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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of)
)
DUKE POWER COMPANY, et al.) Docket No. 50-413
) 50-414
(Catawba Nuclear Station,)
Units 1 and 2))

APPLICANTS' RESPONSE TO SUPPLEMENT TO
PETITIONS TO INTERVENE FILED BY PALMETTO
ALLIANCE AND CAROLINA ENVIRONMENTAL STUDY GROUP

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October 4, 1982

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Duke Power Company, et al. ("Applicants") hereby respond to the Supplement to Petitions to Intervene ("Intervenors' Supplement") filed in the captioned proceeding on September 22, 1982 by Carolina Environmental Study Group ("CESG") and Palmetto Alliance ("Palmetto") (hereinafter referred to collectively as "Intervenors").

I. BACKGROUND

By Memorandum and Order of March 5, 1982, the Atomic Safety and Licensing Board ("Board") ruled on contentions filed in this proceeding by CESG and Palmetto. In its ruling, the Board conditionally admitted to the proceeding certain contentions submitted by CESG and Palmetto "for which little or no information has been supplied by the Applicants in their FSAR or Environmental Report", notwithstanding the Board's determination that these contentions failed to satisfy the specificity requirements of 10 CFR § 2.714(b). Such contentions were admitted on the

condition that within 30 days of issuance of new documents (e.g., Draft Environmental Statement) the Intervenor would review such documents and, based on any new information available, "either abandon or revise the contention to meet the specificity requirements of 10 CFR §2.714(b)".¹

Subsequently, in its Memorandum and Order of June 30, 1982, the Board referred this ruling to the Atomic Safety and Licensing Appeal Board ("Appeal Board") pursuant to 10 CFR § 2.730(f) and § 2.751a(c). The Appeal Board accepted the referral and issued a Memorandum and Order providing guidance to the Licensing Board regarding this issue. Duke Power Company, et al. (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 15 NRC ____, (August 19, 1982) (hereafter cited as ALAB-687). See Applicants' Response to Board Questions Concerning ALAB-687, filed in this proceeding on September 22, 1982.

The Licensing Board then issued an Order on September 1, 1982, in which it scheduled a prehearing conference, posed various questions to the parties regarding their interpretation of the Appeal Board Order, and instructed the Intervenor to file any new or revised contentions based upon "new" information in the Draft Environmental

¹ These contentions are Palmetto Contentions 1, 2, 3, 4, 6, 7, 10, 15, 16, 18, 21, 22, 26, 35, 36, 40, 42, and 43 and CESG Contentions 8, 9, 13, 16, and 17.

Statement (DES) related to the operation of the Catawba Nuclear Station, Units 1 and 2 (NUREG-0921) (August, 1982), by September 22, 1982. Intervenors' Supplement was filed in response to this portion of the Board's Order.

II. GENERAL LEGAL OBJECTIONS

Applicants oppose admission of the additional contentions of CESC and Palmetto on one or more of several grounds. First, the contentions do not have their supporting bases "set forth with reasonable specificity" and thus do not meet the requirements set forth in 10 CFR § 2.714(b) of the Commission's rules. In addition, all of these contentions are untimely under the requirements of § 2.714, and the Intervenors have totally failed to demonstrate good cause under § 2.714(a)(1) for their being admitted as late-filed contentions. Finally, some of the contentions seek to attack standards set out in Commission regulations. In the absence of "special circumstances" required by 10 CFR § 2.758, those issues may not be litigated in this proceeding.

A. Basis and Specificity

The Commission's rules require that

...the petitioner shall file...a list of the contentions which petitioner seeks to have litigated in the matter, and the bases for each contention set forth with reasonable specificity. [Section 2.714(b)].

The Statement of Considerations issued with the 1978 amendments to this regulation indicates the importance which the Commission attaches to the basis and specificity requirements, stating that "a proposed contention must be set forth with particularity and with the appropriate factual basis." 43 Fed. Reg. 17798 (1978). It is clear that the Commission intends the requirement to establish a threshold test which a contention must meet before it can be admitted as an issue in controversy in a proceeding.

The Appeal Board has explicitly recognized the importance of the basis and specificity requirements, stating

A purpose of the basis-for-contention requirement in Section 2.714 is to help assure at the pleading stage that the hearing process is not improperly invoked. For example, a licensing proceeding before this agency is plainly not the proper forum for an attack on applicable statutory requirements or for challenges to the basic structure of the Commission's regulatory process. Another purpose is to help assure that other parties are sufficiently put on notice so they will know at least generally what they will have to defend against or oppose. Still another purpose is to assure that the proposed issues are proper for adjudication in the particular proceeding. In the final analysis, there must ultimately be strict observance of the requirements governing intervention, in order that the adjudicatory process is invoked only by those persons...who seek resolution of concrete issues. [Philadelphia Electric Company, et al. (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974)].

In sum, the supplemental contentions proposed by CESG and Palmetto must, first, allow Applicants to identify each allegation against which they must defend. The Commission's pleading requirements clearly extend beyond the simple "notice pleading" allowed in the Federal courts. Kansas Gas & Electric Co., et al. (Wolf Creek Generating Station, Unit No. 1), ALAB-279, 1 NRC 559, 575 n. 32 (1975). (Because an applicant bears the burden of proof in NRC licensing proceedings on any contention admitted (10 CFR § 2.732), this is a point of particular importance: an applicant is entitled to clear notice of the issues on which it is expected to bear that burden.) Second, the bases of the contentions must be set forth with sufficient specificity so that the Board can determine that they have sufficient foundation "to warrant further exploration" and that they state issues "proper for adjudication in the particular proceeding." Peach Bottom, supra, 8 AEC at 21.

The Licensing Board in this proceeding has also made clear its view that strict adherence to this regulatory provision will be required in this proceeding. Rejecting Intervenors' objections to the "burden of further specification" of their contentions, the Board has previously stated that:

Given the availability of information, the Commission's requirement of specificity in contentions is certainly reasonable. Assuming as we do the

seriousness of the Intervenors' intentions, they will have to read and analyze relevant material as it becomes available. In that context, it is not unfairly burdensome to require them to add more specificity to their presently vague contentions. Indeed, the burdens involved in that task will be minor compared to those involved in the eventual litigation of this case.[July 8, 1982 Order at 3-4].

This position was reiterated by the Appeal Board, which stated in ALAB-687 that

an intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable it to uncover any information that could serve as the foundation for a specific contention. [Catawba, supra, ALAB-687, slip op. at 13).

The majority of the proposed contentions submitted by CESG and Palmetto consist merely of allegations that the DES's treatment of various matters has not been adequate. In many instances, the Intervenors have neglected to identify specific defects or inaccuracies, thereby failing to provide a sufficient basis in support of their allegations. Moreover, even where the proposed contentions do identify specific sections of the DES which are allegedly deficient, they tend to cite selectively, ignoring other portions of the DES wherein the information sought is addressed. Rather than providing sufficient notice of particular issues to be litigated, such proposed contentions serve only to indicate the Intervenors' general and unfocused displeasure with the Staff's DES.

Such proposed contentions do not comply with the Commission's rules and should not be admitted into this proceeding.

This is particularly the case here since the Licensing Board has every reason to expect CESG and Palmetto to file meaningful contentions that properly state the matters they wish to place in controversy and meet the requirements of the regulations. Applicants note that Palmetto is no stranger to NRC proceedings. CESG's involvement in NRC (and other) proceedings in opposition to Duke has also been longstanding. Further, these intervenors have had ample instruction in the past year on how to prepare, frame and file adequate contentions. Clearly, both parties possess detailed knowledge of the requirements imposed by Commission regulations, and are intimately familiar with Duke and the details of its nuclear program. Therefore, deficiencies in their contentions should not be excused on the basis that they were prepared by a "layman."²

² Public Service Electric and Gas Company (Salem Nuclear Generating Station, Units 1 and 2), ALAB-136, 6 AEC 487, 489 (1973); Wolf Creek, supra, 1 NRC at 576-77; Detroit Edison Co. (Enrico Fermi Atomic Plant, Unit 2), ALAB-469, 7 NRC 470 (1978); Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 2), ALAB-474, 7 NRC 746, 748 (1978).

B. Untimely Contentions

In NRC proceedings where, as is the case here, contentions are filed later than 15 days prior to the special prehearing conference (which in this case was held on January 12-13, 1982) those contentions are considered as late-filed and may be admitted only after a balancing of the five factors set forth in 10 CFR § 2.714(a)(1). See, e.g., Houston Lighting and Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-671, 15 NRC 508 (1982).

As the Appeal Board emphasized recently in ALAB-687:

in the instance of a contention that was susceptible of filing within the period prescribed by the Rules of Practice, the determination whether to accept it on an untimely basis involves a consideration of all five Section 2.714(a) factors--and not just the reason (substantial or not as the case may be) why the petitioner did not meet the deadline. See Statement of Consideration accompanying amended Section 2.714(b), supra, 43 Fed. Reg. at 17799, citing Nuclear Fuel Services, Inc. (West Valley Reprocessing Plant, CLI-75-4, 1 NRC 273 (1975). [Catawba, supra, ALAB-687, slip op. at 17.]

In short, a party which seeks to have an untimely contention admitted in the proceeding must address each of these factors and affirmatively demonstrate that, on balance, they favor permitting the tardy submission. See Duke Power Co. (Perkins Nuclear Station, Units 1, 2 and 3), ALAB-615, 12 NRC 350, 352 (1980), and cases cited therein.

Palmetto and CESH have failed to make such an affirmative showing. Indeed, they have failed to address these factors at all.

Applicants are aware that ALAB-687 also states that where "the nonexistence or public unavailability of relevant documents made it impossible for a sufficiently specific contention to have been asserted at an earlier date," that factor should be deemed controlling in balancing the five factors listed in § 2.714(a)(1). (ALAB-687 at 17). However, the Appeal Board indicated that a contention should only be accorded such special treatment if it:

(1) is wholly dependent upon the content of a particular document; (2) could not therefore be advanced with any degree of specificity (if at all) in advance of the public availability of the document; and (3) is tendered with the requisite degree of promptness once the document comes into existence and is accessible for public examination. [Catawba, supra, ALAB-687, slip op. at 16.]

Intervenors have totally failed to address this critical point. In any event, Applicants submit that none of the additional proposed contentions submitted by CESH and Palmetto fall into this category, and none merit the special consideration which the Appeal Board would permit upon a proper showing of need. As we read these proposed contentions, none of them are wholly dependent upon the content of the DES; and many address facts previously

discussed in the Applicants' Environmental Report ("ER") or Final Safety Analysis Report ("FSAR"), which have been available to the Intervenors since June, 1981. See Cleveland Electric Illuminating Company, et al. (Perry Nuclear Power Plant, Units 1 and 2), LBP ____, ____, NRC ____, slip op. at 2 (September 15, 1982), wherein the Licensing Board denied an intervenor's untimely contention, which addressed the Staff's Draft Environmental Statement for Perry, after determining that the DES did not contain any pertinent new information and that documents referenced by the intervenor were actually available earlier in the Applicant's FSAR.

C. Challenge to Commission Regulations

NRC regulations provide that, absent special circumstances,³ "any rule or regulation of the Commission, or any provision thereof...shall not be subject to attack by way of discovery, proof, argument or other means in any adjudicatory proceeding involving initial licensing...."

³ The sole ground for petitioning for a waiver or exception to any rule or regulation in an adjudicatory proceeding involving initial licensing "shall be that special circumstances...are such that application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted." 10 CFR § 2.758(b). Further, a petition seeking waiver or exception of Commission rules or regulations must by affidavit make a prima facie showing that such special circumstances do exist. 10 CFR § 2.758(b), (c), and (d). See also Detroit Edison Company (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-37, 8 NRC 575, 584-5 (1978).

10 CFR § 2.758(a). See also Offshore Power Systems (Floating Nuclear Power Plants), ALAB-489, 8 NRC 194, 221 (1978); Metropolitan Edison Company (Three Mile Island Nuclear Station, Unit No. 2), ALAB-456, 7 NRC 63, 65 and 67 (1978); Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-410, 5 NRC 1398, 1402 (1977); Union Electric Company (Callaway Plant, Units 1 and 2), ALAB-347, 4 NRC 216, 218 (1976). This prohibition against challenges to Commission regulations in adjudicatory proceedings also extends to the basis and foundation of such regulations. See Potomac Electric Power Company (Douglas Point Nuclear Generating Station, Units 1 and 2) ALAB-218, 8 AEC 79, 89 (1974), wherein the Appeal Board stated that "[t]o go behind [provisions within a regulation]...and challenge the basis on which they rest is in effect a challenge to the regulation itself." See also Union of Concerned Scientists v. Atomic Energy Commission, 488 F.2d 1069, 1090 (D.C. Cir. 1974); Public Service Company of Oklahoma (Black Fox Station, Units 1 and 2), CLI-80-31, 12 NRC 264, 270 (1980); Vermont Yankee Nuclear Power Corporation (Vermont Yankee Power Station), ALAB-138, 6 AEC 520, 528 (1973). Those of intervenors' contentions which challenge a Commission regulation are

therefore not subject to resolution in this proceeding,⁴ and must be denied.⁵

III. SPECIFIC OBJECTIONS TO INTERVENORS' PROPOSED CONTENTIONS

Set forth below are Applicants' specific objections to Intervenor's proposed contentions. As previously noted, Applicants object to all proposed contentions on the basis of their late-filing with no balancing of the requisite factors. This basic objection is not expressly stated in the responses to each contention below.

Contention 1

Intervenor's proposed Contention 1 reads as follows:

⁴ 10 CFR § 2.758 does not absolutely preclude a challenge to Commission regulations. However, the proper forum to advance such a challenge is before the Commission itself, and not in individual licensing proceedings. Douglas Point, supra, 8 AEC at 89.

⁵ CESC and Palmetto have requested on p. 1 of their Supplement that they be notified if their proposed contentions are to be construed as an attack upon the Commission's regulations, so that they may be "permitted to seek an exception or waiver of the application of such rule or regulation with respect to this particular proceeding." Both of these seasoned parties to the proceeding are entirely capable of discerning which of the contentions they have prepared could be so construed; neither merits the "special treatment" from the Board which they appear to request. Further, experience has shown that in the past such advice by the Board has been ignored by the Intervenor, who have not attempted to seek exemptions from or waiver of Commission regulations through the prescribed procedures. (See, e.g., the Board's notification to Intervenor at pp. 25-26 and 32-33 of its March 5, 1982 Order, and at p. 11 of its July 8, 1982 Order).

1. The probabilities of severe accidents, radiation exposure, and damage are understated, as in figures 5.3, 5.4, 5.4, 5.5, 5.6 and 5.7 of the DES. The DES recognizes only one serious accident after 400 reactor years of operation, TMI-2, p. 5-46. In this period there were two other serious accidents, the partial meltdown at Fermi, p. 5-30, and Browns Ferry 1 and 2, not referenced. The releases at Browns Ferry were not monitored. A meltdown was averted by improvisation, not by following established guidelines. The Fermi meltdown was limited by the time of scrambling. A somewhat more delayed scram would have resulted in more extensive meltdown and increased the probability of a substantial release. The actuality has been three accidents of a potentially very severe sort in

411 reactor years, a probability of one per 133 years of reactor operation. The DES understates serious accident probability in relying on the Reactor Safety Study (NUREG 75/104). The CP stage FES made no reference to severe accidents.

Applicants submit that proposed Contention 1 lacks the requisite specificity and supporting basis required by Commission regulations, and must be denied. See Part II. A, supra.

As the supporting basis for their assertion that the DES underestimates "the probabilities of severe accidents, radiation exposure, and damage," Intervenors imply that (1) the probabilities are mistakenly based on consideration of only one serious accident in 400 reactor years of operation, and (2) the Reactor Safety Study (NUREG 75/104) upon which the DES relies is somehow defective.

Contrary to Intervenors' assertion, the DES does recognize and take into consideration all previous reactor accidents. In Section 5.9.4.3 the DES sets forth in some detail the experience of nuclear power in this regard. In

addressing such accidents the DES specifically notes the accident at Fermi Unit 1 (a small, sodium-cooled fast breeder experimental test reactor (61 MWe)) referenced in Intervenors' proposed Contention. (DES at p. 5-30). However, in view of the inherent differences in design, construction, operation and purpose between this and commercial reactors, the Staff stated that the Fermi accident had only "indirect relevance" to the probability of serious accidents at Catawba. Id. Moreover, contrary to Intervenors' assertion in proposed Contention 1, the accident at Browns Ferry was addressed by the Staff in NUREG/CR-0400 (1978), which is referenced in the DES at, inter alia, p. 5-56. In addition, both NUREG-0651 (1980) and ORNL/NSIC-176 (1980) address accidents. Both of these documents are referenced in the DES at pp. 5-54 and 5-55.

In short, in the DES the NRC Staff has analyzed and considered all reactor accidents and their consequences. In this regard the Staff stated that "[t]his experience base is not large enough to permit a reliable quantitative statistical inference". (DES at p. 5-30). Thus in calculating the probabilities of severe accidents, radiation exposure and damage as set forth in the DES--including Figures 5.3, 5.4, 5.5, 5.6 and 5.7--the NRC Staff did not rely upon such accident data, but rather conducted an analysis using other methodologies as set forth in the

DES. Section 5.9.4.5. at pp. 5-35--5-47. Accordingly, Intervenors' assertion that the DES is flawed because it considered only one serious accident to determine, inter alia, accident probability is, Applicants submit, totally without a supporting basis.⁶

With regard to Intervenors' assertion that the DES is flawed due to unnamed errors or deficiencies in NUREG-75/-014, the Reactor Safety Study ("RSS"), Applicants submit that Intervenors have completely failed to specify what concerns they have regarding the RSS or what specific flaws exist. In this regard, Applicants note that previous peer group comments regarding the RSS have been taken into account in the analyses set forth in the DES. See, e.g., DES at p. 5-36. In short, Intervenors cannot simply plead that the RSS is generally deficient without setting forth specific deficiencies. Because Intervenors have failed to provide the specificity required by Commission regulations, proposed Contention 1 must be denied.

⁶ In this regard, Applicants note that the accident at Three Mile Island Unit 2 is the only accident in over 500 years of commercial nuclear power plant operation which involved a core melt or severe degradation of reactor fuel. DES at p. 5-30. Further, no accidents involving commercial power reactors are "known to have caused any radiation injury or fatality to any member of the public, nor any significant individual or collective public radiation exposure, nor any significant contamination of the environment." Id. at pp. 5-29--5-30.

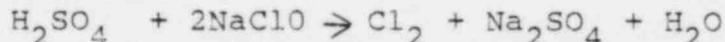
In addition, Applicants maintain that all documents referenced by Intervenor or dealing with their concerns in this proposed Contention were available to the Intervenor long before issuance of this DES (e.g., RSS, TMI accident analyses, NUREG-0651, NUREG/CR-0400). Intervenor previously had access to such information, and thus, in attempting to justify a late-filing, Intervenor are barred from asserting that such information is "new." See Part II.B, supra.

In sum, Intervenor's proposed Contention 1 lacks the requisite specificity and supporting bases and does not address "new" information; accordingly, it must be denied.

Contention 2

Intervenor's proposed Contention 2 reads as follows:

2. The DES fails to consider or adequately characterize cooling tower drift, pp. 4-3, 4-7. 2,700 lbs. of sulfuric acid (concentration unspecified) are to be added to condenser cooling water; 1,200 lbs. of sodium hypochlorite are also to be added. This will result in the release of chlorine.



However, only 1,014 lbs. of sulfuric acid are required for this reaction. The consequence is a surplus of 1,686 lbs. The DES provides no information as to how, or whether, this sulfuric acid will be neutralized. If it is not, it will enter the Catawba River in the blowdown and the atmosphere in the drift. At an average drift rate of 110 gal/min. (full plant), 42 lbs. per day of unneutralized sulfuric acid will enter the atmosphere. Sulfuric acid is a corrodant of very low volatility. It will cause damage to objects it contacts: automobiles, farm machinery, wood habitations, cotten fabrics, etc. The DES either overlooks these consequences or fails to indicate that the excess of sulfuric acid in the cooling water will be neutralized.

The concern expressed by Intervenors in proposed Contention 2 is that the DES "either overlooks the [release of sulfuric acid into the environment] or fails to indicate that the excess of sulfuric acid in the cooling water will be neutralized."⁷ Applicants note that the subject of sulfuric acid and its effects has been addressed at both the CP and OL stages. For example, with regard to sodium hydroxide and sulfuric acid, the Catawba CP FES (issued in December 1973), states that "[B]ecause the chemicals are neutralized before discharge, these substances are not expected to alter the pH appreciably." Section 5.5.2.3 at p. 5-40. See also Section 3.6 and Table 3.12 of the CP FES.

Further, the Catawba OL DES states that "the planned treatment of water for use in the Catawba Nuclear Station remains the same in concept as proposed in the FES-CP." Sections 4.2.3.4 at p. 4-3. See also Section 4.3.2 and Table 4.4 of the OL DES. In short, Intervenors' concerns that the sulfuric acid will not be neutralized before release is without a supporting basis, and thus the entire contention must fail.

⁷ Applicants note that the chemical equation upon which the proposed contention is based is incomplete, in that oxygen is not balanced in the equation. For this reason alone, Applicants submit that the proposed contention is without a supporting basis, and must therefore be denied.

In this regard, Applicants note that the water quality standards to which Applicants must adhere are clearly established by the applicable State and Federal agencies and are the subject of specific regulations and permits. For example, the pH limitations on water discharges which Applicants must meet are set forth in their NPDES permit, issued by the South Carolina Department of Health and Environmental Control on June 29, 1981. Further, application for the permit was noticed, and concerned individuals had a right to request a hearing regarding such limitations. In that Congress has given the EPA (and, through the EPA, the appropriate state) jurisdiction in this area, limitations established by such agencies are not subject to litigation or question in this proceeding. Tennessee Valley Authority (Yellow Creek Nuclear Plant, Units 1 and 2), ALAB-515, 8 NRC 702 (1978). To the extent that Intervenors contest such standards Applicants maintain that this OL proceeding is an inappropriate forum. In sum, Applicants submit that Intervenors' proposed Contention 2 is without the requisite supporting basis, and thus must be denied. See Part IIA., supra.

Applicants also maintain that the information giving rise to this proposed contention is not new. As previously noted, the subject was thoroughly addressed in the CP FES. Indeed, in the CP proceeding CESG submitted a

proposed contention on this exact issue.⁸ Thus, Intervenor were alerted to how the NRC staff would treat this subject in the OL DES. Further, this subject is discussed in Section 3.6.2 (Cooling Tower Blowdown) of Applicants' Catawba Nuclear Station Environmental Report, Volume 2 (see pp. 3.6-2 and 3.6-3). This document has been available to Intervenor in the NRC's local Public Document Room in Rock Hill, South Carolina, since June of 1981. In addition, as an accommodation to CESH, Applicants' counsel made available an additional copy of the ER and FSAR in October, 1981 at the offices of Duke Power Company in Charlotte, North Carolina. Accordingly, CESH and Palmetto should not be allowed to use the subsequent discussion of this issue in the DES as a pretext for filing a proposed contention at this late date. See Part IIB, supra.

Contention 3

Intervenor's proposed Contention 3 reads as follows:

3. The DES differs from the CP FES in that Chlorine was to be injected and other additives had not been firmly identified. A total of 734 lbs. per day of Chlorine will be released by the reaction of sulfuric acid with sodium

⁸ On September 20, 1973, during a prehearing conference, CESH submitted revisions to its previously filed contentions, one of which (Number CCC), asserted in part that the use of mechanical draft, closed cycle cooling towers would result in the "daily discharge in draft of 400 to 1000 pounds of sulfuric acid" which would cause property damage and alter the pH in areas of dense drift.

This contention, among others, was deemed to have been withdrawn by CESH by virtue of a Board order approving a stipulated list of contentions for litigation. See Duke Power Company, (Catawba Nuclear Station, Units 1 and 2), LBP-74-5, 7 AEC 83, 93 (1974).

hypochlorite. The DES only indirectly indicates the disposition of this chlorine. It has it showing up in the cooling tower blowdown as the chloride ion, Table 4.2. This is not realistic. A large part of the Chlorine, quite possibly most of it, will leave the cooling water in the form of a gas in the cooling tower vapor discharge. The vapor state Chlorine will be noxious. The effect on people, particularly those with respiratory problems, should be ascertained. There will also be a corrosive effect on metals due both to Chlorine in the vapor discharge and in the drift. The DES is deficient in not addressing this impact. The DES differs from the CP FES in that biocide application is doubled p. 4-3.

Intervenors allege in this proposed contention that sodium hypochlorite injected into the condenser cooling water will result in the release of chlorine in the cooling tower vapor discharge, and that the DES does not address the resulting environmental impact.⁹ Applicants maintain that the impact of cooling tower emissions, including chlorine, is evaluated in inter alia, Section 5.5.1.1. of the DES. There, the NRC Staff states that the principal component of cooling tower emissions is salt (NaCl). Id. at p. 5-7. This statement is clearly not meant to imply that other potential emissions from the cooling tower are not considered. Rather, the dominant

⁹ Applicants note that the chemical equation upon which this proposed contention is presumably based (see proposed Contention 2) is, as previously noted, incomplete. For that reason alone, Applicants submit that the proposed contention is without a supporting basis and must be denied.

impact would result from salt emissions.¹⁰ Further, the Staff set forth the known impacts of salt drifts, (Id. at pp. 5-8--5-9) and required the establishment of a monitoring program to "detect any possible changes to the terrestrial environment resulting from cooling tower drifts" (Id. at p. 5-50). Thus, the DES has evaluated the possibility of adverse environmental impact from chlorine emissions from the cooling tower, and established a program to assure that the impacts will not be greater than anticipated. Because we find that the DES does consider the potential for environmental impact resulting from chlorine in cooling tower air emissions, Applicants maintain that Intervenors' proposed contention is without a supporting basis and must be denied. See Part IIA, supra.

In addition, the subject of chlorine release, and the Staff's treatment of this subject, should have been well known to Intervenors long before issuance of the DES. In

¹⁰ In this regard, Applicants note that such a finding is entirely consistent with the actions of the EPA. Chlorine "gas" emissions (as opposed to chlorine in water or water drifts) has not been determined by the EPA or by the State of South Carolina to be a hazardous pollutant subject to regulations (except in extremely concentrated form such as around chlorine manufacturing facilities). Thus, unlike chlorine in the water, chlorine gas in the form of emissions around facilities such as Catawba is not subject to regulation pursuant to the Clean Air Act. To the extent that Intervenors believe that such emissions have a significant impact and should be regulated, Applicants maintain that, in view of EPA's jurisdiction in the area, Intervenors should raise their concerns before such other agencies and not in the OL proceeding.

this regard Applicants note that this subject was thoroughly covered in both content and methodology in the CP FES. See e.g., Section 3.6.1 and 5.5.2.3.¹¹ As previously noted, CESH was a party to that proceeding and indeed raised an issue of cooling tower emissions at that time. See note 8, supra. Further, this subject was specifically addressed in Section 3.6.2 (Cooling Tower Blowdown) of Applicants' Catawba Nuclear Station Environmental Report, Volume 2. As we noted with reference to proposed Contention 2, CESH and Palmetto have had access to this information in the ER for over a year (since June, 1981), allowing them ample time in which to file a timely contention. Accordingly, Applicants maintain that Intervenor are precluded from raising "new" information in the DES as a justification for filing an untimely contention. See Part IIB, supra.

Contention 4

Intervenor's proposed Contention 4 reads as follows:

4. The DES unnecessarily obfuscated the matter of water flow. Members of the general public will be confused, and possibly misled, by the variety of units, not simply English and metric, by which flow rate for water and chemicals are presented. For example:

¹¹ Applicants note Intervenor's observation that the amount of biocide application noted in the OL DES has doubled over that set forth in the CP FES. Intervenor fail to note that the change will not cause any increase in free chlorine available. DES at p. 4-3.

	<u>English</u>	<u>Metric</u>	<u>For</u>
water flow, p 4-2	cubic feet/second	cubic meters/ second	both units
chemical flow, p 4-3	pounds/day	kilograms/day	one unit
water flow, Table 4.1	gallons/minute	liters/minute	one unit

Further in Table 4.1, for which the data are for one unit, there is no indication of basis. A reasonable interpretation would be that it is for both units. Particularly confusing are the changes in time base: seconds, minutes and days. The DES should either represent quantitative information in consistent units, or supply conversion factors. For example, a seemingly trivial blowdown of 0.3 m³/sec. (p. 4-2) corresponds to 57,100,000 pounds per day or 28,500 tons per day. This DES differs from the CP FES in that water use was consistently expressed as cfs.

Intervenors assert that the DES unnecessarily "obfuscated the matter of water flow," and that it "should either represent quantitative information in consistent units, or supply conversion factors." Applicants submit that these remarks do not constitute a legitimate contention; they do not raise environmental or safety concerns; and they do not present questions of fact subject to resolution in this proceeding. Rather, they seek to criticize stylistic details in the DES. Applicants note that Regulatory Guide 4.2 now requires that metric units, such as noted above, be used in Staff documents. Since this proposed "contention" does not raise an issue amenable to litigation in this forum, it should be denied.

Contention 5

Intervenors' proposed Contention 5 reads as follows:

5. The DES differs from the CP FES in that it rates each Catawba unit as 3,427 MWt versus 3,411 MWt and indicates a net rating of 1,145 MWe as opposed to a design power level of 1,211 MWe per unit. In any event these rates are uncertain in that Catawba is represented as a sister plant to the McGuire Station, and the McGuire Station presently operates at a maximum output of 862.5 MWe (75% of 1,150 MWe). This impinges on cost/benefit considerations.

Intervenors express concern that the DES "differs from the CP FES" in the power ratings included. In addition, Intervenors assert that these rates for Catawba are "uncertain" because the McGuire plant is currently operating at a "maximum output of 862.5 MWe (75% of 1,150 MWe)." With respect to power ratings, while these comments do not raise an issue subject to resolution in this proceeding, Applicants note that the different values reflected by these figures are explained in the DES, which states in the Summary Section (p. v) that:

Each reactor has a rated thermal output of 3,411 MWt. The 16 MWt input from the reactor coolant pumps increases the reactor coolant system gross thermal output to 3,427 MWt. Inplant electrical power consumption is expected to be 57 MWe per unit, and the net electrical rating is 1,145 MWe per unit. [See also DES at p. 1-1].

Indeed, Applicants note that the DES conservatively evaluated Catawba based on the lower 1145 MWe output.

With respect to McGuire's operating experience, Applicants submit that Intervenors' apparent position that the current McGuire operating experience is reflective of future Catawba operations is totally without a supporting basis. Intervenors have not, and indeed cannot, provide support for their position that the temporary operational difficulties of McGuire will be indicative of long-term Catawba operation.¹² Indeed, in the past CESG has firmly taken the position that "there are sufficient differences in the McGuire and Catawba stations, and sufficient changes in both the cost/benefit and safety and health matters for collateral estoppel or res judicata to be inapplicable." "CESG Contentions" filed in this proceeding on December, 9, 1981 (Contention 4).

In any event, as noted by the Intervenors in the next contention, the Staff has evaluated Catawba at a 60% capacity factor averaged annually. Intervenors have failed to show why the McGuire experience is not adequately treated by this consideration. Thus, it cannot be said that the DES fails to consider relevant operating experience. It follows that the contention lacks specificity and is without a proper basis, and thus must be denied. See Part IIA, supra.

¹² To the extent that Intervenors are concerned about the current steam generator problems of McGuire, see Applicants' response to proposed Contention 20, supra.

Contention 6

Intervenors' proposed Contention 6 reads as follows:

6. The DES is deficient in its cost/benefit weighing, Table 6.1. It assesses the benefit of electrical energy as large. Assuming a 60% capacity factor it posits an annual production of 12 billion KWh. Based on the present derating of McGuire it is reasonable to ask if a rating of 9 billion annual KWh for an indefinite period would not better reflect present experience.

The Applicant has at present a very substantial generating reserve of about 30%. If McGuire-2 goes on line before Catawba-1, as scheduled, and if Applicant's present forecast of 2.9% annual growth is used, the reserve in 1985, at the time of planned first operation of Catawba-1, will also be about 30%. Under these circumstances the operation of Catawba will require the closing down of other capacity, which is a cost in the sense that a useful facility is withdrawn from use. In a fair striking of a balance a cost of, as the case may be, either 12 billion or 9 billion KWh per year should be shown. It should receive an assessment as "large", and the net benefit be taken as nil.

In this proposed Contention, Intervenors are once again seeking to raise the issue of projected load growth and current generating reserves in an attempt to litigate the question of need for power. As the Board informed Intervenors in its Order of July 8, 1982, Commission regulations (10 CFR § 51.53)¹³ now clearly establish that need for power issues are not subject to litigation in operating licensing proceedings.¹⁴ The Board's ruling

¹³ 10 CFR § 51.53(c) provides that: "Presiding officers shall not admit contentions proffered by any party concerning need for power or alternative energy sources for the proposed plant in operating license hearings."

¹⁴ In addition, the issue of need for power need no longer
(footnote continued)

could not be clearer.¹⁵ This regulatory prohibition is equally applicable to a "backdoor" attempt to inject this issue into an OL proceeding. See the recent prehearing conference order issued in Consumers Power Company (Midland Plant, Units 1 and 2), LBP-82-63, ___ NRC ___, slip op. at 30 (August 14, 1982). Intervenors' continued efforts to raise such matters not only run afoul of Commission regulations and specific Board rulings, but also smack of disregard for the process--a matter warranting, if necessary, the imposition of appropriate sanctions. Indeed, further discussion of this point is wasteful of the resources of all concerned, and the matter should simply be dismissed. In short, Applicants maintain that Intervenors' attempt to litigate this issue in this proceeding constitutes an impermissible attack on Commission regulations (10 CFR § 2.758), and that, accordingly, Intervenors' proposed Contention must be denied. See Part IIC, supra.

(footnote continued from previous page)
be considered by the Staff in environmental impact statements at the OL stage. See 47 Fed. Reg. 12940 (1982).

¹⁵ Applicants note that in a recent conference call, Intervenors once again raised concern over need for power. The Board went to some lengths to explain that this was an attack on the regulations, and explained in some detail the procedures to be followed under 10 CFR §2.758.

To the extent that Intervenors' proposed contention relies on the "present derating of McGuire" as its basis, Applicants maintain that Intervenors have not, and indeed cannot, provide support for the position that the Catawba units should also be derated. As previously noted in Applicants' response to Intervenors' proposed Contention 5, CESC has previously taken the position that Catawba and McGuire are "sufficiently different" in cost/benefit aspects. Indeed, Intervenors implicitly recognize that such a "present derating" is only temporary and, pending further actions, will be removed. In short, Intervenors' assertion that the DES is deficient because it did not consider the derating of McGuire is totally without a supporting basis.

Contention 7

Intervenors' proposed Contention 7 reads as follows:

7. The DES is deficient in its cost/benefit assessment in that it considers only generating costs. "The economic costs associated with station operation include fuel costs and operation and maintenance cost...", "6.4.2.1. The real bus bar cost includes fixed charges. The fixed charges on McGuire, a sister plant, have been a major factor in driving up electric rates. The DES has not compared the bus bar costs estimated for Catawba into the bus bar costs of the capacity which it will displace. All cost figures, including plant, have changed substantially since the CP FES. A difference between the CP FES is that it provides a capital cost figure for Catawba of \$1,055,272,000, Table 10.2. The OL DES does not provide a capital cost figure.

Intervenors assert that the DES is deficient for failing to compare "the bus bar costs estimated for Catawba into the bus bar cost of the capacity which it will displace." This contention is, in effect, an attempt to litigate the need for Catawba, and therefore constitutes a challenge to Commission regulations. See discussion of proposed Contention 6, supra.

Moreover, as the Licensing Board previously pointed out in rejecting Palmetto's proposed Contention 11 on need for power:

[T]he attempt to inject increased costs into the cost/benefit equation at the operating license stage simply comes too late. Even assuming that the costs of construction of Catawba have gone up an inordinate amount, the fact remains that those funds have already been spent or are committed at this late stage of construction. Thus there is no practical point in considering such "sunk" costs now. Cf. Public Service Co. of New Hampshire (Seabrook Station), 5 NRC 503, 530-36 (1977). [March 5, 1982 Order at 28-29].

See also Consumers Power Company (Midland Plant, Units 1 and 2), LBP-82-63, slip op. at 25 (August 14, 1982), which holds that construction costs are deemed to have already been sufficiently analyzed as part of the "need for power" determination at the CP stage of a proceeding.

In addition, Applicants note that the information upon which Intervenors rely for this proposed contention is clearly not "new" information, since, as we have noted, Intervenors sought to raise similar contentions earlier in this proceeding. Their concerns thus could, and indeed should, have been raised earlier. Applicants therefore maintain that Intervenors are precluded from raising "new" information as a justification for this non-timely filing. See Part IIB, supra.

Contention 8

Intervenors' proposed Contention 8 reads as follows:

8. The DES concludes that the overall socio-economic impact of Catawba is beneficial, vi(j), 6.4.2.2., 5-12. The actual cost to residential, commercial, industrial and other customers of substituting Catawba generation for existing generation has not been considered. In view of the errors in Applicant's past forecasts of need for power, as attested by the cancellation of all three Perkins nuclear units, and two of the three Cherokee units,^[16] it is uncertain whether either Catawba unit will be required to meet demand and provide adequate reserve in the foreseeable future. If this is the case it is clear that the cost impact on Applicant's customers will be adverse and large, quite possible reversing the cost/benefit balance.

This proposed contention, which suggests that (1) the "actual cost to residential, commercial, industrial and other customers of substituting Catawba generation for existing generation" should be considered in the DES, and that (2) Catawba may not be needed. Applicants

¹⁶ The two referenced Cherokee units have not been cancelled.

submit that this contention, like the two preceding ones, is an attempt to relitigate the issue of need for power. As noted, such attempts are barred by 10 CFR §51.53(c). See discussion of Contention 6, supra. Applicants accordingly submit that this proposed contention constitutes an impermissible attack on the Commission's regulations, contrary to 10 CFR §2.758, and that it should therefore be denied. See Part IIC, supra.

In addition, Applicants note that the DES clearly provides no new information regarding this subject. In short, the concern raised by Intervenors could, and indeed should, have been raised earlier. Thus, Applicants maintain that Intervenors are precluded from raising "new" information as a justification for the non-timely filing. See Part IIB, supra.

Contention 9

Intervenors' proposed Contention 9 reads as follows:

9. Since the CP FES issued, an amendment has permitted a substantial enlargement of the Catawba fuel pool. Since the CP FES both fuel pool accidents relating to handling (to be discussed in the SER, p. 5-19) and pool water loss have become topics of concern. The environmental consequences of such mishaps should be considered. They appear not to be explicitly considered in the DES. The consequences of routine operation do not appear to be specifically considered, it merely having asserted that routine releases from spent fuel are taken into account in Section 5.9 and Appendix D, p. 5-19.

Intervenors maintain that the DES fails to consider the environmental consequences of (1) accidents related to fuel handling and loss of spent fuel pool water and (2) consequences of routine operation of the spent fuel pool. Applicants maintain that proposed Contention 9 lacks the specificity and supporting basis required by Commission regulations, and thus must be denied.

See Part II.A, supra.

In support of their assertions that the DES failed to consider the impacts of spent fuel pool accidents, Intervenors cite the DES, which states in pertinent part as follows:

The environmental analysis in Section 5.9 and Appendix D takes into account impacts from exposures to routine releases resulting from spent fuel from Catawba and the spent fuel from Oconee and McGuire that may be stored at Catawba. The aspects of handling spent fuel from Oconee and McGuire within the fuel-handling facility at Catawba will be discussed in the Safety Evaluation Report for Catawba. [DES at pp. 5-19].

Applicants submit that Intervenors' reliance on this passage is misplaced. Rather than stating that the DES does not consider spent fuel pool accidents, this section simply states that the "aspects of handling spent fuel from Oconee and McGuire" will be discussed in the Safety Evaluation Report. Indeed, the environmental consequences of spent fuel pool accidents are considered

by the NRC Staff in the DES. See e.g., Section 5.9.4.2. at p. 5-26, wherein the fission product characteristics in the spent fuel pool are addressed; Section 5.9.4.4(1) at p. 5-31, wherein the NRC Staff lists the design features which would mitigate the consequences of any such accident; and Table 5.9, which sets forth the dose consequences of corresponding fuel handling accidents. See also Section 5.1 of Appendix I to the RSS referenced throughout the DES.

In addition, contrary to Intervenors' assertions, the consequences of routine operation of the spent fuel pool are also considered in the DES. See Table D-1 of the DES at footnote *, which states that in calculating the total releases of radioactive materials in gaseous effluents, "the Staff has included releases resulting from spent fuel from Catawba and the spent fuel from Oconee and McGuire that may be stored at Catawba." See also DES at p. vi.

In sum, Intervenors have failed to provide the requisite supporting basis for proposed Contention 9. Further, they have failed to set forth any reason why this contention need be litigated. Accordingly, the proposed contention must be denied. See Part IIA, supra.
Contention 10

Intervenors' proposed Contention 10 reads as follows:

10. The DES is deficient in regard to the consequences of the transshipment of spent fuel from Oconee and McGuire Station to Catawba, vi(1), 5.9.3.1.2. and Appendix G. The consequences of accidents are not referred to in quantitative terms, although the estimated probabilities of accidents of different levels of severity are presented. Such transshipment was not considered in the CP FES.

Intervenors state that the DES is deficient regarding its evaluation of the consequences resulting from a transportation accident. Applicants maintain that Intervenors' attempt to require a quantitative analysis of transportation accidents over and above that set forth in Table S-4¹⁷ constitutes an impermissible attack on Commission regulations. See Part IIC, supra. This is not the first time Applicants have taken such a position inasmuch as Intervenors have raised this matter before. (See Palmetto's original Contention 14). In its Order of March 5, 1982, the Board expressly disallowed a similar attempt by Palmetto in its Contention 14 to require an analysis in the ER of "the environmental effects of the transportation of spent fuel shipments to the Catawba Plant from other Duke Power Company facilities" and of "the environmental risk from accidents in

¹⁷ DES Section 5.9.3.1.2 states that the environmental consequences of transportation of spent fuel to Catawba are set forth in Table S-4 to 10 CFR Part 51. The environmental consequences of accidents resulting from such shipments are stated in Table S-4 in qualitative terms (i.e., "small").

transport...."¹⁸ Subsequently, in its July 8, 1982 Order the Board reaffirmed its rejection of this proposed Contention. (July 8, 1982 Order at p. 6). CESG and Palmetto have presented no new information here which would tend to invalidate the type or the magnitude of the effects set forth in Table S-4. Accordingly, Applicants submit that 10 CFR § 2.758 and the Board's previous ruling on this issue precludes admission of this proposed contention.¹⁹

Applicants also note that the issue of spent fuel transshipment is discussed in the ER, which has been available to Intervenors since June, 1981. In short, the

¹⁸ The Board disallowed Contention 14 because

...it seeks to avoid application of the Table S-4 values about transportation impacts solely on the ground that the spent fuel would be destined for the Catawba storage pool instead of the hypothetical reprocessing plant referred to in the Table S-4 rule (10 CFR 51.20(g)(1)). The contention does not postulate why the impacts of transporting to these different types of destinations would be different. We think they would be substantially the same and therefore that the Table S-4 values would apply. [March 5, 1982 Order at 19.]

¹⁹ Applicants fail to understand how Intervenors can justify an attempt to re-introduce this issue into the proceeding in the face of the aforementioned ruling by the Board denying Intervenors' position as a challenge to Commission regulations. Intervenors were in essence notified by the Board that to litigate this issue they would have to request an exemption from the regulations. Intervenors have totally disregarded the Board's direction in this regard, as they have with regard to need for power. This Board should not countenance such actions.

information presented in the DES is not "new" and provides no justification for a late-filed contention. See Part IIB, supra.

Contention 11

Intervenors' proposed Contention 11 reads as follows:

11. A substantial part of the population placed at risk by nuclear operations at and relating to Catawba are also placed at risk by similar operations at McGuire. A realistic assessment of Catawba impacts will take into consideration McGuire risks. The summing of probabilities is practiced in the DES in regard to providing an estimate of the probability of the consequences of severe accidents, "If the probability of sustaining a total loss of the original facility is taken as the sum of the occurrence of a core-melt accident (the sum of the probabilities for ten categories in Table 5.10), then..." There is no corresponding concept in the CP FES.

Intervenors assert that the risks associated with the operation of McGuire should be considered in the Catawba proceeding. Applicants maintain that this proposed contention lacks the specificity and supporting basis required by Commission regulations, and thus must be denied. As Intervenors are surely aware, the Board has previously rejected CESH and Palmetto proposed contentions which asserted that risks associated with McGuire should be considered in evaluating the risks associated with Catawba. In dismissing these previous contentions (Palmetto 32/CESG 3), the Board stated:

These contentions concern risk analyses and introduce . . . a concept of "totality of risk" in terms of fatalities arising from

apparently simultaneous accidents at the Catawba and McGuire power stations. The contentions are rejected as not being site-specific to Catawba. The Board considers bringing McGuire into the statement as not affecting the argument. July 8, 1982 Order at 10 (emphasis added).

Given such a clear determination by the Board, Applicants fail to see how the Intervenors can justify this attempt to re-introduce this issue.

Applicants also maintain that the commentary set forth in Intervenors' proposed Contention 11 does not constitute a legitimate contention, in that it fails to raise any issue subject to litigation in this proceeding. CESH and Palmetto do not appear to be expressing any disagreement with the DES's "summing of probabilities," nor do they allege any other deficiencies or, indeed, present any issues of fact. Similarly, the statement that "there is no corresponding concept in the CP FES" is irrelevant and adds nothing substantive to these comments. Since the exact nature of this "contention" has not been specified by the Intervenors, nor any detail provided as to its bases, Applicants submit that this contention should be dismissed.

In addition, Applicants note that the information upon which Intervenors base this proposed contention is certainly not "new". Intervenors have long been aware of

the NRC Staff's treatment of combining McGuire risk analyses into the Catawba proceeding. Indeed, as previously noted, the Board rejected proposed contentions of Intervenors on this precise issue. In short, Applicants maintain that the DES provides no new information on this issue and Intervenors are precluded from raising "new" information in the DES as a justification for this non-timely filing. See Part IIB, supra.

Contention 12

Intervenors' proposed Contention 12 reads as follows:

12. The DES is incomplete in an apparent essential, an indication of the inventory during operation of nitrogen-16. It is stated that "nitrogen-16 (is) a radionuclide produced in the reactor core.", p. 5-19. Nitrogen-16 is also said to be the primary source of within plant radiation. However, it is not given in the radionuclide inventory of Table 5.8. Is the DES correct in regard to the production of nitrogen-16?

Intervenors' "comments" question whether the NRC Staff mistakenly omitted nitrogen 16 from Table 5.8. Applicants maintain that the question posed by proposed Contention 12 does not constitute an acceptable contention, in that it does not raise any issue which may properly be adjudicated in this proceeding. In any event, Table 5.8 is not meant to include all of the radionuclides present in an operating plant. Section 5.9.4.5 (2) states at p. 5-37 that:

The 54 nuclides shown in [Table 5.8] represent those (of the hundreds actually present in an operating plant) that are the major contributors to the health and economic effects of severe accidents. They were selected on the basis of the half-life of the original nuclide, consideration of the health effects of daughter products, and the approximate relative offsite dose contribution.

Applicants note that nitrogen-16 has a half-life of approximately 7.2 seconds, and decays to stable oxygen. In short, the exclusion of nitrogen 16 from Table 5-8 is not an oversight.

Contention 13

Intervenors' proposed Contention 13 reads as follows:

13. The DES states that "offsite radiation levels are continuously monitored with thermoluminescent detectors." (emphasis supplied), p. 5-15. The impression given by this language is that the monitoring is in real time. It is not. It is intermittent and depends on the intervals at which the TLD's are evaluated. This "error" should be corrected and the statement disregarded in terms of the consideration of Palmetto Alliance contention 27.

Intervenors raise a comment regarding thermoluminescent detectors. Applicants submit that these comments do not constitute a contention. The statement in the DES that the TLDs "continuously monitor"

offsite radiation levels is entirely correct. The TLDs will be continuously in place around the plant, and all radiation affecting the TLDs is recorded cumulatively. The statement is not meant to imply that TLDs are "real-time" monitors.²⁰

Contention 14

Intervenors' proposed Contention 14 reads as follows:

14. The calculations of dose commitments, DES 5.4.3.1, [21] differs from that in the CP FES. "Calculation for the midpoint of station operation represents an average exposure over the life of the plant." We doubt the correctness of this assumption. Longer-lived radionuclides will build up, increasing the dose level. Bio-accumulated radionuclides will also build up. We doubt the general applicability of the concept that "most of the internal dose commitment for each nuclide is given during the first few years of exposure because of the turnover of the nuclide by physiological processes and radioactive decay". We particularly view Strontium 90 as a significant exception to this approach. We believe that, as a result, DES dose commitments are non-conservative and will understate actual exposure.

Intervenors assert that the dose commitments set forth in Section 5.9.3.1 of the DES are non-conservative because Intervenors doubt the "correctness" of two statements in the DES. First, Intervenors question the accuracy of the statement that "calculations for the

²⁰ To the extent that Intervenors are attempting to bolster their position regarding Palmetto's Contention 27, Applicants object and submit that Intervenors' instant pleading is an improper vehicle for such an attempt.

²¹ Applicants note that the correct DES Section is 5.9.3.1 and not 5.4.3.1.

midpoint of station operations represents an average exposure over the life of the plant". As the basis for Intervenors' "doubts" regarding this statement, Intervenors note that radionuclides will build-up over the life of the plant. While Applicants and the NRC Staff (in the DES) concur with Intervenors' observation regarding buildup, this does not provide a basis for Intervenors' "doubts." Rather, due to the reality of radionuclide build-up, any attempt to determine an average exposure over the life of the plant must be based on a calculation of the average build-up over the life of the plant, e.g., the build-up at the midpoint of station operation. In short, the statement which Intervenors question is, on its face, accurate, and Intervenors have failed to set forth a valid basis for stating otherwise.

Second, Intervenors question the accuracy of the statement that "most of the internal dose commitment for each nuclide is given during the first few years of exposure because of the turnover of the nuclide by physiological processes and radioactive decay." At the outset, Applicants note that Intervenors have taken this statement out of context. Section 5.9.3.1 of the DES (at p. 5-15) states that the "annual dose commitment is calculated to be the total dose that would be received over a 50-year period" The DES further states

that the results of this detailed calculation are such that "with few exceptions, most of the internal dose commitment for each nuclide is given during the first few years after exposure. . . ." Id. In short, the DES calculation of dose commitment did not utilize the approach implied by Intervenor's proposed contention. Accordingly, Intervenor's concern in this regard is totally without a supporting basis. Furthermore, Intervenor has failed to provide with specificity any reason why this matter should be considered in this proceeding; accordingly, the contention should be denied.

From the foregoing, Applicants maintain that Intervenor's proposed Contention 14 fails to provide the supporting basis required by Commission regulations, and thus must be denied. See Part IIA, supra.

In addition, Applicants note that the dose commitment analysis and its methodology, to which Intervenor apparently object, are set forth in documents previously available to Intervenor. See, e.g., Applicants' FSAR at Section 12.4, ER at Section 5.2.3 and 5.2.4., and NUREG-0017. Thus, Intervenor is precluded from raising the DES as containing "new" information to justify the late filing of this proposed contention. See Part IIB, supra.

Contention 15

Intervenors' proposed Contention 15 reads as follows:

15. We believe that the DES errs in its treatment of airborne effluents. It states, p. 5-19, that, "Among the airborne effluents the radioisotopes of the fission product noble gases, Krypton and Xenon, as well as of Argon, do not deposit on the ground nor are they absorbed and accumulated within living organisms; therefore, the noble gas effluents act primarily as a source of direct external radiation emanating from the effluent plume." This statement is literally correct, yet quite misleading. In the instant that a Krypton nucleus in the lung emits radiation it becomes a Rubidium nucleus, a metal and potentially a cation, either of which can deposit on the ground, or in a lung depending on where it came into existence. Similarly, Xenon converts to Cesium, also a metal and potentially a cation. Based on the prevalence of Krypton and half life of the isotope, DES Table 5.8, Rubidium 85, 87 or 88 will form. Rubidium 85, which will form in the least amount, is a stable isotope. Rubidium 87, which will form in next largest amount, is a beta emitter with a very long (6×10^{10} years) half life. However, Rubidium 88, formed in the largest amount, has a half life of about 18 months and is an emitter of highly energetic beta and gamma radiation. Xenon-133 and 135 are present in substantial amounts. Cesium-133 is stable. Cesium-135 is a beta emitter of about 3×10^6 year half life. The noble gases which irradiate the lung leave a legacy of radioactive cations in the lung and other exposed tissue, and surfaces generally. The dose contributions of the noble gas produced radioactive isotopes of rubidium and cesium should be considered in the DES.

In this proposed contention Intervenors maintain that the DES should consider the dose consequences of radioactive isotopes produced from decay of the noble gases Xenon and Krypton released during normal operations. As the basis for this position, Intervenors state that there are substantial quantities of these two

noble gases which will decay into radioactive isotopes of Cesium and Rubidium. As the source for its assessment of the quantities of isotopes of Xenon and Krypton, Intervenor mistakenly rely on Table 5.8, which only lists the quantity of radioactive nuclides in the reactor core during operation. Intervenor should have referred to Table D.1, which lists the annual quantities of the radioactive nuclides released during normal operation. Significantly, Table D.1 shows that of the 1575 curies released each year attributable to Xenon and Krypton, 1568 of those curies result from the isotopes Xenon-133 and Krypton-85. Further, as suggested by Intervenor, Xenon-133 and Krypton-85 decay into the stable (i.e., nonradioactive) isotopes of Cesium-133 and Rubidium-85, respectively. Thus, the basis for Intervenor's proposed contention (i.e., that substantial quantities of radioactive Cesium and Rubidium will be produced) is totally without merit. In short, Intervenor's proposed contention, based on an inappropriate table in the DES, is totally without a supporting basis and must be denied. See Part IIA, supra. Further, Intervenor has not provided with specificity any reason why this subject should be considered in this proceeding.

Applicants also contend that the subject of airborne effluents is not new; it was addressed, inter alia, in Applicants' ER (Section 5.2.3 and 5.2.4) and FSAR (Section 12.2.2), and NUREG-0017. Given the prior availability of this information, Applicants submit that the information set forth in the DES does not constitute "new" information justifying the late-filing of this proposed contention. See Part IIB, supra.

Contention 16

Intervenors' proposed Contention 16 reads as follows:

16. The DES fails to consider this aspect of the enlarged fuel pool: the effect of the crash of a heavy aircraft on the fuel pool structure. Although external hazards are said to be reviewed, p. 5-33, there is no indication that this specific hazard was found to be negligibly small. Within the past decade a commercial airliner crashed not far from the Catawba site. Morning fogs are a frequent occurrence at the site, a contributing factor to the airplane accident. There is no reference to morning fogs in the DES, but it is recognized that the plume will cause fog, p. 5-6. The fuel pool building is less substantial in structure than the containment and is only partially shielded by the containments, figure 4.1. A crash into the fuel pool accompanied by fire could disable the water circulation and supply of the pool. Depending on the heat supplied to the pool by spent fuel, and the time necessary to regain functionality, the pool water could boil down, leading to fuel assembly exposure and cladding failure. Sufficiently heavy fragments of the plane could damage the cladding of assemblies in the pool by impact. The consequences of the most severe accident would cause a release of the magnitude of the most severe reactor accidents and should be considered in the DES.

In this proposed contention, Intervenors state that the DES has failed to consider the consequences of a specific aircraft crash into the spent fuel pool. However, Intervenors present absolutely no supporting basis for the assertion that the DES fails to consider this hypothetical accident. Indeed, Intervenors concede that "external hazards [such as airline crashes] are said to be reviewed" in the DES, but they appear to be concerned that the DES does not explicitly state that the risk of this particular hazard is negligible. Applicants submit, however, that the DES has adequately addressed Intervenors' concerns. In the DES at pp. 5-33 the NRC Staff states:

The safety evaluation of the Catawba site also has included a review of potential external hazards generated by man (activities off site that might adversely affect the operation of the plant and cause an accident). This review encompassed nearby industrial, transportation, and military facilities that might create explosive, missile, toxic gas, or similar hazards. The risk to Catawba station from such hazards has been found to be negligibly small.

Specific consideration of such accidents is set forth in, inter alia, the RSS Main Report at sections 5.4.4, and 6.4.5, and in the RSS at Appendix I, Section 5.1.²² In

²² Applicants note that the DES and its referenced documents (e.g., RSS) have evaluated virtually every possible major accident sequence. However, Intervenors could hypothesize a specific, detailed accident scenario which, while bounded by analyzed accident sequences, has not itself been analyzed detail for detail. Applicants maintain that in order to raise such a scenario,
(footnote continued)

short, the consequences of such accidents have been considered; accordingly, Intervenor's proposed contention is without a supporting basis and must be denied. See Part IIA, supra.

In addition, aircraft hazards are discussed and evaluated in detail in Section 2.2.3.1.3 of Applicants' FSAR for Catawba Nuclear Station, Volume 1. In view of the fact that the FSAR has been available to the Intervenor for approximately 15 months, Applicants contend that CESC and Palmetto had ample time to file a contention on this issue (which presents a safety question, not an environmental question) within the time prescribed in Commission regulations. Their failure to do so, and subsequent attempts to characterize this proposed contention as one arising from their review of the DES, should not be countenanced by the Board. Because this "new" proposed contention is untimely, Applicants submit that it must be denied because CESC and Palmetto have provided no justification for admitting it at this late date.

Contention 17.

Intervenor's proposed Contention 17 reads as follows:

(footnote continued from previous page)
Intervenor must provide a supporting basis as to why the accident is reasonable and what inadequacies exist in the bounding analyses conducted. Here, Intervenor has supplied neither.

17. The DES is concerned with environmental impacts. Presumably these are best represented as the entire range from trivial to serious, in conjunction with the estimates of likelihood. The DES averages meteorological conditions in its consideration of accidents, 5.9.4.5. Because atmospheric inversions and quiet air are a very common feature in this region, accident consequences should be calculated for the extreme condition of inversion and very slow air movement.

In the matter of assessing serious accidents, the environmental assumptions are complex and again do not appear to consider extreme weather, p. 5-37. The DES, which differs from the CP FES in considering severe accidents, is at fault in not considering the full range of radiological impacts by not considering extreme, but frequently encountered, weather conditions.

Intervenors take issue with the consideration given in the DES to adverse meteorology. Contrary to Intervenors' assertion, the DES did expressly consider both typical and extreme meteorological conditions in its evaluation. In Section 5.9.4.5(1), the DES evaluated the impacts of design-basis accidents using more "realistic" assumptions such as average meteorological conditions.²³ The purpose of such "realistic" assessments was "to contrast the results of these calculations [with those] using more pessimistic, or conservative, assumptions [for 10 CFR Part 100 calculations]" Id. However, for the purposes of determining the environmental risk associated with serious accidents, the accidents which were

²³ As would be expected, it was determined that plant systems designed to mitigate the effects of design-basis accidents assured that radiation exposure from such accidents is roughly comparable to exposure during normal operation over the life of the plant. DES at p. 5-35.

determined to be "the dominating contributors to risk" were evaluated using conservative assumptions including "meteorological data for the site representing a full year of consecutive hourly measurements and seasonal variations." Id. at pp. 5-36--37 and E-1--2. In short, Intervenors' assertion that the DES did not consider conservative meteorological conditions is totally without a supporting basis; accordingly, proposed Contention 17 must be denied. See Part IIA, supra.

In addition, Applicants note that the information contained in the DES was previously available to Intervenors, e.g., FSAR §2.3.4 and ER at p. 7.1-1. Further, Regulatory Guide 4.2, previously available to Intervenors, prescribes the precise methodology used by the NRC Staff in this regard. Thus, Intervenors are precluded from using "new" information in the DES as justification for the late filing of this proposed contention. See Part IIB, supra.

Contention 18

Intevenors' proposed Contention 18 reads as follows:

18. The DES considers interdiction to reduce the radiological impact from severe accidents, p. 5-40. The costs of interdiction are considered in figure 5.7 and Table 5.11. However, an evaluation of the availability of facilities for relocation and the non-monetary impacts of the location are not considered. This topic was not addressed in the CP FES and is not adequately considered in the DES.

This proposed contention asserts that the evaluation in Section 5.9.4.5(4) of the DES regarding the social and economic impacts of an accident is deficient in its consideration of (1) "the non-monetary impacts of the location" [presumably relocation] which might be necessary until contaminated property becomes free of contamination; and (2) the availability of facilities for relocation. Applicants are of the view that this contention must be excluded because it lacks specificity and basis.

Recognizing that one impact of a severe accident would be the need to take "various measures for avoiding adverse health effects including those resulting from residual radioactive contamination in the environment," the DES specifically states that "[c]alculations of the probabilities and magnitudes of such impacts for Catawba station and environs have also been made" (DES, p. 5-40). Although the Staff states that these impacts can be "transformed into economic impacts," there is nothing to indicate that non-monetary impacts were not considered. On the contrary, the DES states that "indirect costs resulting from the loss or use of property" were considered along with direct monetary costs in developing figures for probability distribution of the cost of offsite mitigating actions in Table 5.11.

To the extent that Contention 18 alleges that the DES is deficient in not evaluating the availability of relocation facilities, Applicants also submit that the contention constitutes an indirect attack on the Commission's emergency planning regulations. Section 50.47(a)(1) of the Commission's regulations provides that

No operating license for a nuclear power reactor will be issued unless a finding is made by NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

Emergency response plans submitted by applicants for NRC operating licenses, including Applicants herein, must meet the extensive requirements of Appendix E of Part 50 as well as the requirements of § 50.47. The somewhat oblique suggestion in this contention that these regulations are inadequate (because they allegedly do not require the availability of relocation facilities), therefore is an attack upon the validity of these regulations which requires the dismissal of this contention. 10 CFR § 2.758. See also Potomac Electric Power Company (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 AEC 79, 89 (1974), in which the Appeal Board stated that "[t]o go behind [provisions

within a regulation]...and challenge the basis on which they rest is in effect a challenge to the regulation itself."

Indeed, the Licensing Board in this proceeding has previously invalidated a similar contention filed by CESC and Palmetto on these exact grounds. This proposed contention (CESG 10/Palmetto 37) asserted that "[i]f a license issues, an adequate crisis relocation plan should be a condition for issuance." During the prehearing conference, Intervenors acknowledged upon questioning by the Board that the relocation facilities referenced were permanent. Tr. 341. In rejecting this proposed contention, the Board stated:

This contention calls for an 'adequate crisis relocation place' as part of emergency planning The Commission's emergency planning rules do not require establishment of such a permanent facility. Accordingly, this Contention is an impermissible attack on the rules. [March 5, 1982 Order at 34.]

In the face of such a clear determination of impropriety by the Board, Applicants are at a loss to understand how the Intervenors can propose to re-introduce the same concept into this proceeding by attempting to raise it in the context of the DES.

Contention 19

Intervenors' proposed Contention 19 reads as follows:

19. Failure to evaluate the environmental costs of operation of Catawba as a storage facility for spent fuel from other Duke nuclear facilities and transportation of that irradiated fuel to Catawba compromises the validity of the favorable cost-benefit balance struck at the construction permit phase of this proceeding. Since the CP stage hearing, Duke Power has considerably expanded the Catawba spent fuel pool capacity and provided for denser storage of irradiated fuel. FSAR Table 1.2.2-1. Applicants intend to use Catawba for storage of irradiated fuel from the McGuire and Oconee nuclear facilities of the Duke Power Company. FSAR 9.1.2.4, OL Application,, pp. 11 - 12.

The "Environmental Impact Appraisal performed by NRC Staff, pp. G-1, G-2 and G-3 of the DES is totally inadequate to provide a basis for agency approval of the licenses sought. The staff totally fails to analyze or even assert the need for the transshipment and storage of spent fuel for other plants at Catawba, to evaluate either quantitatively or qualitatively the "benefit" to be derived from this action; grossly underestimates the environmental costs and other impacts from the proposed action such as the risks of plainly credible very severe accidents in transshipment under conditions more severe than described in Appendix B to 10 CFR Part 70 or involving defective casks which can not withstand those conditions; and, further the Staff totally fails to analyze or consider the alternatives available for reducing or avoiding these adverse effects such as on site rod consolidation, storage in dry casks, in drywells beneath grade, in concrete storage silos or in air-cooled vaults -- alternatives which are easily available at lower total costs. "Preliminary Assessment of Alternative Dry Storage Methods for the Storage of Commercial Spent Nuclear Fuel", DOE/ET/47929-1 (UC-85) E.R. Johnson Associates, Inc. (November, 1981).

Intervenors here challenge the adequacy of the Staff's environmental assessment regarding storage of spent fuel from other Duke nuclear facilities at Catawba. Intervenors allege that such assessment is inadequate in that it does not consider (1) the need for transshipment

and storage, (2) impacts resulting from accidents more severe than described in Appendix B to 10 CFR Part 70 and (3) alternatives.

With respect to need, explicit in every license issued by the NRC to operate a nuclear facility is the authority to ship.^{24 25} Indeed, Duke's experience in the transportation of spent fuel from Oconee to McGuire, a case well familiar to CESH, bears this point out. Therein, the Oconee license was not amended to reflect such shipment, inasmuch as it was recognized that the Oconee license already provided the necessary regulatory authority to ship. Rather, at issue was whether McGuire, the receiving facility, could properly store Oconee spent fuel. It is this matter that is central to the instant case; need is already presumed to exist by virtue of the

²⁴ It is during the operating license review that the NRC determines whether shipment is warranted and where concerned individuals have a right to raise such an issue. For example, CESH raised transportation of spent McGuire fuel as an issue in the initial McGuire operating license proceeding. See, e.g., "CESH Petition for Leave to Intervene and Request for Public Hearing" filed in the McGuire OL proceeding on July 15, 1974 (at proposed contention 12). One need only look to the environmental assessments of any operating license applicant to confirm that the environmental impacts of transportation set forth in Table S-4, 10 CFR § 51 have been considered. See e.g., DES pp. 5-18, 5-19. Simply put, shipment of spent fuel is permitted provided such shipments conform with NRC regulations. See, i.e., 10 CFR §51, Table S-4.

²⁵ See "Applicants Response to Licensing Board Questions" filed in this proceeding on March 31, 1982 at pp. 14-17 wherein this issue is thoroughly discussed, incorporated herein by reference.

operation of Oconee and McGuire. Accordingly, inasmuch as NEPA requires that only reasonable matters be inquired into, Applicants maintain that need for such transshipment need not be addressed in the DES.

With respect to the consideration of impacts,²⁶ such appears to be a direct challenge to Appendix B to 10 CFR Part 71²⁷ 28, and is thus impermissible. See Part II.C, supra. Applicants fail to understand how CESG and Palmetto can justify an attempt to re-introduce this issue into this proceeding in the face of a previous determination by the Board that it may not be considered. In its Order of March 25, the Board expressly disallowed Palmetto's Contention 14, which alleged deficiencies in the ER's analysis of the environmental effects and the attendant risks associated with the transportation of

²⁶ As is Intervenor's typical approach, an allegation is made that "other" unidentified impacts should be considered. Inasmuch as Intervenor's have totally failed to identify such "other" impact, let alone provide the requisite specificity and basis, this aspect of the contention must be rejected. See Section II A., supra.

²⁷ Applicants assume that Intervenor's reference to Appendix B to 10 CFR Part 70 is to Part 71, since there is no Appendix B to Part 70. Intervenor's have previously challenged Part 71 (See Palmetto's original proposed Contention 16).

²⁸ The environmental impacts of spent fuel transportation, including an assessment of the impacts associated with accidents in transit, are set forth in Table S-4 to 10 CFR Part 51. To the extent Intervenor's are challenging this determination, such is also contrary to NRC practice. See Section II.C, supra.

spent fuel shipments to the Catawba Plant from other Duke Power Company facilities. The Board affirmed its rejection of this contention on p. 7 of its July 8 decision, emphasizing that Palmetto had failed to present any information to indicate that Table S-4 was invalid.²⁹ In light of Intervenors' continued inability to demonstrate any reason for rejecting reliance on Table S-4--as evidenced by the dearth of supporting information provided in this contention--Applicants maintain that the proposed contention must be denied. In light of these clear statements of the Board, further inquiry into this matter should be not allowed.

With respect to alternatives, Applicants maintain that such need not be considered. If the results of an environmental assessment are such that the environmental consequences of the proposed action, or aspects thereof, are not significant (i.e., small, insignificant or negligible) then there is no requirement to consider alternatives to that action. To hold otherwise would require the Commission to consider alternatives to a proposed action which itself will not result in a significant impact upon the environment. Such is

²⁹ The Board advised the Intervenors that their concern was addressed by NRC regulations as well as Department of Transportation regulations.

contrary to the Appeal Board's rulings. See Portland General Electric Company, et al. (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 266 (1979) wherein it is stated:

As we read it, the NEPA mandate that alternatives to the proposed licensing action be explored and evaluated does not come into play in such circumstances--in short, there is no obligation to search out possible alternatives to a course which itself will not either harm the environment or bring into serious question the manner in which this country's resources are being expended. [30]

³⁰ Applicants note the Appeal Board's holding in Trojan, supra, affirmed the Licensing Board's decision to refrain from considering alternatives. The Trojan Licensing Board reasoned:

It is not necessary, however, to choose among alternatives or to predict needs on the basis of the present evidence. In our findings, supra, we have determined that the adverse environmental impacts of this license amendment will be negligibly small. Clearly, if the adverse impacts of the proposed action are negligible, the impacts of any alternative must be equal or greater, and it has been held that "an alternative which would result in similar or greater harm need not be discussed." (Sierra Club v. Morton, 510 F.2d 813, 825 (5th Cir. 1975)). As to the question of need for power, as we view it, that question can only be considered against the background of a cost-benefit balance, and absent any substantial environmental costs, any benefit whatever would tip the scale. We therefore believe that we need not consider alternatives or the need for the modification in any detail. Indeed, in the opinion of this Board, not only is such consideration unnecessary, it is very inadvisable, since it infringes upon those very prerogatives and duties of corporate management which we should eschew usurping. To be sure, were there substantial adverse environmental impacts, our duties under NEPA would require us to balance them against benefits and examine less damaging alternatives. But where, as

(footnote continued)

The DES reflects that the impact associated with spent fuel transportation and storage of Oconee and McGuire fuel will be small. See e.g. Table 5.4 and 5.5 (which reproduce Tables S-3 and S-4 of 10 C.F.R. Part 51), and Table D-1 of the DES. For the above stated reasons, this proposed contention should be dismissed.

Contention 20

Intervenors' proposed Contention 20 reads as follows:

20. The favorable cost/benefit analysis struck at the CP stage is fatally compromised by the failure of the NRC Staff to calculate costs and benefits based upon substantially reduced levels of operation due to defective Westinghouse Model D steam generators which have experienced rapid tube wear caused by flow-induced vibrations which pose the threat of tube weakening, leakage or rupture, as well as the costs associated with repair and replacement with very high worker exposure rates and the increased risk of radiation exposure to the public. Duke Power Company's McGuire Unit 1, Catawba's sister plant, has operated at severely reduced power levels since declared commercial December, 1981, due to premature tube wear experienced during very brief high power level operation. V.C. Summer Unit 1 operating license will restrict power levels to below 50% until this premature tube wear problem in its Model D steam generators is solved. The Staff does not acknowledge or weigh these costs in the DES.

(footnote continued from previous page)

here, the proposed action has no such impacts, we can leave considerations such as economic advantage, capacity requirements, and the vigor with which offsite storage should be pursued to those within the company to whom such decisions are normally entrusted. [Trojan, supra, LBP-78-32, 8 NRC 413, 454 (1978)].

Intervenors questions the DES cost-benefit analysis in light of the steam generator experience at McGuire. As noted, the Staff, in its assessment of the benefits, has assumed that Catawba "will operate at an annual average capacity of 60%." DES, 6-2. Intervenors have not shown, as a threshold matter, how that assumption, which is based on the life of the plant and not on temporary occurrences, is erroneous and thus have not presented the requisite basis and specificity to support a contention. Simply put, Intervenors have not provided the necessary support to suggest that the Model D steam generators references in the proposed contention will reduce the annual average capacity factor to below 60%.

Further, Applicants submit that CESC and Palmetto should have been on notice as to the existence of problems with the Westinghouse Model D steam generators at McGuire Unit 1 long before issuance of the DES. This has been a matter of public knowledge at least since the fall of 1981, when the McGuire plant began commercial operation at reduced power.³¹ Accordingly, CESC and Palmetto had sufficient time in which to file a contention on this issue within the time limits specified by Commission regulations. This contention is untimely.

³¹ Applicants note that CESC, as a party to the McGuire proceeding, was served with relevant documents regarding this matter in the fall of 1981.

In view of the Intervenor's failure to make a showing of good cause as to why it should be admitted as a late-filed contention, Applicants maintain that the contention must be denied.

Contention 21

Intervenor's proposed Contention 21 reads as follows:

21. The long term somatic and genetic health effects of radiation releases from the facility during normal operations, and from the uranium fuel cycle have been underestimated by the NRC Staff in the DES, pp. 5-22 and Appendix C, even where such releases are within existing guidelines. The Staff relies on the BEIR I study for the risk estimators it employs in the DES, p. 5-17 and BEIR III for establishment of its "upper limit" for health effects, p. 5-18. The work of K.Z. Morgan, Bernd Franke of Heidelberg, and others calls into serious question the analysis relied upon. For example, BEIR III's reliance on the linear hypothesis may seriously understate health effects at lower level dose rates; and the commission's food chain analysis may minimize the uptake of soil borne radiation by plants and thereby underestimate concentrations in milk and meat. Such questions suggest that the Staff has seriously underestimated the health effects from facility operation.

Intervenor's question the impact plant operation will have on health effects. Intervenor's raised this concern in original Palmetto Contention 1. The Board in its March 5, 1982 Order instructed Palmetto to provide further specification of its Contention 1 following the availability of the DES. The Board noted that "it might, for example, specify the respects in which the BEIR III report and the Commission's food chain analyses are allegedly deficient." In response, Intervenor's have

again sought to provide the bare minimum. They add nothing whatsoever from the DES to further specify Palmetto's original Contention 1. Rather, they focus only on the "for example" suggestion of the Board and provide general statements, rather than citing the specific respects in which BEIR III and the Commission's food chain analysis are deficient, as requested by the Board. Intervenors' specification is limited to BEIR III's reliance on the linear hypothesis and the Commission's food chain analysis's possible underestimation of the uptake of soilborne radiation. Clearly the Board expected more at this second stage.

Applicants further submit that information on the estimated long-term somatic and genetic health effects of radiation releases from the Catawba facility during normal operation, and from the uranium fuel cycle, is clearly set forth in Applicants' FSAR and ER, which have been available to CESC and Palmetto for over one year. In short, the DES provides no new information which would justify this late-filed contention.

Contention 22

Intervenors' proposed Contention 22 reads as follows:

22. The NRC Staff has failed to adequately assess the impacts of serious accidents at the facility, beyond design basis. The FES-CP made no analysis of such serious accidents and the DES analysis, required by the Commission's Statement of Interim Policy, 45 F.R. 40101

(June 13, 1980) seriously underestimates the probability and consequences of plainly credible site-specific serious accidents and is deficient in many respects.

The probabilistic analysis employed in the Reactor Safety Study (WASH 1400) has been so seriously criticized as to make its use in licensing proceedings as a basis for decision-making entirely inappropriate. "The consequence model used in WASH 1400 should be substantially improved, and its sensitivities explored, before it is used in the regulatory process." NUREG CR 0400, "Risk Assessment Review Group Report to the U.S. Nuclear Regulatory Commission, H.W. Lewis, Chairman," p. xi. The Staff continues to rely on the "consequence model used in the RSS," p. 5-37. While the Staff acknowledges the "substantial uncertainties" in the probabilities derived from the quantification of human error and estimates of component failure rates, p. 5-36, it nonetheless relies on this same probabilistic analysis on the basis of its "qualitative judgment....that the uncertainty bounds could be well over a factor of 10, but not as large as a factor of 100." p. 5-46.

The Staff claims to address the criticisms of the RSS by "eliminating the smoothing technique" and by the evaluation of "individual dominant accident sequences" rather than grouping them. p. B-1. Yet it still relies only on the probabilities shown for four RSS scenarios Table 5.10, and represents the probability of such an accident at the facility as the sum of the probabilities for these events alone. p. 5-45.

The design of this facility differs from that of the reference reactor considered in WASH 1400 in such a significant manner as to adversely affect the probabilistic risk assessment employed in that study and relied upon by the Staff. "Reactor Safety Study Methodology Application Program: Sequoyah #1 PWR Power Plant," NUREG CR 1659/1 of 4 (February, 1981), ER - OL 7.1-1. The Staff notes "the importance of hydrogen control measures for reducing the likelihood of failing the ice condenser containment," but relies on the assertion that "(t)he applicant for Catawba has plans to satisfy the Commission's requirement on hydrogen control," p. E-1, without further analysis of the significance of this design feature for accident impacts.

The Staff's serious accident analysis is further flawed by its reliance, without basis, upon a flawless execution of the most unrealistic emergency plan -- assuming complete evacuation of the plume pathway and

relocation of all persons in the pathway out to 25 miles and the full availability of medical care for all persons exposed in excess of 200 rems. Appendix F. Although not specified by the Staff this means the downwind populations of Charlotte, North Carolina -- 310,794 people in 1980, 11 miles northeast of the site, p. 5-33 and Figure 5.9. Since no emergency plans have been published and the Staff has no plan for the facility to review as a basis for its optimism, it can only promise to supplement this environmental analysis if it concludes from such a review that accident impacts will be "significantly larger." p. 5-34. Such a revised analysis should be performed now.

Intervenors allege that the Staff's accident risk and impact assessment (DES § 5.9.4.5) is deficient in four respects ³²: (1) reliance upon the Reactor Safety Study (RSS); (2) alleged significant design differences between Catawba and the RSS reference reactor; (3) failure to assess the impact of a hydrogen control system; and, (4) reliance upon an alleged unrealistic emergency plan.

With respect to the RSS, Intervenors make reference to the uncertainty associated with its use. However, at no time do Intervenors set forth any particular facet of the RSS which calls into question the Staff's severe accident analysis. This is a critical flaw. Absent the requisite specificity and basis this aspect of the contention must be dismissed.

³² As noted throughout this pleading, Intervenors have routinely attempted to be non-specific. In this instance, in attacking the Staff's severe accident analysis, they allege that it is deficient in "many respects". In that the contention references only 4 respects, it should be so limited.

With respect to design differences, this precise matter was raised by CESH in a 10 CFR § 2.206 petition to the Commission to reopen the Catawba construction permit proceeding. In his decision, the Director of the Office of Nuclear Reactor Regulation, noting that (as in the instant case) CESH had provided little information, found that "there is no justification for CESH's claim that this issue [i.e., that the ice condenser suppressor containment is a factor leading to an increased level of risk] increases the level of risk associated with the Catawba facility." Duke Power Company, et al. (Catawba Nuclear Station, Units 1 and 2), DD-81-1, 13 NRC 45, 53-55 (1981). Accordingly, under the doctrine of collateral estoppel, this matter should be barred from the proceeding.³³ In any event, Intervenors, as in the §2.206 petition, have failed to satisfy 10 CFR §2.714 by providing specifics to support their allegation. Thus, for this additional reason, this aspect of the contention should be dismissed.

With respect to hydrogen control, the DES reflects the position that, provided hydrogen control measures are taken, the use of rebaselined sequences from the RSS is

³³ The application of collateral estoppel was fully discussed in Applicants' pleading of December 30, 1981 and for the sake of brevity will not be repeated here. Applicants note that while the issue pertains to CESH, inasmuch as the instant new contentions are filed jointly by Palmetto and CESH, the doctrine is applicable to both.

appropriate. DES at E-1. Intervenors challenge this position, asserting that it is improper for the Staff to rely upon the implementation of hydrogen control measures. Rather, they maintain that an analysis of the design features of the selected control system must be performed.

Intervenors' position misses the mark. An analysis of the selected hydrogen control system will be performed by the Staff in its Safety Evaluation Review. Provided such analysis is satisfactory (an assumption the Staff makes in the DES inasmuch as such a system was required by the Commission for other ice condenser plants and will, in all likelihood, be codified by regulations)³⁴ the use of rebaselined data is a proper analytical tool. Intervenors have failed to provide any basis to suggest otherwise; thus, this aspect of the contention must fail.

With respect to emergency plans, Intervenors attack the Staff's assumption with regard to evacuation. Given that provision for evacuation and relocation is required by the regulations (10 CFR §50.47 and Appendix E), such must be viewed as a reasonable assumption. To do otherwise is to assume non-compliance with the regulations, an act which is contrary to 10 CFR §2.758. Inasmuch as Intervenors can provide no support for their

³⁴ See 46 Fed. Reg. 62281 (1981).

position, their contention must be dismissed. (See ALAB-637). If upon receipt of emergency plan information intervenors wish to challenge the Staff position, such would be the time to do so.

In sum, for the above stated reasons, this contention should be dismissed in its entirety.

Contention 23

Intervenors' proposed Contention 23 reads as follows:

23. The evaluation of costs and benefits of the facility under NEPA conducted at the CP stage was inaccurate since the costs associated with the back end of the nuclear fuel cycle were not given sufficient consideration. The NRC Staff continues to rely on the Table S - 3 rule to assess the costs associated with reprocessing, storage and disposal of spent fuel and other nuclear waste, p. 5-47 and Appendix C, despite the recent invalidation of the rule by the U.S. Court of Appeals.

"Because they failed to allow for proper consideration of the uncertainties concerning the long term isolation of high level and transuranic waste..." Natural Resources Defense Council, NRC, No. 74-1586. Slip Op. at 11 (D.C. Cir. April 27, 1982). The Staff must do more than simply assert that such wastes "are to be buried at a Federal repository and that no release to the environment is associated with such disposal." p. C-6. Such a dismissal of environmental effects is meaningless in light of the known uncertainties associated with the back end of the fuel cycle. These costs must be fully evaluated and considered in the cost/benefit balance.

Intervenors challenge the use of Table S-3 in this proceeding on the basis of a recent court of appeals decision. Applicants are aware of the decision in Natural Resources Defense Council, Inc., v. Nuclear

Regulation Commission, No. 74-1586 (D.C. Cir., April 27, 1982). However, on September 1, 1982, the U.S. Court of Appeals for the D.C. Circuit issued an order which stayed issuance of the court's mandate in this case. Petitions for writ of certiorari in the U.S. Supreme Court seeking review of the D.C. Circuit's decision have been filed by Baltimore Gas & Electric Company (Baltimore Gas & Electric Company v. NRDC, No. 82-524, filed September 24, 1982), Commonwealth Edison Co. v. NRDC, No. 82-551, filed September 28, 1982), both of whom were intervenors in the Court of Appeals case, and by the Nuclear Regulatory Commission (NRC v. NRDC, No. 82-545, filed September 27, 1982). The court's stay will expire by its terms on October 1, 1982; however, the filing of a petition for certiorari acts to continue the court's stay until final disposition of the case by the Supreme Court (Federal Rules of Appellate Procedure, Rule 41(b)).

Accordingly, until the Supreme Court issues a ruling, reliance on the values set forth in Table S-3 in assessing the environmental effects of uranium fuel cycle activities is still permissible under the Commission's regulations.³⁵ Allegations that the CP cost-benefit

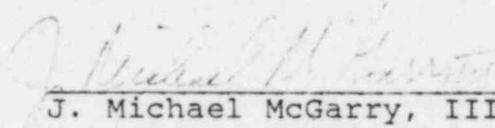
³⁵ See Cleveland Electric Illuminating Company (Perry Nuclear Power Plant, Units 1 and 2), slip op. at 1-3 (September 15, 1982), in which the Licensing Board ruled that the Table S-3 decision did not provide an intervenor with good cause for filing an untimely contention
(footnote continued)

analysis was deficient due to reliance on Table S-3 thus constitute an impermissible attack upon Commission regulations under 10 C.F.R. § 2.758. Applicants accordingly submit that this contention must be denied.

IV. CONCLUSION

From the foregoing, Applicants maintain that the proposed contentions set forth in Intervenor's Supplemental Petition should be denied.

Respectfully submitted,



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attacking the Staff's radiation dose calculations in the
DES.