At What Cost: Why Maryland Can't Afford A New Reactor

Escalating cost estimates, regulatory uncertainty, a shaky corporate structure and equally shaky national economic climate are issues that need to be confronted as Maryland faces a proposal for a new nuclear reactor.

A Risky Trend: Prohibitive and Uncertain Cost

The current cost trend for building a new nuclear reactor in the U.S. after 30 years of development dormancy is one of a line moving straight up. Industry cost estimates for new reactors have tripled in just the past four years—from $1,500-2,000/kw to $4,500-6,000+/kw. Some independent estimates from Wall Street firms like Standard & Poor's and Moody's now predict costs of $7,000/kw and above[i].

Proposed by UniStar Nuclear (a partnership between Electricite de France, EdF, and Constellation Energy Group, CEG), Calvert Cliffs-3 is no exception to these extraordinary cost estimates.

2005- Constellation sought a $2 Billion loan guarantee from the state to cover the full cost of a new reactor. Constellation also erroneously projected that private capital could be raised to finance the plant. As reported by the *Maryland Gazette*, "Though the new $ 2 billion reactor would be built by private funds, Nustart [a previous Constellation nuclear consortium] is asking Maryland to guarantee the necessary loans if Calvert Cliff is selected." [ii]

2007- Early reports on the proposed new reactor for southern Maryland quoted a $5 billion price tag for a new 1,600 Mw, US Evolutionary Power Reactor.[iii]

2008- Since those early quotes, UniStar has been reluctant to provide any public cost estimates for construction of the proposed Calvert Cliffs-3 reactor, but in August 2008 hearings before the Maryland Public Service Commission, CEO George Vanderheyden acknowledged that the company's estimates are on the "upper end" of the $4,500-$6,000/kw level. For a 1600 MW reactor like Calvert Cliffs-3 (CC3), that would mean construction costs of about $9.6 Billion. [iv]

2008- Moreover, according to expert witness, David Schlissel, in testimony before the Maryland Public Service Commission, "the 1600 MW Calvert Cliffs 3 could be expected to cost in the range of $7 billion to $9 billion, without any financing costs. Including financing costs could be expected to increase these estimated costs by several billion dollars." [v]

2009- EPRs are currently under construction in Finland and France. Both projects have been plagued with delays and cost overruns. The Finnish project is three years behind schedule with a $2.2 billion increase from its original $4.5 billion estimated cost.[vi]

Cost overruns were part of the utility landscape in the 1970s and 1980s, and played a major role in the wave of nuclear reactor cancellations in that period, and the subsequent unwillingness of private investment firms to fund new reactor construction. A Department of Energy study of 75 reactors of the first atomic age found an average cost overrun of 207%.

2009 - Mayo Shattuck, Chairman and CEO of Constellation Energy, testified before the PSC in April 2009 that Pennsylvania Power and Light have estimated the cost for constructing the EPR at $15 billion.

Shaky Financial Record: Bankruptcy and Plummeting Stock

September, 2008 –Constellation Energy faced near bankruptcy as its share value dropped 58% over a three day period.[vii] The implosion, set off primarily by the failure of Lehmann Brothers and Constellation Energy's energy trading division, resulted in an initial bailout deal orchestrated by Warren Buffett's MidAmerican Energy Holding Co. The acquisition valued Constellation at $4.7 billion.

March, 2008 - EDF's shares have dropped by over 40% during the last six months alone. The EDF share now stands 12% below the value when it was first introduced to the stock market in November 2005.[viii]

Preemptive Taxpayer Bailout and Limited Liability

UniStar Nuclear currently owns nothing, and has little capital: perhaps $700 million total—not nearly enough to finance a potentially $10 Billion project. Indeed, the Calvert Cliffs-3 reactor alone would cost more than twice the entire value of Constellation Energy Group. But UniStar's business model doesn't require it to have money or take financial risk—instead it wants the taxpayers to provide the money and take the risk.[ix]

At Constellation's 2008 annual shareholders meeting, Mayo Shattuck explained that the company's commitment to move forward on the new reactor was predicated on, "receiving timely and workable loan guarantees..." [x]These federal loan guarantees allow borrowers to receive a loan with the federal government assuming the risk.

According to the U.S. House of Representatives Rules Committee, a loan guarantee is a "commitment by the federal government to pay part or all of a loan's principal and interest to a lender....in case the borrower defaults." Not only does the government guarantee the loans, but the loans can come from only one source, the Federal Financing Bank, whose source of funds is the U.S. Treasury.[xi] Thus, taxpayers will be lending the money for the project, and then guaranteeing the loans to themselves

Both the Congressional Budget Office and the Government Accountability Office consider the risk of default on nuclear loan guarantees to be very high---well above 50%.[xii]

While Constellation and EDF are seeking to transfer the risk of financing nuclear reactors to taxpayers, they have taken extra steps to further insulate themselves from any financial liability in the event the project fails. The loans would flow into the Calvert Cliffs 3 Nuclear Project LLC, a company with basically no assets. As a Limited Liability Corporation, if CC3NP defaulted on these loans, the assets of the parent company, UniStar, wouldn't be touched. But UniStar's "innovative business model" provides more layers of protection for its parent companies. There are no fewer than seven Limited Liability Corporations between the proposed Calvert Cliffs-3 reactor and the parent companies of EdF and CEG. UniStar itself is a Limited Liability Corporation. If the Calvert Cliffs-3 project fails, the assets of UniStar's parents—Constellation Energy and Electricite de France--likely would be protected—it's the taxpayers who would end up holding the bag.[xiii]

Regulatory Uncertainty: Foreign Ownership

The Atomic Energy Act prohibits "foreign ownership, control or domination" of any U.S. reactor.

In this case, not only does EdF own 50% of UniStar, already stretching that definition, but it also owns 9.5% of Constellation—the other half-owner of UniStar. Plus, EdF recently bailed out Constellation (see below) with a $4.5 billion investment in CEG's five existing nuclear reactors and a $2 billion option for its non-nuclear generating capacity. This would represent a larger investment in CEG than the company is valued.

Moreover, the reactor itself would be provided by another French firm, Areva. Both Areva and EdF are owned by the French government.

And UniStar acknowledged in proceedings before the Maryland Public Service Commission that in addition to expecting U.S. taxpayer loan guarantees to cover 80% of the costs, it will be asking the French taxpayers, through their Export-Import Bank, to cover the other 20%.

Taken together, this corporate structure and financing appears to violate the Atomic Energy Act. In March 2009, an Atomic Safety and Licensing Board (ASLB) ordered judicial hearings on this issue. Should the ASLB find the project in violation, a license to build the reactor could not be granted.

Opportunity Cost: Renewable Energy and Energy Efficiency

Former Nuclear Regulatory Commission Commissioner and utility expert Peter Bradford, has noted that the "all of the above" approach--often advocated by the nuclear industry--to our national energy portfolio does not necessarily play out well at the local level. According to Bradford, "sometimes solutions [to energy demand] drive out other solutions. If a region commits to a 1,600 MW reactor, than there is little motivation to do efficiency or renewables."[xiv]

Meanwhile, EdF recently told the British government that its policy of promoting wind energy threatened EdF's intent of building more reactors there—a potential harbinger for its approach in Maryland.[xv]

Tightening the Grip: Why EdF Wouldn't Back Down

When Warren Buffett stepped in to bail out CEG in October 2008, many analysts believed it was a done deal. EdF made an initial counteroffer, but was rebuked. But the determined French-state controlled nuclear developer made a successful 11th hour deal to whisk Constellation away from Warren Buffett.

EdF's determination is based on protecting its market to build French reactors in the U.S. "These are very long-term projects. We felt maybe this could have been threatened in a different setting," with MidAmerican as the owner of Constellation, Chief Financial Officer Daniel Camus said in an interview with *Bloomberg News Service*.[xvi]

The *Financial Times* reported in December that, "The French group's offer is clearly aimed at scuppering the $4.7bn bid made by Mr. Buffett's MidAmerican Energy in September, which it fears could threaten Constellation's future nuclear investment capacity."[xvii]

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[i] See, for example, *Construction Costs To Soar For New U.S. Nuclear Power Plants*, Standard & Poor's, October 15, 2008

[ii] *State mulls $2B loan guarantee for Calvert Cliffs reactor.* Andrew Childers. Maryland Gazette. August 12, 2005

[iii] See, for example, *Constellation Nuclear Plans In Fiscal Peril.* Paul Adams. The Baltimore Sun. July 23, 2007.

[iv] For a more complete discussion of UniStar's business model, see The Brave New World of Nuclear Power Economics, http://www.nirs.org/nukerelapse/calvert/calvertcliffseconart.pdf

[v] Direct Testimony of David Schlissel before the Maryland Public Service Commission. July 16, 2008. Retrieved from http://www.safeenergymd.org/pscintervention/schlissel_cctestimony071608.pdf

[vi] *France's Nuke Power Poster Child Has a Money Melt-Down.* Harvey Wasserman. FreePress.org. March 17, 2009. http://www.freepress.org/columns/display/7/2009/1732

[vii] Ibid.

[viii] *EDF, Wants to Sell, Not Buy.* Lionel Laurent. Forbes.com. February 12, 2009. http://www.forbes.com/2009/02/12/edf-utilities-france-markets-equity-0212_energy_08.html

[ix] For a more complete discussion of UniStar's business model, see The Brave New World of Nuclear Power Economics, http://www.nirs.org/nukerelapse/calvert/calvertcliffseconart.pdf

[x] See, for example. *Nuclear Plant Financing Scarce*. Maryland Gazette. August 1, 2008.

[xi] U.S. House of Representatives Committee on Rules, "Glossary of Terms in the Federal Budget Process", http://www.rules.house.gov/archives/glossary_fbp.htm,

[xii] Congressional Budget Office, "S. 14 Energy Policy Act of 2003: Cost estimate", May 2003, http://www.cbo.gov/doc.cfm?index=4206&type=0.

[xiii] For a more complete discussion of UniStar's business model, see The Brave New World of Nuclear Power Economics, http://www.nirs.org/nukerelapse/calvert/calvertcliffseconart.pdf

[xiv] Comments by Dr. Peter Bradford at the Chesapeake Bay Foundation on February 10, 2008.

[xv] *Green lobby and nuclear groups clash over role of renewable energy.* Terry Macalister. Guardian.co.uk. March 16, 2009. http://www.guardian.co.uk/business/2009/mar/16/nuclear-power-renewables-edf

[xvi] *EDF, Constellation Nuclear Venture May Recruit Exelon with quotes on midamerican deal.* Jim Polson and Tara Patel. Bloomberg.com. Retrieved from http://www.bloomberg.com/apps/news?pid=conewsstory&refer=conews&tkr=6501%3AJP&sid=aaDAYM5_0XP8

[xvii] See, for example, *EDF looks to trump Buffett on Constellation.* Peggy Hollinger in Paris and Julie MacIntosh in New York. FT.com. October 10, 2008. http://www.ft.com/cms/s/0/51c28f1e-c10c-11dd-831e-000077b07658.html