

**Testimony
Of
Peter A. Bradford**

**Domestic Policy Subcommittee
Of the
Oversight and Government Reform Committee
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I'd like to put my responses to the Subcommittee's questions in the context of nuclear power's role in reducing the emissions that cause climate change. Without concern over climate change, the 30 year verdict of U.S. power markets that new nuclear reactors were too expensive and too economically risky would remain undisturbed.

Instead, some now assert that a massive effort to build new reactors by having taxpayers and customers take the risks that investors and lenders would normally assume will reduce climate change. The opposite is true. Such an undertaking will undermine the fight against climate change by diverting money and attention from the resources that offer much larger atmospheric pollution reductions much sooner and less expensively.

Why new U.S. nuclear reactors must have loans guaranteed by taxpayers.

One must begin by understanding the reason that new nuclear plants have not been built in the U.S. for decades. It has nothing to do with the U.S. licensing process, which licensed more plants than the next several countries combined. It has nothing to do with citizen intervenors, whose hearings went on while the plants were being built. It has everything to do with cost and risk.

The U.S. moved to competitive power procurement following passage of the Public Utility Regulatory Policies Act in 1978. This movement was expanded in much of the country by electric restructuring in the 1990s.

Competitive power procurement shifted the economic risk of all new power plant construction (plant cancellations, cost overruns, emergence of cheaper competitors) from customers to investors and lenders. Aware that each of these risks had hit the nuclear industry hard in the recent past, investors and lenders would not put their own money at risk by committing to competitive prices and delivery schedules for new reactors. No new nuclear plant has ever bid in a truly competitive power procurement process anywhere in the world.

Generally, this move to competitive power procurement has been a major public policy success. We have had adequate power supplies at declining wholesale prices. And we have stimulated more efficient production as well as technological advance in the process.

This history, coupled with the prohibitively high cost of new reactors, explains why we have had no new nuclear plants in the United States for so many years. New reactors can only be built if someone other than investors and lenders bear the risks. There are only two alternatives: customers and taxpayers. Loan guarantees are the centerpiece of the present effort to reverse the successful thirty year evolution of competitive power procurement by shifting the risks to taxpayers.

Because financing costs are a significant part of the cost of building nuclear plants and because financing costs are driven by the risks, loans guaranteed by the taxpayers not only make building new reactors more feasible, but they lower the price that such facilities must charge to earn a profit on their electricity. But they do this not by lowering any actual cost – in the way that cheaper steel or concrete would do. Instead, they shift risk to the government. The overall cost to U.S. citizens is not lowered at all. So, for example, the savings that the recently announced \$8.3 billion dollar loan guarantee appears to produce for the Southern Company and its partners in Georgia’s proposed Vogtle reactors are offset by a taxpayer risk exposure of almost \$100 taken on by every family in America. And every additional \$10 billion in taxpayer backed loan guarantees that the federal government issues will add another \$100 per family to this exposure.

The status of the “nuclear renaissance”

Loan guarantees no more express financial health than transfusions express physical health. The nuclear industry’s need for loan guarantees is a confession of the bankruptcy of the much touted nuclear renaissance. At its peak in 2008, the renaissance – driven by not by real need but by the deadlines in laws offering subsidies - consisted of 23 existing and projected applications for 34 new reactors between 2007 and 2011. Since then reality has set in. Nuclear cost estimates have risen. Demand has fallen, as have the cost estimates for most major alternatives. Several projects have been cancelled outright. Most of the remaining 16 applications for 24 reactors have experienced combinations of major cost overruns and major delays, including several outright suspensions.

In fact, most – probably all - of these reactors will not be built without loan guarantees. The economic and political impact of trying to charge the full costs to the customers is just too great. Customer backlash in Florida and in Texas has demonstrated this while calling the viability of at least six of the proposed new reactors into serious question.

The battle for loan guarantees is the nuclear renaissance’s last stand. Whether it is extinguished altogether, whether it takes the form of a carefully crafted opportunity to ascertain the potential of the new designs and the new licensing process to produce competitive low carbon energy or whether the “renaissance” becomes an unlimited socialist bonanza – converting the nuclear industry into a corporate version of President’s Reagan’s high-living welfare queen, cruising the nation’s power grid in a taxpayer funded Cadillac is for the Congress now to decide.

Responses to subcommittee questions

- 1. Are the costs overruns in the construction of nuclear power plants a thing of the past or a present day problem?**

We have no current U.S. nuclear construction experience on which to base an answer. However, the trebling of U.S. nuclear cost estimates in less than a decade is not encouraging. Experience in Finland and France with the design that Areva proposes for Maryland's Calvert Cliffs (a loan guarantee finalist) is also not encouraging. In Finland, the Areva reactor – originally scheduled to be online last summer - has doubled Areva's cost estimate and fallen three years behind a four year schedule.

Some Asian nations claim more success in building to schedule and budgets. However, it is important to understand that cost estimates for new reactors have risen so high that overruns are not necessary to price nuclear power far out of the market. Energy Secretary Stephen Chu asserts that, if the proposed loan guarantees result in plants that come on line "on time and on budget", private capital for new nuclear will then become available.

But this is wrong.

Today's "on budget" is so high in relation to the price of alternatives, to the prices projected in our power markets and to the price of energy efficiency that – even if the new reactors come on line "on budget" - the financial community will still not invest.

2. Do we currently have such a demand for electric power that we need to rush into construction of multiple nuclear plants, or do we have time to experiment and to see what works and what does not?

Demand for electric power depends on price. The U.S. has little or no demand for wholesale electric power in new nuclear's forecasted 12-20 cent per kwh price range. If we make wise use of far less expensive energy efficiency, renewables and natural gas, we will not face electricity shortages for many years. This will be true even if we adopt policies that put a meaningful price on greenhouse gas reductions.

New reactors simply will not be built without massive federal support, especially in the majority of U.S. markets that rely on competitive power procurement. Where regulators decide what gets built and have the power to shift risk to customers, the future of new reactors will depend on the quality of their resource planning processes and their willingness to have customers join taxpayers in taking the risks that investors and lenders refuse to bear.

Those who argue in the context of climate change that "we need silver birdshot, not a silver bullet" to fight climate change and that therefore we have to subsidize new reactors along with all of the alternatives ignore the economic reality of limited resources and the fact that new nuclear reactors cannot produce near term green house gas reductions. The excessively costly emission savings that they do produce are very small until two or more decades from now. The money that has gone into them will have detracted from other options that produce greater savings in less time.

Furthermore, I can attest from my own experience regulating in Maine and New York that entities and states committed to building one or more large nuclear projects will deemphasize and even resist alternative sources. One need only look at New England's

1980s experience with Hydro-Quebec power, with renewables in Maine and with energy efficiency while the region's utilities struggled to finish Seabrook and Millstone 3 to see this effect clearly. The same was true in New York as to natural gas and independent power production while Shoreham and Nine Mile Point 2 preoccupied the state's utilities. And the same is true in Florida today.

3. Do increased loan guarantees for nuclear power plants misdirect resources that could be better used for energy efficiency and renewable power projects?

Yes, but the problem of misdirected resources is much broader than that. Federal loan guarantees do not create new capital. They merely create a favored class of borrowers who will have easier access to the available capital than will all other would-be borrowers – not just efficiency and renewables but worthwhile projects in many sectors. Because it is now clear that demand for borrowing is likely to strain available capital for all purposes just when nuclear construction would be ramping up¹, favoring new reactors at the expense of all other societal needs (while simultaneously burdening the U.S. government's stressed credit rating) is especially problematic. Loan guarantees will reduce the funds available for all unassisted borrowers, leading them to request aid of their own. The borrowers that remain unsubsidized will have to pay higher interest rates.

Furthermore, loan guarantees distort credit market in other ways. As Murray Weidenbaum, later Chairman of President Reagan's Council of Economic Advisors, pointed out in critiquing the failed program to manufacture synthetic fuels from coal many years ago², "A basic function that credit markets are supposed to perform is that of distinguishing credit risks and assigning appropriate risk premiums. This function is the essence of resource allocation by credit markets. As an increasing proportion of issues coming to the credit markets bears the guarantee of the federal government, the ability of the market to differentiate credit risks inevitably diminishes. Theoretically the federal agencies issuing or guaranteeing debt perform this role, charging as costs of the programs differing rates of insurance premiums. In practice, all of the pressures are against such differential pricing of risks (p 13).

Dr. Weidenbaum further quotes MIT Professor Henry Jacoby, a supporter of limited loan guarantees, as follows: "The problem with loan guarantees is that they tend to hide the true cost of the technology that is being demonstrated.... I think it would be a terrible mistake to embark on a large scale program of hidden subsidies for energy supply from new capital intensive technologies....The disadvantage of the widespread use of loan guarantees is that they will obscure the true cost to the economy....More important, they hide the true cost from consumers and encourage wasteful consumption practices (pp. 41-42).

1. See "Tight Credit Seen as March 1 Debts Come Due", New York Times, March 16, 2010, P. 1 and "Moody's Says U.S. Debt Could Threaten Triple A Rating" New York Times, March 16, 2010, p. B 1.

² Murray Weidenbaum and Reno Harnish, with James McGowen, "Government Credit Subsidies for Energy Development", (American Enterprise Institute for Public Policy Research, 1978). For a more amusing and recent critique of nuclear loan guarantees, see Douglas Koplow, "Nusubsidies Nuclear Consortium: Where the Taxpayer is Our Favorite Investor" (Earthtrack Institute, 2005) (www.earthtrack.net/earthtrack/library/NNC_Overview.pdf)

In the same synfuels context, the General Accounting Office observed that “The bill would hamper conservation efforts rather than simply fail to promote them.....Its guarantees would make projects it assists financially more attractive to private capital than conservation projects not backed by federal guarantees. Thus both its loans and its guarantees will siphon private capital away those conservation projects which might have been able to obtain private financing (p. 12)

4. Will the proposed Clean Energy Deployment Administration (CEDA) adequately deal with the risk of defaults?

Not as presently written. The Senate version of CEDA, because it has the potential to underwrite unlimited nuclear loan guarantees, is particularly problematic. The risk of defaults and estimated loss to taxpayers should be offset by the price charged for the loan guarantees. Neither CEDA nor the existing loan guarantee program as presently structured offer any assurance that this will in fact be the case. Secretary of Energy Chu recently estimated that the price to be charged for a loan guarantee would range between .5 percent and 1.5 percent of the face value of the guarantee. For the conditional loan guarantee recently approved for the Vogtle units, this would mean a range of \$41.5 million to \$124.5 million. The average family, would receive between 50 cents and \$1.50 for its \$100 exposure.

Other estimates of a reasonable credit subsidy fee are considerably higher. For example, the Congressional Budget office estimated 30% in 2003. Standard and Poor’s estimated 4-6%. The Center for American Progress recently did an analysis concluding that the payment should be 10%.

Most analysts – including the Government Accounting Office and the Congressional Budget Office - agree that the Department of Energy has a poor record in managing loan guarantees and that it is highly likely to underestimate potential losses to taxpayers.

To make matters worse, the Department of Energy apparently intends to keep secret the credit subsidy fee charged to each guarantee recipient on the preposterous ground that company’s shouldn’t be able to compare fees and complain about unequal treatment. But the industry recipients will be free to discuss this information among themselves. The people disadvantaged by this secrecy will be

First, the public, who will not be able to quantify the extent to which DoE has exposed American families to uncompensated risk;

Second, builders of other forms of power generation and energy efficiency, who will not be able to prove what now seems very likely – that DoE intends to charge less for guarantees to highly risky nuclear ventures than it will charge for loan guarantees to more secure renewable and solar ventures;

Third, state utility regulators, who may be unable to set rates based on actual costs since loan recipients may allege that they cannot disclose these costs in a public forum.

In conclusion, I can see the appeal of offering a limited number of loan guarantees to a “few first mover plants” (meaning six or seven), at least if such a step is part of a bargain that succeeds in passing a meaningful cap-and-trade program. But the discussion of loan guarantees in the Congress seems to have spun far outside of that manageable orbit. A larger commitment would proclaim new reactors to be a climate change winner when all meaningful economic evidence is to the contrary. It would put energy and climate policy at the service of nuclear power. Sound public policy would work the other way around.