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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

In the Matter of

CAROLINA POWER AND LIGHT CO. et al.
(Shearon Harris Nuclear Power Plant,
Units 1 and 2)

Docket 50-400 OL

ASLBP No. 82-468-01
OL

Wells Eddleman's Requests for Clarification of,
and Objections to, Board Order of 1-27-84

By Order dated 1-27-84 and served 1-30, the Board granted summary disposition on Eddleman 37B, ruled out consideration of pain and suffering (Eddleman 37A), and granted summary disposition of Eddleman 8F2, among much else. I respectfully request clarification and object (timely) to such order re these matters as follows:

1. In my 6-20-83 response to the DES, I state as follows: (p.4)
"Again, the DEIS ... uses the models 37B attacks. Also, the Staff gives no consideration to pain and suffering in the cost-benefit balance (DEIS section 6, see table 6-1), or in ^(f)~~A~~ discussion of health effects in section 5. Thus, all the DEIS does is add basis to 37B by continuing the errors and omissions it alleges." I had erroneously believed that the pain and suffering issue was being considered together with 37B. I believe the Board's order does allow consideration of pain and suffering if higher levels of cancer deaths due to Harris are shown (order at 14, 1-27-84) so I do not object. It appears my error in not referring to 37A is much of the problem. I request clarification as to whether, if health

effects are shown to be "far larger" than NRC Staff says (Order 1-27-84 at 14), a new contention needs to be filed on pain and suffering; and if so, whether it needs to be filed by Joint Intervenors or whether I could file it myself.

2. With respect to Contention 8F"2" on December 5, 1983, I advised the Board that Dr. Johnson would testify (p. 7 of "J.I. and W.E. Response to Board Questions re Health Effects Contentions") on 8F2 addressing the issues on Joint Contention II(c) (pp 5-6 ibid) on critical issue 6 and perhaps critical issues 3,4, and 5; to also address the 11 plutonium isotopes of concern in the nuclear fuel cycle.

At pages 5 and 6 Np-239 released from Harris, and Pu-239 and its decay products are cited as "substantial decay chains" of radioactive products released from Harris that Dr. Johnson would testify about. Likewise (p.6) decay chains from Americium isotopes released from Harris, and the time period over which the health effects of these long-lived isotopes shall be considered, were noted 12-5-83 as topics Dr. Johnson would testify about. On page 7 I stated Dr. Johnson would include or rely on this Joint II testimony in his 8F2 testimony.

12-16-83 (ASAP after I got it)
The Board has been provided with a vita of Dr. Johnson: it shows he is a fellow of the American College of Epidemiology, has taught epidemiology at the University of Washington, with about 70 scientific articles and abstracts to his credit, about half in epidemiology and about half concerning "the study of biomedical contamination with radionuclides and their biomedical effects."

On the same date, I provided the Board a list of Dr. Johnson's papers which he had provided to me; these concern mostly the health effects of plutonium and other transuranic contaminants near nuclear installations. I believe it is clear from the above that Dr. Johnson is a qualified expert on the health effects

of transuranic elements (and their decay products) released from nuclear facilities, and the epidemiology thereof.

The Board notes (1-27-84 at 10) that the "other proposed topics for Dr. Johnson may be within the admitted contentions, but not within those few parts that are surviving the summary disposition motions." The Board granted summary disposition on 8F(2) (Order 1-27-84 at 46-50) without reference to the planned testimony of Dr. Johnson.

3-41 of 1-27 Order) (ibid p.48).

I believe the Board is simply wrong to say that because the nuclides from the fuel cycle are dispersed over larger areas, they are therefore of less concern. Under the linear hypothesis used by BEIR, the number of cancers would be the same whether the nuclides deliver their dose to a few people or to many, as long as the dose is the same in total. If I have misread the Board on this point, I apologize; but if I have read correctly then I object to such logic and say that under Black Fox the Board should consider BEIR when it favors intervenors' positions as well as when it contradicts them. Under this logic, there is no more reason to reject 8F2 re long-lived radionuclides than to reject Joint II re the health effects of radionuclides released.

As to the period appropriate for considering health effects, (8F2 (1)), the Board cites its ruling on Joint II(c) where summary disposition was rejected. Again, I don't understand the difference: In pages 40-41 re II(c), the Board says that an annual effects calculation may be no good, that the cumulative effects are greater over 30 or 40 years (of reactor operation). The Board rejects my position to use the half-lives of the nuclides released (e.g. Th-230, U-238) as a period over which to assess their health effects, but does not appear to explain why the Staff's 100-year dose commitment ^{to 1000 year} period

is adequate, so far as I can see: The fact that the ratio of effluents dose from the nuclear fuel cycle [^]to background is higher in this period seems irrelevant to the question of whether the health effects of the nuclear fuel cycle effluents are adequately considered in the DES/FES. The question is whether to license Harris (and allow its nuclear fuel cycle effluents) -- thus the question is the amount of those effects, not their ratio at some time to the background radiation. I therefore respectfully request clarification of this point by the Board, and reversal of its order re 8F2 summary disposition ~~xx~~ if the Board believes on reconsideration that such is justified by Dr. Johnson's proffered testimony and expertise and publications, and/or the articles of his cited above.

I also request clarification about the argument I raised that what is being licensed is Harris, not background radiation, and therefore in my view the comparisons to background radiation are not relevant since the background radiation is there whether Harris operates or not. It may be that this view has been so persistently rejected by NRC or its case law that the Board felt no need to address it; or I may have overlooked a place the Board addressed it. I request clarification on this point also, as it affects the Board's ruling on 8F2 (p.48) re ratio of fuel cycle to background health effects, and thus may be relevant to the reconsideration of 8F2 requested above.

Concerning 8F1, I respectfully request clarification of the basis for the statement in footnote 1, page 44 of the 1-27-84 Order, which, observing that "no credit for" reduction (in particulate emissions from coal plants due to Harris operation) is taken in the FES, were shown at hearing that the Harris plant goes on to say that "If it

will displace coal-fired units and that this will result in a substantial net reduction in particulate emissions, that presumably would dispose of this contention," in light of 10 CFR 51:

The contention states that Appendix C of the FES underestimate the environmental impact of the effluents in Table S-3 because health effects of the coal particulates, 1,154 MT per year, are analyzed nor not given sufficient weight. 10 CFR 51.26(b) requires the FES to "make a meaningful reference to the existence of any responsible opposing view not adequately discussed in the draft environmental statement, indicating the response to the issues raised." This language would appear to include the contentions responsive to the DEIS (e.g. 8F1) as well as comments. The Board, in refusing summary disposition of 8F1, seems to give the contention the status of a "responsible opposing view". Thus, the Staff has not complied with 10 CFR 51.26 on 8F1. 10 CFR 51.26(a) requires the FES to include a final cost-benefit analysis. This analysis entirely omits coal particulates as given in Table S-3 of 10 CFR 51.20.

10 CFR 51.23(a) requires the DES to include the matters specified in 51.20(a), (e) and (g) and 51.21 as appropriate. 51.20^(e) requires operating license stage environmental reports to discuss 10 CFR 51.20's Table S-3 "as the basis for evaluating the contribution of the environmental effects of uranium ... isotopic enrichment..."

I cannot find anything in these sections of the rules about credits for any offsetting reductions in particulate emissions, nor about amending or curing defects in the FES after it is issued. The contention^{effectively} alleges that the FES fails to comply with the rules requiring appropriate consideration of the effects of ^{coal particulate} effluents in Table S-3. I cannot see any provisions that would ^{allow credits to} offset this, even if Harris were to (1) displace coal fired units and (2) result in a substantial net reduction in particulate emissions. I also ask if it wouldn't be necessary to compare actual net coal particulate emission reductions to the S-3 1,154 MT. Respectfully,

UNITED STATES OF AMERICA
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Shearon Harris Nuclear Power Plant, Units 1 and 2)

Docket 50-400
O.L.

CERTIFICATE OF SERVICE

I hereby certify that copies of Joint Intervenor's Response to Board
Order served Jan 30 1984; and of
WE Requests for Clarification of, and Objections to, Bd. Order of 1-27-84
and of Joint Intervenor's Response to Summary Disposition on Joint IV.

HAVE been served this 6 day of February 1984, by deposit in
the US Mail, first-class postage prepaid, upon all parties whose
names are listed below, except those whose names are marked with
an asterisk, for whom service was accomplished by including letter of
Bruno Uryc Jr NRC to Wells Eddleman, re pipe hangers, previously served
to Applicants and to Judge Kelley for the Board.

Judges James Kelley, Glenn Bright and James Carpenter (1 copy each)
Atomic Safety and Licensing Board
US Nuclear Regulatory Commission
Washington DC 20555

George F. Trowbridge (attorney for Applicants)
Shaw, Pittman, Potts & Trowbridge
1800 M St. NW
Washington, DC 20036

Ruthanne G. Miller
ASLB Panel
USNRC Washington DC 20555

* Office of the Executive Legal Director
Attn Dockets 50-400/401 O.L.
USNRC
Washington DC 20555

* Phyllis Lotchin, Ph.D.
108 Bridle Run
Chapel Hill NC 27514

* Docketing and Service Section (3x)
Attn Dockets 50-400/401 O.L.
Office of the Secretary
USNRC
Washington DC 20555

* Dan Read
CHANGE/FLP
5707 Waycross
Raleigh, NC 27606

* John Runkle
CCNC
307 Granville Rd
Chapel Hill NC 27514

* Dr. Linda W. Little
Governor's Waste Mgt. Bd.
513 Albemarle Bldg.
325 N. Salisbury St.
Raleigh, NC 27611

* Travis Payne
Edelstein & Payne
Box 12607
Raleigh NC 27605

* Robert Gruber
Exec. Director
Public Staff
Box 991
Raleigh NC 27602

* Bradley W. Jones
USNRC Region II
101 Marietta St.
Atlanta GA 30303

* Richard Wilson, M.D.
729 Hunter St.
Apex NC 27502

Certified by W. Eddleman