

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. 52-016

Calvert Cliffs-3 Nuclear Power Plant

Combined Construction and License Application

**JOINT INTERVENOR'S REPLY TO NRC STAFF'S AND APPLICANT'S
RESPONSES TO SUBMISSION OF CONTENTION 10**

Joint Intervenors continue to maintain that Contention 10 meets all the requirements of 10 CFR § 2.309(f)(i)-(vii) because it is clearly based on data and new information in the NRC's Draft Environmental Impact Statement that differs significantly from data and information presented in the Applicants' Environmental Report, with one exception: we withdraw the portion of Basis D that discusses our issues with the DEIS treatment of overnight construction costs and the need for a construction cost escalation factor in conducting a proper cost-benefit analysis of the proposed Calvert Cliffs-3 reactor. While we continue to believe our analysis is correct and the DEIS and ER should have included such an escalation factor (since there is nothing in the historical record to indicate that a nuclear reactor in the U.S. ever has, or ever will be, built at its estimated cost, there is no reason to assume one will be), we agree with Applicants and Staff that we could have raised this issue at the initial intervention stage. As provided in more detail below, we

continue to submit that portion of Basis D that discusses the gross discrepancy between the Applicants and the DEIS cost per kwh estimates and how they affect the cost-benefit analysis.

As for whether our filing of Contention 10 was timely, we apologize if we misunderstood the e-mails we received on April 20 that announced the availability of the DEIS, as the NRC Staff states we misunderstood (we note Applicants do not argue that our filing of Contention 10 was untimely). We note NRC Staff says the DEIS was placed on ADAMS on April 13; however, no notice was given to us at that time. The first we learned of its pending availability was the afternoon of April 20, and the confusing nature of three e-mails on the same afternoon led us to believe the document would be publicly available on April 26 (NIRS and the other Joint Intervenors are not accustomed to the idea that we might receive an NRC document of any kind before it becomes publicly available).

Thus, it was our understanding the document was considered publicly available on April 26 and that our contention was filed within the proper period, according to our agreement with Applicants of a 60-day filing period for contentions based on the Draft EIS and the Draft SER in return for their 60-day extension of filing initial disclosure documents related to Contention 1.

Again, if the ASLB disagrees with this position, and rules that we should have filed within 60 days of the initial NRC notice to us of the document's availability, which our e-mail log shows we received on the afternoon of April 20, then we respectfully request

that the ASLB extend the deadline by a five-day period to cover our June 25 filing. If we had thought that the 60-day deadline would have been June 20, as NRC staff maintains, we either would have filed a few days earlier or asked for a brief extension earlier. Until we informed NRC counsel as a courtesy on June 24 that we would be filing a new contention the next day, we had no reason whatsoever to suspect that the contention's filing might be considered late.

Joint Intervenor's Representative Michael Mariotte was prepared to download and begin reviewing the DEIS (which is quite lengthy and required some time set aside for download) on April 26, except that his daughter was born nine days early on April 25. It was admittedly difficult to complete the review of the DEIS, the related re-review of the Environmental Report, and the research necessary to support our contention by the date we filed, June 25. NRC staff argues we should have designated a different Joint Intervenor's Representative. However, as the NRC and Applicants' counsel are aware, Mr. Mariotte has been the sole designated representative since the beginning of this proceeding. He and Nuclear Information and Resource Service are representing themselves and the other intervenors in this proceeding. It would have been extremely difficult to bring a new representative up to speed on the issues in this proceeding, if indeed a different representative were even available given the small staffs of the intervenors, to cover a three-week paternity leave.

To summarize, we filed Contention 10 in good faith on June 25 believing we were within the proper time period. If the ASLB disagrees, we respectfully an extension of time so

that this filing may be considered timely and considered on its merits. We believe the circumstances (paternity leave, confusion over when the DEIS would be publicly available) warrant the brief extension, and providing one will not impact this proceeding's schedule.

Basis A. The DEIS' Analysis of Need for Power is Inadequate and Based on Faulty and Outdated Information

The Applicants' initial Environmental Report was prepared in 2007 (indeed the most recent Revision 6 is still dated and copyrighted 2007, although it was apparently prepared later than that). This first Environmental Report, and Revision 2, were the ones in effect when Joint Intervenors submitted our initial contentions in November 2008 (the ASLB may recall that Joint Intervenors had considerable difficulty obtaining Revision 3, which apparently was produced prior to November 2008, and were unable to obtain it before filing our initial contentions or initial reply brief¹). It would have been impossible for Applicants to have provided a discussion of falling electricity demand at that time, since it was during 2007 that demand first began dropping. And even if Applicants had noted that at the time, a one-year drop in electrical demand, while unusual, would likely not be cause for concern over future energy demand projections. What is unusual about the current reality is that electricity demand fell for three years in a row, which has never happened before, and continues to remain well below its peak level of 2006. Even the summer of 2010's record-breaking heat has not caused demand to return to the 2006

¹ See, for example, Joint Intervenors Reply to NRC Staff's Answer to Petition to Intervene and Applicants' Answer to Petition to Intervene, December 22, 2008, pp 17-19

level. This is not a “short-term reduction in demand” as stated by NRC², but a wholly unprecedented occurrence that calls into question future demand projections.

While the DEIS does support the ER’s conclusions and in that sense is not significantly different, it uses different data to do so. Contrary to Applicants’ argument, it would have made no sense for Joint Intervenors to have challenged the demand conclusions in the ER, since at the time there was little reason to believe electricity demand would plummet so radically and thus place a major question mark over future demand projections.

Moreover, the EmPower Maryland Act, passed in April 2008, which is intended to reduce electrical demand in the state, had not yet taken effect when the ER was prepared, nor had it had time to have any impact before Joint Intervenors filed our contentions; thus it would not have been feasible for Joint Intervenors to have filed a contention based on its impact at that time. The Maryland CPCN process referred to by Applicants in their response brief also took place during 2008 (NIRS was a participant in this process), and did not address the issue of falling electricity demand as at the time this issue was only beginning to be realized.

How much of the falling electricity demand is due to the economic recession and how much is due to programs like EmPower Maryland is as yet unclear to us, but it certainly merits examination and hearing as does the issue of how soon demand may or may not return to pre-recession levels.

² NRC response brief, page 13

While the ER's conclusions were not necessarily wrong when Applicants filed their initial report, they are wrong now. And the DEIS, despite having the opportunity to examine and correct these conclusions if necessary, does not do so, despite having access to and citing new documentation. It surely is not the purpose of the DEIS to bolster false conclusions in an applicant's ER, based on events that have occurred subsequent to the filing of that ER, and thus deny intervenors the opportunity to a hearing on such false conclusions.

In Contention 10, Joint Intervenors called attention to one of the documents cited by the DEIS itself, prepared by the State of Maryland after the CPCN process, which states:

The declining economic conditions of 2008 are not fully captured in the utility load forecasts included in this report. Utility provided forecasts were prepared in the fall of 2008 and, for the most part, assumed a traditional economic recession. *A longer, deeper recession is now predicted by most economists.*³

This should have been a clear warning sign to NRC staff that the information it was using to prepare the DEIS was suspect and merited a more complete examination.

Applicants argue that Joint Intervenors are attempting to challenge their use of Maryland as their "region of interest" by referring to demand throughout the PJM service area. This is perhaps an issue better suited for hearing than a discussion of admissibility of a contention. However, we note that while the ER does state, as Applicants assert, "The purpose is to build and operate a baseload nuclear merchant power plant that will generate needed power for Maryland," Applicants themselves undercut their own "region

³ Maryland Public Service Commission, *Ten-year Plan (2008-2017) of Electric Companies in Maryland*. 2009 . at 3 (emphasis added).

of interest” argument: Applicants do not respond to our discussion on page 5 of our Contention, which points out that Applicants have no sales contracts and no commitments to sell power in Maryland, and that further quotes the ER, “CCNPP-3 will operate as a baseload, merchant independent power producer. The power produced will be sold on the wholesale market without specific consideration to supplying a traditional service area of satisfying a reserve margin objective.” Clearly, Applicants are not committed to selling their power only in Maryland; the PJM service area, of which Maryland is a member and in which Calvert Cliffs-3’s power would be sold, is a more appropriate venue to consider electricity demand.

However, the underlying issue, whether the DEIS underestimates future electrical demand and the need for power, remains regardless of the service area used, as does its reliance on significantly different data than that used in the ER, data which still may reach false conclusions and is deserving of hearing.

It would have been unnecessary for Applicants to either include or omit the demand programs of all utilities in Maryland in their ER, as it was prepared before passage of the EmPower Maryland Act which places new requirements on electric utilities to reduce electrical demand. Thus, while on a policy level Joint Intervenors conceivably could have raised demand-side programs as an issue at the initial contention stage, as Applicants assert, such a contention would have been purely speculative and not have carried any weight.

However, the DEIS did have the opportunity to discuss the effects of the EmPower Maryland Act on future electrical demand and need for power, and indeed did refer to that Act. But by ignoring the required demand-side programs of the 12 other electric utilities in Maryland besides Baltimore Gas & Electric, the DEIS fails to provide a full picture of these programs and their effect on future electrical demand in Maryland (and we argue, throughout the PJM service area) and thus the need for power. Again, this is information that was not available to Applicants at the time of their application. And although the DEIS has reached the same conclusion as Applicants, it has done so using new data, but has not sufficiently examined that data. Joint Intervenors obviously could not have raised this issue prior to issuance of the DEIS, because it is the DEIS analysis that has failed.

The DEIS is a decision document. While we agree with the cases cited by NRC staff that future electrical demand projections are inherently uncertain, and we certainly don't expect demand forecast precision in a DEIS or FEIS, the document must at least acknowledge reality. In this case, that means accounting for the unprecedented drop in electrical demand in Maryland and the PJM region and attempting to ascertain the impacts of this plummet on future demand; and at least including and addressing the demand-side programs of all utilities in Maryland--not merely a chosen one⁴--and

⁴ The DEIS provides no explanation about why Baltimore Gas & Electric (BGE) was the only utility chosen to include in its analysis. While Baltimore Gas & Electric is owned by one of the Applicants' partners, it has not committed to purchasing power from Calvert Cliffs-3 and would have to obtain approval from the Maryland Public Service Commission before doing so, and BGE was the subject of extensive "ring fencing" hearings before the Maryland Public Service Commission in an attempt to ensure the utility would not be affected by Calvert Cliffs-3—NIRS was an active participant in those hearings. Thus, there is no direct relationship between BGE and Calvert Cliffs 3.

preferably the entire PJM service area. Failure to do so would mean production of a decision document that simply cannot be relied upon to support its decision.

Basis A of Contention 10 presents a genuine dispute of material fact and otherwise meets all the requirements of 10 CFR 2.309(f)(i)-(vii) and should be admitted for hearing.

Basis B. The DEIS Discussion of Energy Alternatives is Inadequate, Faulty and Misleading

Applicants argue that “it is too late for the Intervenor to challenge the adequacy of the DEIS conclusions regarding wind or solar power. Contentions based on energy alternatives could have and should have been raised at the outset of the proceeding based on the ER.” NRC staff argues that “Proposed Contention 10(B) does not demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the proposed action.”

Contrary to Applicants’ position, as was the case with Basis A, it was not known in 2007 when their initial Environmental Report was filed, nor in 2008 when Joint Intervenor’s initial contentions were filed, that Bluewater Wind would propose to build a 600 Megawatt wind farm offshore of Maryland. That Applicants ER did not address this reality is thus understandable, as is Joint Intervenor not bringing it up as one of our initial contentions. That the DEIS, which was prepared after the Bluewater Wind project was well-known, also fails to address this reality, and additionally adds support for its

position by citing a study not included in the ER but that is demonstrably irrelevant and misleading to offshore wind power in Maryland, is not understandable.

Again, while the ER and the DEIS reach similar conclusions, it is incumbent on the DEIS to reach supportable conclusions and not simply do whatever it takes to bolster Applicant conclusions. Additionally, the DEIS must at least acknowledge changes in circumstances from when an ER is filed and the DEIS is filed. If the only goal of an EIS is to support a license application, and ignore any subsequent information that might challenge that support, there would be little reason to even prepare one.

In this case, a major wind power project has been announced for Maryland since the filing of the ER. While we believe the Bluewater wind project for Delaware may have been known about in 2007 and should have been addressed in the ER, by itself it would not have presented a sufficient basis for contention. But the Maryland project does, as does the combined effect on electricity supply in the PJM service area of large wind farm projects off the coasts of three states. It is incomprehensible that the DEIS would simply ignore this development.

It is even more incomprehensible that the NRC staff would attempt to support the conclusions of the ER that offshore wind is not a viable alternative by citing a study of offshore wind power potential in Georgia and equating it to Maryland. We provided a U.S. Department of Energy wind power map that shows that is clearly false. Applicants and NRC Staff argue that Joint Intervenors have not provided expert support for our

argument (or, in the words of the Applicants, we filed an “unsubstantiated complaint”). We find it surprising that neither finds the U.S. Department of Energy to be expert on wind power or a substantial authority on the issue.

On the discussion of solar power, Applicants argue that it would take 55,993 acres of photovoltaic collectors “to equal the same baseload power from Unit 3”. While we appreciate the acknowledgement that solar power can be “baseload” power, which undercuts the NRC Staff’s argument that it is not; our contention argued these collectors could be placed aboveground, on rooftops and parking lots, and use essentially zero acres of power—causing a far lower environmental impact than Calvert Cliffs-3.

Again, the DEIS is a decision document. It cannot support faulty conclusions by ignoring relevant information. And by adding new information, such as the Georgia wind potential report, even more faulty than included in the ER, the DEIS has gone even further astray in providing a document upon which legitimate decisions can be based. The issue is thus material.

Basis B of Contention 10 presents a genuine dispute of material fact and otherwise meets all the requirements of 10 CFR 2.309(f)(i)-(vii) and should be admitted for hearing.

Basis C. The DEIS Discussion of a Combination of Alternatives in Inadequate and Faulty

As noted by Applicants, Basis C of Contention 10 integrates the issues raised in Bases A and B, and is at the heart of this contention.

As we have shown, based on information not even available to Applicants when they filed their ER, the DEIS overestimates future electricity demand and underestimates the role wind and solar power and energy demand-side measures can play in meeting future electricity demand. Thus, the DEIS discussion of Alternatives to Calvert Cliffs-3 is fatally flawed.

Joint Intervenors argue in this basis that it is reasonable for the DEIS to examine a feasible combination of alternatives in this discussion. NRC Staff seems to argue that Joint Intervenors should have provided an explicit combination of alternatives to be considered. However, prescribing to the NRC Staff an exact combination of alternatives it should consider for this section of the DEIS is not the Intervenors' role.

Rather, we have pointed out that the DEIS is flawed in its discussion of Need for Power, and flawed in its discussion of Alternatives to Calvert Cliffs-3, and that in both cases the flaws are based on a) information that could not have been available when the Applicants filed their application; b) information that could not have been available when Joint Intervenors filed our initial contentions; and c) information in the DEIS not provided in the Applicants' Environmental Report. Moreover, to the extent the DEIS relies on the understated cost per kilowatt/hour figures provided in the Applicants ER (our Basis D), the analysis is further flawed.

Based on these flaws, and our discussion of how the DEIS inadequately addresses these issues, it is perfectly reasonable to expect the NRC Staff to re-examine the document's section of Alternatives and produce a new analysis that takes the realities we have presented into account. What exactly the precise amounts of offshore and onshore wind power, solar power, energy efficiency programs, natural gas, etc. should be in this analysis are not ours to determine; they are the NRC's. But the NRC must have a factual basis for deciding what alternatives to analyze, and the DEIS does not provide such a factual basis. Instead the NRC has essentially set up a straw man: they have chosen an apparently random alternative scenario, without factual basis, and discounted it as an alternative.

NRC Staff also argues that the real-world alternatives we have noted in this contention do not necessarily amount to "baseload" power. "Baseload" power is not exactly a scientific term. We interpret it to mean the reliable production of electricity seven days a week, 24 hours a day, 365 days a year. In that exact sense, there is no such thing as "baseload" power. A nuclear reactor that operates at 90% capacity, for example, will still be out-of-service on average ten percent of the time, or one month out of every ten. 90% capacity is impressive, but it's not full-time. Wind and solar power, combined with smart grids and proper grid operation and back-up power from natural gas for the rare occasions when neither the sun is shining nor the wind is blowing (which is typically at night during periods of low electricity demand), can also supply reliable electricity to large numbers of customers. Demand-side programs can reduce the electricity needed to supply the public,

making both renewable and nuclear-powered electricity more effective at providing electricity to the public.

Simply dismissing a combination of renewable energy sources, energy efficiency and natural gas backup as not “baseload” power and thus not necessary for analysis, is an irresponsible effort to shift the issue away from a reasonable and environmentally-preferable alternative to the proposed Calvert Cliffs-3 reactor.

Basis C of Contention 10 presents a genuine dispute of material fact and otherwise meets all the requirements of 10 CFR 2.309(f)(i)-(vii) and should be admitted for hearing.

Basis D. The DEIS Discussion of Costs Both Understates Likely Costs and Disputes Cost Estimates in the Applicants’ ER, Calling into Question the ER’s discussion of Calvert Cliffs-3 vs. Alternatives

As stated above, we withdraw the section of Basis D that addresses the issue of “overnight” cost estimates and that the DEIS should have considered cost escalation factors in its analysis of the cost-benefit analysis of Calvert Cliffs-3. Upon review, we agree with Applicants and NRC Staff that we could have raised these issues at the initial intervention stage, even though the DEIS provides substantially different cost estimates than does the ER. In effect, we are correct on the policy issues, but wrong on the procedural ones.

However, we continue to argue that the DEIS provides substantially different cost estimates than the ER on a kilowatt/hour basis, and that this difference (a 400-500% difference) undercuts entirely the Applicants' ER comparison of its proposed project to alternative sources of electricity (Chapter 9 of Applicants ER). Specifically, as we noted in our original contention, Applicants used "overnight" construction cost estimates of \$1200-1800/kw to reach an estimate of electricity costs of \$0.031 to \$0.046 per kilowatt/hour. According to the DEIS, the "overnight" construction cost estimate is actually \$4500-6,000/kw, or 400-500% higher than in the ER. It is impossible to believe that such a higher construction cost estimate would not result in higher electricity costs, and thus a complete skewing of the Applicants' ER discussion of the benefits of the proposed Calvert Cliffs-3 project versus the alternatives. This is relevant both in itself, and to Basis C of this contention.

Unfortunately, the DEIS does not recognize this massive problem. It should be rewritten to accurately reflect the different cost estimates and their effect on the viability of alternatives. While Applicants argue that they already have updated their cost estimates, they apparently did so in their Response to Additional Information No. 124.

It is not clear from their response whether that means they also have updated the ER cost-benefit analysis on their proposed project versus the alternatives. If so, we certainly have not seen such a revision to the ER. A recent newspaper account indicates they have not yet done so, but may be planning to do so in October⁵. We would expect the DEIS to be

⁵ http://www.somdnews.com/stories/07162010/rectop140913_32369.shtml

updated to reflect these changes, if they are indeed submitted. And regardless, the DEIS cannot simply ignore that the ER's cost estimates comparing their project to the alternatives are 400-500% below the DEIS' own projections. At some point, someone must be held accountable.

Basis C of Contention 10 presents a genuine dispute of material fact and otherwise meets all the requirements of 10 CFR 2.309(f)(i)-(vii) and should be admitted for hearing.

Respectfully submitted,

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This 27th day of July 2010

Signed Electronically by _____

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CERTIFICATE OF SERVICE

It is our understanding that all on the Calvert Cliffs-3 service list are receiving this motion through the submission I am making on July 27, 2010 via the EIE system.

**JOINT INTERVENOR’S REPLY TO NRC STAFF’S AND APPLICANT’S
RESPONSES TO SUBMISSION OF CONTENTION 10**

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