



The American Power Act Includes Big Nuclear Giveaways That Harm Taxpayers, Ratepayers, and Public Safety

The discussion draft of the American Power Act, released on May 12, 2010, by Sens. Kerry and Lieberman, piles new and expanded subsidies on top of the subsidies that were already provided for in the Energy Policy Act of 2005 (EPACT 2005). The nuclear subsidies in EPACT 2005 include taxpayer-funded licensing, “risk insurance” to pay the industry for delays in licensing, “such sums as necessary” to construct a reactor in Idaho, 20-year reauthorization of limited liability for the nuclear industry in the event of an accident or attack, production tax credits, and federal loan guarantees for new reactors. Most of these subsidies have yet to actually be used, because the nuclear industry does not have a single new construction and operation license, or even a certified reactor.

In addition to piling on more subsidies, the American Power Act undermines public safety and public confidence by further shortcutting the Nuclear Regulatory Commission’s (NRC) licensing process. The NRC’s licensing process for new reactors already has been accelerated in two major respects. In EPACT 1992, Congress collapsed the former two-step licensing process (construction permit review followed by operating license review) into a one-step Construction and Operating License (COL) process. In 2004, the NRC further truncated the licensing process by eliminating the public’s right to take depositions or cross-examine opposing witnesses in individual licensing hearings. Not a single application has yet been fully tested through the new process. Furthermore, the acceleration of licensing will not address the real problem: the premature submission of incomplete and poor-quality applications by the industry.

Title I of the American Power Act is called “Domestic Clean Energy Development,” which starts with the Nuclear Subtitle. Given that the US imports more than 90% of its uranium from other countries¹ and only has the ninth largest reasonably assured uranium resources in the world,² most of which is low- to medium-grade that is less economical, it is unlikely that nuclear power could ever truly be a “domestic” energy source. Nor is nuclear power “clean” – the entire fuel

¹ <http://www.eia.doe.gov/cneaf/nuclear/umar/table3.html>

² <http://www.world-nuclear.org/info/inf75.html>

cycle produces radioactive waste: from uranium mining, milling and enrichment to routine and accidental releases of radioactivity to spent fuel.

A section by section analysis follows.

Title I – Domestic Clean Energy Development

Subtitle A – Nuclear Power

Part I – Encouraging New Nuclear Power Generation

Section 1001. States US Policy to Subsidize Nuclear Energy Indefinitely

This section states that it is the policy of the United State to continue to reduce “financial and technical barriers to construction” (i.e., subsidize) and provide incentives to the nuclear energy industry.

Section 1101. Requires NRC to Report on How to Further Truncate Reactor Licensing

This section requires the NRC to implement an “expedited procedure” for issuing Combined Construction and Operating Licenses (COL) for new reactors that use a certified design, construct at an existing site, submit a complete COL application, and have financial backing via purchase agreements for long-lead materials like reactor vessels or assured financing. Within 90 days, the NRC must report to Congress with its recommendations on procedures and a budget. Within one year, the NRC must report to Congress an outline of “technology-neutral guidelines” for reactor licensing that will allow for “seamless entry of nuclear technologies.” Nuclear reactors already have the most streamlined licensing process of any type of industrial facility in the U.S. The NRC’s current licensing process already assumes that the designs are standardized. What is actually delaying the processing of reactor applications is not the licensing process, but the fact that the industry has been unable to submit adequate design proposals or to respond to the NRC in a timely fashion. A “technology-neutral” approach does not take into account that nuclear reactor designs are extremely complex and one major design change can have huge public safety implications. Moreover, a recent review of NRC licensing process for new reactors by the Bipartisan Policy Institute, headed by former Senator Domenici and former NRC Chairman Meserve, “did not find any evidence that either the NRC or industry has needlessly delayed or extended the licensing process.”³ Since the licensing process will not be fully tested for several years, requiring the NRC to develop an even more truncated process will put public health and safety at serious risk.

³ <http://bipartisanpolicy.org/sites/default/files/NRC%20Licensing%20Review.pdf>

Section 1102. Triples Nuclear Loan Guarantees to \$54 Billion

Currently, the Department of Energy (DOE) has the authority to offer \$18.5 billion in nuclear loan guarantees, which was supposed to cover 4 reactor projects when it was authorized two years ago. Estimated costs have increased so dramatically that it can only guarantee 2 projects now. Only one \$8.33 billion guarantee has been “conditionally” offered to Southern Company and two of its partners for two reactors in Georgia. Southern Company recently asked for an additional 30 days to decide if it is going to accept the guarantee. The only condition that the DOE will state publicly is that the project must get an NRC license. This condition does not protect US taxpayers: in the last round of reactor construction over 100 reactors were cancelled after getting a license. Meanwhile, the NRC has raised questions about whether the proposed AP1000 design at Vogtle can withstand earthquakes, hurricanes and tornadoes. The other three reactor projects that are in line for guarantees are: the French EPR design at the Calvert Cliffs site in Maryland; two ABWRs at the South Texas site in Texas; and two AP1000s at the VC Summer site in South Carolina. The EPR is the most expensive design – estimated at \$13-15 billion for one in Pennsylvania, though Unistar is claiming \$10 billion in Maryland. The South Texas project is hunting for investors after the city of San Antonio pulled out of 85% of its investment in the project when the estimated costs increased to \$18.2 billion. In addition, this section sets up a new “loan guarantee retention fee” for nuclear loan guarantees that will be charged 5 years after the reactor is constructed. The fee in the first year is 0.5% of the guarantee. For the next 9 years, the annual fee is the sum of the previous year fee plus 0.5%, and thereafter, 5% annually. This “retention fee” does not help reduce the risk to US taxpayers because a reactor project is most likely to default well before 5 years after construction.

Section 1103. Dramatically Expands “Risk Insurance”

“Risk insurance,” also called “standby support,” pays the nuclear industry for any delays in full power operation of the reactor, which under current law includes delays due to the NRC and litigation in court. Risk insurance will put pressure on the NRC to rush its inspection process for reactors under construction, jeopardizing public safety. EPACT 2005 authorized \$2 billion to cover six new reactors: up to \$500 million for the first two and up to \$250 million for the other four. No risk insurance coverage has been offered yet to any reactor project, but this section would greatly expand this program:

- **Increases coverage and doubles the number of eligible reactors:** The coverage is increased to 12 reactors up to \$500 million each, a total taxpayer liability of \$6 billion. If there are no delays and a reactor project does not use the insurance, the DOE can enter into a new contract with another project, thus making it likely that US taxpayers will ultimately pay out \$6 billion.
- **Broadens definitions of “covered delay”:** The program is dramatically broadened to include “administrative proceedings” as a covered delay. This is an enormous expansion of the program, which currently includes adjudication in court, but excludes administrative proceedings. Administrative proceedings would include the generic design

reviews currently being delayed because the applicants have submitted inadequate filings or responded inadequately to NRC questions. If failure to approve a generic design on schedule delayed a COL issuance (an increasingly likely proposition), taxpayers would have to pay the costs even though the fault lay with the reactor vendor.

- **Lengthens time of coverage:** The provision would also push back the definition of “full power operation,” currently defined in regulation as the synchronization of the reactor to the grid, to much later in the process (the earlier of the “commercial operation date” or when the reactor achieves 50% capacity for 30-consecutive days after startup testing). Therefore, taxpayers would be on the hook for any delays, including those due to safety problems raised by the NRC, well after the reactor has started producing electricity.
- **Puts taxpayers on the hook for increased project costs:** Currently, risk insurance covers the principal or interest on any financing for a new reactor, as well as the incremental difference between the market price of power and what the price of power would have been if the reactor had been operating. This section dramatically expands the debt obligations that the risk insurance would cover to include “increased project costs,” defined as the “increased cost of constructing, commission, testing, operating, or maintaining the reactor,” including equipment, materials, and labor (including idle time!), administrative costs and escalation costs.
- **Changes dispute resolution:** Under current regulations, a disagreement is first brought to mediation and, if not resolved, then to the Civilian Board of Contract Appeals for resolution by an Administrative Judge. The bill would resolve disputes with commercial binding arbitration in Washington, DC, which is what the nuclear industry has asked for in its comments on draft regulations. The DOE rejected commercial arbitrators, because the Civilian Board process has been used to resolve disputes in government contracts for many years and because the Civilian Board process is free while commercial arbitrators charge “significant fees.”
- **Requires the NRC to Recommend Licensing Changes:** In addition to the quarterly status reports currently required, the NRC would be required to submit biannual reports with recommendations for changes in existing laws and regulations to further truncate licensing.

Section 1104. Sites Reprocessing R&D Center at a National Laboratory

This section requires the DOE to site within one year a spent fuel reprocessing and fast reactor research and development center at a national laboratory. DOE is to give preference to a site that has the most technically sound bid, experience in reprocessing, and community support – in other words, the Savannah River Site in South Carolina. This provision is highly premature, given that the Blue Ribbon Commission on America’s Nuclear Future, which is tasked with making recommendations on managing the nation’s spent fuel – including a review of reprocessing – will not release a final report until 2012.

Section 1105. Eliminates mandatory hearings

This section amends the Atomic Energy Act of 1954 to eliminate the mandatory hearing for uncontested issues as part of the Combined Construction and Operating License (COL) process, as well as the uranium enrichment facility licensing process. These changes would be applied to applications currently pending before the NRC. “Uncontested” does not mean “unimportant.” The mandatory hearing plays a crucial role of supplementing the contested hearing process, in which few issues – and sometimes no issues – survive the gauntlet of NRC’s arduous procedural requirement for admission of issues to a hearing. Where members of the public raise concerns that are rejected for contested hearings, they can only turn to the licensing board for a rigorous independent evaluation of the adequacy of the NRC Staff’s review of a license application. Without a mandatory hearing, it would be possible that *no* public hearings are held in the licensing of a new reactor. Mandatory hearings have a proven track record of highlighting weaknesses in the NRC Staff’s review process for Early Site Permits⁴ (ESPs), as well as regulatory questions requiring resolution by the Commission. As one example, in the case of the ESP for North Anna, the licensing board found that the Final Environmental Impact Statement (“Final EIS”) contained a “paucity of analysis, investigation, and information” regarding the subject of Environmental Justice. This finding did not prevent the Commission from ultimately approving the adequacy of the Staff’s analysis, but the Staff is now required to provide more details in future Final EISs. The mandatory hearings established under the Atomic Energy Act should not be eliminated, because they constitute a necessary and important element of the NRC’s process for maintaining accountability to the public through the hearing process.

Section 1106. Extends terms for NRC Commissioners

The 5-member Nuclear Regulatory Commission went for a year with two empty seats. In order to avoid this situation but not allow for indefinite term extensions, this section would extend a Commissioner’s 5-year term until a successor’s term starts or until Congress adjourns, whichever comes first.

Section 1107. Requires DOE to Develop Plan with \$250 million to Lower Cost of Reactors

This section provides the DOE with \$250 million to research and publish a 5-year strategy on the web to “lower effectively the costs of nuclear reactors,” including mini-reactors, manufacturing and construction, licensing and enhanced proliferation controls. It is highly unlikely that if it were possible to lower the cost of nuclear reactors with a \$250 million, 5-year plan, the wealthy nuclear industry would not have done this already. This section is a bill introduced by Sens. Udall, Bingaman, and Murkowski.

⁴ An Early Site Permit (ESP) is an NRC approval of a site as suitable for a nuclear reactor, but does not allow a company to build until it obtains a Combined Construction and Operating License (COL).

Section 1108. Undermines NRC Safety Reviews During Reactor Construction

This provision undermines the NRC's ability to ensure that new reactors are safe before they can operate. Inspections, tests, analyses and acceptance criteria (ITAAC) are the specific requirements that the utility must meet to assure that a reactor was built according to design specifications. The NRC is currently in the process of developing ITAAC. One of the issues yet to be resolved is whether inspections of components have to be met at startup or just at some point in the years-long construction process, but not necessarily at startup. Some of the 900 inspections, tests and analyses could be done early on while construction is still underway – meaning that they could age or be damaged after passing inspection. The nuclear industry argues that all of the millions of bits and bobs in a reactor will never all be perfect at the same time and that a pass is a pass, regardless of what happens in the future. The change to existing law in this section is so sweeping that it would actually eliminate the NRC's ability to prevent startup even if fundamental safety components were compromised. Moreover, it would undermine the basis for the current NRC rulemaking to develop regulation for how inspected and tested components should be tracked and maintained before startup. Rulemaking is the proper way to address such complicated and technical questions and Congress should not circumvent this public process.

Section 1109. Guts NEPA Analysis in New Reactor Licensing

This section would allow the Nuclear Regulatory Commission to avoid analyzing a range of economic and technical issues in its licensing of new reactors, including the need for power, the cost of the new reactor, and alternative energy sources. Under the National Environmental Policy Act (NEPA), the NRC is required to evaluate the environmental impacts of new reactors and weigh the costs and benefits of reasonable alternatives within its licensing process. Current regulations do not require that an Early Site Permit application include an “assessment of the economic, technical, or other benefits (for example, need for power) and costs of the proposed action or an evaluation of alternative energy sources,” but these issues must be addressed in the subsequent environmental impact statement for the Combined Construction and Operating License (COL). This section would change the law to require that any information added to the subsequent EIS is “new” and “significant in that the information would materially change the prior findings or conclusions.” This is an impossibly high standard: not even the tripling of the cost estimate of the reactor could change prior conclusions, because the prior conclusions were not based on cost. This provision would make it highly unlikely that these basic analyses are ever evaluated in licensing, shifting the burden to the public to raise them.

Part II – Extension of Duty Suspension for Nuclear Parts

Section 1111. Suspends Duty on Import of Nuclear Parts

This section suspends for another 10 years the import duties on components for nuclear reactors that are not available in the United States. In fact, the vast majority of and most expensive parts for nuclear reactors will be manufactured abroad. On February 16, 2010, the United Steelworkers

union sent a letter to NRC Chairman Jaczko pointing out that the “potential foreign sourcing of components for these reactors...also potentially jeopardizes the health and safety of the public,” citing recent problems with “unsafe and substandard products reaching consumers from China.”⁵

Part III – Tax Provisions

Section 1121. Accelerates Depreciation of New Reactors from 15 Years to 5 Years

This section allows the nuclear industry to accelerate the depreciation of a new reactor from 15 years to 5 years and allow for a more favorable depreciation method to be used (a 200% declining balance compared to a 150% declining balance). As a result, utilities will be able to write off hundreds of millions of dollars per reactor. For reactor projects that also receive an 80% loan guarantee, this subsidy will eliminate all investor risk in the project within a few years after construction begins.

Section 1122. Provides Investment Tax Credit for New Reactors

This section provides a 10% annual investment tax credit for expenditures that a utility makes in the construction of a new reactor for units placed into service before January 1, 2025. There is no limit to the total amount of this tax credit. This subsidy will even further reduce any utility risk in the project and further decrease federal tax revenue from new reactors. There is a provision to recuperate the tax revenue if the reactor is delayed, suspended or cancelled, but as a practical matter it may be very difficult to recapture, since many of the projects are Limited Liability Companies. A single reactor project can get an investment tax credit or a production tax credit (see Sec. 1124).

Section 1123. Includes Reactors in Manufacturing Tax Credit

The Advanced Energy Manufacturing Tax Credit was authorized in Section 1302 of the American Reinvestment and Recovery Act of 2009 to provide a 30% credit for investments in new, expanded, or re-equipped energy manufacturing projects. Under the current cap of \$2.3 billion in tax credits, two nuclear projects have been selected: a turbine manufacturing facility in Tennessee (\$63 million) and a nuclear module facility in Louisiana (\$10.8 million). Currently, nuclear projects fall under the category of “other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary.” This provision would specifically add nuclear manufacturing to the list of qualifying projects. Sec. 4003 of the American Power Act adds another \$5 billion to the program.

Section 1124. Increases Nuclear Production Tax Credits

This section would increase the amount of production tax credits available to new reactors from 6,000MW to 8,000MW, which would cost taxpayers approximately an additional \$1.9 billion.

⁵ http://assets.usw.org/Releases/Misc/us-nrc_gerard-nrc-letter-southern-co_usw021610.pdf

None of the 6,000MW authorized in the EPACT of 2005 have actually been used.⁶ The provision would also allow tax-exempt public power investors (municipal utilities and cooperatives) to allocate their credits to private partners. This greatly increases the value of the production tax credits. A single reactor project can get an investment tax credit or a production tax credit.

Section 1125. Allows Tax-Exempt Private Bonds to Be Applied to Nuclear Projects

Nuclear projects are currently eligible for tax-exempt bonds when a public power entity is the owner. This section would allow tax-exempt *private* bonds for nuclear projects. The private bond market is constrained because there are state and national caps on the private activity bond volume, which means that the use of private bonds for nuclear projects will noticeably decrease the use of private bonds in other investments. The history of bonds to raise funds for new reactors is not promising. When cost overruns and delays resulted in the cancellation of two reactors in Washington State in the early 1980s, the Washington Public Power Supply System (also known as “WHOOOPS”) defaulted on \$2.25 billion in municipal bonds, which was the largest municipal bond default in US history at the time. Recently, the Municipal Electric Authority in Georgia used the Build American Bonds authorized in the American Reinvestment and Recovery Act of 2009 to raise \$2.5 billion to finance its share of the two proposed new Vogtle reactors, one of the largest Build American Bonds investments.

Section 1126. Provides Payments to Public Power for New Reactors

Some public power companies and cooperatives jumped on the bandwagon very late in the last round of nuclear reactor construction in the United States in the 1970s and 1980s, and were left holding the bag when project after project was abandoned because the costs had escalated so dramatically. Inexplicably, public power companies and cooperatives are very keen to get into this risky business again, but public power and cooperatives are tax-exempt, so they cannot take advantage of tax credits. This section would make these tax breaks available, after the reactor has started up, in the form of a grant payment worth 10% of the nuclear reactor facility expenditures. The program expires at the end of 2024.

⁶ The Energy Information Administration estimated that the 6,000MW in production tax credits for new reactors authorized in the Energy Policy Act of 2005 will cost taxpayers \$5.7 billion in lost revenue.
[http://tonto.eia.doe.gov/FTP/ROOT/service/sroiaf\(2004\)01.pdf](http://tonto.eia.doe.gov/FTP/ROOT/service/sroiaf(2004)01.pdf)