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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

CAROLINA POWER & LIGHT COMPANY)
AND NORTH CAROLINA EASTERN)
MUNICIPAL POWER AGENCY)

(Shearon Harris Nuclear Power Plant,)
Units 1 & 2))

Docket Nos. 50-400 OL
50-401 OL

APPLICANTS' MOTION FOR SUMMARY DISPOSITION
OF EDDLEMAN CONTENTION 83/84B

I. Introduction

Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency ("Applicants") hereby move the Atomic Safety and Licensing Board, pursuant to 10 C.F.R. § 2.749, for summary disposition in Applicants' favor of Wells Eddleman's Contention 83/84B. As grounds for their motion, Applicants assert that there is no genuine issue of material fact to be heard with respect to Contention 83/84B, and that Applicants are entitled to a decision in their favor on this contention as a matter of law.

This motion is supported by:

1. "Applicants' Memorandum Of Law In Support Of Motions For Summary Disposition On Intervenor Eddleman's Contentions 64(f), 75, 80 and 83/84," dated September 1, 1983;
2. "Applicants' Statement Of Material Facts As To Which There Is No Genuine Issue To Be Heard on Wells Eddleman's Contention 83/84B";
3. "Affidavit of William T. Hogarth"; and
4. "Affidavit of James A. Fava and Hans Piugge."

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II. Procedural Background

Eddleman 83/84B states as follows:

B. Surveys by the Haw River Assembly and others have demonstrated that substantial amounts of organic chemicals including dyes and phenol-based chemicals that become more carcinogenic after reactions with chlorine (and with chlorine, ammonia and hydrazine) are discharged into waters feeding the Cape Fear. The data compiled by UNC-CH (see, e.g. letter of May 11, 1982, Prof. Charles M. Weiss to Christina Meshaw of Corps of Engineers, Wilmington NC) do not adequately test for levels of most of these chemicals, nor does the State of NC (see printout of Haw River monitoring stations, 5-26-82, date) test for most of them. Thus, neither CP&L nor anyone else has established the actual levels of numerous organic carcinogens in Cape Fear water, nor considered the interaction of these carcinogens and other chemicals with the SHNPP discharges (e.g. chlorine, hydrazine, ammonia and other chemicals listed in E.R. section 5.3) in forming carcinogens in drinking water, and in putting carcinogens into food chains which culminate in edible fish, mussels, seafood, (e.g. oysters, clams, shrimp) etc. taken by individuals or commercial fishing from the Cape Fear or the ocean where the Cape Fear empties (i.e. fisheries off Cape Fear, around the mouth of the river, and other places Cape Fear water disperses to). The health effects of these carcinogens, including those formed by interaction with SHNPP discharges and those made more hazardous by interaction with same, transferred to humans who swim, wash, drink Cape Fear water, or who eat food and seafood wherein such carcinogens are concentrated biologically, has not been considered in the ER (and EIS and DEIS). Such consideration is necessary to protect the health and safety of the public.

This contention survived a previous Motion for Summary Disposition by the Applicants on the entire Eddleman Contention 83/84. See Memorandum and Order (Ruling on Motions for Summary Disposition of Eddleman Contentions 29/30, 64(f), 75, 80 and 83/84), dated November 30, 1983 (hereinafter "November 30 Order"). In allowing part B of Contention 83/84 to remain in this operating license proceeding, while granting Applicants' Motion for Summary Disposition as to the remaining two-thirds of Eddleman 83/84, the Board stated as follows:

Part B of this contention questions the effects on human health that might be caused by the formation of halogenated organic compounds that are carcinogenic, as a result of chlorination of the cooling waters in the Harris plant. The Board finds that the Hogarth affidavit does not address this issue. Applicants' motion for summary disposition at 9 simply states that "the Staff DES also contains in-depth analysis of possible chlorinated organic compound formation." The Board finds that the NRC Staff discussion of possible human health effects is limited to the first sentence on page 5-8 of the DES.

November 30 Order at 27.

Since the date of that Order, Unit 2 of the Shearon Harris Nuclear Power Plant has been cancelled. This cancellation directly impacts on Eddleman Contention 83/84B. In light of this fact and in preparation for the environmental hearing in this proceeding previously scheduled for January 1984, Applicants have had further studies made of the health effects issue.

In this motion for summary disposition of 83/84B, Applicants have now completely and fully addressed the "effects on human health that might be caused by the formation of halogenated organic compounds that are carcinogenic, as a result of chlorination of the cooling waters in the Harris plant." There is no remaining issue of material fact and, accordingly, Applicants are entitled to a ruling in their favor on this motion.

III. Argument

A. Standards For Summary Disposition

The general standards by which Motions for Summary Disposition are judged are set forth in "Applicants' Memorandum Of Law In Support Of Motions for Summary Disposition On Intervenor Eddleman's Contentions 64(f), 75, 80 and 83/84," dated September 1, 1983, which is incorporated herein by reference.

B. Applicants' Motion for Summary Disposition of Eddleman Contention 83/84B is Proper

On September 1, 1983, Applicants filed their Motion for Summary Disposition of Eddleman Contention 83/84. After the filing of responsive documents by the Staff and Mr. Eddleman, the Board ruled in its November 30 Order that no genuine issues of material fact existed as to parts A and C of Eddleman 83/84. However, the Board stated that health effects analysis of possible carcinogenic halogenated organic compounds resulting from cooling water chlorination at the Harris plant was lacking and, therefore, a genuine issue remained as to part B of the contention.

Applicants have, since the time of the Board's ruling, had additional studies performed related to the contention, and on the basis of both this new information and the cancellation of Unit 2 Applicants again move for summary disposition of part B of Eddleman Contention 83/84. The Atomic Safety and Licensing Appeal Board has stated that summary disposition procedures are designed to provide "an efficacious means of avoiding unnecessary and possibly time-consuming hearings on demonstrably insubstantial issues" Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 550 (1980). Also in the interest of expedition, the Appeal Board has said that a summary disposition motion may be filed any time in the course of a proceeding. Wisconsin Electric Power Co. (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16 NRC 1245, 1263 (1982); see also 10 C.F.R. § 2.749(a).

It is established that "the summary disposition rule (10 C.F.R. § 2.749) is the Commission counterpart of Rule 56 of the Federal Rules of Civil Procedure governing summary judgments," Pennsylvania Power & Light Co. (Susquehanna Steam Electric Station, Units 1 and 2), ALAB-641, 13 NRC 550, 554 (1981); see Fed. R. Civ. P. 56(f), and that essentially the same standards govern both these rules. Id.; see also Tennessee Valley Authority (Hartsville Nuclear Plant Units 1A, 2A, 1B, and 2B), ALAB-554, 10 NRC 15, 20 n. 17 (1979). Thus, for both summary judgment and summary disposition motions, where good reason is shown why a prior ruling on such a motion for some reason should be departed from, the court can and should entertain a renewed motion in the interest of effective judicial administration. 6 Moore's Federal Practice ¶ 56.14[2] at 56-364 (2d ed. 1983). Case law under the federal rule indicates that a renewed motion for summary judgment or a second motion in support thereof is entirely proper. Lindsey v. Dayton - Hudson Corp., 592 F. 2d 1118 (10th Cir. 1979); Preaseau v. Prudential Insurance Co., 591 F. 2d 74 (9th Cir. 1979); Brownfield v. Landon, 307 F. 2d 389 (D.C. Cir. 1962).

In Allstate Finance Corp. v. Zimmerman, 296 F. 2d 797 (5th Cir. 1961) it was held that a previous denial of a motion for summary judgment by the defendant did not

preclude entry of summary judgment on a subsequent motion where the second motion was filed with affidavits not previously before the judge. The plaintiff raised the argument that another motion for summary judgment was improper but the court specifically stated that the Federal rules do not prohibit the consideration by a trial court of a second motion. Id. at 799.

Similarly, in Brownfield v. Landon, 307 F. 2d 389 (D.C. Cir. 1962), the original motion for summary judgment by the defendant was denied. However, afterwards, additional depositions and further discovery were taken and filed. A second motion for summary judgment was then filed and granted. On appeal, the Circuit Court ruled that the second motion was based on a record containing a great deal more information and, therefore, granting of such motion was proper. Id. at 393.

Finally, in Lindsey v. Dayton - Hudson Corp., 592 F. 2d 1118 (10th Cir. 1979), defendant in a malicious prosecution action moved for summary judgment on the grounds that suit was barred by the statute of limitations. This motion was denied. Subsequently a second motion was filed with a number of additional materials including a transcript of the criminal trial which gave rise to the action. The Circuit Court affirmed the decision of the trial court to grant the motion for summary judgment the second time around. In rejecting plaintiff's argument that a second motion is not proper after denial of a previous motion, the Circuit Court ruled that a second motion for summary judgment is proper if supported by new material. Id. at 1121.

Thus, in the instant case, despite this Board's denial of an earlier motion, Applicants' Motion for Summary Disposition of Eddleman Contention 83/84B, containing as it does affidavits with new information not previously before the Board, is entirely proper and if, as Applicants contend, no genuine issue of material fact now exists as to the contention, then the Board should rule in Applicants' favor. Id.; see also Kirby v. P.R. Mallory & Co., 489 F. 2d 904 (7th Cir. 1973), and Bon Air Hotel, Inc. v. Time, Inc., 426 F. 2d 858 (5th Cir. 1970).

C. This Motion is Timely Filed

In its Memorandum and Order (Reflecting Decisions Made Following Second Prehearing Conference), dated March 10, 1983 ("March 10 Order"), the Licensing Board set up a schedule for adjudicating the environmental issues admitted in this proceeding. That schedule set September 1, 1983 as the last day for filing motions for summary disposition. Applicants on that date filed their Motion for Summary Disposition of Eddleman Contention 83/84 and the Board ruled thereon November 30.

While this Motion for Summary Disposition of Eddleman Contention 83/84B is filed a number of months after the original deadline for such motions, that date was set based on a January hearing on environmental issues. However, in December 1983, the Board determined that the environmental hearing should be postponed. That hearing has now been delayed almost six months to June 1984. Memorandum and Order (Ruling on Motions for Summary Disposition of Health Effects Contentions: Joint Contention II and Eddleman Contentions 37B, 8F(1) and 8F(2)), dated January 27, 1984.

The Board's March 10 Order setting a discovery and hearing schedule was designed to adjudicate the issues in an expeditious manner. This motion should not be considered contrary to that order but rather should be considered in keeping with the goals and intent of the order to effectuate a streamlined disposition of environmental issues. Accordingly, this motion, filed approximately five months in advance of the environmental hearing, will in no way jeopardize orderly progress toward that hearing in that it is in sufficient time to allow responses by Intervenor and Staff and ruling by this Board before the necessary preparation of testimony for the hearing would begin. This motion will not have an adverse impact on the timely disposition of this contention and should, in fact, make for more efficient and expeditious adjudication of Contention 83/84B. Therefore, this motion is filed in a timely manner and Applicants request that it be given full consideration by the Board.

D. There Is No Genuine Issue Of Material Fact As To Eddleman Contention 83/84B

Eddleman Contention 83/84B expresses concern that discharges, particularly of chlorine, from SHNPP will react with waters of the Cape Fear River and chemicals contained therein to create carcinogens or make certain chemicals more carcinogenic. As the Licensing Board points out, the "bottom line" of the contention is the effect, if any, on human health that "might be caused by the formation of halogenated organic compounds that are carcinogenic, as a result of chlorination of the cooling waters in the Harris plant." November 30 Order at 27. Since the issuance of the order by the Board, an important change has taken place which has a significant impact on Eddleman Contention 83/84B. Approval of the cancellation of Unit 2 of the Shearon Harris Nuclear Power Plant by the Board of Directors of CP&L took place on December 21, 1983. Affidavit of William T. Hogarth ("Hogarth Affidavit") at 2. Make-up water from the Cape Fear River is not needed for one unit operation at SHNPP; therefore, the Cape Fear River make-up water structure will not be completed and there will be no Cape Fear water introduced into the Harris reservoir. Hogarth Affidavit at 2. As a result, the only possible mixing of SHNPP discharges with Cape Fear water will occur below Buckhorn Dam approximately 2.5 miles from Harris lake.

Prior to the rescheduling of the environmental hearing in this proceeding, and based on the cancellation of Unit 2, Applicants began further studies of the possible health effects, if any, of the SHNPP discharges. The additional information which Applicants' research revealed is included in the affidavits attached to this motion. The affidavits focus on the health effects issue in light of the cancellation of Harris Unit 2.

Lawler, Matusky & Skelly Engineers were asked to model the dynamics of plant chlorination practices. See Exhibit A to Hogarth Affidavit. Three separate models were developed — one for the plant, one for the Harris reservoir, and one for the Cape Fear River. The LMS study indicates that free available chlorine, the form of chlorine most likely to react with chemicals contained in a body of water, is not expected in Harris plant discharges into Harris reservoir or the Cape Fear River. Hogarth Affidavit at 3.

The models indicate, though, that there will be some concentrations of total residual chlorine (TRC) discharged into Harris reservoir. These concentrations are very small and are estimated to be only 1.0 ppb in the 200 acre mixing zone around the blowdown pipe allowed under the NPDES permit. This concentration would be reduced to 0.006 ppb at the Cape Fear River. Hogarth Affidavit at 3. Of these small TRC concentrations, only a fraction would appear as halogenated organic compounds. Hogarth Affidavit at Exhibit A and Affidavit of Dr. James A. Fava and Mr. Hans Plugge ("Fava Affidavit") at 9.

Analysis by Dr. James S. Fava, Vice President, and Hans Plugge, Senior Scientist, of Ecological Analysts, Inc., relying in part on the literature on chlorination at nuclear power plants done by Dr. Roger M. Bean (noted by this Board in its November 30 Order at 24), concludes that the only known carcinogenic substances that are likely to be formed and discharged from SHNPP would be chloroform, other halomethanes (three halomethanes identified are actually trihalomethanes), and 2, 4, 6-trichlorophenol. Fava Affidavit at 6. Trihalomethanes, other than chloroform, referred to in the Final Environmental Statement Related To The Operation of Shearon Harris Nuclear Power Plant, Units 1 and 2 (October 1983), NUREG-0972 ("FES") at Section 5.3.1.2.2 and in the affidavit of John C. Lehr included in the "NRC Staff Response to Applicants' Motion for Summary Disposition of Eddleman Contention 83/84," dated September 26, 1983, are regulated by EPA only as suspect carcinogens. Due to their chemical similarity to chloroform, they are assumed to react similarly in terms of biological responses and as such are included in the analysis.

Chloroform and other halomethanes are within the grouping of halogenated organic compounds (the focus of this contention) called haloforms. 2, 4, 6-Trichlorophenol falls within the subset of halogenated organics known as halophenols. Utilizing the mathematical models of LMS, Dr. Fava and Mr. Plugge are then able to conservatively calculate concentrations of both haloforms (0.009 ppb in 200 acre mixing zone) and

halophenols (0.005 ppb, same mixing zone) in the Harris reservoir. These concentrations would be further diluted in travel over the spillway and transport down Buckhorn Creek before finally entering the Cape Fear River, but this is not taken into account in calculating the concentrations at the Cape Fear River of 0.00005 ppb and 0.00003 ppb respectively. Fava Affidavit at 8.

Dr. Fava and Mr. Plugge next use these concentrations to assess their possible effects on human health. First, they demonstrate that the bioaccumulation potential of these chemicals in aquatic organisms is low. Id. at 9-10. Second, they examine the concentrations in comparison to United States Environmental Protection Agency (EPA) water quality criteria. These criteria are determined based on the bioaccumulation data referred to above and are designed to protect human health "from the consumption of [contaminated] organisms living in a waterbody." Id. at 11. These criteria are further designed to indicate chemical "concentrations that will protect human populations from adverse health effects which might result from continuous lifetime exposures." Id. (emphasis added). Dr. Fava and Mr. Plugge conclude that even in a reservoir mixing zone of only 5 acres, the concentrations of haloforms and halophenols would be at least 100 times lower than the EPA water quality criteria. The concentrations of those chemicals at the Cape Fear River would be 0.003 percent of the EPA criteria for surface water used for drinking purposes and 0.0004 percent of the criteria for fish consumption only. Id. at 12.

Third, risk assessment analysis was done which provides the probability of incurring cancer as a result of the incremental contribution by SHNPP to haloforms in drinking water from the Cape Fear River (this is over and above any chemicals already in the Cape Fear). This risk level would be 1 in 3,850,000,000 given 70 years of exposure. The risk for halophenols would be even less at 1 in 40,000,000,000. Id. at 13. Both of these risks are substantially below even the most conservative risk estimates utilized by the EPA (1 in 10,000,000) in deriving its drinking water criteria. Id. at 14. It should be noted

that all the above calculations are essentially "worst case" given the large number of conservative assumptions built into them. Id. at 14 - 15.

Finally, Dr. Fava and Mr. Plugge compare haloform (trihalomethane) concentrations in municipal drinking water supplies to those calculated for the Harris reservoir and Cape Fear River at Buckhorn Creek for a further perspective on possible human health effects. They found that the calculated SHNPP haloform contribution to the Cape Fear River from SHNPP discharges ranges from 200,000 to over 1,000,000 times lower than concentrations normally encountered in North Carolina municipal drinking waters. Id. at 17.

In conclusion, there will be no influx of Cape Fear River water into the Harris reservoir. As a result, the only possible mixing of Harris discharges with Cape Fear River water will occur at the confluence of Buckhorn Creek. In analyzing possible chlorine by-products that may be carcinogenic and may be discharged at Harris to eventually mix with Cape Fear waters, free available chlorine (the form most likely to combine with other chemicals) is not expected to be present in SHNPP discharges. However, some total residual chlorine will be discharged, a small percentage of which is expected to appear as halogenated organics.

Haloforms and halophenols encompass those identified halogenated organics which may be carcinogenic and which could result from operation of SHNPP. However, the concentrations of these substances that would enter the Harris reservoir and then the Cape Fear River are extremely small. An assessment of the incremental risks to human health of these concentrations indicates that there is no more than a 1 in 3,850,000,000 chance of cancer death from 70 years exposure to such concentrations. This risk is far below any risk utilized by EPA in deriving its water quality criteria for the protection of human health. In addition, the concentrations referred to are often 1,000,000 times less than concentrations of those same substances in municipal drinking water supplies in North Carolina. Accordingly, halogenated organics resulting from chlorination of cooling

water at SHNPP present no "measurable increase in health risk to either the population using [Harris] reservoir for recreational purposes (including fish consumption) or the use of Cape Fear water for drinking water or recreational purposes." Id. at 18.

Thus, Harris discharges have now been assessed in depth and have been shown to have no measurable adverse health effects. Adequate assessment of these health effects, then, have been made for purposes of NEPA analysis. There is no measurable health risk that would adversely impact the NEPA balancing. Therefore, no genuine issue of material fact remains as to Eddleman Contention 83/84B.

IV. Conclusion

Based on the foregoing, Applicants respectfully request that their Motion for Summary Disposition of Eddleman Contention 83/84B be granted.

This is the 7 day of February.

Respectfully submitted,

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