



Alexander-Webb Bill (Clean Energy Act of 2009, S. 2776): Another \$4 Billion in Nuclear Subsidies, Other Incentives and Up to \$1 Trillion Loan Guarantees

The stated goal of the bill is to double the production of nuclear energy in the United States, which would require building 100 new reactors. Currently, the Nuclear Regulatory Commission is reviewing applications for 21 new reactors.

Title XVII Loan Guarantees (Sec. 3): Up to \$1 trillion in nuclear guarantees

- **Authorizes \$10 billion in subsidy costs:** The subsidy cost is the payment made in advance of a loan guarantee that is supposed to cover the risk of default. Calculating the risk of default is extremely difficult and more likely to be underestimated than overestimated, according to the Government Accountability Office and the Congressional Budget Office (CBO). Unlike current legislation in which nuclear utilities are expected to pay the subsidy cost, this provision would require taxpayers to pay it. If the subsidy cost is 10% – as is assumed for renewable projects – then \$10 billion could leverage \$100 billion in guarantees. If the subsidy cost is calculated at 1% of the guarantee – as the nuclear industry is advocating – then \$10 billion could leverage \$1 trillion in nuclear guarantees.¹ CBO has estimated that the default rate for new reactors will be “very high – well above 50 percent.”²
- **Allows multiple guarantees on the same technology:** The bill changes the definition of “commercial technologies” in Title XVII so that a technology that receives a loan guarantee is not defined as a commercialized. This would allow multiple loan guarantees to be given out to the same technology at the same time, putting taxpayers at risk of having to bail out multiple failed projects of the same design. [Identical language as in the Senate energy bill, American Clean Energy Leadership Act, S. 1462.]
- **Removes US taxpayers’ right of first lien:** The bill weakens an important taxpayer protection established in Title XVII of the Energy Policy Act of 2005, which gives U.S.

¹ The actual average subsidy cost will depend on the projects that get loan guarantees and may be higher than 10%. Despite this, the nuclear industry is asking that new reactors, one of the most risky investments, should have a subsidy cost of only 1%.

² <http://www.cbo.gov/ftpdocs/42xx/doc4206/s14.pdf>

taxpayers the first right of lien in the event that a project defaults and assets are sold. It requires the DOE Secretary to make agreements to provide for the sharing of these assets with other creditors. One result is that, in the event of a default, assets could be used to pay back foreign investors in U.S. reactors before U.S. taxpayers. In addition, cooperatives, which want to invest in new reactors with larger investor-owned utilities, will be able to obtain loan guarantees for new reactors. [Identical language as in the Senate energy bill, American Clean Energy Leadership Act, S. 1462, and in the House climate bill, American Clean Energy and Security Act, H.R. 2454. In 2009, DOE changed its Title XVII rules to remove US taxpayers' right of first lien.]

- **Artificially expedites application reviews:** The bill requires that DOE issue decisions on applications within 180 days of submission. In the case of nuclear reactor loan guarantees applications, DOE would have to decide on a loan guarantee before the reactor design is complete, the project is licensed, and realistic cost estimates are known. [Identical language as in the Senate energy bill, American Clean Energy Leadership Act, S. 1462.]

Nuclear Waste (Sec. 4):

- **Supports blue-ribbon panel on nuclear waste:** The bill includes a Sense of Congress in support of a blue-ribbon panel to make recommendations for managing nuclear waste. On January 29, 2010, Energy Secretary Chu announced the members of a Blue Ribbon Commission, which includes no scientific experts on nuclear waste from the public interest community who have been working on the issue of radioactive waste at the national and local levels for decades. The Commission is to finalize its report within two years.

Small Nuclear Reactors (Sec. 4): \$1 billion

For 40 years, the nuclear industry has been pursuing larger and larger reactors to try to make nuclear power economically competitive – the pending applications at the NRC are the biggest reactors yet in the United States. These economies of scale are lost if size is greatly decreased: physics dictates that smaller reactors will tend to be more expensive than larger reactors given similar safety features. As size is decreased, volume (i.e., power) decreases more than surface area (i.e., cost), thus leading to less energy output at a higher cost. Similarly, the cost per reactor of secondary containment, as well as independent systems for control, instrumentation, and emergency management, increases as size decreases. These cost increases are unlikely to be offset even if the entire reactor is manufactured at a central facility and some economies of scale are achieved compared to large reactors assembled on site. South Africa and China are the primary countries with small reactor programs, though many countries, including United States, Germany, France, Japan, and Britain, have tried and failed to develop small high-temperature, gas-cooled reactors, such as the pebble bed modular reactor. After a decade of large sums of public money being spent on the technology, the South African pebble bed program is mired in

cost overruns and delays and government funding is set to run out in 2010. It is a waste of taxpayer money to subsidize reactors of a size that the major nuclear companies and most governments abandoned decades ago.

- **Adds small reactors to the Nuclear Power 2010 program:** Nuclear Power 2010 is a program to facilitate the licensing of new reactors through taxpayer funding and Energy Department assistance. The Obama administration has canceled this program in its FY2011 budget request. The bill would require that DOE enter into cooperative agreements with manufacturers and utilities to license reactors less than 350 megawatts electrical or 900 megawatts thermal (electrical output is about one-third the thermal output).
- **Authorizes \$1 billion over 5 years to pay half the cost of design certification and licensing:** DOE must ensure that no more than 3 designs for small nuclear reactors are submitted to the Nuclear Regulatory Commission for certification and licensing. Half the cost of certification, one Early Site Permit and one Construction and Operation License is to be paid by US taxpayers.
- **Requires NRC to report to Congress:** Within 90 days of receiving an application for a small reactor design certification, Early Site Permit or Combined Construction and Operation License, the NRC must report to Congress on the status of the application.

Nuclear Waste Confidence (Sec. 4): Priceless

- **Codifies Waste Confidence:** The Nuclear Regulatory Commission's Waste Confidence Rule states that the NRC is confident that there will be a geologic repository for spent fuel by 2025. Given that Yucca Mountain is no longer slated to be the nation's geologic repository and there are no other sites under consideration, the NRC is in the process of reevaluating its rule. This provision would codify the rule by forbidding the NRC from denying a Construction and Operation License application on the grounds that there will not be sufficient capacity to dispose of the waste "in a timely manner." This measure would bypass what should be a scientific and technical determination and sets up the federal government for additional lawsuits by the nuclear industry for failing to meet its commitment to dispose of spent nuclear fuel.

Nuclear Workforce (Sec. 5): \$1 billion

- **Authorizes \$1 billion over 10 years for nuclear workforce development:** The Department of Education, in consultation with the Energy and Labor Departments, must "carry out activities" to train an "adequate" nuclear workforce, including engineers and operators. The DOL is also authorized to give out grants to secondary schools and postsecondary institutions to develop educational and cooperative programs. [The Senate climate bill (Clean Energy Jobs and American Power Act, S. 1733) allocates auction proceeds to a new "Nuclear Worker Training Fund," to increase the number and amounts of DOE nuclear science grants

under the American COMPETES Act (Sec. 5004) and to carry out DOL programs to expand nuclear workforce training.]

Research Life-Extension of Existing Reactor (Sec. 5): \$500 million

- **Authorizes \$500 million over 10 years for research on extending the life of existing reactors:** The bill outsources to US taxpayers all safety research on extending the life of and increasing power output (called “uprates”) from the current fleet. [The Senate climate bill (Clean Energy Jobs and American Power Act, S. 1733) authorizes “such sums as are necessary” for a research program on reliability, component aging, safety and security of nuclear reactors; performance improvement of reactors; and feasibility of licensing reactors beyond 60 years (40-year license plus 20-year extension).]

Reprocessing Research and Development: \$ 1.5 billion

- **Authorizes \$1.5 billion over 10 years for reprocessing R&D:** Funding is for researching and developing reprocessing, as well as fast reactors. Reprocessing is expensive, polluting and proliferating. According to the National Research Council, the cost of a reprocessing and fast reactor program in the U.S. would cost more than \$700 billion (2007 dollars). Reprocessing is the most polluting part of the fuel cycle, resulting in seven times more radioactive waste to manage than direct disposal.³ It also results in separated plutonium that is more vulnerable to theft; none of the technologies currently being researched by the DOE would provide a significant radiation barrier to deter theft.⁴ Moreover, the history of fast reactors is dismal: ever since the first experimental fast neutron reactor generated electricity in 1951, governments around the world have made huge investments into their development, but the return has been minimal. After decades of research and experimentation, fast reactors remain unsafe, uneconomical, and unable to address the problems of nuclear power.⁵

Non-Nuclear Energy Research and Development: \$6 billion

- **Authorizes \$6 billion over 10 years for energy research:**
 - \$1.5 billion for liquid transportation biofuels other than ethanol;
 - \$1.5 billion for carbon capture and storage or reuse of carbon dioxide;
 - \$1.5 billion for electric vehicle batteries; and
 - \$1.5 billion for solar electricity.

³ For more information, see <http://www.ucsusa.org/assets/documents/nwgs/reprocessing-and-nuclear.pdf>.

⁴ Office of Nonproliferation and International Security, *Draft Nonproliferation Assessment for the Global Nuclear Energy Partnership Programmatic Alternatives*, December 2008, pages 68-70, http://nnsa.energy.gov/nuclear_nonproliferation/documents/GNEP_NPIA.pdf

⁵ For more information on fast reactors, see <http://www.citizen.org/documents/FastReactors.pdf>.