



Energy Bill: Billions More in Taxpayer Handouts to the Failed Nuclear Industry

Despite its claim of energy “too cheap to meter,” the nuclear power industry continues to be dependent on taxpayer handouts to survive. Since its inception in 1948, the nuclear industry has received tens of billions in federal subsidies, including for the mining of uranium ore, research and development of reactor designs, limiting liability for accidents, and the disposal of spent nuclear fuel rods. Yet, despite more than half a century of “cradle to grave” federal subsidization, the nuclear power industry is still unable to compete economically on its own.

Now the nuclear industry wants to build new nuclear power plants and is insisting that taxpayers bear the brunt of the financial risks.¹ In the previous energy debates in Congress, the nuclear power industry has sought to increase the size and types of subsidies from the federal government in order to make nuclear power artificially cost-competitive with other energy sources. The House recently passed an energy bill with \$6.1 billion in tax breaks and subsidies, as well as other incentives, for the nuclear industry. The Senate is in the process of writing its energy bill and the industry is asking for a suite of subsidies.

Proposed New Subsidies

Production Tax Credits: In order to attempt to make electricity generated from new nuclear power plants competitive with other sources of energy, the industry is asking for tax credits for the electricity produced by these reactors. The energy bill conference report in the 108th Congress (H.R. 6) included a 1.8-cent tax credit for each kilowatt-hour of nuclear-generated electricity from new reactors during the first 8 years of operation. According to the Energy Information Administration, this subsidy would cost **\$5.7 billion** in revenue losses to the U.S. Treasury through 2025.²

Loan guarantees and power purchase agreements: The high capital costs required to construct new nuclear reactors are one of the main barriers to building them. To mitigate these high upfront costs, the industry wants the federal government to provide loan guarantees. These 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. Yet, the Congressional Budget Office concluded

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.

² *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/FTP/ROOT/service/sroiaf\(2004\)01.pdf](http://tonto.eia.doe.gov/FTP/ROOT/service/sroiaf(2004)01.pdf)

that the risk of loan default by industry would be “well above 50 percent.”³ The Congressional Research Service estimated that the taxpayer liability for loan guarantees covering up to 50% of the cost of building six to eight new reactors would be **\$14-16 billion**.⁴ In addition, the nuclear industry is asking the government to buy 10 years of electricity from these new plants **at above market prices**.⁵

The industry has received federal loan guarantees and purchase power agreements in the past – with detrimental results. In 1971, the Washington Public Power Supply System planned to build five reactors funded through tax-exempt bonds, some of which were guaranteed by power agreements with the Bonneville Power Administration (BPA). Four of the plants were not completed due to poor management and cost overruns, resulting in a \$2.25 billion bond default – the largest municipal bond default in history – and a BPA debt of more than \$6 billion.⁶

Investment Tax Credit: As another way to reduce capital costs, nuclear proponents are advocating for a 10% investment tax credit for the construction of new nuclear reactors. If enacted, the credit could be worth an estimated **\$200 to \$230 million for a 1,000-megawatt plant**.⁷

Expansion of Current Programs

Limited Liability: The Price-Anderson Act, which was originally 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 and caps the total liability of nuclear operators in the event of a serious accident or attack to \$10.8 billion. The caps fall far short of a wide range of plausible nuclear accident damages. According to a study by Sandia National Laboratory,⁸ a serious nuclear accident could cost more than \$600 billion in 2004 dollars, and the taxpayers would be responsible for covering the vast majority of that sum. Price-Anderson could easily bust the federal budget or leave victims uncompensated.

Price-Anderson is an indirect subsidy to nuclear operators in terms of annual insurance premiums they do not have to pay. This gives nuclear power an unfair, permanent competitive advantage over cleaner, safer energy options. *Price-Anderson for commercial nuclear plants expired as of January 1, 2004 for new reactors only; existing reactors continue to be covered.* Reauthorizing the Price-Anderson Act to 2025, as the current draft of the energy bill proposes to do, would extend this subsidy to the proposed new generation of nuclear power plants. Any plant that comes on line during the 20-year window would be included in the cap for its entire operating life regardless of whether Price-Anderson expires. The nuclear industry claims that the

³ Congressional Budget Office cost estimate of S.14, Energy Policy Act of 2003, <ftp://ftp.cbo.gov/42xx/doc4206/s14.pdf>.

⁴ Congressional Research Service, *Potential Cost of Nuclear Power Plant Subsidies in S.14*, May 7, 2003. Requested by Senator Ron Wyden.

⁵ *Business Case for New Nuclear Power Plants*, Scully Capital Services, Inc., July 2002, p. ES-5.

⁶ Friends of the Earth, “Don’t Create Another ‘Whoops’,” June 2003.

⁷ Power Politics: Linking Congress, Campaign Contributions and Energy Policy, Friends of the Earth, November 4, 2003, Volume VIII, <http://www.foe.org/powerpolitics/11.4.pdf>

⁸ *Calculation of Reactor Accident Consequences (CRAC-2)*, Sandia National Laboratory, November 1, 1982.

new designs are “inherently safe.” Inherently safe should mean inherently insurable; therefore, nuclear operators should be able to privately insure them.

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.⁹ Existing nuclear power plant technology was also heavily subsidized. Between 1948 and 1998, the federal government spent \$74 billion on nuclear power research and development – the majority of federal dollars spent on energy supply R&D during this time.

Federal energy supply R&D expenditures, 1948-1998¹⁰

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%

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, which recently gave two of these consortia an initial \$13 million, has estimated that the license application will cost between \$42 million and \$87 million per plant. The NuStart consortium, however, has applied for \$400 million, and the Dominion-led consortium has asked for \$250 million. The FY2005 budget included \$50 million for the *Nuclear Power 2010* program, and the administration has asked for \$56 million for the program for FY2006.

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 2004.¹¹ If these well-established, well-heeled firms believed that the next generation of nuclear plants is a good investment and critical to their strategic mission, they would be fully capable of financing both the plants and the research themselves.

⁹ *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. December 2002. http://gif.inel.gov/roadmap/pdfs/gen_iv_roadmap.pdf

¹⁰ 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.

¹¹ The cumulative profit does not include the following consortium members: Bechtel, Toshiba, and TVA.

Conclusion

The industry claims that, once a few new reactors are built and operated, “nuclear power can be fully competitive in the electricity marketplace.”¹² But 50 years of experience with massive taxpayer subsidization has shown that nuclear power is not competitive without massive government funding. Doling out tens of billions of dollars for high-cost, long gestation nuclear plants is a waste of taxpayer money that is destined to create a new generation of uneconomical reactors dependent on taxpayer money for survival. Investment in renewable energy and energy efficiency would create more jobs, save consumers more money, and reduce the environmental and public health impacts of our energy system.¹³

¹² *Business Case for New Nuclear Power Plants*, prepared by Scully Capital, July 2002, page ES-3.

¹³ See U.S. PIRG Education Fund, *Redirecting America's Energy*, February 2005, <http://newenergyfuture.com/reports/redirectingamericasenergy.pdf> and Union of Concerned Scientists, *Renewing America's Economy*, September 2004, http://www.ucsusa.org/clean_energy/renewable_energy/page.cfm?pageID=1505