BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

IN THE MATTER OF:	)	
APPLICATION OF UNISTAR NUCLEAR ENERGY, LLC AND UNISTAR NUCLEAR OPERATING SERVICES, LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A NUCLEAR POWER PLANT AT CALVERT CLIFFS IN CALVERT COUNTY, MARYLAND	)	**CASE NO. 9127**

DIRECT TESTIMONY OF DAVID A. SCHLISSEL ON BEHALF OF THE MARYLAND PUBLIC INTEREST RESEARCH GROUP FOUNDATION, THE NUCLEAR INFORMATION AND RESOURCE SERVICE, BEYOND NUCLEAR, AND PUBLIC CITIZEN-ENERGY

JULY 16, 2008

Public Service Commission of Maryland
Case No. 9127
Direct Testimony of David A. Schlissel

. What is your name, position and business address?

A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. Please describe Synapse Energy Economics.

A. Synapse Energy Economics ("Synapse") is a research and consulting firm specializing in energy and environmental issues, including electric generation, transmission and distribution system reliability, market power, electricity market prices, stranded costs, efficiency, renewable energy, environmental quality, and nuclear power.

Synapse's clients include state consumer advocates, public utilities commission staff, attorneys general, environmental organizations, federal government and utilities. A complete description of Synapse is available at our website, www.synapse-energy.com.

Q. Please summarize your educational background and recent work experience.

A. I graduated from the Massachusetts Institute of Technology in 1968 with a Bachelor of Science Degree in Engineering. In 1969, I received a Master of Science Degree in Engineering from Stanford University. In 1973, I received a Law Degree from Stanford University. In addition, I studied nuclear engineering at the Massachusetts Institute of Technology during the years 1983-1986.

Since 1983 I have been retained by governmental bodies, publicly-owned utilities, and private organizations in 28 states to prepare expert testimony and analyses on engineering and economic issues related to electric utilities. My clients have included the New Mexico Public Regulation Commission, the General Staff of the Arkansas Public Service Commission, the Staff of the Arizona Corporation Commission, the U.S. Department of Justice, the Commonwealth of Massachusetts, the Attorneys General of the States of Massachusetts, Michigan, New York, and Rhode Island, the General Electric Company, cities and towns in

Connecticut, New York and Virginia, state consumer advocates, and national and local environmental organizations.

I have testified before state regulatory commissions in Arizona, New Jersey, Connecticut, Kansas, Texas, New Mexico, New York, Vermont, North Carolina, South Carolina, Maine, Illinois, Indiana, Ohio, Massachusetts, Missouri, Rhode Island, Wisconsin, Iowa, South Dakota, Georgia, Minnesota, Michigan, Florida and North Dakota and before an Atomic Safety & Licensing Board of the U.S. Nuclear Regulatory Commission.

A copy of my current resume is attached as Exhibit DAS-1.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the Maryland Public Interest Research Group Foundation, the Nuclear Information and Resource Service, Beyond Nuclear, and Public Citizen-Energy.

Q. Have you testified previously before this Commission?

A. Yes. I presented testimony in Commission Cases Nos. 8794/8804 and 8795.

Q. What is the purpose of your testimony?

A. Synapse was retained to review the testimony filed by Unistar Nuclear Energy, LLC, and to provide testimony about the possible cost of the proposed Calvert Cliffs 3 nuclear power plant.

Q. What research have you undertaken in preparing this testimony?

A. As part of my ongoing work, I regularly review nuclear industry and other publicly available documents regarding the estimated costs of proposed nuclear power plants in the United States and the costs and experiences of nuclear power plants under construction overseas. For this specific project, I reviewed the testimony filed by Unistar ("the Company") and examined other public information regarding the proposed Calvert Cliffs 3 project.

Q. Does Mr. Wallace or any of the other Company witnesses provide a cost estimate for the proposed Calvert Cliffs 3?

A. No.

Q. Have you seen any evidence that suggests that the Company does have an estimated cost for the proposed Calvert Cliffs 3?

A. Yes. An article in the March 13, 2008 issue of *Nucleonics Week,* quoted Company witness Wallace and noted that "Unistar Nuclear Energy is about 30 to 45 days away from having the latest cost estimate for building an EPR in the U.S."[1]

Q. What are the estimated costs for other proposed nuclear power plants in the U.S.?

A. The construction cost estimates for new nuclear power plants are very uncertain and have increased significantly in recent years. Companies that are planning new nuclear units that have released their estimated costs are currently indicating that the total costs (including escalation and financing costs) will be in the range of $5,500/kW to $8,100/kW or between $6 billion and $9 billion for each 1,100 MW plant.

These new cost estimates are far higher than the industry had previously predicted. For example, as recently as the years 2000-2002, the industry and Department of Energy were talking about overnight costs of $1,200/kW to $1,500/kW for new nuclear units.[2] This range of estimated overnight costs suggested total plant costs of between $2 and $4 billion per new nuclear unit. The MIT *Future of Nuclear* Study in 2003, increased the estimated prices of new nuclear plants to $2,000/kW, not including financing costs.

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[1] "Unistar Closing in on new estimate of cost of building EPR in the US," *Nucleonics Week*, March 13, 2008, at page 3.

[2] An overnight cost estimate is what the plant would cost if it could be built "overnight." Overnight cost estimates are regularly used in the industry. They do not include escalation or financing costs.

However, the estimated costs for new nuclear power plants begin to increase significantly starting in about 2006-2007. For example:

- A June 2007 report by the Keystone Center estimated an overnight cost of $2,950/kW for a new nuclear plant. With interest, this figure translated to between $3,600/kW and $4,000/kW.[3]
- In October 2007, Moody's Investor Services estimated a range of between $5,000/kW and $6,000/kW for the total cost of new nuclear units (including escalation and financing costs) but acknowledged that this cost estimate was "only marginally better than a guess."[4]

Also in October 2007, Florida Power & Light ("FPL") announced a range of overnight costs (i.e., no escalation or financing costs) for its two proposed nuclear power plants (total of 2200MW) as being between $3,108/kW and $4,540/kW. FPL also estimated the total cost of the project (including escalation and financing costs) as being between $5,492/kW and $8,081/kW. These estimated costs translated into a projected total cost of $12.1 billion to $17.8 billion, for just two 1100 MW plants.[5]

Other recently announced nuclear power plant costs estimates are in the same approximate ball park as Florida Power & Light. For example, Progress Energy has projected a cost of about $10.5 billion for two new nuclear units with financing costs bringing the total up to about $13-14 billion.[6] However, Progress Energy has not yet released any of the details underlying this cost estimate.[7]

Georgia Power also has estimated that the cost of its 45% share of the two proposed Vogtle nuclear plants would be $6.4 billion which is about the same as

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3 *Nuclear Power Joint Fact-Finding*, The Keystone Center, June 2007.

4 *New Nuclear Generation in the United States*, Moody's Investor Services, October 2007, at page 11.

5 Direct Testimony and Exhibits of Steven D. Scroggs on behalf of Florida Power & Light in Docket No. 07-0650, dated October 2007.

6 "Power Market Developments – the American Way," *Nuclear Engineering International*, June 18, 2008, at page 24.

7 "Progress Energy plans to file its estimate for two new reactors with Florida regulators," *Charlotte News & Observer*, March 11, 2008.

Progress Energy's estimate for the cost of its two new nuclear units.[8] SCE&G has similarly estimated that the cost of building two new nuclear units at an existing power plant site in South Carolina would be $9.8 billion, exclusive of financing costs and the costs of related transmission facilities.[9]

Q. How much would it cost to build Calvert Cliffs 3 if its estimated cost were to be about the same as the estimated costs of these other units?

A. With the ranges of estimated costs that Florida Power & Light has announced for its proposed nuclear power plants, 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.

Q. Is it widely accepted that the estimated costs for new nuclear power plants are very uncertain?

A. Yes. For example, Lew Hay, Chairman and CEO of Florida Power & Light has told a meeting of the World Association of Nuclear Operators that "although suppliers keep quoting overnight costs of $2500 to $3500 per kilowatt, I believe the all-in costs are likely to be much higher – possibly twice as much once you factor in owners' costs such as land, cooling towers, switchyard, etc., interest during construction and cost escalation due to inflation and cost overruns. And of course we have to have a contingency as well."[10]

Moody's Investor Services also has specifically warned about the short-comings of nuclear power plant cost estimates: "All-in fact-based assessments require some basis for an overnight capital cost estimate, and the shortcomings of simply asserting that capital costs could be "significantly higher than $3,500/kw" should

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8 "New Wave of Nuclear Plants Faces High Costs," *Wall Street Journal*, May 12, 2008, page B1.

9 "Power Market Developments – the American Way," *Nuclear Engineering International*, June 18, 2008, at page 24.

10 "How much, for some utilities, the capital costs of a new nuclear power plant are prohibitive," *Nuclear Engineering International*, November 2007, at page 27.

be support by some analysis. That said, Moody's can not confirm (and all of our research supports our conclusion) definitive estimates for new nuclear costs at this time. Moody's can assert with confidence that there is considerable uncertainty with respect to the capital cost of new nuclear and coal-fired generating technologies…"[11]

Moody's further noted that "Throughout our due diligence process, Moody's has not been able to make a finite determination of the range for the all-in cost associated with new nuclear. As a result, we believe the ultimate costs associated with building new nuclear generation do not exist today – and that the current cost estimates represent best estimates, which are subject to change."[12]

Q. What are the reasons for the dramatic increases in the estimated costs of new nuclear power plants?

A. The increased estimated costs for today's new generation of nuclear plants are due, in large part, to a fierce worldwide competition for the resources, commodities and manufacturing capacity needed in the design and construction of new power plants. This competition has led to double-digit annual increases in the costs of key power plant commodities such as steel, copper, concrete, etc.

The worldwide demand also is straining the limited capacity of EPC (Engineering, Procurement, and Construction) firms and equipment manufacturers. The limited number of manufacturers and suppliers could cause bottlenecks in construction if, as expected, there are multiple orders for new power plants in the U.S. and abroad.

For example, there are only two companies that have the heavy forging capacity to create the largest equipment/components in new nuclear plants – Japan Steel

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[11] *New Nuclear Generation in the United States*, Moody's Investor Services, October 2007, at page 8.

[12] Id, at page 10.

Works and Creusot Forge in France.[13] The demand for heavy forgings will be significant because the nuclear industry will be waiting in line alongside the petrochemical industry and new refineries for the material.[14]

At the same time, two decades ago there were about 400 suppliers of nuclear plant components and 900 so-called nuclear stamp, or N-stamp, certifications from the American Society of Mechanical Engineers. Today there are fewer than 80 suppliers in the U.S. and fewer than 200 N-stamp certifications.[15] Indeed, the chairman of the Nuclear Regulatory Commission has said publicly (in early 2007) that it appears now there will be a great reliance on overseas companies to manufacture plant systems and components.[16] He said that the NRC would need to inspect the quality of the manufacturing programs in foreign firms to ensure substandard materials or equipment don't end up installed in plants. He also cautioned that it would take more time to inspect foreign-made components than it would to check quality control of U.S.-manufactured components. The heavy reliance on overseas suppliers also will lead to cost increases due to the continuing weakness of the U.S. dollar relative to other currencies.

The worldwide competition for power plant design and construction resources, equipment and commodities means fewer bidders for work, higher prices, earlier payment schedules and longer delivery times. Long lead times (six years or so) are expected for key plant components. The demand and cost for both on-site construction labor and skilled manufacturing labor also have escalated.

Moody's has summarized the increased risks associated with the international competition for power plant resources as follows:

> Dramatic increases in commodity prices over the recent past, exacerbated by a skilled labor shortage, have led to significant

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13 "Supply chain could slow the path to construction, officials say," *Nucleonics Week*. February 15, 2007, at page 13.

14 Id.

15 Id.

16 Id.

> increases in the over-all cost estimates for major construction projects around the world. In the case of new nuclear, the very detailed specifications for forgings and other critical components for the construction process can add a new element of complexity and uncertainty. As noted previously, labor is in short supply and commodity costs have been extremely volatile. Most importantly, the commodities and world wide supply network associated with new nuclear projects are also being called upon to build other generation facilities, including coal as well as nuclear, nationally and internationally. Nuclear operators are also competing with major oil, petrochemical and steel companies for access to these resources, and thus represent a challenge to all major construction projects."[17]

Q. Is it reasonable to expect that the current environment for building new nuclear power plants will continue for the foreseeable future?

A. Yes. There is no reason to expect that the worldwide competition for resources or the existing supply constraints and bottlenecks affecting nuclear power plant costs will clear anytime in the foreseeable future.

Q. Is it reasonable to expect that the factors that have led to the recent increases in the estimated costs of proposed nuclear power plants will lead to further increases in the future?

A. Yes. For example, recent experience has shown that the costs of new coal-fired power plants have increased significantly when the owners have actually gone out for bids for plant equipment and for plant design and construction contracts.

Q. Is there any reason to believe that the costs of building new nuclear power plants will be even higher than the industry is now projecting?

A. Yes. Until the 1970s, building new nuclear power plants appeared to be a relatively low risk investment because construction and operating costs were relatively stable and easy to predict. However, starting in the 1970s, the costs of building new nuclear power plants began to spiral out of control. As a result, the

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[17] *New Nuclear Generation in the United States*, Moody's Investor Services, October 2007, at page 9.

actual costs of new plants were two to three times higher than the costs that had been estimated during licensing or at the start of construction.

As a result, the nuclear industry has a very poor track record in predicting plant construction costs and avoiding cost overruns. Indeed, as shown by data in a study by the Department of Energy, the actual costs of 75 of the existing nuclear power plants in the U.S. exceeded the initially estimated costs of these units by over 200 percent. The following table shows the overruns experienced by these 75 nuclear plants by the year in which construction of the nuclear power plant began.[18]

Projected and Actual Construction Costs for Nuclear Power Plants

Construction Starts		Average Overnight Costs[a]		
Year Initiated	Number of Plants[b]	Utilities' Projections (Thousands of dollars per MW)	Actual (Thousands of dollars per MW)	Overrun (Percent)
1966 to 1967	11	612	1,279	109
1968 to 1969	26	741	2,180	194
1970 to 1971	12	829	2,889	248
1972 to 1973	7	1,220	3,882	218
1974 to 1975	14	1,263	4,817	281
1976 to 1977	5	1,630	4,377	169
Overall Average	13	938	2,959	207

Source: Congressional Budget Office (CBO) based on data from Energy Information Administration, *An Analysis of Nuclear Power Plant Construction Costs*, Technical Report DOE/EIA-0485 (January 1, 1986).

Notes: Electricity-generating capacity is measured in megawatts (MW); the electrical power generated by that capacity is measured in megawatt hours (MWh). During a full hour of operation, 1 MW of capacity produces 1 MWh of electricity, which can power roughly 800 average households.

The data underlying CBO's analysis include only plants on which construction was begun after 1965 and completed by 1986.

Data are expressed in 1982 dollars and adjusted to 2006 dollars using the Bureau of Economic Analysis's price index for private fixed investment in electricity-generating structures. Averages are weighted by the number of plants.

a. Overnight construction costs do not include financing charges.

b. In this study, a nuclear power plant is defined as having one reactor. (For example, if a utility built two reactors at the same site, that configuration would be considered two additional power plants.)

Thus, the **average cost overrun** for these 75 nuclear units was **207** percent. In other words, the actual average cost of the plants was about triple their estimated costs.

In fact, the data in the previous table understates the cost overruns experienced by the U.S. nuclear industry because (1) the cost figures do not reflect escalation and financing costs and (2) the database does not include some of the most expensive

nuclear power plants built in the U.S. – e.g., Comanche Peak, South Texas, Seabrook, and Vogtle. For example, the cost of the two unit Vogtle plant in Georgia increased from $660 million to $8.7 billion in nominal dollars – a 1,200 percent overrun.

Q. What were the consequences of the cost overruns experienced by the existing generation of nuclear power plants in the United States?

A. There were a number of significant consequences. First, only one-half of the nuclear power plants that were proposed were actually built and ratepayers frequently had to bear many millions of dollars of sunk costs for abandoned projects. Second, the cost of power from completed nuclear power plants became much more expensive for ratepayers than the proponents had claimed. In some instances this led to rate increases so large that they spawned the term "rate shock.".

Rising construction costs also led to severe financial problems for many of the utilities that were building the nuclear power plants. For example, one company, Public Service Company of New Hampshire, went bankrupt due to financing difficulties associated with the Seabrook nuclear plant. Several other companies nearly went bankrupt due to financial difficulties from their nuclear power plant construction projects. In addition, the Washington Public Power System defaulted on $2.25 billion in municipal bonds in 1983 after it had failed to complete construction of two nuclear power plants.

Rising nuclear power plant costs also led to more than ten billion dollars of write-offs and cost disallowance from utility rate bases. Finally, when many expensive nuclear power plants were sold or divested to affiliates during restructuring efforts in some states, ratepayers were left paying hundreds of millions of "stranded" plant costs.

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[18] This table was taken from the May 2008 report by the Congressional Budget Office, *Nuclear Power's Role in Generating Electricity*, at page 17.

Q. Is it reasonable to expect that the industry will experience significant cost overruns if it builds new nuclear power plants in the United States?

A. Yes. Given the industry's poor track record in estimating plant costs and the substantial uncertainties associated with building new nuclear power plants (as I have discussed above), it is reasonable to expect that the actual costs of new plants will be much higher than the industry now claims. At the same time, it does appear that the nuclear industry has learned some important lessons from the problems experienced during the building and operation of the existing generation of nuclear power plants and, therefore, can be expected to avoid some of those problems.

But even just a 100 percent cost increase (i.e., a doubling of cost) would mean that a new plant like Calvert Cliffs 3 would be extremely expensive, perhaps costing as much as $15 billion and $20 billion, or more, for just one unit. Such an increase of only 100 percent would be substantially below the 200 percent to 300 percent overruns that the industry experienced in building the nation's existing nuclear power plants.

Q. Are there any nuclear power plants similar in design to the proposed Calvert Cliffs 3 currently in operation anywhere in the U.S. or the rest of the world?

A. No.

Q. Is it reasonable to expect that currently unanticipated problems may be encountered during the initial operations of new EPRs that will affect the cost of building and operating Calvert Cliffs 3?

A. Yes. One clear lesson from the existing generation of nuclear power plants is that significant problems may be discovered during operations that will require modifications, and consequently, increased costs at other plants with the same or similar designs.

Q. Company witness Wallace has mentioned that an EPR is "being licensed for construction" at Olkiluoto in Finland.[19] What is the status of that plant?

A. The Olkiluoto 3 EPR project in Finland has experienced many problems during construction. Indeed, it is reported that completion of the plant is currently two years behind schedule and the currently estimated cost of the plant has increased by between 33% and 50% or about $2 billion.[20]

Q. Mr. Wallace also mentions that an EPR is currently under construction in Flamanville, France.[21] What is the status of that plant?

A. According to published reports, construction on the EPR in France began in December 2007. Recent reports are that construction at this project was temporarily halted in May, 2008 due to quality concerns.[22]

Q. Mr. Wallace discusses the disposal of spent nuclear fuel assemblies and waste.[23] Does he mention what will ultimately be done with these wastes?

A. No. Mr. Wallace discusses the interim disposal of these wastes in the spent fuel pool and the ISFSI. However, he provides no insights or evidence about the ultimate disposal of the high levels wastes from Calvert Cliffs 3.

Q. Is there currently a permanent repository for spent nuclear wastes in the U.S.?

A. No.

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19 Direct Testimony of Michael J. Wallace, at page 30, lines 9-10.

20 For example, see "Second top TVO executive leaving Olkiluoto-3," *Nucleonics Week*, June 26, 2008, at page 1.

21 Id, at page 30, lines 4-8.

22 For example, see "Regulator stops flow of concrete at Flamanville," *Nuclear Engineering International*, June 18, 2008, at page 4.

23 Id, at page 32, line 11, to page 33, line 6.

Q. Mr. Wallace mentions that UNE expects Calvert Cliffs 3 to come on line providing power by December 2015.[24] Do you think this is a realistic schedule?

A. No. I think that that 2015 is much too optimistic given that the NRC has not yet certified the standardized EPR design, that the NRC is currently being overwhelmed with new license applications, the problems being experienced at nuclear plant construction projects overseas, that no new nuclear plant has been started in the U.S. for decades, and the supply constraints and bottlenecks I have discussed earlier. Given all of these factors, I don't think anyone can claim to have any specific schedule for when a new nuclear power plant will come on line in the United States.

Q. Company witness Wallace discusses the federal loan guarantees and other subsidies for new nuclear power plants included in the Energy Policy Act of 2005. Do the subsidies and federal loan guarantees discussed by Mr. Wallace actually reduce the risk of building new nuclear power plants?

A. No. These subsidies and loan guarantees do not reduce the risks associated with new nuclear power plants. They merely transfer risks from the companies that want to build the new plants to the federal government and its taxpayers. The plants remain "very expensive, very high-risk projects," as noted by John Rowe, the chief executive officer of Exelon, currently the largest nuclear power plant operator in the U.S..[25]

Q. Is it reasonable to expect that the Unistar will be able to obtain federal loan guarantees for all, or even most of, the cost of financing Calvert Cliffs 3?

A. No. So far, more than 20 proposals for new power plants are being advanced by companies seeking to gain the same federal incentives and loan guarantees that Mr. Wallace discusses. Because these incentives and loan guarantees are limited,

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[24] Id, at page 33, lines 8-12.
[25] "New Wave of Nuclear Plants Faces High Costs," *Wall Street Journal*, May 12, 2008, page B1.

it is very uncertain what incentives and/or federal loan guarantees any single builder of a new nuclear power plant actually will receive.

Congress has so far set a limit of $18.5 billion on the loan guarantees for new nuclear plants. With estimated costs of $7 to $9 billion per unit, this $18.5 billion will not stretch very far to guarantee the loans that companies say they need to pursue new plants. Thus, any single applicant can expect to receive a guarantee for only a fraction of its cost of building a new nuclear plant – not the 80 percent of the total project costs cited by Mr. Wallace. With the currently estimated construction costs, this would remain true even if Congress were to raise the level of loan guarantees to $50 billion or more.

Q. Is there any other aspect of the Company's proposal that should concern the Commission and the State of Maryland?

A. Yes. Mr. Wallace has explained that a some future date "UNE will likely hold its ownership [in Calvert Cliffs 3] in a to-be-formed entity established for the sole purpose of owning the unit. When that special purpose entity is formed and ownership is transferred, the Co-Applicants will inform the Commission of this change in ownership. This new ownership entity may have passive financial investors and/or investors with experience in nuclear operation. Nevertheless, the majority ownership and control of Calvert Cliffs Unit 3 will remain in UNE."[26]

Synapse prepared a report in the summer of 2002 titled *Financial Insecurity: The Increasing Use of Limited Liability Companies and Multi-Tiered Holding Companies to Own Nuclear Power Plants*. A copy of this report is attached as Exhibit DAS-2.

Our *Financial Insecurity* Report reached the following conclusion concerning the risks raised by the plant ownership structure that Mr. Wallace's testimony suggests UNE is considering:

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[26] Direct Testimony of Michael J. Wallace, at page 18, line 16, to page 19, line 5.

Conclusion

Over the last ten years, the ownership of an increasing number of nuclear power plants has been transferred to a relatively small number of very large corporations. These large corporations have adopted business structures that create separate limited liability subsidiaries for each nuclear plant, and in a number of instances, separate operating and ownership entities that provide additional liability buffers between the nuclear plant and its ultimate owners. The limited liability structures being utilized are effective mechanisms for transferring profits to the parent/owner while avoiding tax payments. They also provide a financial shield for the parent/owner if an accident, equipment failure, safety upgrade, or unusual maintenance need at one particular plant creates a large, unanticipated cost. The parent/owner can walk away, by declaring bankruptcy for that separate entity, without jeopardizing its other nuclear and non-nuclear investments. This report examines the recent trend towards the use of limited liability corporations in the nuclear industry, often as part of multi-tiered holding companies, and identifies numerous concerns related to the use of such business structures.[27]

This conclusion was based on the following findings[28]:

Finding No. 1 - Nuclear power plant ownership and operation has become increasingly consolidated in a small number of very large corporations.

Finding No. 2 – Complex, holding companies, often including Limited Liability subsidiaries, are increasingly being used to own nuclear power plants.

Finding No. 3 – Limited Liability Companies are relatively new business structures that can enhance a parent corporation's ability to transfer funds from its subsidiaries and to shield assets from liability for financial risks.

Finding No. 4 –There continue to be significant financial and other risks associated with nuclear power plant ownership and operations.

Finding No. 5 – The NRC has expressed concern that deregulation can adversely affect the safety of operating nuclear power plants by increasing the pressure on licensees to reduce costs.

Finding No. 6 – The NRC has expressed concern that the use of holding company structures can reduce the assets that would be available for the safe operation and decommissioning of a nuclear power plant. However, the NRC does not adequately protect against the risk that an LLC subsidiary

[27] Exhibit DAS-2, page 8 of 46.
[28] Exhibit DAS-2, pages 8 of 46 to 10 of 46.

will transfer all of its operating profits to its parent company or engage in risky loans to or questionable deals with affiliated companies.

Finding No. 7 - The NRC's reviews of the financial qualifications of new nuclear power plant owners are inconsistent and may be too limited to ensure that subsidiaries will have adequate funds to safely operate and decommission their nuclear plants and pay retrospective Price-Anderson Act premiums.

Finding No. 8 – The financial guarantees that the NRC requires from prospective nuclear power plant owners may not be adequate to assure that plants are operated and decommissioned safely and that plant owners will be able to pay retrospective Price-Anderson Act insurance premiums in the event of a nuclear accident.

Finding No. 9 - The NRC has proposed to significantly reduce its review of a non-electric utility licensee's financial qualifications when it evaluates an application to renew a nuclear plant's operating license.

Finding No. 10 – The NRC does not require that parent corporations guarantee that funds will be provided to safely operate and decommission the nuclear power plants owned by their subsidiary companies.

Finding No. 11 – Taxpayers may be at risk if nuclear plant owning subsidiaries are unable to continue making safety-related or decommissioning expenditures or pay retrospective Price-Anderson Act premiums.

Finding No. 12 – The NRC has no statutory authority to require a licensee in bankruptcy to continue making safety-related or decommissioning expenditures or to pay retrospective Price-Anderson Act premiums.

Finding No. 13 – Case law indicates that it could be very difficult to hold a parent corporation responsible for the liabilities incurred by nuclear power plant-owning LLC subsidiaries in a multi-tiered holding company.

Finding No. 14 – The NRC has expressed serious doubts as to its ability to hold a parent corporation responsible for the liabilities incurred by a subsidiary.

Finding No. 15 – Shielding parent corporations from nuclear power plant operating, accident insurance, and decommissioning risks is unfair and economically inefficient.

The Commission should ensure that UNE cannot simply avoid operating and/or decommissioning liabilities for Calvert Cliffs 3 and transfer these liabilities to the State of Maryland, its taxpayers and ratepayers, by having the plant's single asset owner declare bankruptcy.

Q. Does this complete your testimony?

A. Yes.