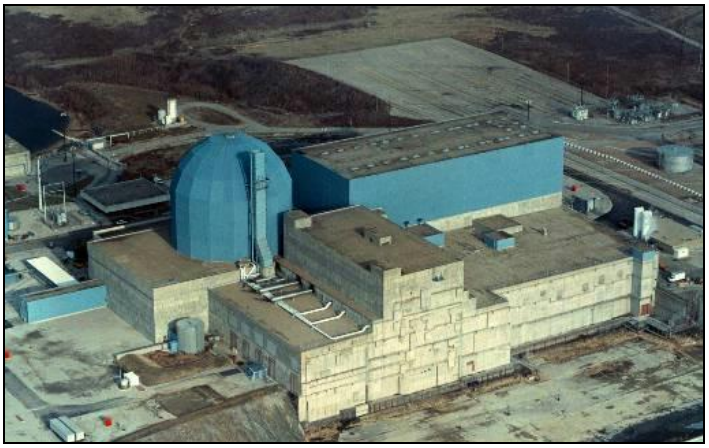
Factsheet #1: Cost

Just the Facts: The Five Fatal Flaws of Nuclear Power

Nuclear power came out a winner in the energy bill in 2005, largely due to a renewed push by the Bush administration to build new nuclear reactors for the first time in nearly 30 years. Consumers and the environment lost big. But nuclear power is not a solution to our country's energy needs. Here are five key reasons: cost, security, safety, waste, and proliferation.

Despite its promise more than 50 years ago of energy "too cheap to meter," the nuclear power industry continues to be dependent on taxpayer handouts to survive. Since its inception in 1948, this industry has received tens of billions of dollars in federal subsidies but remains unable to compete economically on its own.[1] On August 8, 2005, President Bush signed an energy bill that included over $13 billion in tax breaks and subsidies, as well as other incentives, for the nuclear industry. Here's a rundown of some of the giveaways to the mature, wealthy industry included in the bill:



Clinton Nuclear Power Plant, Illinois

EXPANSION OF CURRENT PROGRAMS

Limited Liability: The Price-Anderson Act, enacted in 1957 as a temporary, 10-year measure to support the fledgling nuclear industry, limits the amount of primary insurance that nuclear operators must carry to $300 million and caps the total liability of nuclear operators in the event of a serious accident or attack to $10.5 billion. A serious nuclear accident could cost more than $600 billion in 2004 dollars[2] - taxpayers would be responsible for covering the vast majority of that sum. *Price-Anderson for commercial nuclear plants had expired as of Jan. 1, 2004 for new reactors only.* Reauthorizing the Price-Anderson Act to 2025, as the 2005 energy bill does, extends this subsidy to the proposed new generation of nuclear power plants. The nuclear industry claims that the new designs are "inherently safe." Inherently safe should mean inherently insurable; therefore, nuclear operators should be able to privately insure them.

Grand Gulf Nuclear Plant, Mississippi

License Application Costs: The *Nuclear Power 2010* program promotes the building of new nuclear power plants by 2010 by paying for half of the cost to apply for license applications. Through this program, which has received more than $120 million since FY2001, Exelon, Entergy, and Dominion have received funding for three pending Early Site Permit applications to site new reactors in Illinois, Mississippi, and Virginia, respectively. These companies are also part of two of the three consortia that have indicated that they intend to apply for a combined Construction and Operation License (COL) in 2007. DOE has agreed to provide $260 million to the NuStart consortium, and the Dominion-led one has asked for $250 million. The ESP applicants, Entergy, Exelon and Dominion, had combined profits of $4 billion in 2004. The COL consortia members are among the wealthiest corporations in the world, including Bechtel, General Electric, and Duke Power, with more than $27.3 billion in combined profit in 2004.[3] If the nuclear industry believed that the next generation of nuclear plants is a good investment, they would be fully capable of financing both the plants and the research themselves.

Research and Development: The Department of Energy's *Generation IV* program provides funding for up to half the cost of the development of new reactor designs. This program has already received more than $92 million since FY2001. The research and development costs for a single design are estimated to range from $610 million to $1 billion, depending on the type of reactor.[4] The nuclear power industry has been given more taxpayer dollars for research and development than all other energy sectors combined. The 2005 energy legislation authorizes another $2.9 billion for nuclear R&D and licensing.

Federal Energy Supply R&D Expenditures, 1948-1998[5]

Energy R&D Program	Total Federal Expenditure (2003 dollars)	Percent
Nuclear Energy	$74 billion	56%
Fossil Fuels	$30.9 billion	24%
Renewables	$14.6 billion	11%
Energy Efficiency	$11.7 billion	9%

OTHER SUBSIDIES FOR NEW PLANTS

Taxpayer-financed New Plant Construction: Despite the current subsidies, the industry wants taxpayers to pay for building new reactors, too. The bill authorizes another $1.25 billion for a nuclear plant in Idaho to co-generate hydrogen fuel. While hydrogen may one day fuel our cars, using nuclear power to create the hydrogen fails to meet clean energy goals by creating thousands of tons of high-level radioactive waste. License applications for new nuclear reactors are also now exempted from NRC antitrust review.

"Risk Insurance": The energy bill authorizes **$2 billion** in "risk insurance" to pay the industry for any delays in construction and operation licensing for 6 new reactors, including delays due to the NRC or litigation. Not only is this a waste of taxpayer dollars, it will put pressure on the NRC to rush its review of applications, shortchanging the public of its opportunity to participate in the process and jeopardizing public safety. This provision was not in either the House or Senate bill; it was added in the 11th hour during conference report negotiations.

Production Tax Credits: In order to attempt to make new nuclear power plants appear competitive with other sources of energy, the bill authorizes tax credits for the electricity produced by these reactors. According to the Energy Information Administration, a 1.8-cent tax credit for each kilowatt-hour of nuclear-generated electricity from new reactors during the first 8 years of operation will cost **$5.7 billion** in revenue losses to the U.S. Treasury through 2025.[6]

Loan Guarantees and Power Purchase Agreements: To mitigate the high capital costs of building new reactors, the bill authorizes the federal government to provide unlimited loan guarantees for 80% of the cost of new reactors. This will allow the industry to borrow at government treasury bond rates, rather than at rates typically paid by a large utility making a risky investment. The risk of loan default is estimated to be "well above 50 percent."[7] The Congressional Research Service estimated that the taxpayer liability for loan guarantees covering up to 50% of the cost of building six new reactors would be **$6 billion**.[8]

Shutdown Subsidies: The bill changes the rules for funds that are to be used to clean up closed nuclear plant sites, costing taxpayers **$1.3 billion**.

Anti-Trust Exemption: Exemption of construction and operation license applications for new nuclear reactors from an NRC antitrust review, a potential windfall for energy companies and boondoggle for consumers.

REFERENCES:

[1] According to the July 2002 *Business Case for New Nuclear Power Plants*, "without government participation, some risks and costs of new nuclear reactors may remain at unmanageable levels." The report was prepared by Scully Capital Services, Inc., a Washington-based investment banking and financial services firm. <http://www.nuclear.gov/home/bc/businesscase.html>

[2] *Calculation of Reactor Accident Consequences (CRAC-2)*, Sandia National Laboratory, November 1, 1982.

[3] The cumulative profit does not include the following consortium members: Bechtel, Toshiba, and TVA.

[4] *A Technology Roadmap for Generation IV Nuclear Energy Systems: Ten Nations Today Preparing for Tomorrow's Energy Needs*. Issued by the U.S. DOE Nuclear Energy Research Advisory Committee and the Generation IV International Forum. Dec. 2002. <http://gif.inel.gov/roadmap/pdfs/gen_iv_roadmap.pdf>

[5] Data from *Energy Efficiency: Budget, Oil Conservation, and Electricity Conservation Issues*, CRS Issue Brief for Congress, Fred Sissine, Order Code IB10020, Updated September 22, 2004.

[6] *Analysis of Five Selected Tax Provisions of the Conference Energy Bill of 2003*, Energy Information Administration, February 2004, p. 3. <http://tonto.eia.doe.gov/FTPROOT/service/sroiaf(2004)01.pdf>

[7] Congressional Budget Office cost estimate of S.14, Energy Policy Act of 2003, <ftp://ftp.cbo.gov/42xx/doc4206/s14.pdf>

[8] Congressional Research Service, *Potential Cost of Nuclear Power Plant Subsidies in S.14*, May 7, 2003. Requested by Senator Ron Wyden.

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