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**

U.S. Nuclear Weapons Cost Study Project

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**

U.S. Nuclear Weapons Cost Study Project

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Thursday August 4, 2011

The U.S. Nuclear Weapons Cost Study Project

<http://www.brookings.edu/projects/archive/nucweapons/weapons.a.spx>

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 should be considered historical.

[New research on arms control and nuclear weapons is being conducted by the Brookings Arms Control Initiative.](#)

Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940

- [Table of contents](#)
- [Errata](#)
- [Photo gallery](#)
- [Department of Defense Future Years Program Historical Database](#)

"The Hidden Costs of Our Nuclear Arsenal,"

Press Briefing, June 30, 1998:

- [Press release](#)
- [Overview of Project Findings](#)—Stephen I. Schwartz
- [The Economic Implications of Nuclear Weapons](#)—William J. Weida
- [A Historian's Assessment of *Atomic Audit*](#)—David Alan Rosenberg

News, Commentary, and Reviews of *Atomic Audit*:

- ["America's Nuclear Arsenal: \\$5.5 Trillion Well-Spent,"](#) *The Hill*, July 8, 1998
- ["Flimsy Accounting on Nuclear Weapons,"](#) *New York Times*, July 9, 1998
- ["The Tax-Cutting Edge: Nuclear Weapons Are No Bargain,"](#) *Boston Phoenix*, July 16-23, 1998
- ["Nuclear Costs,"](#) commentary by Daniel Schorr, National Public Radio, August 9, 1998
- "Check, Please!," *Bulletin of the Atomic Scientists*, September/October 1998
- ["Destroyer of Worlds,"](#) *The Hindu* (India), December 20, 1998
- ["Nuclear Proliferation,"](#) report by Mike Shuster, National Public Radio, January 5 1999
- "Radioactive Reading," *Imprint*, University of Waterloo (Canada), January 15, 1999
- ["Nuclear Reckoning,"](#) *Issues in Science and Technology*, Winter 1998-99
- ["Atomic Accountant,"](#) *UC Santa Cruz Review*, Winter 1999

Charts:

- [Estimated Minimum Incurred Costs of U.S. Nuclear Weapons Programs, 1940-1996](#)
- [U.S. Government Historical Obligations by Function, 1940-1996](#)
- [Expenditures for U.S. Nuclear Weapons Materials Production, 1948-1996](#)
- [Expenditures for U.S. Nuclear Weapons Research, Development, Testing and Production, 1948-1998](#)
- [Global Nuclear Weapons Tests, 1945-1998](#)
- [Global Nuclear Stockpiles, 1945-1996](#)
- [U.S. and USSR/Russian Strategic Offensive Nuclear Forces, 1945-1997](#)
- [Average Unit Acquisition Costs for Strategic Nuclear Delivery Vehicles](#)
- [How Much Was Enough? Official Estimates of Nuclear Weapons Requirements, 1957-1995](#)
- [Biographies for the U.S. Nuclear Weapons Cost Study Project Steering Committee](#)
- [The Costs of the Manhattan Project](#)
- [50 Facts About U.S. Nuclear Weapons](#)
- [What U.S. Nuclear Weapons Delivery Systems Really Cost](#)
- [Top 10 Least Accountable U.S. Nuclear Weapons Programs](#)
- [Estimated 1998 Spending on U.S. Nuclear Weapons and Weapons-Related Programs](#)
- [The U.S. Nuclear Weapons Production and Naval Nuclear Propulsion Complex](#)
- [Bombs in the Backyard: Bases and Facilities with Significant U.S. Nuclear Weapons or Naval Nuclear Propulsion Missions](#)

Published articles and letters to the editor

Please browse through our extensive collection of [nuclear weapons sites...](#)

Send comments and questions to [Stephen I. Schwartz](#), Director, U.S. Nuclear Weapons Cost Study Project

<http://www.takepart.com/news/2011/04/13/tune-in-alert-countdown-to-zeros-broadcast-tv-premiere-tonight&cmpid=zero-eml-2011-04-13> zero@takepart.com

Countdown to Zero broadcast premier April 13, 2011

Countdown to Zero had its broadcast on HISTORY. Revisit the film and share the experience with friends, family and colleagues who haven't seen it. So After you watch, visit Countdown to Zero on TakePart.com to see what celebrities are saying about nuclear proliferation, download our discussion guide and get involved by signing the Global Zero declaration.

Thank you for your ongoing activism and support.

The Demand Zero Action Team <https://mail.google.com/mail/?hl=en&shva=1#inbox/12f5102f52b8c3f>

(Photo: TakePart.com).

Looking for something great to watch on television tonight? Set your DVRs, because the stunning, frightening, and ultimately extremely important documentary *Countdown to Zero* is making its broadcast television premiere tonight on The History Channel.

Written and directed by the acclaimed documentarian Lucy Walker, *Countdown To Zero* traces the history of the atomic bomb, and outlines the terrifying prospects for our world if we allow nuclear weapons programs to continue unchecked.

From the threat posed by rogue nations, to the dangers of unsecured nukes in the crumbling facilities of the former Soviet Union, *Countdown To Zero* is Must-See TV for anyone worried about global security—especially in light of the ongoing nuclear disaster in Japan.

[The History Channel](#) Check out a teaser below.

<http://www.takepart.com/news/2011/04/13/tune-in-alert-countdown-to-zeros-broadcast-tv-premiere-tonight&cmpid=zero-eml-2011-04-13>countdown

To Zero was produced by TakePart.com's parent company, Participant Media

• [See larger image](#)

The Age of Deception

Nuclear Diplomacy in Treacherous Times

[Mohamed ElBaradei](#)

▢ [Praise](#)

▢ [Excerpt](#)

▢ [Biography](#)

Metropolitan Books, 4/26/2011

ISBN: 978-0-8050-9350-6, ISBN10: 0-8050-9350-

8,

6 1/8 x 9 1/4 inches, 352 pages,

For the first time, the Nobel laureate and "man in the middle" of the planet's most explosive confrontations speaks out—on his dealings with America, negotiations with Iran, and the prospects for a nuclear-free future

When the UN's International Atomic Energy Agency elected an unknown lawyer as its director, few could have predicted the role Mohamed ElBaradei would play in the most high-stakes conflicts of our time. Contending with the Bush administration's assault on Iraq, the nuclear aspirations of North Korea, and the West's standoff with Iran, ElBaradei emerged as a lone independent voice, unique in maintaining credibility in the Arab world and the West alike. For their efforts to control nuclear proliferation, ElBaradei and his agency received the 2005 Nobel Peace Prize.

Now, in a vivid and thoughtful account, ElBaradei takes us inside the nuclear fray. Inspector, consultant, and carrier of messages, he moves from Baghdad, where Iraqi officials bleakly predict the coming war, to behind-the-scenes exchanges with Condoleezza Rice, to the streets of Pyongyang and the trail of Pakistani nuclear smugglers. He dissects the possibility of rapprochement with Iran, all the while rejecting hard-line ideologies of every kind, decrying an us-versus-them approach, and insisting on the necessity of relentless diplomacy. "We have no other choice," ElBaradei says, "the other option is unthinkable."

The Age of Deception is an unparalleled portrait of society's struggle to come to grips with the insecurities of the nuclear age.

Follow Mohamed ElBaradei on Twitter

Mohamed ElBaradei

Praise

"In this spirited memoir ElBaradei recounts ferreting out the nuclear secrets of the world's most paranoid regimes, nerve-wracking adventures full of intrigue, car chases, and Pyongyang's grim hotel accommodations. ElBaradei's accounts of diplomacy are fascinating and

rife with acerbic portraits of George W. Bush, Tony Blair, and other world leaders... The result is a lively, acerbic take on recent geopolitical confrontations that makes an impassioned case for using persuasion rather than punishment to resolve the direst threats.”
—*Publishers Weekly*

“Mohamed ElBaradei is one of the genuinely great leaders of his generation.”
—Graham T. Allison,
Douglas Dillon Professor of Government and director of the Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University

“Mohamed ElBaradei has spoken eloquently about global efforts at poverty reduction and conflict resolution and has shown a deep understanding of the intrinsic links between peace, disarmament, and development....We honor with this award a very distinguished diplomat, a scholar, an international civil servant of the highest order, and a world statesman.”
—Prime Minister Manmohan Singh,
2008 Indira Gandhi Peace Prize citation

[Mohamed ElBaradei](#)

Mohamed ElBaradei served as director general of the International Atomic Energy Agency from 1997 to 2009. Along with the IAEA, he was awarded the Nobel Peace Prize in 2005. Widely considered a potential Egyptian presidential candidate, ElBaradei lives in Cairo.

photo: IAEA

Excerpt

1

IRAQ, 1991–1998

Unmasking a Hidden Program

To appreciate the nuclear landscape of 2003 requires a return to the early 1990s, when two clandestine nuclear programs came to light: first, Saddam Hussein’s secret program to develop nuclear weapons, discovered in the aftermath of the 1991 Gulf War; and second, North Korea’s diversion of plutonium and concealment of nuclear facilities, which the IAEA uncovered the following year.

[View Entire Excerpt](#)

End of ElBaradei entry

NUCLEAR NON-PROLIFERATION FUNDING

“Thanks for helping to ensure a safer world!

Dear Friends of WAND,

Some good news! Early this morning, Congress filed the Continuing Resolution for the remainder of FY 2011. Thanks to your calls and letters, **the bill includes a \$190 million— a 9 percent increase— for the nuclear nonproliferation program over last year’s FY 2010 levels.**

This final funding level represents a victory in a tough budget climate. While the funding still falls short of what was requested for this year, this effort to restore at least some funding in the budget demonstrates bipartisan support for securing nuclear weapons material. And it couldn't have happened without your support!

It was only one year ago that President Barack Obama hosted a historic Nuclear Security Summit in Washington, DC, aimed at preventing nuclear terrorism. There the President joined twenty-nine countries in pledging over 50 specific commitments to secure or eliminate nuclear materials.

A new joint report released by the Arms Control Association and the Partnership for Global Security shows that progress has been made. Roughly 60 percent of the national commitments made at the Summit have been completed.

The future of our global nuclear security poses both obstacles and opportunities as we continue to work towards the goals outlined in the President’s Prague speech. This increase in National Nuclear Security Administration funds over the FY2010 is a small but significant step forward in reducing nuclear dangers.

Thank you for helping to ensure a safer world—one without nuclear weapons!

Elaina Ramsey WAND Field Coordinator

691 Massachusetts Ave. | Arlington, MA 02476 US

[Dick: I do not know today how the debt ceiling negotiations affected non-proliferation funding..]

[Arms Control Today](#) » [July/August 2005](#) » [A Readiness to Harm: The Health Effects of Nuclear Weapons Complexes](#)

A Readiness to Harm: The Health Effects of Nuclear Weapons Complexes

Arjun Makhijani

On September 29, 1957, at 4:20 p.m., an enormous explosion in a tank containing highly radioactive waste occurred in the Mayak nuclear weapons plant in the southern Ural mountains of the Soviet Union. The fallout plume spread strontium-90 and other dangerous radionuclides over about 15,000 square kilometers, which remain contaminated to this day.

Food stores were closed, and more than 1,000 tons of food dumped. Farming was stopped for more than two decades on about 150,000 acres. More than 10,000 people were relocated, and their empty homes were torn down and buried as radioactive waste. Yet, none of the residents were told why. The Soviet government covered up the accident, only acknowledging the devastation in June 1989 as the Cold War was ending.[1]

Surprisingly, the West assisted the Soviet government in its cover-up. In 1976, Soviet dissident biologist Zhores Medvedev published an article in the *New Scientist*, a British science magazine, about the accident. Instead of denouncing the callous cover-up of the Soviets, however, the chairman of the United Kingdom Atomic Energy Authority, Sir John Hill, and other British experts dismissed the story as “rubbish” and “scientific fiction.”[2]

The CIA also helped the cover-up. According to a 1959 CIA document, the agency knew that an accident had occurred that resulted in food stores being closed. The resulting food shortages created lines that were “reminiscent of the worst shortages during World War II.” They also knew that high officials had been “wearing small radiation counters” while the public had no protection.

Yet, the CIA did not publicize the accident, even though it occurred during the height of the Cold War and at a time that both sides took every opportunity for propaganda advantage. The U.S. government did not condemn the Soviets for the secrecy and destruction of homes without informed consent. Was it because officials in the West feared that the public might raise questions about the possibility of a similar explosion in France, the United Kingdom, or the United States?

Indeed, since the dawn of the atomic age, millions of people in other parts of the world have been affected by bomb production and testing. American, British, French, and Soviet soldiers were ordered to participate in atomic war exercises. Children in the United States have seen their risk of cancers rise from drinking milk contaminated with fallout from atmospheric nuclear tests. Conditions for uranium miners in India are lamentable, and who knows what damage has been caused by nuclear weapons in China, Israel, North Korea, and Pakistan?

Few nuclear-weapon states have provided much information about the harm caused by their nuclear weapons establishments. For example, information about the intense fallout from French nuclear tests in Polynesia is coming to light only this year. The typical reaction of these establishments has been to deny damage, cover up problems, and simply assert national security requirements to be taken on trust, promulgated by fiat, or both.

The problem is by no means at an end, even leaving aside plans in the United States and other nuclear-weapon states to make more nuclear weapons. For example, poor radioactive waste disposal practices throughout the Cold War threaten some of the most important water resources in the United States. These include putting high-level liquid radioactive wastes from reprocessing into tanks that have leaked a million gallons into the ground near the Columbia River and dumping plutonium-laden wastes into unlined pits above Snake River Plain Aquifer, southeastern Idaho’s sole source aquifer.

Avoiding and Permitting Fallout

Efforts to keep damaging information about nuclear weapons hidden from the public began

early. The very first nuclear test on July 16, 1945, led to severe fallout and hot spots of radioactive contamination 32 kilometers from the site. The affected people were not informed even after the bombings of Hiroshima and Nagasaki, nor were they evacuated. A fallout cloud hung over much of southeastern New Mexico in the days following the test, but even 60 years later, there has been no official investigation of the health effects. Col. Stafford Warren, a medical doctor in the Army who was the chief of radiation safety for the test, recommended that future tests should not be done within 240 kilometers of human habitation. The recommendation was ignored, with tragic effects.

In 1950, the United States had considered setting up a weapons testing site in North Carolina at a coastal location that would have allowed most fallout to land in the ocean. Instead, the United States chose to set up a continental nuclear weapon test site in Nevada with the knowledge that a western location would blow fallout over most of the country. The federal government risked the health of its citizens in large part to make life more convenient for weapons scientists at New Mexico's Los Alamos National Laboratory and to avoid the political difficulties of acquiring coastal private property through eminent domain.

When the site became operational, tests were conducted when the wind blew away from Las Vegas and Los Angeles. The result was ubiquitous fallout over most of the rest of the continental United States. The government reassured a skeptical public that it would provide ample warning of any dangers. Yet, it did not share the results of its 1950 research, which had shown that milk would be contaminated by fallout. Cows would eat grass on which iodine-131, an intensely radioactive fission product, had been deposited. The iodine-131 would concentrate in the milk. Growing children who drank the milk would get large doses of radiation to their thyroids, creating a risk of cancer and other thyroid diseases.[3]

Rather than address these realistic concerns, the military dismissed them. The opinion in military circles was that the public in the United States had a "hysterical and alarmist complex" about radiation that needed to be corrected to enable the United States to proceed with its testing activities. In internal documents, Department of Defense officials said the process of correction "would be a matter of reeducation over a long period of time." The objective was in direct contradiction to the advice given by Warren in July 1945: the "reeducation" was supposed to go on until "the public will accept the possibility of an atomic explosion within a hundred or so miles of their homes." At that point, the establishment of a test site in the continental United States would no longer be a problem. [4] People would then "feel at home with neutrons trotting around" and presumably become comfortable with nuclear tests nearby. It was after all, as the safety preparations were being done in December 1950, "the most important angle to get across." [5]

The cover-up was a spectacular success, although the fallout was intense. After two nuclear tests (Shot Harry and Shot Nancy), 1,420 lambing ewes and 2,970 lambs in Nevada, Utah, and Arizona died of severe radiation injuries.[6] In the lawsuit that followed,[7] the government's representatives provided what the judge nearly 30 years later concluded was "false and deceptive" representations, withheld information, and provided other information "in such a manner as to be deceitful" and, in sum, "manipulated" the court by "convoluted actions."

In 1997, when the National Cancer Institute acting under congressional directive assessed milk contamination, it found that fallout from the tests would eventually cause between 11,000 and 212,000 thyroid cancers. The cancer risk fell primarily to those who had been children, with girls being at twice the risk of boys. Those who believed that they were leading healthy farm lives by drinking fresh milk got the highest doses.

An atomic Kodak moment was playing out in a parallel political and economic universe in the very same period. The photographic film company found its film was getting fogged because the corn husks it was using to make packaging had become contaminated with fallout. Kodak threatened to sue. The government quickly provided data on anticipated patterns of fallout to Kodak and the rest of the photographic film industry so they could protect their products.[8] Was it because Kodak knew too much? Was it because film was more precious than milk?

As a way to avoid publicity and lessen the political consequences, the United States and other countries also often tested weapons in areas home to foreign subjects or minority populations. The United States located its test sites in the Marshall Islands and on land claimed by the Western Shoshones in Nevada. The Soviets located their major test site in the land of the Kazakhs, near Semipalatinsk. The British conducted their tests on native lands in Australia and on Christmas Island in the Pacific. The Chinese located theirs on minority lands in western China. The French test sites were in the colonies in Algeria and Polynesia.

According to France's conservative newspaper, *Le Figaro*, although fallout was anticipated and the genetic risk for the native population was considered greater than that for the general French public, "a preventive relocation of the people of the Gambiers [archipelago] was ruled out for political and psychological reasons." Further, the evacuation of old people and children "who comprised a large fraction" of the population was considered "the most difficult," so they were left in the path of the fallout.[9]

To be sure, the cover-ups were not entirely successful. Public protests in the 1950s and concerns about contamination of mother's milk and baby's teeth with strontium-90 were central to the Partial Test Ban Treaty, which the Soviet Union, United Kingdom, and the United States signed in 1963. In a real, practical sense, the first arms control treaty was an environmental one. Yet, China and France did not sign. The French did not stop atmospheric testing until 1974; the Chinese did so in 1980.

Moving tests underground did not end the problem, even though it did greatly mitigate the problem of radiation doses from short-lived radionuclides such as iodine-131. Large amounts of plutonium, iodine-129, cesium-135, and other long-lived radionuclides remain underground at the test sites. They possess the potential for migration into water bodies in the long term. No cleanup method has yet been devised.

The frequent claims of safety and lack of deleterious health effects of nuclear tests are perhaps most clearly contradicted by military plans to use fallout as a terror weapon. The fallout from the first ever underwater test at Bikini in July 1946 was so ubiquitous and so insidious in its effects that the Joint Chiefs of Staff evaluation of the military aspects of the tests concluded that fallout may constitute a weapon of war. Of the long-term effects of the radioactivity, the 1947 evaluation stated that the contaminated areas:

irregular in size and shape, as wind and topography might form them, would have no visible boundaries. No survivor could be certain he was not among the doomed, and so added to every terror of the moment, thousands would be stricken with the fear of death and the uncertainty of the time of its arrival.[10]

Overall, estimates of cancer fatalities due to the global radiation doses from the atmospheric nuclear testing program of the five nuclear-weapon states that are parties to the nuclear Nonproliferation Treaty and that are also the only permanent members of the UN Security Council, which gives them veto power over global security decisions, run into hundreds of thousands between the start of testing in 1945 and the end of the 21st century.

There are considerable uncertainties in the risk of cancer death from exposure to low levels of

radiation, but all careful scientific evaluations, including the most recent ones, have concluded that every increment of exposure to radiation produces an incremental risk of cancer. The range of estimates of cancer deaths as a result of testing fallout, using the official U.S. Environmental Protection Agency cancer risk coefficients, is between about 200,000 to more than half a million.[11] The number of cancer cases, including thyroid cancer, which has a low fatality rate (about 5 percent), would be considerably greater. No sound global estimate of cancer incidence is possible because no study comparable to the 1997 U.S. National Cancer Institute study has been carried out on a global scale. Indeed, even the thyroid cancer risk in Canada due to testing in Nevada has not been evaluated, although it is apparent from the National Cancer Institute study as well as the similar dietary patterns between Canada and the United States that people in several parts of Canada would have been significantly affected.

Further Dangers

That was not the only damage caused by nuclear weapons establishments. There are many other examples. Some from the United States include:

- From the 1940s into the 1970s, more than 23,000 people were subjected to radiation experiments, many without their informed consent. They were administered by the Atomic Energy Commission (AEC), the Department of Energy, the Department of Defense, NASA, and the Department of Veterans Affairs for purposes including determining the biology of radiation intakes, developing radiation weapons, and determining radiation's effects on military personnel performance on the battlefield. One experiment involved feeding oatmeal with radioactive trace elements to more than 100 boys at a Massachusetts school. Others included testicular irradiation experiments on prisoners to determine what doses induce sterility and experiments on pregnant women. In 1993, after learning of a particularly troubling series of experiments involving the injection of plutonium into unknowing subjects, then-Secretary of Energy Hazel O'Leary remarked, "The only thing I could think of was Nazi Germany." [12]
- A quarter of a million armed forces personnel participated in nuclear weapons tests in the United States alone. They were marched into ground zero, they scrubbed plutonium from the decks of contaminated ships, and they flew planes through the mushroom clouds to sample them and to test how pilots might function in a nuclear war environment. It took until the end of the 1980s for the U.S. government to recognize the harm and begin a compensation program.
- During the Cold War, more than half a million weapons complex workers in the United States were exposed to radioactivity and chemicals in the course of their work. In the early decades, many were exposed without proper information or training, with authorities sometimes hiding the risks so that hazard duty would not have to be paid, among other reasons.[13] The atomic weapons establishment did not actually calculate radiation doses to workers received due to inhalation and ingestion, even though data were being collected and analyzed in the form of urine samples. Congress passed a compensation program for nuclear weapons workers in October 2000.
- During the 1950s, it was well known that exposure to radon and its decay products in unventilated mines was a health hazard and increased the risk of lung cancer, but the AEC, the Department of Energy's predecessor, did not require that the mines be ventilated, choosing instead to emphasize production.[14]

Even today, people who live along the Savannah River and use its water downstream of the

Savannah River Site, a nuclear weapons materials plant, are drinking water contaminated with tritium, which is radioactive hydrogen. This contamination level is at about 5 percent of the present-day drinking water standard. However, these standards are set for a grown male, called “standard man,” and they do not consider the effects of radioactive water on developing fetuses. They do not consider miscarriages and other noncancer effects. No removal is planned of the source of the tritium contamination, which lies in the unlined pits and trenches where radioactive waste was dumped in cardboard and wooden boxes. Unless the long-lived and especially risky wastes, such as liquid highlevel wastes in tanks, are recovered and stabilized and isolated from the human environment, the risks will persist.

Hundreds of thousands of people have been similarly affected in other nuclear-weapon states. The main difference between them and the United States has been that the United States has been more open and hence has, under public pressure, acknowledged a wider scope and depth of harm, although that task is still far from done. India has strict secrecy laws surrounding its nuclear weapons activities, much like France and the United Kingdom. The least is known about China, Pakistan, Israel, and North Korea.

It is a remarkable fact of nuclear weapons history and radiation risk that every nuclear-weapon state has first of all harmed its own people in the name of national security. For the most part, they have done so without informed consent.

Nor is the damage confined to nuclear- weapon possessors. Uranium for nuclear weapons was mined in many non-nuclear-weapon states. France got its uranium in large measure from its colonies, where working conditions in mines were—and continue to be—scandalous. The United Kingdom got its uranium partly from Namibia. The Soviets got much of their uranium from vast operations in Eastern Europe, notably in East Germany and the former Czechoslovakia. Health and environmental problems have typically been serious, so far as independent evidence indicates, but have usually been officially denied.[15]

The statement of then-Deputy Secretary of Energy W. Henson Moore at Rocky Flats in June of 1989 at the end of the Cold War was a kind of mea culpa about this. Nuclear weapons production, he told *The Washington Post*, has been “a secret operation not subject to laws... no one was to know what was going on.” He added that “the way the government and its contractors operated these plants was: This is our business, it’s national security, everybody else butt out.” The “everybody else” he was referring to was not a foreign power, but the people of the United States. Other countries have not had a comparable confession, although their nuclear establishments have been as high-handed and their people have likely suffered similar kinds of consequences.

In a reverse of the doctors’ dictum to “first do no harm,” nuclear weapons establishments have first harmed the people of their own countries, as well others around the world. They have shown a readiness to harm. Given the nature of the problem and its main sources, the permanent members of the UN General Assembly and the UN Security Council should call for a global truth commission to investigate the harm that nuclear weapons production and testing have done and continue to do to people all over the world.

Corrected online August 29, 2008. See [explanation](#).

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ENDNOTES

1. International Physicians for the Prevention of Nuclear War (IPPNW) and Institute for Energy and Environmental Research (IEER), *Plutonium: Deadly Gold of the Nuclear Age* (Cambridge: IPPNW Press, 1992), chap. 4.
2. Ibid.
3. Pat Ortmeyer and Arjun Makhijani, "Worse Than We Knew," *Bulletin of the Atomic Scientists*, November/December 1997.
4. IPPNW and IEER, *Radioactive Heaven and Earth: The Health and Environmental Risks of Nuclear Weapons Testing in, on, and Above the Earth* (New York: Apex Press, 1991), chap. 4.
5. Barton C. Hacker, *Elements of Controversy: The Atomic Energy Commission and Radiation Safety in Nuclear Weapons Testing 1947-1974* (Berkeley, CA: University of California Press, 1994), p. 43.
6. Philip L. Fradkin, *Fallout: An American Nuclear Tragedy* (Tucson, Arizona: University of Arizona Press, 1989), p. 148. For a history of nuclear testing, see <http://nuclearhistory.tripod.com/testing2.html#uk>.
7. IPPNW and IEER, *Radioactive Heaven and Earth*, p. 59.
8. Ortmeyer and Makhijani.
9. "Polynésie: Le Mensonge Nucléaire," *Le Figaro*, May 19, 2005.
10. IPPNW and IEER, *Plutonium*, p. 143 (U.S. Joint Chiefs of Staff evaluation of the 1946 tests at Bikini Atoll).
11. The total committed dose equivalent to the global population through the year 2100 is estimated at 544 million person-rem. IPPNW and IEER, *Radioactive Heaven and Earth*, p. 37. The doses are much larger if estimated for longer periods, mainly due to the very long-lived radionuclides, of which the most important is carbon-14, which gets into food and becomes incorporated into our bodies and all ecosystems. Carbon-14 has a half-life of 5,730 years, meaning that significant amounts will remain for tens of thousands of years in the atmosphere in the form of radioactive carbon dioxide, to be taken up by plants. Carbon-14 also occurs naturally, created mainly by the interaction of cosmic rays with nitrogen in the atmosphere.
12. Arjun Makhijani and Ellen Kennedy, "Human Radiation Experiments in the United States," *Science for Democratic Action*, vol. 3, no. 1 (Winter 1994).
13. Arjun Makhijani, Bernd Franke, and Hisham Zerriffi, "Preliminary Partial Dose Estimates From the Processing of Nuclear Materials at Three Plants During the 1940s and 1950s," 2000, available at <http://www.usatoday.com/news/poison/uranium.htm>.
14. Arjun Makhijani and Lisa Ledwidge, "Back to the Bad Old Days," *Science for Democratic Action*, vol. 11, no. 4 (September 2003).
15. Arjun Makhijani, Howard Hu, and Katherine Yih eds., *Nuclear Wastelands: A Global Guide to Nuclear Weapons Production and Its Health and Environmental Effects* (Cambridge, MA: MIT Press, 1995 and 2000), chap. 5.

END OF NUCLEAR WEAPONS NEWSLETTER #9

