

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Glenn O. Bright
Dr. James H. Carpenter
James L. Kelley, Chairman

OFFICE OF SECRETARY
ADMINISTRATIVE SERVICES
BRANCH

In the Matter of

CAROLINA POWER AND LIGHT CO. et al.
(Shearon Harris Nuclear Power Plant,
Unit 1)

Docket 50-400 OL

ASLBP No. 82-468-01
OL

Wells Eddleman's Response to Summary Disposition on 15-AA

CP&L (and their loyal ally the NRC Staff) would have you believe that 55% is a conservative estimate of the Harris plant's operating capacity factor. That capacity factor is, of course, not known now. Applicants argue (2-28-84 Motion for Summary Disposition on 15AA, p.5) that not "the most pessimistic estimates" but reasonable estimates of Capacity Factor are what NEPA requires.

But neither Applicants' nor Staff's estimates are reasonable beyond material issues of fact, as shown extensively in the accompanying affidavits of Charles Komanoff (with attachments) and Wells Eddleman, and in the accompanying Statement of Material Facts In Dispute on 15AA.

Applicants' affiant Koppe, who they claim is "eminently qualified" (motion, p.6 middle), interestingly gives no credentials involving his record in predicting capacity factors. By contrast, Komanoff is well-known for making better capacity factor predictions than the nuclear industry. Even I have managed to out-predict CP&L and Duke Power before the NC Utilities Commission. Based on the information available to Komanoff (and me), there is no basis to conclude that Harris will outdo a 55% capacity factor as Applicants and Staff claim.

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There is actually a large negative impact on Brunswick's capacity factor that is not associated with saltwater cooling. Komanoff finds this impact to be a drop of 9.2 to 11.5% in two of his statistical analyses. I found an overall impact of about 15% by nonstatistical methods.

I believe the negative impacts thus found are associated with CP&L mismanagement and their involvement in design and operation of Brunswick. The NC Utilities Commission has twice penalized CP&L for mismanagement responsible for 70-plus day outages at Brunswick. Outages, of course, reduce capacity factor.

CP&L was even more involved in designing and building Harris, than in Brunswick.

Koppe undermines his own credibility by taking the approach that all Westinghouse PWRs are the same statistical population, and thus appropriate for comparison to Harris. Actually, as Komanoff shows, the odds of small (under 600-MWe) and larger \bar{W} PWRs being the same population is statistically about 1 in 1000.

Koppe nowhere analyzes the Beaver Valley 1 and North Anna 1 and 2 plants' differences from (or similarities to) Harris. He ignores (and may not know that) CP&L's own identification of those units as similar to Harris ~~xxx~~ which is the basis of my using those 3 units for comparison ^u purposes. These 3 units average less than 55% lifetime C.F. and the oldest unit (B. Valley 1) has the lowest C.F., contrary to Koppe's claim that in time units will come closer to a statistical norm or average

The attached affidavits and supporting documents clearly show that virtually everything CP&L claims on this contention is in dispute. CP&L twists my answer to an interrogatory (p.8, Motion) from what I would recommend the Staff do, to a characterization of the "reasonable estimate" standard that is different from my own. In characterizing the benefits of things not yet done, I think it is reasonable to be conservative.

Indded, the whole commercial nuclear industry appears to be foundering at this point because they did not adhere to such a rule. But that's their problem.

CP&L omits from its critique of my comparison of plants (Motion, p.9) that neither CP&L nor NRC Staff made much (if any) more detailed answers on discovery from me about what they saw as similarities between Harris and other plants.

CP&L resorts to the outright lie on page 10, saying I am unable or unwilling to provide any basis for comparing CP&L's Harris plant to those very units (Beaver Valley 1, N.Anna 1 and 2) which CP&L itself characterized as similar to Harris at the time they sought an NCUC certificate to build Harris. They are similar in design and in time-frame of design. CP&L knew this because I had told them. And they should know what their own people had said, particularly when I was asking them about it on discovery.

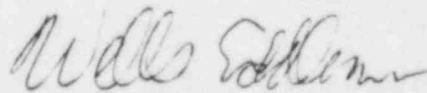
CP&L omits Koppe's discussion of additional Harris problems that may arise from their discussion on page 10. If the problems involved in operations had been solved so effectively, the Confederacy would no doubt have won the civil war. But a company like CP&L, with its record of mismanagement, having been twice penalized by the NC Utilities Commission specifically for screwing up what Brunswick, with the lowest-performing BWRs in America (the 2 at Brunswick) has a credibility problem when they say they will solve problems.

CP&L says I "rely heavily" on steam generator problems for my judgments. Not so. Steam generators are only an additional problem that CP&L is far from guaranteed of solving as far as long-term effects on capacity factor are concerned. Even if Harris had no steam generator problems, it still would not have solutions to the CP&L involvement in it (and managing it), nor would it have a great advantage over plants its size with AVT water chemistry

(e.g. the North Anna units). Lest CP&L claim that North Anna is doing all that well, note that Komanoff found a deterioration in Westinghouse plant performance after about the 12th year. This is directly contrary to Koppe's claims (affid p. 10) of better or similar performance in later years.

Koppe himself, however, found that in years 9-1x4, Westinghouse 3 loop PWRs had a capacity factor (average) of 54.8%. That's under 55%. See Exhibit RHK-2, p.21.

The details of the other disputes are in the affidavits and statement of material facts in dispute. I won't waste your time repeating them here. I would simply point out that capacity factor is a complex matter involving many influences. It is very difficult to rule out the influence of one or another thing on a capacity factor. And the nuclear industry and NRC Staff don't seem to be very good at predicting it.


Wells Eddleman

Note: This response is timely filed under an extension granted by oral order of Judge Kelley, changing the time from April 13 to April 16 (Monday).