



Issue Brief

Loan Guarantee Provisions in the 2007 Energy Bills: Does Nuclear Power Pose Significant Taxpayer Risk and Liability?

October 30, 2007

Introduction

Loan guarantees are used by the federal government to promote key areas of industry and encourage commercial development. By offering a guarantee on a loan, the federal government provides financial security for borrowers in sectors that are often considered too risky for lenders. The Government Accountability Office (GAO) says, “Federal loan guarantee programs help borrowers get credit from private sector lenders—the federal government guarantees to pay lenders if the borrowers default on loans, which makes extending credit more attractive to lenders.”¹ Title XVII of the Energy Policy Act of 2005 (EPACT 05, P.L.109-58), gives the Department of Energy (DOE) authority to offer loan guarantees for new and innovative technologies that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases and are not currently in commercial use for energy production. Eligible technologies include renewable energy, energy efficiency, advanced nuclear and fossil, and carbon capture and sequestration, to name a few.

The 2007 energy bills that have passed the House and Senate and await conference both offer provisions which amend the EPACT 05 loan guarantee program. The Senate bill (H.R. 6) would significantly alter how DOE provides loan guarantees for new energy technologies, including nuclear power plants. The House-passed legislation (HR. 3221) is different; it states that no eligible technology can be excluded from consideration for loan guarantees. For these and other reasons, it is important to examine these provisions thoroughly to assess their potential impacts to this taxpayer-funded program. The liability to taxpayers is potentially high, in part due to the costs and risks associated with constructing nuclear power plants.

A provision of the Senate bill exempts DOE’s loan guarantee program from Sec. 504(b) of the Federal Credit Reform Act of 1990 (FCRA). The Senate provision allows, among other things, for DOE to write unlimited loan guarantees without Congressional oversight. If adopted, this provision removes Congressional authority and the safeguards in place through the appropriation process, and shifts the financial risk from private lenders to taxpayers. Initial analyses of the loan guarantee program have shown that DOE lacks the infrastructure necessary to effectively implement its program. Reports from the GAO and DOE’s Office of the Inspector General state that the necessary policies, procedures, and staff remain absent, raising questions about DOE’s ability to manage its loan guarantee program. This Issue Brief explores these issues raised by the 2007 energy bill provisions, as they pose potentially significant risks and high costs to America’s taxpayers.

¹ GAO Report: Key Steps Needed to Help Ensure the Success of the New Loan Guarantee Program for Innovative Technologies by Better Managing Its Financial Risks, GAO-07-339R, February 28, 2007

Federal Legislation

Current Legislation

The energy bills currently under consideration in the House and the Senate make changes to the legislation already in place. EPACT 05 Title XVII specifies that DOE can make loan guarantees for innovative energy projects that include “advanced nuclear technologies.”² Under Sec. 1702 (c) of EPACT 05, “A guarantee by the Secretary [of Energy] shall not exceed an amount equal to 80 percent of the project cost of the facility that is the subject of the guarantee, as estimated at the time at which the guarantee is issued.” The extent to which the federal government would guarantee this loan was not specified until October 4, 2007, when final regulations for the program were issued by DOE. The Department announced, “The final regulation provides that the Department may issue guarantees for up to 100 percent of the amount of a loan, subject to the EPACT 05 limitation that DOE may not guarantee a debt instrument for more than 80 percent of the total cost of an eligible project.”³

Funds for the loan guarantee program are to be appropriated by Congress as stated in FCRA. The purposes of FCRA are to measure more accurately the costs of Federal credit programs; place the cost of credit programs on a budgetary basis equivalent to other Federal spending; encourage the delivery of benefits in the form most appropriate to the needs of beneficiaries; and improve the allocation of resources among credit programs and between credit and other spending programs. Section 504(b) of FCRA requires that any federal loan guarantees must receive new budget authority and a limitation on the funds for the cost of the loan as determined in an appropriations act.

Proposed Legislation

Under the Senate energy bill (H.R.6), which passed the Senate on June 21 by a vote of 65-27, key changes are made to the loan guarantees that the federal government provides for innovative energy technologies. Sec. 1703 (a)(2) of EPACT 05 designates loan guarantees for projects that “employ new or significantly improved technologies as compared to commercial technologies in service to the United States at the time the guarantee is issued.” The Senate bill amends this designation, by excluding from the definition of commercial technology those projects that are in connection with “a demonstration plant; or a project for which the Secretary approved a loan guarantee.”⁴ Broadening the definition of projects excluded from commercial technology (and therefore eligible for loan guarantees) allows DOE to provide loan guarantees to many projects that use the same technology. This leads to the possibility of several nuclear power plants of the same design receiving loan guarantees as “advanced nuclear technologies.”

Additionally, the Senate bill excludes loan guarantees from the authority of FCRA.⁵ While a February 2007 GAO report notes, “The Federal Credit Reform Act requires that Congress appropriate budget authority for loan guarantee program costs before loans can be made,” the Senate bill seeks to exempt this program from Congressional oversight completely. H.R. 6 Sec. 124(b)(2) specifically states that “Section 504(b) of the Federal Credit Reform Act shall not apply to a loan or a loan guarantee made in accordance with paragraph (1)(B).”⁶ Furthermore, fees collected by the Secretary to cover administrative expenses for the loans will now go into a fund known as “Incentives for Innovative Technologies Fund,” which will “remain available to the Secretary for expenditure, without further appropriation or fiscal year limitation.”⁷ This amendment, giving DOE unregulated access to the fund and removing Congressional appropriation authority, has been criticized by the Bush Administration, as noted in a statement released by the Office of Management and Budget: “The Administration strongly opposes

² Energy Policy Act of 2005, Title XVII, Sec. 1703 (b)

³ Department of Energy Office of Public Affairs Press Release, October 4, 2007

⁴ H.R.6 Sec.124 (b)(1)

⁵ H.R.6 Sec.124 (b)(2)

⁶ H.R.6 Sec.124 (b)(1)(B) stipulates that no guarantee shall be made unless “the Secretary has received from the borrower a payment in full for the cost of the obligation and deposited the payment into the Treasury.”

⁷ H.R.6 Sec.124 (b)(5)

the bill's modifications to the EPACT 05 Title XVII loan guarantee program, many of which are inconsistent with FCRA and long-standing Federal credit policy."⁸

The House bill (H.R.3221), which passed the House on August 4 by a vote of 241 – 172, makes two key amendments to loan guarantees in EPACT 05 as well. While the original legislation specifies that the federal loan will cover 80 percent of the project cost, Sec. 9201 of the House bill amends this section to additionally note that the Secretary will guarantee up to 100 percent of this loan. This amendment now reiterates the final regulations announced by DOE on October 4, 2007, which also state that DOE will guarantee 100 percent of the loan.^{9,10} Furthermore, Sec.1704 is amended to prevent any category of eligible projects from being excluded from appropriations.¹¹ In essence, this prevents any particular technology, such as nuclear technology, from being excluded from appropriated funds.

Costs

The request for loan guarantees to begin new nuclear projects in the United States is estimated to be at least \$50 billion in the first two years. This amount surpasses the \$49.7 billion DOE spent on nuclear power R&D in the entire 30 years from 1973-2003.¹² In a statement on the floor of the House, Rep. Peter Visclosky said, "The Nuclear Energy [Institute] indicates a need for \$25 billion in Federal guaranteed loans for fiscal year 2008 and more than that in fiscal year 2009."¹³ Some studies estimate very low costs for new plants (various year dollars) such as EIA, University of Chicago, and vendors (\$1500-2100/kW). Others do not, such as the Keystone Center, Standard & Poor's, Moody's, and Florida Power & Light (\$3600-6000/kW).¹⁴ A recent report commissioned by Nonproliferation Policy Education Center gives cost estimates in real 2007 dollars ranging from \$4,300-4,500/kW for final construction costs, which comes out to \$4.3-4.5 billion for a typical 1000MW nuclear power plant.¹⁵

If a loan guarantee is granted, DOE would issue a loan for 80 percent of these costs, and the nuclear industry would in turn pay a subsidy cost to the Department. The subsidy cost is defined as "the estimated net present value of long-term cost to the federal government of guaranteeing the loans over the entire period that the loans are outstanding, excluding administrative costs."¹⁶ The subsidy cost is like an insurance premium, and may be different for each project. Because this cost is estimated, it is possible for shortfalls to occur if the cost estimate is too low, resulting in a loss to the federal government. Despite the risk of loss, DOE has not yet established a procedure for determining these costs. The GAO reports that "DOE will have to estimate the subsidy cost to determine the fees to charge borrowers, but it currently has no policies or procedures for doing so."¹⁷ Furthermore, should shortfalls occur, these costs are to be covered by the federal government. "Under federal law, shortfalls in subsidy costs are funded by a permanent indefinite appropriation, not through the annual appropriations process," the GAO notes.¹⁸ This becomes an issue for taxpayers as well, because the money to fund any shortfall will ultimately come from taxes paid to the federal government. "Although [loan guarantee program] LGP guidelines call for

⁸ Office of Management and Budget Statement of Administration Policy Regarding H.R.6, June 12, 2007

⁹ H.R.3221 Sec.9201

¹⁰ Department of Energy Office of Public Affairs Press Release, October 4, 2007

¹¹ H.R.3221 Sec.9202

¹² Congressional Research Service, CRS-IB10041, June 2005

¹³ *Congressional Record*, Vol. 153, No. 99, June 19, 2007, p. H6713

¹⁴ Environment and Energy Study Institute Briefing: "Costs and Risks of Nuclear Loan Guarantees," Jim Harding, October 30, 2007

¹⁵ Report commissioned by Nonproliferation Policy Education Center: "Economics of Nuclear Power and Proliferation Risks in a Carbon Constrained World," Jim Harding, June 2007

¹⁶ GAO Report: Observations on Actions Implement the New Loan Guarantee Program Innovative Technologies, GAO-07-798T, April 24, 2007

¹⁷ GAO-07-339R, February 28, 2007

¹⁸ GAO-07-798T, April 24, 2007

borrowers to be charged fees to cover program costs,” the GAO says, “the program could result in substantial financial costs to taxpayers if DOE underestimates total program costs.”¹⁹

Taxpayer Risk and Liability

The cost to taxpayers from underestimated subsidy costs and possible loan guarantee defaults is potentially high, and so is the risk. In its history within the United States, the nuclear energy industry has experienced significant cost overruns, sometimes reaching over 350 percent of the estimated costs for the project. The US Energy Information Administration (EIA) reported cost overruns for the years 1966 through 1977 that ranged in each two-year period from 200 to 380 percent of the original estimated costs for construction.²⁰ Additional costs could also come as supplies become scarce from increased construction of nuclear power plants. “The rapid rate of nuclear reactor expansion required to make even a modest reduction in global warming would drive up construction costs and create shortages in building materials, trained personnel, and safety controls,” Richard Haass, President of the Council on Foreign Relations, stated in a report on nuclear energy.²¹ Such risks are difficult to quantify and therefore estimate, prior to the start of construction.

The likelihood of default on such loan guarantees is an area of considerable risk to taxpayers. The Congressional Budget Office (CBO), when investigating the costs for new nuclear construction projects, considers the risk of default to be above 50 percent.²² Although no such program has existed in DOE prior to now, there is still history of loan defaults in the nuclear industry. The largest bond to ever default in the municipal bond market belonged to Washington Public Power Supply System (WPPSS), for a bond used to construct two nuclear power plants in the 1970s. The default was for \$2.25 billion.²³ While this bond default affected a number of bondholders, the current loan guarantee program passes the risk on to the federal government, meaning the taxpayers share a large portion of the risk as well. The Congressional Research Service emphasized the financial threat faced by the federal government in a report to Congress earlier this year. “The federal government would bear most of the risk [of constructing new commercial reactors], facing potentially large losses if borrowers defaulted on reactor projects that could not be salvaged,” the report commented.²⁴ Should a borrower default, EPACT 05 designates DOE as the primary manager of the project. Upon paying off the loan, DOE can either “take over the project for completion, operation, or disposition; or reach an agreement with the borrower to continue the project.”²⁵

Loan Guarantee Program Infrastructure at DOE

Following the passage of EPACT 05 in 2005, DOE initiated its loan guarantee program for innovative technologies in fiscal year 2006. This was prior to having appropriations or regulations in place. DOE first proposed transferring appropriations from other appropriated DOE accounts in May 2006, followed by a solicitation for preapplications to the program a few months later in August. A report released by the GAO in February 2007 made note of the fact that many necessary policies and procedures for the program were still lacking: “At the time of our review, DOE had not taken steps to ensure that it had in place the critical policies, procedures, and mechanisms necessary to ensure the program’s

¹⁹ GAO-07-339R, February 28, 2007

²⁰ Mark Gielecki and James Hewlett, *Commercial Nuclear Power in the United States: Problems and Prospects*, US Energy Information Administration, August 1994.

²¹ Richard Haass, foreword to *Nuclear Energy: Balancing Benefits and Risks* by Charles D. Ferguson, CSR No. 28, April 2007.

²² Congressional Budget Office Cost Estimate for S.14 Energy Policy Act of 2003, May 7, 2003.

²³ *New York Times*, “Lawyers Agree to Pay In Utility Bond Default,” December 26, 1987

²⁴ Congressional Research Service Report for Congress: Nuclear Power—Outlook for New US Reactors, March 9, 2007

²⁵ Congressional Research Service Report for Congress: Nuclear Power—Outlook for New US Reactors, March 9, 2007

success.”²⁶ Likewise, the DOE Office of the Inspector General issued a report with many similar findings, paying specific attention to the lack of staff essential to implement the program. In its report released in September 2007, it stated, “At the time of our review a full complement of Federal staff designated to administer the loan guarantee program was not in place and plans to utilize technical experts to assist in the administration of the program had not been fully developed.”²⁷ The Inspector General’s report concluded, “There are a number of additional steps that should be taken to foster the success of the loan guarantee program,” though at the time of the report, these had not yet been taken.²⁸

Along with a lack of both manpower and procedure in DOE’s loan guarantee program, its early actions in initial stages of the program raise doubts as well about its management. Without having received specific appropriations, DOE proposed transferring funds from some of its accounts to start the program. DOE chose to solicit preapplications prior to finalizing its regulations, leaving much of the program’s structure and authority in question. The White House Office of Management and Budget (OMB) expressed its concern about such an action, stating, “The Administration believes that it is unwise to amend that authority while the program is still in the early stages of implementation.”²⁹ Similarly, the GAO offered its review of the actions taken by DOE: “[It] should not have begun implementation of the LGP without a specific appropriation. Nevertheless, DOE did begin implementation, and its approach to the LGP raised serious questions about whether this program and its financial risks would be well managed.”³⁰

Even DOE’s own Office of the Inspector General noted prior actions by governmental agencies in similar situations were sometimes questionable. “In reviewing audits of past governmental loan guarantee programs, we found that the agencies involved had not always exercised due diligence during critical phases of the loan guarantee process,” it found.³¹ Such findings demonstrate that the infrastructure required to carry out a successful loan guarantee program has yet to be attained at DOE.

Financial Considerations

The position taken by Wall Street regarding investing in nuclear energy indicates the financial risk involved. Six of the nation’s largest investors—Citigroup, Lehman Brothers, Goldman Sachs, Merrill Lynch, Credit Suisse, and Morgan Stanley—submitted comments to DOE in response to a notice of proposed rulemaking for the loan guarantee program in June 2007. At the time the comments were submitted, DOE had promised to guarantee loans for up to 80 percent of the project costs, but had not, as of then, determined what percent of this debt it would guarantee. The investors urged greater financial support from the federal government, stating, “We believe these risks, combined with the higher capital costs and longer construction schedules of nuclear plants as compared to other generation facilities, will make lenders unwilling at present to extend long-term credit.”³² Members of this group also made note of the many investment concerns associated with nuclear energy: “Lenders and investors in the fixed income markets will be acutely concerned about a number of political, regulatory and litigation-related risks that are unique to nuclear power, including the possibility of delays.”³³ They concluded that DOE should

²⁶ GAO-07-798T, April 24, 2007

²⁷ DOE Office of Inspector General Special Report: Loan Guarantees for Innovative Energy Technologies, September, 2007

²⁸ DOE Office of Inspector General Special Report: Loan Guarantees for Innovative Energy Technologies, September, 2007

²⁹ Office of Management and Budget Statement of Administration Policy Regarding H.R.6, June 12, 2007

³⁰ GAO-07-798T, April 24, 2007

³¹ DOE Office of Inspector General Special Report: Loan Guarantees for Innovative Energy Technologies, September 2007

³² Investors’ Comments in Response to DOE Notice of Proposed Rulemaking on Loan Guarantees for Projects that Employ Innovative Technologies, July 2, 2007

³³ Investors’ Comments in Response to DOE Notice of Proposed Rulemaking, July 2, 2007

guarantee 100 percent of the loans as one of the “minimum conditions necessary to secure project financing from lenders and from investors in the fixed income markets.”³⁴

The nuclear industry itself has made clear that the construction of new nuclear projects will rely heavily upon the financial backing of DOE through the loan guarantee program. A press release from the Nuclear Energy Institute on October 4, 2007, demonstrated this view when it announced, “It is imperative that the Energy Department have in place a loan guarantee program that will support the financing for these large, capital-intensive power plant projects.”³⁵ Both the nuclear industry and Wall Street investors make it clear that new nuclear projects carry a significant financial risk, one that neither wants to carry without support from the federal government.

Conclusion

The loan guarantee program authorized by EPACT 05 allows DOE to support the early commercial use of advanced technologies in the energy industry. It provides financial security that many new technologies lack as they enter into commercial production. It is prudent that this program be implemented in the most effective and financially sound manner.

The issues discussed here demonstrate that provisions in the Senate and House energy bills come with potentially significant risks. While provisions in both bills may make it easier for nuclear energy to receive loan guarantees, the Senate bill in particular excludes DOE from Congressional oversight when writing these loan guarantees and provides it with unregulated access to the “Incentives for Innovative Technologies Fund.” The Department of Energy itself has not, as of yet, developed the policies and procedures or filled the staffing needs that are required to appropriately implement its loan guarantee program. The loan guarantee provisions pose a potentially significant liability for DOE and ultimately the American taxpayers by offering loan guarantees to the nuclear power industry. With an estimated \$50 billion dollars requested by the nuclear industry for the first two years of development, it is prudent to carefully weigh the costs and benefits when considering the loan guarantee provisions in the 2007 energy bills.

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³⁴ Investors’ Comments in Response to DOE Notice of Proposed Rulemaking, July 2, 2007

³⁵ Nuclear Energy Institute Press Release, October 4, 2007