

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
DUKE ENERGY CORPORATION)	Docket Nos. 50-369, 370, 413 and 414
)	
(McGuire Nuclear Station,)	
Units 1 and 2, and)	
Catawba Nuclear Station,)	
Units 1 and 2))	

NRC STAFF'S RESPONSE TO CONTENTIONS FILED BY
NUCLEAR INFORMATION AND RESOURCE SERVICE AND
BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

INTRODUCTION

The staff of the Nuclear Regulatory Commission (Staff) hereby submits its response to the contentions filed by Nuclear Information and Resource Service (NIRS)¹ and Blue Ridge Environmental Defense League (BREDL).² For the reasons set forth below, the Staff submits that NIRS and BREDL have failed to file any admissible contentions under the standards for admission of contentions in 10 C.F.R. § 2.714(b). Accordingly, this proceeding should be terminated.

BACKGROUND

The instant case arises from the June 13, 2001 application by Duke Energy Corporation (Duke) to renew the facility operating licenses for McGuire Nuclear Station, Units 1 and 2

¹ Contentions of Nuclear Information and Resource Service (NIRS Contentions), November 29, 2001. This pleading also responds to NIRS' Amended Petition to Intervene Reply to Arguments with Respect to Standing (Amended Petition), November 29, 2001.

² Blue Ridge Environmental Defense League Submittal of Contentions in the Matter of the Renewal of Licenses for Duke Energy Corporation (DUKE) McGuire Nuclear Stations 1 and 2 (McGuire) and Catawba Nuclear Stations 1 and 2 (Catawba) (BREDL Contentions), November 29, 2001.

(McGuire), and Catawba Nuclear Station, Units 1 and 2 (Catawba).³ On August 15, 2001, the NRC published a “Notice of Acceptance for Docketing of the Application and Notice of Opportunity for a Hearing.” 66 Fed. Reg. 60,693 (2001). On September 14, 2001, NIRS and BREDL independently filed petitions for intervention and requests for hearing in the license renewal matter. Subsequently, on October 4, 2001, the Commission issued an order referring both petitions to the Atomic Safety and Licensing Board (ASLB). See Order Referring Petitions for Intervention and Requests for Hearing to the Atomic Safety and Licensing Board Panel, CLI-01-20 (October 4, 2001). The Licensing Board issued an Order on October 16, 2001, establishing a schedule for filing amended petitions, responses thereto, and for a pre-hearing conference regarding the admission of contentions.⁴

On November 29, 2001, pursuant to the Licensing Board’s Orders of October 16 and November 12, 2001, NIRS and BREDL supplemented their initial filings, filing the contentions addressed below.

DISCUSSION

1. Legal Standards for the Admission of Contentions

To gain admission to a proceeding as a party, a petitioner for intervention, in addition to establishing standing and raising an aspect within the scope of the proceeding, must submit at least one valid contention that meets the requirements of 10 C.F.R. § 2.714(b). *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 333 (1999); *Yankee Atomic*

³ Application to Renew the Operating Licenses of McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2, June 13, 2001 (ADAMS Accession Numbers ML011660301, ML011660145, ML011660167) (License Renewal Application or LRA).

⁴ Order (Setting Deadlines, Schedule and Guidance for Proceeding), (October 16, 2001). Pursuant to subsequent Board Orders, the deadlines were extended and the schedule reset. See Memorandum and Order (Granting Motion to Extend Time and Resetting Deadlines and Schedule for Proceedings), LBP-01-31, 54 NRC __ (October 31, 2001); Memorandum and Order (Denying Request for Additional Extension of Time), (November 9, 2001); Memorandum and Order (Granting in Part Request for Additional Extension of Time), (November 15, 2001).

Electric Co. (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 248 (1996). For a contention to be admitted, it must meet the standards set forth in 10 C.F.R. § 2.714(b)(2), which provides that each contention must consist of "a specific statement of the issue of law or fact to be raised or controverted" and must be accompanied by:

- (i) A brief explanation of the bases of the contention;
- (ii) A concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing, together with references to those specific sources and documents of which the Petitioner is aware and on which the Petitioner intends to rely to establish those facts or expert opinion;
- (iii) Sufficient information . . . to show that a genuine dispute exists with the applicant on a material issue of law or fact. This showing must include references to the specific portions of the application . . . that the petitioner disputes and the supporting reasons for each dispute.

10 C.F.R. § 2.714(b)(2). The failure of a contention to comply with any one of these requirements is grounds for dismissing the contention. 10 C.F.R. § 2.714(d)(2)(i); *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991). A contention must also be dismissed where the "contention, if proven, would be of no consequence . . . because it would not entitle [the] petitioner to relief." 10 C.F.R. § 2.714(d)(2)(ii). Moreover, contentions that are not supported by some alleged fact or facts should not be admitted nor should the full adjudicatory hearing process be triggered by contentions that lack a factual and legal foundation. *Oconee*, CLI-99-11, 49 NRC at 335 (citing Final Rule, Contentions, 54 Fed. Reg. at 33,170).⁵

⁵ The Licensing Board should not accept uncritically an assertion that a document or other factual information or an expert opinion supplies the basis for a contention, but should review the information to ensure that it does so. See, e.g., *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990). See also *Yankee Atomic Electric Co.* (continued...)

A contention must demonstrate a genuine dispute with the applicant on a material issue of law or fact. *Dominion Nuclear Connecticut Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC ___, slip op. at 12 (2001). “The intervenor must do more than submit ‘bald or conclusory allegation(s)’ of a dispute with the applicant.” *Id.* (citation omitted). “He or she must ‘read the pertinent portions of the license application, . . . state the applicant’s position and the petitioner’s opposing view.’” *Id.* at 12-13 (citation omitted). There must be a specific factual and legal basis for the contention. *Id.* “[P]residing officers may not admit open-ended or ill-defined contentions lacking in specificity or basis.” *Id.*

Pursuant to Section 2.714, a petitioner must provide a “clear statement as to the basis for the contentions and the submission of . . . supporting information and references to specific documents and sources that establish the validity of the contention.” *Palo Verde*, CLI-91-12, 34 NRC at 155-56. The purpose of the basis requirement of Section 2.714(b)(2) is (1) to assure that at the pleading stage the hearing process is not improperly invoked, (2) to assure that the contention raises a matter appropriate for adjudication in a particular proceeding; and (3) to put other parties sufficiently on notice of the issues so that they will know generally what they will have to defend or oppose. *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974). The petitioner has the obligation to formulate the contention and provide the information necessary to satisfy the basis requirement of 10 C.F.R. § 2.714(b)(2). *Duke Energy Corp.* (McGuire Nuclear station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), Order Referring Petitions for Intervention and Requests for Hearing to the Atomic Safety and Licensing Board Panel, CLI-01-20, 54 NRC___, slip op. at 2 (October 4, 2001); *see also Millstone*, CLI-01-24, slip op. at 19, n.10; *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

⁵(...continued)
(Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90 (1996).

A contention must be rejected if: it constitutes an attack on applicable statutory requirements; it challenges the basic structure of the Commission's regulatory process or is an attack on the regulations; it is nothing more than a generalization regarding the petitioner's view of what applicable policies ought to be; it seeks to raise an issue which is not proper for adjudication in the proceeding or does not apply to the facility in question; or it seeks to raise an issue not concrete or litigable. *Peach Bottom, supra*, ALAB-216, 8 AEC at 20-21. See also *Private Fuel Storage L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179 (1998).

Finally, Licensing Boards are delegates of the Commission and, as such, they may "exercise only those powers which the Commission has given to [them]." *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, 3 NRC 167, 170 (1976). It is well established under Commission precedent that a contention is not cognizable unless it is material to a matter that falls within the scope of the proceeding for which the Licensing Board has been delegated jurisdiction as set forth in the Commission's Notice of Opportunity for Hearing. *Marble Hill*, 3 NRC at 170-71; see also *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-616, 12 NRC 419, 426-27 (1980); *PFS*, LBP-98-7, 47 NRC at 179. With respect to the instant license renewal proceeding, the Commission stated that:

The scope of this proceeding is limited to discrete safety and environmental issues. This encompasses a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures and components that are subject to an evaluation of time-limited aging analyses. See 10 C.F.R. §§ 54.21(a) and (c), 54.4; *Nuclear Power Plant License Renewal; Revisions, Final Rule*, 60 Fed. Reg. 22,461 (1995). In addition, review of environmental issues is limited in accordance with 10 C.F.R. §§ 51.71 (d) and 51.95(c). See NUREG-1437, "Generic Environmental Impact Statement (GEIS) for License Renewal of Plant;" *Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, Final Rule*, 61 Fed. Reg. 28,467 (1996), amended by 61 Fed. Reg. 66,537 (1996).

Order Referring Petitions, CLI-01-20 at 2 (citation omitted).

2. Regulatory Framework

As discussed above, pursuant to 10 C.F.R. Part 54 the scope of this proceeding is limited to “a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures and components that are subject to an evaluation of time-limited aging analyses.” Order Referring Petitions, CLI-01-20 at 2. On the other hand, the scope of the environmental review is limited in accordance with 10 C.F.R. §§ 51.45, 51.71 (d), and 51.95(c). *Id.*

The regulatory framework for license renewal was discussed in detail in the Statement of Considerations (SOC) accompanying the rule revisions to the final rule on license renewal,⁶ and also discussed in the Commission’s opinion in *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3 (2001). In *Turkey Point*, the Commission outlined the safety and environmental issues that fall inside and outside the license renewal regulations. *Turkey Point*, CLI-01-17, 54 NRC at 6.

A. Safety Review

The objective of the license renewal review is to:

determine whether the detrimental effects of aging, which could adversely affect the functionality of systems, structures, and components that the Commission determines require review for the period of extended operation, are adequately managed. The license renewal review is intended to identify any additional actions that will be needed to maintain the functionality of the systems, structures, and components in the period of extended operation.

Final Rule, “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22,461, 22,464 (1995). The SOC describes two principles of license renewal formulated by the Commission. The first principle is:

with the possible exception of the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the

⁶ Final Rule, “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22,461 (1995).

period of extended operation and possibly a few other issues related to safety only during extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provides and maintains an acceptable level of safety so that operation will not be inimical to public health and safety or common defense and security.

Id. The Commission believed that the regulatory process would ensure that this principle remained valid during extended operation of a plant as long as the detrimental effects of aging on the functionality of certain systems, structures, and components in the period of extended operation were addressed. *Id.*

The second principle of license renewal is that “the plant-specific licensing basis must be maintained during the renewal term in the same manner and to the same extent as during the original licensing term.” *Id.* The Commission believed this principle would be accomplished through application of age-related degradation management for systems, structures, and components that are important to license renewal. *Id.*

When taken together, these principles provide that, so long as the aging effects are adequately managed through the period of extended operation, the current licensing basis ensures adequate safety for design basis events, and therefore need not be considered in a license renewal review. *Id.*

In *Turkey Point*, the Commission reaffirmed that safety issues reviewed when the facility was first licensed and that “are routinely monitored and assessed by ongoing agency oversight and agency mandated licensee programs” are not included within the scope of renewal. *Turkey Point*, CLI-01-17, 54 NRC at 7 (citing 10 C.F.R. Part 54). The Commission noted that license renewal reviews were not intended to “duplicate the Commission’s ongoing review of operating reactors.” *Id.* (quoting Final Rule, “Nuclear Power Plant License Renewal,” 56 Fed. Reg. 64,943, 64,946 (Dec. 13, 1991)). In establishing the license renewal process, the Commission “did not believe it necessary or appropriate to throw open the full gamut of provisions in a plant’s current licensing basis to re-analysis during license renewal review.” *Id.* at 9. As an example of provisions that are

precluded from consideration in license renewal review because the ongoing regulatory oversight process negates the need for additional review in order to ensure that safety standards are maintained, the Commission examined emergency planning. *Id.* 9-10. As the Commission noted, the emergency planning requirements are independent of license renewal, are subject to ongoing regulatory processes and therefore, do not “come within the NRC’s safety review at the license renewal stage.” *Id.* at 10. Adjudicatory hearings in individual license renewal proceedings share the same scope of issues as the Staff review. *Id.*

B. Environmental Review

As with the 10 C.F.R. Part 54 health and safety review, the Commission sought to develop a focused environmental review in 10 C.F.R. Part 51, dividing environmental requirements for license renewal into generic and plant-specific components, examining the potential environmental consequences for the renewal term. The Commission analyzed environmental and safety data on operating experience of all light-water nuclear power reactors licensed to operate in 1991, and developed the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS) that identified both generic and plant-specific environmental impacts that could occur in the renewal term. See NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” Final Report, Vol. 1 (GEIS) (May 1996).

Generic conclusions are classified as Category 1 issues and do not need to be re-analyzed on a site-specific basis since they involve environmental effects that are essentially similar for all plants. 10 C.F.R. § 51.53(c)(3)(i). Instead of analyzing Category 1 issues in a site-specific Environmental Report, an applicant may use the generic environmental impact findings found in Table B-1, Appendix B to 10 C.F.R. Part 51. If new and significant information may affect the applicability of a Category 1 issue at a particular plant, the applicant must then provide additional analyses in its Environmental Report. See 10 C.F.R. § 51.53(c)(3)(iv). Individuals are afforded ample opportunity to raise new and significant information that would then require the applicant to

analyze what might otherwise be classified a generic issue. See 10 C.F.R. §§ 2.758 and 2.802. Environmental issues that are not deemed generic by the Commission are classified as Category 2, and require a plant-specific review. See 10 C.F.R. §51.53(c)(3)(ii) and Part 51, Subpart A, Appendix B.

3. Standing

In this section, the Staff responds to NIRS' Amended Petition To Intervene Reply To Arguments With Respect To Standing (Amended Petition). In the Amended Petition, NIRS has conceded its error in maintaining that the affidavit of Jan Jenson (Jenson Aff.) supported an assertion of standing for challenging the license renewal of Catawba. NIRS, however, challenges the argument in NRC Staff's Response to Request for Leave to Intervene that the affidavit of Ronald Barnette (Barnette Aff.) does not establish standing. NIRS has also supplied the missing affidavit of Phyllis St. Clair (St. Clair Aff.) referenced in the original NIRS Request For Hearing and Petition To Intervene, and has amended said petition with the addition of the affidavit of Jesse Riley (Riley Aff.).

NIRS admits that Ms. Jenson's assertion that she lived within forty miles of Catawba was in error. Therefore, her affidavit does not support an argument for standing with regard to Catawba. As will be discussed subsequently, however, the affidavit of Ms. Jenson is not necessary for establishing standing with regard to Catawba, as the affidavits of Ms. St. Clair and Mr. Riley provide sufficient basis for standing.

In the Amended Petition, NIRS disputes the Staff's position that the affidavit of Ronald Barnette was insufficient to establish standing.⁷ Amended Petition at 2.

⁷ As the Staff pointed out in its Response to BREDL's Petition for Intervention, Mr. Barnette asserts that he owns property within 40 miles of the Catawba and McGuire reactors, and has contact (6-8 times per year) with family living within 40 miles of the Catawba and McGuire reactors and consumes garden produce during those visits. Barnette Aff. at 1-2. However, Mr. Barnette does not claim that he resides in proximity to either site. Furthermore, he fails to cite any contact
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In response to the Staff's challenge of NIRS's assertion that mere ownership of property within forty miles of the reactor, without any detail as to type of contact, justifies granting standing, NIRS cites *North Atlantic Energy Services Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 215-216 (1999). NIRS asserts that *Seabrook* stands for the proposition that the Commission has recognized property interests as being sufficient to establish standing. Amended Petition at 2. While it is accurate that the Commission in *Seabrook* did find a property interest to be sufficient so as to justify standing, the case is not analogous to Mr. Barnette's situation. *Seabrook* was a license transfer case in which the Commission found that an ownership interest in the actual facility conferred standing on the co-owner. See *Seabrook*, CLI-99-6, 49 NRC at 216. It is difficult to see how Mr. Barnette's mere assertion that he owns some property, of an undisclosed nature, within forty miles of Catawba, without any details as to the type of contact, is analogous to having property rights of ownership of the reactor facility itself that would certainly be affected by a license transfer case. NIRS also claims that Mr. Barnette has provided adequate information about his family contacts, specifically that he visits unspecified family members six to eight times a year, and plans to continue visiting his family in the area. Amended Petition at 3. But, as the Commission stated in PFS, "standing does not depend on the precise number of... visits," but turns on "the likelihood of an ongoing connection and presence." *PFS*, CLI-99-10, 49 NRC at 324, *citing*, *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Instillation), CLI-98-13, 48 NRC 26, 32 (1998). Mr. Barnette fails to provide any information as to either the duration or the purpose of his visits to his family, thus failing to give insight on the likelihood of an ongoing connection and presence. Mr. Barnette's affidavit fails to provide any details as to the contact with the property he

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with the property he owns nor does he specify the locations of the various relatives he asserts he visits. He does not address the duration of his contacts with the area. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Instillation), CLI-99-10, 49 NRC 318, 323 (1999).

allegedly owns in the area, or the type and duration of the contact with family that he allegedly visits, and therefore has failed to establish standing with regard to Catawba.

While NIRS fails to establish standing to challenge the Catawba license renewal through the affidavits of Jan Jenson or Ronald Barnette, it has established standing based upon the two affidavits included in its amended petition. Ms. St. Clair asserts in her affidavit that she resides forty miles from Catawba, and has been a dues paying member of NIRS since September 2000.⁸ St. Clair Aff. at 1. Mr. Riley states in his affidavit that he resides within twenty miles of Catawba and has been a member of NIRS for at least ten years. Riley Aff. at 1. The affidavits of Ms. St. Clair and Mr. Riley establish standing by demonstrating the element that was lacking from the affidavits of Mr. Barnette and Ms. Jenson, namely that they reside within the immediate area of Catawba, and due to possible future unsafe operation of the plant and risks posed to the environment by said operation resulting from aging, their health and welfare will be impacted by the license renewal. Based upon the newly filed affidavits of Phyllis St. Clair and Jesse Riley, NIRS has now sufficiently established standing as to Catawba.

4. NIRS CONTENTIONS

NIRS, in its pleading, states that certain “contentions” are supported by bases that are then sequentially numbered as subsections of each section dealing with an individual “contention.” The “contentions,” however, are not clearly articulated and generally are in the form of introductory material. In some cases, the enumerated subsections within each category of “contention” should be more appropriately characterized as a contention. Therefore, the Staff in response to those contentions has chosen to address the enumerated subsections. Other contentions do not, however, delineate between contentions and bases. In those cases, the Staff has attempted to restate the contentions and bases.

⁸ The affidavit of Phyllis St. Clair was not included with the NIRS Request For Hearing and Petition To Intervene served on Staff Counsel.

NIRS Contention 1.1.1

MOX Fuel Use Will Have a Significant Impact on the Safe Operation of Catawba and McGuire During the License Renewal Period and Must be Considered in the License Renewal Application.

NIRS Contentions at 2.

Staff Response to Contention 1.1.1

Throughout its pleading, NIRS raises several contentions regarding the irradiation of MOX fuel at the Catawba and McGuire nuclear stations.⁹ Its arguments regarding MOX include safety and environmental issues. NIRS, however, has failed to identify any issues regarding MOX fuel that are within the scope of this proceeding. The scope of this proceeding is limited by the regulations found in 10 C.F.R. Parts 54 and 51. First, the NRC is obliged to consider the reasonably foreseeable environmental impacts arising from the proposed action. 10 C.F.R. § 51.71(d) (mandating analysis of the “*proposed action*” (emphasis added)). Therefore, the ongoing environmental review is limited to the current proposal—the renewal of the applicant’s operating licenses. Second, the scope of the Staff’s review is further limited by the Commission’s regulations that implement its obligations under the AEA in the area of license renewal. 10 C.F.R. Part 54. Subject to Part 54, the standard for issuance of a renewed license relies on the current licensing basis (CLB) of the plant. See 10 C.F.R. § 54.29 (a) (establishing the standards for issuance of a renewed license); see also 10 C.F.R. § 54.3 (defining current licensing basis). Since irradiation of MOX fuel at Catawba and McGuire is not part of the plants’ CLB, its consideration is beyond the scope of this proceeding.

⁹ See, e.g., NIRS Contentions at 2-4 (Contention 1.1.1; arguing that MOX use would cause age-related degradation of structures and components); *Id.* at 9 (Contentions 1.1.2 (h)-(j)); claiming that MOX use would heighten concerns regarding theft and sabotage, and aggravate the results of a core breach accident); *Id.* at 15 (Contention 1.1.4 (d); alleging that the interaction of MOX and station black out must be analyzed); *Id.* at 17 (Contention 1.1.5 (b); asserting that, because of MOX use, increased “back-up power” is necessary); *Id.* at 21 (Contention 1.2.4; stating that the applicant’s environmental report is incomplete because it did not address MOX use).

NEPA mandates the preparation of an environmental impact statement (EIS) for all major federal actions significantly affecting the quality of the human environment. 42 U.S.C. § 4332. According to NRC regulations, renewal of an operating license falls within the range of actions that require the preparation of an EIS. See 10 C.F.R. § 51.20(b)(2). In the case of license renewal, this document takes the form of a supplement to the GEIS. At issue here, is whether the Staff is required to address the plausible impacts of using MOX in the supplement to the GEIS. Under NEPA, however, only the impacts arising from proposed actions or their alternatives have to be analyzed. Since the use of MOX fuel at Catawba and McGuire is not a proposal before the NRC, NEPA does not require that the Staff address the plausible impacts of using MOX in its environmental review of the license renewal application.

In the seminal case identifying the need for a proposal, the Supreme Court rejected the formulation of a balancing test to determine the need for an EIS and instructed the lower court to rely simply on whether the federal agency had a proposal for a major federal action before it. See *Kleppe v. Sierra Club*, 427 U.S. 390, 406 (1976). The Court stated that, “[a] court has no authority to depart from the statutory language and, by a balancing of court-devised factors, determine a point during the germination process of a potential proposal at which an impact statement should be prepared.” *Id.* The Court went on to explain that NEPA “does not require an agency to consider the possible environmental impacts of less imminent actions when preparing the impact statement on proposed actions.” *Id.* at 410 n. 20. The difficulty, however, in applying the holding in *Kleppe* is that the court never defined what constitutes a proposal.

Subsequent to *Kleppe*, there has been a great deal of litigation regarding the proposal requirement and the consideration of impacts flowing from actions that are still in the planning stages.¹⁰ For example, in *National Wildlife Federation v. FERC*, the D.C. Circuit examined NWF’s

¹⁰ See, e.g., *City of Grapevine v. DOT*, 17 F.3d 1502, 1506 (D.C. Cir. 1994); *Sierra Club* (continued...)

petition for review of a license granted by FERC for construction and operation of a dam with a small hydroelectric powerhouse to the City of Fort Smith, Arkansas. 912 F.2d 1471, 1473-74 (D.C. Cir. 1990). Construction was to take place in two phases, with Phase I beginning immediately, and Phase II to follow at an undetermined time. *Id.* at 1473. Intervenors sued to keep FERC from granting the license. *Id.* One of the arguments against FERC's actions was that they had not analyzed the potential impacts arising from Phase II of the project. *Id.* at 1474. The court, however, upheld the environmental analysis performed by FERC and ruled that the EIS was sufficient. *Id.* at 1478-79. The court reasoned that Phase II of the project was too speculative and thus it was not necessary to consider it in the EIS. *Id.* The court, commenting on *Kleppe*, observed that "[t]he Court [in *Kleppe*] explicitly limited the application of [the requirement of an EIS for cumulative projects] to existing, presently proposed actions that might have cumulative or synergistic effects." *Id.* at 1477. Later the court went on to conclude that "*Kleppe* ... clearly establishes that an EIS need not delve into the possible effects of a hypothetical project, but need only focus on the impact of the particular proposal at issue and other pending or recently approved proposals that might be connected to or act cumulatively with the proposal at issue." *Id.* at 1478.¹¹

¹⁰(...continued)

v. Marsh, 976 F.2d 763, 778 (1st Cir. 1992); *Neighbors Organized to Insure a Sound Environment v. McArtor*, 878 F.2d 174, 178 (6th Cir. 1989); *Park County Resource Council, Inc. v. USDA*, 817 F.2d 609, 622-24 (10th Cir. 1987); *Crouse Corp. v. ICC*, 781 F.2d 1176, 1194-5 (6th Cir. 1986); *Webb v. Gorsuch*, 699 F.2d 157, 161 (4th Cir. 1983); *Concerned Citizens On I-90 v. Secretary of Transportation*, 641 F.2d 1, 5-6 (1st Cir. 1981); *Lange v. Brinear*, 625 F.2d 812, 815-16 (9th Cir. 1980). Most recently, the Court of Appeals for the Third Circuit in *Society Hill Towers Owners' Association v. Rendell*, while addressing the requirements of an environmental assessment, held that projects that were proposed in planning documents were appropriately excluded from analysis in the EA's section addressing cumulative impacts. 210 F.3d 168, 181-82 (3d Cir. 2000). The Third Circuit, in upholding HUD's approval of the grant, said: "NEPA only requires consideration of the cumulative impact of proposed, and not merely contemplated future actions." *Id.* at 182.

¹¹ It is important to note, that the D.C. Circuit in *National Wildlife* called into question the current applicability of its decision in *Scientists' Inst. For Public Information, Inc. v. AEC*, 481 F.2d 1079 (D.C. Cir. 1973). *National Wildlife*, 912 F.2d at 1478. In *SIPI* the court held that "future, yet unproposed projects should be considered in the EIS analyzing a proposal if the envisioned future
(continued...)

In a similar case, addressing the possible cumulative impacts of an action, the Fifth Circuit held that the government was not required to address projects that were merely contemplated. See *South Louisiana Environmental Council, Inc. v. Sand*, 629 F.2d 1005, 1015-16 (5th Cir. 1980). In *Sand*, the Army Corps of Engineers contemplated extending the Avoca Island levee in Louisiana in order to provide flood control for the area. *Id.* at 1015. This extension, if it were to occur, would force the relocation of a second project, the Bayou Chene-Avoca Island Cutoff. *Id.* The EIS for the Bayou Chene-Avoca project did not discuss the potential impacts of the extension of the Avoca Island Levee. *Id.* The Fifth Circuit reasoned that such a discussion was not required because the Avoca Island Levee project was merely “contemplated” and not “proposed,” and therefore a cumulative environmental impact statement was not required. *Id.* The court concluded by noting that “should the extension ever become a pending proposal it will be reviewed on its own” *Id.* at 1016.

In sum, the case law surrounding the proposal requirement consistently supports the conclusion that an agency is not required to address impacts from an action that is seen by the court as speculative or still in its planning stages. It is clear that the cases reflect a pattern—agencies are required to analyze the impacts of an act only when it is clear that the agency is pursuing the action. If the act is not being pursued by the agency, however, then it fails to meet the proposal requirement.

In the instant case, there is no proposal before the Commission to irradiate MOX at Catawba and McGuire. Therefore, the Board should rule that issues related to MOX are beyond the scope of this proceeding. Currently, there are several uncertainties surrounding the

¹¹(...continued)
projects would impact the relevant environment.” *Id.* In its decision in *National Wildlife*, the court opined that it “seriously [doubted] that the relevant reasoning in [*SIFI*] survived] the Supreme Court’s *Kleppe* decision.” *Id.*

construction of the MOX fuel fabrication facility (MFFF).¹² Further, the use of MOX in commercial reactors would first require the licensee to amend its operating license, and no proposals to use MOX fuel have yet been submitted to the NRC. Therefore, in light of the contingencies that must be resolved, the use of MOX at Catawba and McGuire cannot be considered a proposal before the agency and is beyond the scope of the Staff's environmental review.

Similar to the discussion above, Part 54 also precludes consideration of issues related to use of MOX at Catawba and McGuire. The regulations found in Part 54 codify the Commission's health and safety obligations with regard to renewal of operating licenses for nuclear power plants. See 60 Fed. Reg. 22,461 (1995); 56 Fed. Reg. 64,943 (1991). In Part 54, the Commission explicitly limits the scope of the Staff's analysis to matters covered by the CLB. 10 C.F.R. § 54.29. Thus, matters that are not part of the CLB are beyond the scope of this proceeding.

The CLB, as defined in 10 C.F.R. § 54.3, includes:

[T]he set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect. The CLB includes the NRC regulations contained in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, 100 and appendices thereto; orders; license conditions; exemptions; and technical specifications. It also includes the plant-specific design-basis information defined in 10 CFR 50.2 as documented in the most recent final safety analysis report (FSAR) as required by 10 CFR 50.71 and the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, as well as licensee commitments documented in NRC safety evaluations or licensee event reports.

10 C.F.R. § 54.3. Under Section 54.3, use of MOX fuel is clearly not part of the CLB. Currently, the plants' Technical Specifications indicate that the fuel rods shall have a composition of natural or slightly enriched uranium dioxide. See Technical Specifications for Catawba, Units 1 and 2, Section 4.2 (Exhibit 1); Technical Specifications for McGuire, Units 1 and 2, Section 4.2 (Exhibit 1).

¹² For example, whether the applicant in the MFFF construction authorization proceeding will be allowed to build and operate the MFFF remains undecided.

Therefore, as stated above, in order to use MOX fuel the licensee would first have to obtain NRC approval. As a result, use of MOX fuel is not part of the CLB and consideration of any issues related to the use of MOX at Catawba and McGuire are beyond the scope of this proceeding.

NIRS Contention 1.1.2

The Petitioner contends that the Duke Energy license extension application has not realistically or fully analyzed and evaluated all structures, systems and components required for the protection of the public health and safety from deliberate acts of radiological sabotage. These unanalyzed systems, structures and components include but are not limited to the containment structure, fire protection systems and coolant water intake systems and electrical grid system as primary power supply to plant safety systems for the Catawba and McGuire units.

NIRS Contentions at 5. NIRS bases this contention on the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon, the NRC's concern with security, and press reports that extremist groups have targeted nuclear power plants for terrorist attacks. NIRS contends that Duke must amend its license renewal application to reflect awareness of heightened security concerns and claims that security issues constitute "an age-related regulatory issue adversely affecting public health and safety." *Id.* NIRS claims that there is ample evidence to show that terrorism is accelerating, particularly in relation to the targeting of nuclear facilities. *Id.* NIRS states that an adequate security analysis for license renewal must include analysis of the following: vulnerability to air assaults; large truck bombs; attacks by water, including the possibility of the loss of dams on Lake Norman and Lake Wylie; "analysis of fire as well as direct physical destruction;" impacts on outside containment structures and functions;¹³ "attack by multiple coordinated teams with multiple insiders in assistance;" "socio-economic impact of closure of Lake Norman and/or Lake Wylie for security purposes;" and, the impact of MOX fuel on the attractiveness of the site for attack and on core breach accident scenarios. *Id.* at 7-9. NIRS also contends that Duke must

¹³ This portion of the contention, Section 1.1.2(e) consists of one incomplete sentence. Therefore, its meaning is not clear.

revise the assumptions used to assess the resources available to cope with terrorist attacks. *Id.* at 9. NIRS asserts that the application is incomplete because the containments have not been adequately analyzed for vulnerability to an aircraft crash. *Id.* at 9-10. NIRS goes on to state that the NRC has not adequately or reasonably evaluated aviation attacks. *Id.* at 10-11. NIRS calls for a generic analysis of the potential for terrorism and its impacts and a revision of generic assumptions about license renewal and high-level nuclear waste generation. *Id.* at 11-12. Finally, NIRS asserts that the application does not effectively analyze or evaluate the vulnerability of the grid system and switchyards to terrorism. *Id.* at 12.

Staff Response to Contention 1.1.2 (a)-(n).

The Staff submits that for the reasons set forth below, this contention should be rejected. Consideration of the matters raised by the contention are outside the scope of the renewal process. The Commission has specifically excluded consideration of security matters in the statement of considerations accompanying the final revision of Part 54.

When the design bases of systems, structures, and components can be confirmed either indirectly by inspection or directly by verification of functionality through test or operation, a reasonable conclusion can be drawn that the CLB is or will be maintained. This conclusion recognizes that the portion of the CLB that can be impacted by the detrimental effects of aging is limited to the design-bases aspects of the CLB. All other aspects of the CLB, e.g., quality assurance, physical protection (security), and radiation protection requirements, are not subject to physical aging processes that may cause noncompliance with those aspects of the CLB.

Final Rule, "Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. 22,461, 22, 475 (1995). Therefore, such issues are outside the scope of license renewal review. See *Turkey Point*, CLI-01-17, 54 NRC at 8-10. NIRS states, without support or basis, that because the issues raised in the contention "were never considered in the original licensing proceeding," they now constitute an "age-related regulatory issue adversely affecting public safety." NIRS Contentions at 6. However, NIRS does not cite any facts or expert opinion to demonstrate that the security issues

raised are age related. The Staff submits that there is nothing about the issues raised that relates to aging or aging management and the Commission has specifically excluded their consideration in license renewal proceedings. It is, therefore, outside the scope of this proceeding.

The contention also fails because it is an impermissible challenge to the Commission's regulations, it raises current operating issues that are outside the license renewal process, and it lacks the basis and specificity required under Commission regulations.

While the Commission has begun consideration of its regulations and requirements in light of the September 11 events, its existing regulations continue to govern the consideration of license renewal applications. As discussed above, physical protection issues are excluded from consideration in license renewal proceedings because physical protection systems are not subject to aging processes. In addition, 10 C.F.R. § 50.13 specifically states that an applicant for an operating license or for an amendment to such license, "is not required to provide design features or other measures for the specific purpose of protection against the effects of (a) attacks and destructive acts, including sabotage, directed against the facility by an enemy of the United States" As a result, such measures are not in the CLB for McGuire or Catawba. Therefore, under 10 C.F.R. Part 54, consideration of such measures is beyond the scope of this proceeding. In addition, under current licensing requirements, licensees are required to establish and maintain a physical security plan. 10 C.F.R. § 50.33(c); 10 C.F.R. Part 73.¹⁴ NIRS is asking that Duke be required to provide more security analysis than is mandated under the Commission's regulations and to design for threats not included in the regulations as design basis threats. In proffering this

¹⁴ 10 C.F.R. § 73.55 requires a licensee must establish an onsite physical protection system that is "designed against the design basis threat of radiological sabotage as stated in [10 C.F.R.] § 73.1(a)." The specific requirements for the physical protection plan and the threats required to be designed against are contained in 10 C.F.R. §§ 73.1 and 73.55. In addition, 10 C.F.R. Part 73, Appendix C provides specific requirements for a licensee's safeguards contingency plan, including a set of pre-determined decisions and actions for responding to threats, thefts and sabotage. Under the existing regulations in Parts 50 and 73, a licensee is not required to address the potential for terrorist attacks similar to the September 11 events.

contention, NIRS is clearly challenging the adequacy of the Commission's regulations, in contravention of 10 C.F.R. § 2.758(a).

NIRS contends that there is new information that supports its assertion that the containment structures have not been adequately analyzed. NIRS Contentions at 9-10. The new information consists of a October 24, 2001 newspaper article about a 1982 report by Argonne National Laboratories that had been publically available for many years. *Id.* The claim that this information is new is obviously inaccurate. As NIRS admits, the Commission does not require applicants to analyze events such as those described in the Argonne report. NIRS wants the Commission to change its requirements, but this proceeding is not the appropriate forum to challenge the Commission's regulations.

The claim that the Argonne report somehow mandates that the applicant address current operational matters outside the scope of this license renewal proceeding is without basis and constitutes another challenge to the Commission's regulations.

The issue being raised is not one that is required to be considered in a license renewal review. It is not an aging issue and has no substantive relationship to renewal of these licenses. Finally, NIRS has not provided a concise statement of alleged facts or expert opinions which support the bases for the contentions as required by 10 C.F.R. § 2.714(b)(2)(ii). Nor has NIRS provided any facts which demonstrate that these issues have any relevance to the renewal of these licenses. NIRS simply makes unsupported statements that certain terrorist threats must be analyzed. However, NIRS provides no support for its view that the types of attacks enumerated in its contention constitute events that are required to be included in the license renewal application, either based on the aging issues of Part 54 or the environmental considerations of 10 C.F.R. Part 51, Subpart A, Appendix B or 10 C.F.R. §§ 51.71(d) and 51.95(c). Therefore, the contention should not be admitted.

NIRS Contention 1.1.3

Duke fails to analyze the multiple impacts that these [global climate] accelerating [global climate] changes will have on reactor operations, as well as the ways that it will change the type and magnitude of impact that the reactors have on their external surroundings.

NIRS Contentions at 13.

Staff's Response to Contention 1.1.3

Pursuant to 10 C.F.R. § 2.714, a petitioner must allege facts or provide expert opinion that support its contention. In the instant case, however, the petitioner failed to meet its burden. No information was provided by the petitioner to substantiate that global climate changes would impact the frequency or severity of severe weather at McGuire or Catawba, or how any such changes would impact the SAMA analysis. The Staff notes that nuclear power plants are designed to accommodate severe weather events as part of the spectrum of design basis accidents (DBAs) considered in the design and licensing of the plant. See 10 C.F.R. Part 50, Appendix A, General Design Criteria 2; 10 C.F.R. § 100.10(c). This results in a robust design with significant margins to cope with severe weather events. Therefore, this contention should not be admitted.

Contention 1.1.4 (a)

Duke's license renewal application fails to mention NUREG/CR-6427, nor to provide an analysis of the findings of this report with regard to these four ice-condenser reactors.

NIRS Contentions at 15.

Staff's Response to Contention 1.1.4 (a)

Both NIRS and BREDL point out that Duke's severe accident mitigation alternatives (SAMA) analysis failed to address a recent Sandia study on Direct Containment Heating (DCH) ("Assessment of the DCH Issue for Plants with Ice Condenser Containments," NUREG/CR-6427).¹⁵ Both NIRS and BREDL, however, fail to allege that the analysis contained in the applicant's

¹⁵ See BREDL Contentions at 38-39; NIRS Contentions at 14.

submittal is incorrect. Furthermore, the fact that Duke did not reference or address the findings from the Sandia study does not mean that Duke's plant safety analysis (PSA), on which its SAMA analysis relies, is deficient in this regard. See McGuire Environmental Report, Reference 3.1, Attachment K, page 32; Catawba Environmental Report, Reference 3.1, Attachment H, page 31. Also, the Duke probabilistic risk assessment (PRA) addresses several severe accident initiators, including station blackout (SBO), loss of coolant accidents (LOCAs), transients, anticipated transient without scram (ATWS), and internal floods, and includes treatment of all important containment challenges, including DCH over-pressure failure, and hydrogen combustion. See McGuire Environmental Report, Reference 2.3, Attachment K, page 32; Catawba Environmental Report, Reference 2.3, Attachment H, page 31. NIRS, however, fails to allege that Duke failed to consider any of the initiators or containment challenges which are included in the Sandia report. Moreover, the set of SAMAs considered by Duke also includes installing backup power to igniters that would mitigate the major contributor to containment failure in the Sandia study. See NUREG/CR-6427, Summary and Recommendation Section at 121. The petitioner has failed to point to any deficiencies in the applicant's analysis. Therefore, this contention should not be admitted.

NIRS Contention 1.1.4 (b)

The risk factors of intentional acts of terror, inadvertent acts of war in the event of armed conflict within the U.S. have not been analyzed with respect to station blackout.

NIRS Contentions at 15.

Staff's Response to Contention 1.1.4 (b)

As discussed above in the Staff's response to Contention 1.1.2, physical protection is outside the scope of this proceeding. Bootstrapping the terrorism issue onto the SBO issue does not make it admissible. In addition, this contention does not meet the requirements of

10 C.F.R. § 2.714. It contains no factual or legal support. It is vague and it contains no bases.

Therefore, it should be dismissed.

NIRS Contention 1.1.4 (c)

The contribution of increased risk of station blackout from acceleration in severe weather associated with Global Climate Change has not been evaluated.

NIRS Contentions at 15.

Staff's Response to Contention 1.1.4 (c)

Please refer to response provided *supra* to NIRS Contention 1.1.3.

NIRS Contention 1.1.4 (d)

If MOX plutonium fuel is to be used in these reactors, the interaction of MOX and station blackout must also be analyzed, both from the perspective of increased chances of SBO due to sabotage, as well as increased likelihood of accidents and also the consequences of SBO and containment failure with MOX fuel in the core which the Department of Energy has acknowledged in the Final Supplemental EIS on Surplus Plutonium Disposition would lead to a significant increase in latent cancer fatalities compared to a LEU core, supporting the findings of Dr. Edwin Lyman at Nuclear Control Institute.

NIRS Contentions at 15 (footnote omitted).

Staff Response to Contention 1.1.4 (d)

Please refer to response provided *supra* to NIRS Contention 1.1.1.

NIRS Contention 1.1.5

An alternative mitigation for Station Blackout (shown in item 1.1.4 to be a highly significant factor for these Duke reactors compared to all other in the United States) would be to provide a dedicated electrical line from the hydroelectric generating dams adjacent to each reactor site (these dams are owned by Duke, on Lake Norman and Lake Wylie).

NIRS Contentions at 16.

Staff Response to Contention 1.1.5

NIRS' argument fails to raise an admissible contention related to the SAMAs analyzed by the applicant in its ER. Pursuant to Part 51 an environmental report filed with the Commission in support of a license renewal application must contain "a consideration of alternatives to mitigate

severe accidents” if these alternatives have not been previously examined. 10 C.F.R. § 51.53 (c)(ii)(L) (codifying the findings in Part 51, Appendix B). In Contention 1.1.5, NIRS argues that having a dedicated power source in the form of an electrical line from hydroelectric dams is an unexamined mitigation alternative. The petitioner, however, fails to allege any facts or expert opinion to support its allegation that its proposal is a viable alternative. The petitioner simply states that this alternative “would not pose a great challenge” to analyze without providing any expert opinion or facts to support its conclusion. See 10 C.F.R. § 2.714(b)(2)(ii). Thus, NIRS’ proffered contention fails to meet the contention standard and must be excluded from this proceeding.

NIRS Contention 1.1.6

New information on fuel pool fire has been offered in a current license action on the Millstone Nuclear Power Station No. 3, Facility Operating License NPF-49 (Docket No 50-423-LA-2) is subject to intervention by two citizens organizations, Connecticut Coalition Against Millstone (CCAM) and the Long Island Coalition Against Millstone (CAM). The Declaration of 31 October 2001 by Dr. Gordon Thompson in Support of A Motion by CCAM/CAM is offered here in the appended Exhibit document. Dr. Thompson gives new information showing that there is an increased risk of fuel pool fire from a partial pool drain-down that has not been previously factored in analysis of fuel pool accidents and further, that the state of the world is a significant contributing factor to increased risk of such an event, particularly due to sabotage. We also contend that climate change is another accelerating factor that could contribute to conditions leading to a fuel pool fire. Acceleration would result in increasing hazard over the renewal period.

10 CFR 51.23(a) indicates that high-level irradiated fuel may be assumed to be at the reactor site for up to 30 years after the reactor ceases operation. The license regime for on-site dry casks actually permits up to 120 years of waste on the site; therefore it should be assumed for purposes of analysis that all of the waste generated by the reactors is on the site in the event of a fuel pool fire. Even waste that is transferred to dry storage would be impacted by such an event, if only by severe external contamination, impeding routine maintenance and inspection.

NIRS Contentions at 17-18.

Staff Response to NIRS Contention 1.1.6

This contention is vague and imprecise. Although it alleges that there is new information regarding the risk of fuel pool fire, it does not state how this is related to license renewal. Nor does

it point to any deficiency in the licensee's application. Although the basis of the contention appears to be a report filed in an unrelated case, there is no attempt to relate it to the instant license renewal matter. Therefore, the contention does not demonstrate that a genuine dispute exists with the applicant on a material issue of law or fact as required by 10 C.F.R. § 2.714(b)(2)(iii). Nor does it provide a concise statement of alleged facts or expert opinion which supports the bases as required by 10 C.F.R. § 2.714(b)(2)(ii).

The storage and maintenance of spent fuel onsite is a Category 1 issue that is outside the scope of license renewal. *Turkey Point*, CLI-01-17, 54 NRC at 21-23. Pursuant to 10 C.F.R. § 51.53(c)(2), the applicant is not required to provide information regarding the storage and disposal of spent fuel and other radioactive substances. Section 51.53(c)(3)(i) provides that an applicant need not provide information regarding Category 1 issues set forth in Appendix B to part 51, Subpart A. Table B-1 in Appendix B to Subpart A provides that impacts associated with spent fuel and high-level waste disposal, low-level waste storage and disposal, mixed waste storage and disposal, and on-site spent fuel (dry or pool storage) are all Category 1 issues. Thus, Duke is not required to address these impacts in its environmental reports. NIRS has failed to identify any significant new information that would bring this issue within the scope of the Staff's environmental review.

Further, with respect to the issue of on-site storage, the Commission has already considered the environmental impacts of these activities. See 10 C.F.R. § 51.23. In late 1999, the Commission concluded that "no significant and unexpected events have occurred -- no major shifts in national policy, no major institutional developments, no unexpected technical information -- that would cast doubt on the Commission's Waste Confidence findings" at 10 C.F.R. § 51.23. Waste Confidence Decision Review: Status, 64 Fed. Reg. 68,005, 68,007. NIRS has not presented any significant new information such that the findings in the Generic EIS would no longer be applicable. To the extent that NIRS claims that the information raised in Dr. Thompson's report is new or

significant, the Staff disagrees. Dr. Thompson based his report largely on NUREG-1738, “Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (February 2001) and on the September 11 events. NUREG-1738 does not constitute new information. The Commission was well aware of it at the time it decided *Turkey Point*. See *Turkey Point*, CLI-01-17, 54 NRC at 22, n. 11. Nor is it significant. As pointed out by the Commission, that study, among others, “concluded that the risk of [spent fuel pool] accidents is acceptably small.” *Id.* at 22.

In addition, this contention does not raise any safety issue admissible under Part 54. The storage and management of spent fuel is outside the scope of this proceeding because it is a part of the current licensing basis (CLB) for McGuire and Catawba. See 10 C.F.R. §§ 54.3, 54.30. The concerns raised in the Thompson report are acts of terrorism or insanity relating to a different facility. Nothing in the report or in this contention relates to “plant structures and components that will require an aging management review for the period of the extended operation and the plant’s systems, structures and components that are subject to an evaluation of time-limited aging analyses.” Order Referring Petitions, CLI-01-20 at 2 (citing 10 C.F.R. § 54.21 (a) and (c), and § 54.4). NIRS does not point to any deficiency in the license renewal application or even refer to the application in this contention. Moreover, there is nothing in the contention that could be deemed facts in support of the contention and on which NIRS intends to rely in proving the contention at the hearing. The opinion of Dr. Thompson cited by NIRS is not material to this matter. In addition, there is insufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Therefore, this contention should not be admitted.

NIRS Contention 1.1.7

Recent breakthroughs in medicine that are based on the power of extremely low doses of radiation to impact the body. One such report was published by Dr. David A Scheinberg of Memorial Sloan-Kettering Cancer Center in New York in the Journal Science on November 16 and reported in the New York Times the same day. The findings showcase the impact of extremely low doses of radiation: even

a single atom of actinium-225 has the capacity to kill a cancer cell. If one atom of a radionuclide kills cancer, certainly it has the potential to harm or kill healthy cells as well, leading to a number of results, including cancer. This new and significant information that is nonetheless in the public realm must be factored in all impacts of license renewal on human health and the environment.

NIRS Contentions at 18.

Staff Response to NIRS Contention 1.1.7

The petitioner fails to allege any facts that would support a valid contention within the scope of this proceeding. Pursuant to 10 C.F.R. § 2.714 (b)(2)(ii) the petitioner is required to support its contention with facts or expert opinion. In Contention 1.1.7, however, NIRS boldly alleges that there have been new and significant findings relating to the effects of ionizing radiation. Certainly, such an assertion should and is required to be supported by fact or expert opinion. Nevertheless, the petitioner fails to state how this information relates to the conclusions made in the GEIS. Moreover, the petitioner provides no basis to support how the Scheinberg study is at all relevant in relation to the GEIS' findings.

In addition, NIRS' argument is an impermissible attack on the Commission's regulations. NIRS alleges that the Scheinberg report contravenes the findings in Appendix B to 10 C.F.R. Part 51 (that, by rule, incorporates the findings of GEIS into 10 C.F.R. Part 51, Table B-1). Although the regulations themselves provide for means to frame a challenge, NIRS has failed to follow such a scheme and has merely advocated that Part 51's findings are no longer current. See 10 C.F.R. § 2.758 (detailing the requirements for challenging a regulation). Therefore, NIRS has failed to establish an admissible contention.

NIRS Contention 1.1.8

If the factors of terrorist attack, MOX, climate change, new information on fuel pools, station blackout and radiation impacts are excluded from the matter of license renewal of Duke's four ice condenser units, then the provisions in 10CFR51.103(a)(5) that juxtapose environmental impacts with energy planning and "preserving the options of decision makers become an automatic rubber stamp for nuclear power and license renewal. The fulcrum of future energy demand will in every case appear to outweigh the types of environmental factors currently

considered. Nonetheless our members interests of life, health, livelihood, family and property are threatened by license renewal and extended operation precisely because of these accelerating factors. The longer these reactors operate, the more likely these factors will disrupt those operations. Indeed, 10CFR54.31(d) offers the specter of eternal operation with the option of renewal of the renewed license. It is not credible that future energy demand can only be supplied by nuclear power, nor is it credible to do an evaluation that excludes factors that are likely to determine the outcome of this situation.

NIRS Contentions 19-20.

Staff Response to NIRS Contention 1.1.8

All of the “factors” mentioned in Contention 1.1.8 are separately addressed in responses to other contentions throughout this response. Nevertheless, the statements contained in this “contention” are, at best, confusing and do not allege any issues germane to this proceeding. The petitioner has failed to meet the requirements found in 10 C.F.R. § 2.714. Contention 1.1.8 fails to raise or controvert any issue of law or fact and further it fails to provide any basis to support the claims found therein. Therefore, Contention 1.1.8 is not a valid contention.

NIRS Contention 1.2.1

Ozone depletion is no secret. It has the potential to greatly impact the Southeastern bioregion, particularly with respect to increased UVB radiation. This is of particular concern since it may impact plants and animals and microbes that are also impacted by discharges of heat, toxic substances and ionizing radiation from Duke’s reactors. This is of greatest concern for all endangered and threatened species but should be factored in general as well. Duke Energy fails to mention ozone depletion in their Environmental Reports submitted for Catawba and McGuire license renewal.

NIRS Contentions at 20.

Staff Response to NIRS Contention 1.2.1

In Contention 1.2.1 the petitioner challenges the completeness of the applicant’s ER. NIRS bases its argument on the fact that the ER fails to “mention ozone depletion.” NIRS Contentions at 20. However, there are no provisions in 10 C.F.R. Part 51 or elsewhere in the NRC regulations that would require the applicant to address “ozone depletion.” In fact, the scope of the ER is clearly described in 10 C.F.R. § 51.53 (c)(3)(ii) and it makes no mention of “ozone depletion.” In its ER,

an applicant is required to address Category 2 issues and any new and significant information of which it is aware. See 10 C.F.R. § 51.53(c)(3)(ii) and (iv). Thus, Contention 1.2.1 is not valid since it alleges that the ER does not address an issue that Part 51 does not require the applicant to address.

NIRS Contention 1.2.2

[The Applicant] fail[s] to analyze the impact of change in temperature and precipitation on species distribution and habitat factors for the region in general and for endangered and threatened species in particular.

The evaluation of aquatic impacts of the operation of the McGuire reactor and its once through cooling system also lacks any consideration of climate change. Such an evaluation should consider both the changes in precipitation as well as thermal impacts. Since climate change is an accelerating factor in (and of) our environment, the renewal period will be substantially different than the present. Each of these factors has the capacity to change the impact that operation of the McGuire reactors will have on Lake Norman and its biota. Duke has failed to assess these factors in their consideration of entrainment of fish, impingement of fish, and heat shock.

NIRS Contentions at 20-21 (footnote omitted).

Staff Response to NIRS Contention 1.2.2

Contention 1.2.2, like the previous contention, takes issue with the completeness of the applicant's ER. As far as the Staff can interpret the contention, the petitioner claims that the applicant failed to factor into its analyses the impacts of global climate change. As stated in the Staff's response to Contention 1.2.1, the requirements for preparation of an environmental report to support the license renewal application are found in 10 C.F.R. § 51.53. Again, the petitioner has failed to identify a particular subject matter covered by the regulation. Section 51.53 is clear in identifying a whole list of "Category 2" issues within the scope of license renewal that the applicant must address in its ER. The general or particularized effects of global climate change are not covered by the regulation. As a result, the applicant does not need to address those issues in its ER. Therefore, the petitioner fails to identify a valid contention.

NIRS Contention 1.2.3

The Fish and Wildlife Service reference the Georgia Aster and Schweinitz's Sunflower as two species of concern on or impacted by the reactor sites. Their letter is provided in the "Exhibits document appended to these contentions, marked Exhibit 1.2.3. Duke should include these endangered and challenged species in their analysis, as well as considerations of how Duke Energy might act to ensure their survival and recovery. A complete analysis should consider the synergisms that will result from the combination of reactor releases and discharges, ozone depletion and stresses associated with Climate Change.

NIRS Contentions at 21.

Staff Response to NIRS Contention 1.2.3

The applicant has addressed these two species in its ERs. See ER for Catawba Power Station, Section 4.10, at 4-32 and Attachment A at 10; ER for McGuire Power Station, Section 4.10, at 4-26 and Attachment D at 11. It has not addressed, however, ozone depletion and climate change. Nevertheless, as stated in the previous two responses, applicants for the renewal of an operating license are not required to include analysis of ozone depletion and global climate in its ER. Therefore, Contention 1.2.3 is not a valid contention.

NIRS Contention 1.2.4

MOX plutonium fuel use would result in a core that has a significantly greater fraction of plutonium throughout the fueling cycle than a reactor using conventional fuel. Further, as the fuel is irradiated, a higher percentage of actinides will be formed. These changes in the composition of the core will translate into increased plutonium and actinides in all forms of discharge from the reactor. This must be considered in the environmental analysis at every step. An analysis of MOX fuel on thermal discharges should also be done.

NIRS Contentions at 21-22.

Staff Response to Contention 1.2.4

Please refer to response provided *supra* to NIRS Contention 1.1.1.

NIRS Contention 2.1.1

The Contention filed by NIRS is rather long and complex. The Staff believes that it essentially contends the following:

The Applicant's submission for extension of the licenses for McGuire and Catawba nuclear stations from 40 to 60 years is deficient because the application fails to address the bolts that attach the closure head dome to the reactor vessel in its Aging Management Programs (Section 3) or in its Time-Limited Aging Analysis (Section 4), specifically those addressing Reactor Vessel Neutron Embrittlement (4.2) and Metal Fatigue (4.3). In addition, there is no section concerned with stress fatigue although stress changes, and fatigue, can result from thermal fluctuations. Applicant's ignoring of the essential role of stud bolts and stud bolt condition invalidates its Application.

NIRS Contentions at 22-25.

As bases for this contention, NIRS states that the stud bolts will be increasingly subject to failure with continued operation and that "[t]he finding of unanticipated types of serious damage to reactor lid penetration nozzles at Oconee raises the question of unanticipated types of damage to stud bolts." *Id.* at 24. NIRS further asserts that information regarding embrittlement provided by testing fluence-exposed capsules will be misleading due to lack of data regarding metal fatigue. *Id.* at 25.

Staff Response to NIRS Contention 2.1.1

Contrary to NIRS' assertion, stud bolts are, in fact, addressed in Table 3.1-1 at page 3.1-5 of the application. Section 3.0 of the application deals with aging management programs. The "stud bolts" referred to by NIRS are called "Reactor Vessel Closure Studs." According to Table 3.1-1, they will be managed by the Inservice Inspection Plan and the Reactor Coolant System Operational Leakage Monitoring Program. Section 4.0 of the application addresses Time Limited Aging Analyses (TLAA). The issue of fatigue is addressed by the Thermal Fatigue Management Program, Section 4.3.1.1 that tracks the number of design transients used in the fatigue analysis of reactor coolant pressure boundary components that include the vessel closure studs and other Reactor Coolant System Components, to ensure that the fatigue analysis remains valid during the period of extended operation. Section III of the ASME code defines the scope of the reactor coolant pressure boundary. Section NB-3230 of the ASME code addresses the stress limits for bolts (Exhibit 2). The plants' UFSARs reference the ASME code. Final Safety Analysis Report for

Catawba Nuclear Station at Table 5-2; Final Safety Analysis Report for McGuire Nuclear Station at Table 5-7 (Exhibit 3). Because the studs are addressed in Duke's aging management program and in a TLAA, NIRS has not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law. Therefore, this contention should be dismissed.

NIRS Contention 2.1.2

MATERIALS CONTENTION: Duke has not adequately factored unforeseen aging. NIRS Contentions at 25. As bases for this contention, NIRS cites the occurrence of the cracking of vessel head penetrations at Oconee and the occurrence of circumferential stress corrosion cracking through the entire thickness of the nozzle wall that were unanticipated and not considered in the licensing process. *Id.* at 25-26. NIRS states that none of the parties to this proceeding knows what further adverse changes may take place in the subject reactors in the proposed 20-year period of extended operation. *Id.* at 26. It is not known whether an event that gives warning before potentially catastrophic failure will occur. *Id.* NIRS then assumes the simultaneous failure of all the reactor vessel closure studs, stating that there should be no extension of the operating license. *Id.* The instantaneous release of the reactor lid, driven by 3,000 tons of steam pressure, may breach the containment. It is likely that the massive steam release in such a LOCA would exceed the condensation capacity of the ice condensers resulting in a pressure in excess of the containment capability. In any event there would be a fuel meltdown. *Id.* NIRS states that the studs bear about 3 times¹⁶ the stress of any other part of the reactor vessel. *Id.* They are subject to neutron radiation which all parties involved know embrittles metal, and metal "fatigue." *Id.* The initial licensing restricted operation to 200 fuel cycles. *Id.* There are also questions about

¹⁶ NIRS originally alleged that the bolts were subject to 10 times the stress of any other part of the reactor vessel, but filed a correction changing the number to 3 times. See "Correction of NIRS Contention 2.1.2," December 10, 2001.

weakening the weld metal in the reactor vessel, as at Yankee Rowe, again with fluence and fatigue being recognized factors. *Id.*

Staff's Response to NIRS Contention 2.1.2

This contention is not admissible. The contention consists of one vague statement that Duke has failed to factor in unforeseen aging. NIRS has not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law.

The NRC requires, in accordance with 10 CFR § 50.55a, inspection of pressure boundary components to detect aging effects. In addition, in Appendix B of the License Renewal Application, the applicant has proposed a number of aging management programs to detect aging effects in the extended period of operation. NIRS has not provided any facts or expert opinion that demonstrates how the aging management programs proposed in the application are inadequate for monitoring, detecting or managing aging effects that may be unanticipated. Although NIRS discusses the implications of catastrophic failure of all reactor vessel closure studs, it does not demonstrate that the aging management programs proposed for the studs will not be adequate to detect aging effects, including the aging effect (cracking) of fatigue; nor does the petitioner assert that the Thermal Fatigue Management Program (4.3.1.1) is inadequate to ensure that the fatigue analysis remains valid during the period of extended operation.

Additionally, as yet unencountered failure mechanisms are speculative in nature and, for this reason, cannot be addressed precisely because they are unanticipated. Nonetheless, as new failure mechanisms reveal themselves, the staff's regulatory process ensures that these emerging issues are addressed by every affected licensee (see Section 1.3.4 of NUREG-1412, "Foundations for the Adequacy of the Licensing Basis").¹⁷ In sum, NIRS has not supplied a concise statement

¹⁷ For example, Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles," was issued by the staff to address the associated aging effect revealed at Oconee. (Adams Accession No. ML012080284).

of fact or law in support of their contention and has failed to show a genuine dispute with the applicant in a material issue of law or fact. Therefore, the contention does not meet the requirements of Section 2.714 (b)(2) and should be dismissed.

NIRS Contention 3.1.a and NIRS Contention 3.1.b

Contention 3.1.a

The Petitioner contends that the as-built and originally installed fire penetration seals in all four applicant units have not been adequately analyzed and evaluated as qualified rated fire barrier penetration seals in context of fire endurance age-related degradation for the requested license extension.

NIRS Contentions at 27.

As basis for this contention, NIRS states that Duke Energy has not provided fire tests to qualify and demonstrate the one-hour and three-hour fire endurance capability of installed "Firewall 50" penetration seals and other brand name fire barrier sealant material manufactured by Western Chemical as one-hour and three-hour rated fire barriers.¹⁸ *Id.* at 28. The applicant has not analyzed the life expectancy of the fire barrier penetration seals. *Id.* NIRS also states that over the current operational life of the four applicant units Duke Energy has repaired "Firewall 50" penetration seals without providing fire tests to qualify the repaired penetration seals as qualified fire-rated barriers. *Id.*

The petitioner, therefore, contends that Duke Energy cannot provide an adequate fire safety analysis without first providing the number of the original as-built and/or repaired "Firewall 50" penetrations that remain in the applicant units in unanalyzed aged-condition and also unevaluated by fire test for fire endurance capability as pertains to the susceptibility of safe shutdown capability to fire for the requested license extension. *Id.* at 27-28.

¹⁸ NIRS cites the requirements of 10 CFR Part 50, Appendix R, as being applicable to McGuire and Catawba. The Staff notes that Appendix R applies to reactors operating prior to January 1, 1979. The McGuire and Catawba units commenced operation between 1981 and 1986. See Application to Renew the Operating Licenses of McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2, June 13, 2001.

Contention 3.1.b

The Petitioner contends that Duke fire barrier penetration seal fire qualification tests have not adequately evaluated fire barrier penetration seals in all four applicant units for field installed seals that have been replaced.

NIRS Contentions at 29.

As basis for this contention, NIRS states that the fire tests performed on new penetration configurations using Dow Corning RTV silicone foam materials, rather than simulating a fire test of penetrations previously filled with Firewall 50 material as repaired or replaced, do not provide an adequate analysis of actual installed replacement penetration seals in the applicant units. *Id.* The Duke fire tests do not provide any analysis of how RTV silicone foam material performs after installation into penetrations previously using unanalyzed and unevaluated "Firewall 50" materials. *Id.* Therefore, the Duke Power representative fire tests do not give an adequate analysis of representative fire seals as re-installed in the applicant units. *Id.* at 30.

Staff's Response to Contentions 3.1.a and 3.1.b

These contentions are inadmissible. They are nothing more than a series of unsupported statements, which relate not to renewal, but to current operation. NIRS has not demonstrated that the penetration seal tests referred to in the contention's bases have any relationship to aging or aging management. Therefore, the issues raised in the contention are beyond the scope of this proceeding. NIRS points to nothing in the license renewal application with which it takes issue or that it finds insufficient. It fails to demonstrate that the aging management programs relating to fire protection are insufficient.¹⁹ There is no concise statement of alleged facts or expert opinion that supports the contention and upon which NIRS intends to rely in proving the contention. There are no references to specific sources and documents of which NIRS is aware and on which NIRS

¹⁹ The aging management program for fire barrier penetration seals is found in Section B.3.12.1 of the license amendment application.

intends to rely to establish the facts or expert opinion. NIRS has not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law relating to the application. There are no references to the specific portions of the application that NIRS disputes or the supporting reason for the dispute. In sum, NIRS fails to demonstrate how the fire tests and endurance capability raise any dispute within the scope of the fire protection equipment, the aging effects or the aging management programs described in the application. The contentions do not meet the requirements of 10 C.F.R. § 2.714 (b)(2) and are, therefore, inadmissible.

NIRS Contention 3.1.c

The Petitioner contends that after Duke Power performed the three-hour fire tests at Omega Point Laboratories they utilized a hose stream test in accordance with requirements of EEEI 634. The referenced test standard is used exclusively for electrical penetrations using a light shower of a fog nozzle hose stream test. The test required for all other penetrations seals (mechanical, seismic, etc.) is ASTM-E and requires a hose stream test that uses a standardized one and a half inch nozzle at 30 psi.

The Petitioner contends that the Duke Power fire test does not provide an adequate test for standard fire fighting techniques likely to be utilized in the event of fire at the applicant units. The much gentler fog nozzle hose stream test provides for a preserving shower of water and does not simulate the pressure rating behind a standardized play pipe hose stream.

The Petitioner therefore contends that the Duke qualifying fire tests do not provide the appropriate bounding hose stream test for fire barrier penetrations seals in the applicant units to include all mechanical seals.

NIRS Contentions at 30.

Staff's Response to NIRS Contention 3.1.c

This contention is inadmissible. It also concerns a current operating issue. It does not relate to aging management issues. NIRS points to nothing in the license renewal application with which it takes issue or that it finds insufficient. It fails to demonstrate that the aging management programs relating to fire protection are inadequate. There is no concise statement of alleged facts or expert opinion that supports the contention and upon which NIRS intends to rely in proving the contention. NIRS states that the wrong test was used by Duke and that the test does not provide

an adequate test for standard fire fighting techniques likely to be utilized in the event of fire at the applicant units, but does not provide a source for this conclusion or an expert opinion in support.²⁰ There are no references to specific sources and documents of which NIRS is aware and on which NIRS intends to rely to establish the facts or expert opinion. There are no references to the specific portions of the application that NIRS disputes or the supporting reason for the dispute. NIRS has not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law. NIRS has not demonstrated how the fire tests and endurance capability raise any dispute within the scope of fire protection equipment, the aging effects or the aging management programs described in the application. The contention does not meet the requirements of 10 C.F.R. § 2.714 and is, therefore, inadmissible.

NIRS Contention 3.1.d

The Catawba and McGuire units also utilize Dow-Corning RTV silicone foam penetration sealant material throughout the units to prevent the spread of fire and hot gases from passage between fire zones within containment and other safety related areas of the plants. The Petitioner contends that RTV silicone foam is a combustible material and when exposed to a postulated fire not only chars but also can harbor a deep-seated fire that can then burn through the penetration.

The Petitioner contends that the fire penetration seals in all four Duke units have not been rigorously tested and evaluated for the explosive environment and transient combustibles as delivered by deliberate act of sabotage using an commercial jetliner aircraft.

NIRS Contentions at 30-31. As basis for this contention, NIRS relies on an Associated Press article based on a reading of an Argonne National Laboratory analysis regarding airplane crashes. *Id.* at 31. NIRS also bases its contention on a change in NRC fire protection regulations that provides that "combustible" materials can now be used in qualified fire barrier penetration seals. *Id.* NIRS contends that this relaxation of the non-combustibility requirement for fire barrier

²⁰ In fact, the NRC does not require the use of the test cited. Reg. Guide (RG) 1.189, "Fire Protection at Operating Nuclear Power Plants," provides for the use of alternatives to the hose stream tests and fog nozzles are an alternative. RG 1.189 at 79 (ADAMS Accession No. ML010920084).

penetration seals came in spite of the information and analysis provided by Argonne National Laboratories to NRC in a 1981 study recommending that agency seriously analyze the nuclear safety implications of a jet crash explosion and fire on safety of nuclear power plants. *Id.* at 32. NIRS also alleges that Duke's fire barrier penetration seal fire tests for the McGuire and Catawba units showed that five of the 14 assemblies failed with burn-through. *Id.* The Duke failure analysis developed a clear correlation between test furnace pressure and burn-through rate of the Dow Corning silicone foam fire seals. *Id.*

Staff's Response to NIRS Contention 3.1.d

This contention is inadmissible. Neither NRC regulations nor the current licensing basis for McGuire and Catawba require that the fire protection seals be tested or evaluated for the explosive environment and transient combustibles as delivered by a deliberative act of sabotage using a commercial jetliner. To the extent that NIRS is objecting to the regulatory requirements regarding fire protection, the objection is outside the scope of this proceeding. See "Eliminating the Requirements for Noncombustible Fire Barrier Penetration Seal Materials and Other Minor Changes," Final Rule, 65 Fed. Reg. 38,182 (2000). The contention is a direct challenge to the Commission's regulations concerning fire protection, security, and license renewal. NIRS points to nothing in the license renewal application related to fire protection with which it takes issue or that it finds insufficient. It fails to demonstrate that the aging management programs relating to fire protection are insufficient. In sum, NIRS' main objection is to the regulations that permit the use of certain materials in fire barrier penetration seals. As stated above, that is outside the scope of this proceeding. There are no references to the specific portions of the application that NIRS disputes or the supporting reason for the dispute. Thus, NIRS has not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law related to the license renewal application. The contention does not meet the requirements of 10 C.F.R. § 2.714 and is, therefore, inadmissible.

NIRS Contention 4.1

Over the last two decades since the McGuire and Catawba reactors were sited, the population density around the reactors has changed dramatically. Indeed, this is particularly true around the McGuire reactors, where the population density within 20 miles of the reactor site is more than double the density level in [sic] at 50 miles from the site (even though this includes portions of metropolitan Charlotte). The same is nearly true of the community around Catawba. The report does not mention that the development leading to this population on Lake Norman was accomplished by a subsidiary of Duke, Crescent Resources.

NIRS Contentions at 32-33. As bases for its contentions the petitioner advances four arguments:

1. The concerns brought by NIRS pertaining to the inadequacy of Duke's application with regards [sic] to security, aging, severe accident mitigation and plutonium fuel use have not been addressed with respect to these new communities that Duke has actively created around their reactor sites.
2. Emergency plans, including evacuation, should no longer rest upon the original license basis.
3. A socio-economic analysis should include the potential for closure of Lakes Norman and Wylie to public access for security reasons.
4. A full evaluation should be given of new technologies available to notify the public of emergency situations, with far greater capacity for transmitting information than sirens alone.

NIRS Contentions at 33.

Staff Response to Contention 4.1

This contention is inadmissible. Contention 4.1 seems to allege a deficiency in the applicant's ER. Although its title seems to allege an inadequacy of the applicant's analysis of socioeconomic impacts, the bases articulated by the petitioner do not support its argument. The contention itself is deficient because it fails to identify any issue of law or fact that it controverts in the ER. The only argument the petitioner makes in its contention is that the applicant failed to mention that a company related to Duke developed some of the real estate around Lake Norman. It is obvious, however, that the regulations do not require an applicant for the renewal of the operating license of a nuclear reactor to disclose the business transactions conducted by its corporate siblings. Furthermore, as discussed below, every single basis articulated fails to raise

any issues litigable in this proceeding. Therefore, the petitioner has failed to identify an admissible contention.

First, its initial basis is a mere assertion and fails to provide any facts or expert opinion to support what they are attempting to argue. Moreover, the petitioner only makes a vague reference to its arguments regarding “security, aging, severe accident mitigation and plutonium fuel.” NIRS Contentions at 33. These vague references are inadequate, particularly because the petitioner’s arguments in all of these areas have been so varied. It is impossible to discern to which arguments NIRS is referring. Also, NIRS fails to identify which portions of the applicant’s analysis are deficient and how they are deficient.

Second, NIRS argues that the potential closure of Lake Norman has not been analyzed. The Staff is unaware of a current proposal to close Lake Norman. Therefore, the applicant does not need to analyze impacts arising from that action. See Staff Response to Contention 1.1.1, *supra* (discussing the proposal requirement in NEPA jurisprudence). Furthermore, the petitioner states that the hypothetical closure of Lake Norman would occur because of “security reasons.” NIRS Contentions at 33. If that is the case, then any consideration of such issues would be beyond the scope of this proceeding. See 60 Fed. Reg. 22,461, 22,463; 56 Fed. Reg. 64,943, 64,967 (excluding physical plant security issues from the scope of license renewal).

Last, in two of its bases, the petitioner argues that the current emergency plans are somehow inappropriate. See NIRS Contentions at 33 (Bases 4.1.2 and 4.1.4). The adequacy of emergency plans and the measures associated with them are reviewed continuously and as a result have been removed, by rule, from the purview of license renewal. See 10 C.F.R. § 50.47(a)(1) (stating that “[n]o finding under this section is necessary for issuance of a renewed nuclear power reactor operating license”). Therefore, NIRS’ arguments are beyond the scope of this proceeding and should be considered an impermissible attack on the regulations.

In sum, the petitioner has failed to articulate any matters that would give rise to a valid contention.

NIRS Contention 5.1

Assumptions on High-Level Nuclear Waste are Flawed.

The NRC should provide a basis for its assumptions, in 10 C.F.R. § 51.23(a), that “there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life of any reactor”, and consider a revision of the regulation.

NIRS Contentions at 33-34. As basis for this contention, NIRS states that there is no foundation for the belief expressed in the regulation because the repository at Yucca Mountain is far from an assured site as the application will be met with intervention, the site and program are fraught with technical difficulties, terrorist concerns and possible failure. *Id.* at 34. Further, the planned capacity for the site will not meet future storage needs. *Id.*

Staff Response to Contention 5.1

This contention is inadmissible. It is a direct challenge to the Commission’s Waste Confidence Policy, the regulations in Part 51, and the GEIS. NIRS wants the Commission to revisit and amend Part 51. Such matters are outside the scope of this proceeding. The challenges to NRC regulations is more appropriately pursued through a petition for rulemaking. NIRS is therefore not requesting any relief that can be addressed in this proceeding.

In addition as discussed in the Staff’s Response to Contention 1.1.6, the storage and management of spent fuel is outside the scope of this proceeding. More to the point, under 10 C.F.R. § 51.53(c)(2), an application for license renewal is not required to provide information regarding the storage and disposal of spent fuel and other radioactive substances. Section 51.53(c)(3)(i) provides that an applicant is not required to analyze the environmental impacts of Category 1 issues in Appendix B to Part 51, Subpart A. Table B-1 of Appendix B to Subpart A

provides that the impacts associated with spent fuel and high level waste disposal are Category 1 issues. Thus, they are not required to be addressed and are outside the scope of this proceeding. Further, as late as 1999, the Commission concluded that “no significant and unexpected events have occurred—no major shifts in national policy, no major institutional developments, no unexpected technical information—that would cast doubt on the Commission’s Waste Confidence findings” in 10 C.F.R. § 51.23. Waste Confidence Decision Review: Status, 64 Fed. Reg. 68,005, 68,007 (1999).

In sum, the contention does not raise an issue that can be redressed in this proceeding. The contention is a direct challenge to the Commission’s regulations. It is therefore, inadmissible.

5. BREDL Contentions

BREDL Contention 1

Offsite radiological impacts must analyzed as a Category 2 issue in Environmental Report.

BREDL’s contention is that analyses focused exclusively on the risks of cancer from ionizing radiation, and neglected to address information regarding birth defects (congenital anomalies), infant mortality, infant cancer incidence, and neurological effects.

BREDL Contentions at 3. The petitioner, as a basis for its contentions, argues that several studies it cites provide new and significant information related to the effects of ionizing radiation.

See BREDL contentions at 3-5, 6-12.

Staff’s Response to Contention1

BREDL’s alleged contention is a challenge to the Commission’s regulations. In its bases, the petitioner quotes several studies and alleges that these studies contravene the findings in Appendix B to 10 C.F.R. Part 51 (that, by rule, incorporates the findings of GEIS into 10 C.F.R. Part 51, Table B-1). Thus, BREDL is attacking the Commission’s regulations as codified in 10 C.F.R. Part 51. Furthermore, although the regulations themselves provide for means to frame a challenge, BREDL has failed to follow such a scheme and has merely advocated that the findings

in Part 51 are no longer current. See 10 C.F.R. § 2.758 (detailing the requirements for challenging a regulation). In fact, BREDL fails to meet the standards in 10 C.F.R. § 2.758 because none of the information they site is related to the sites at issue in this proceeding. Section 2.758 clearly requires the proponent of an attack on the regulations to show “special circumstances *with respect to the subject matter of the proceeding*” make application of the rule untenable. See 10 C.F.R. § 2.758 (b) (emphasis added). In the instant proceeding BREDL has failed to show how the studies it cites are relevant to the license renewal of the operating licenses for the Catawba and McGuire nuclear power plants. Therefore, BREDL has failed to establish an admissible contention.

BREDL Contention 2

The license renewal application fails to provide a Human Reliability Assessment (HRA) that analyzes the impacts of workforce aging, critical skills retention and availability, the impacts of advanced technology on human reliability, and the ability of the future workforce to adequately implement aging programs, prevent severe accidents and economic accidents, and to mitigate the effects of accidents.

BREDL disputes the absence of a Human Reliability Assessment in the presence of administrative controls to ensure safety in a high consequence facility.

BREDL Contentions at 14. As basis for this contention, BREDL states that “integrated safety management includes human resources as a safety system.” *Id.* An HRA would identify how the trend away from a workforce with critical skills to a less-qualified and less-experienced workforce will affect safety and the ability to mitigate severe accidents. *Id.* at 15. “Human error is the direct or contributing and/or root cause of most nuclear accidents.” *Id.* An HRA must be conducted because human reliability is cited as an integral part of SAMAs; all the safety-related systems included within the scope of this proceeding are “dependent on the ability of operators to perform as expected and/or the reliability of personnel to properly test and monitor components and structures;” the prevention of failure of the non-safety related systems included within the scope of this proceeding is dependent on human reliability; and “nearly every component and structure

identified as subject to aging management depends upon the reliability of humans to adequately test, monitor and make professional judgements.” *Id.* at 15-17.

Staff Response to Contention 2

This contention does not raise any issues that are within the scope of this proceeding. In addition, it challenges the Commission’s regulations by seeking to require HRAs when they are not required by the regulations. Parts 54 and 51 of the Commission’s regulations do not require a HRA or any other probabilistic risk assessment (PRA). See, e.g., Final Rule, “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. at 22,468. Furthermore, there are no regulations that require PRA or HRA for plants operating under current licenses. However, it should be noted that the Duke Individual Plant Examination (IPE), which is referenced in the license renewal application in Attachment K, Section 8.0, No. 2.2 (McGuire Environmental Report); Attachment H, Section 8.0, No. 2.2 (Catawba Environmental Report), used a PRA that incorporates HRA.²¹

Many of the bases of the contention are merely unsupported statements. For example, BREDL states that “the existing trend is toward a less-qualified and less-experienced workforce,” but does not supply any facts or expert opinion to support this statement. See BREDL Contentions at 15. BREDL’s listing of a number of human reliability studies and anecdotal statements does not support the contention, nor does it demonstrate a dispute regarding a material issue, since it fails to establish a nexus between the contention and aging management. See *Id.* at 17-22. Therefore, it is outside the scope of this proceeding.

BREDL does not demonstrate, with the specificity required pursuant to 10 C.F.R. § 2.714(b)(2), that there are deficiencies in the applicant’s aging management programs. For example, BREDL states that aging management of the ice condenser system is conducted through visual inspections, but does not demonstrate why this is inadequate. *Id.* at 16.

²¹ See letters dated February 25, 1998 (Catawba) and March 19, 1998 (McGuire), Duke IPE, Section 3.1.4, Human Reliability Analysis, PRA Updates. (ML9804010266).

BREDL's attempt to include human operators as integral parts of safety and non-safety related systems encompassed in Part 54 is without basis. *Id.* at 15, 16, 17. Nothing in Part 54, which focuses on the aging management of a limited number of plant systems, structures and components, or in the statement of considerations accompanying the final rule, lends support to this expansion of the regulations. The systems, structures and components referred to in the rule are industrial equipment, buildings, other hardware, and its various components. Nonetheless, even if humans were integral parts of such systems, they would be active "components" and not subject to aging management review. In addition, they are subject to ongoing training, testing, periodic exercises and drills. Therefore, an integrated plant assessment would not be required. Moreover, the scope of license renewal does not extend to humans. Other regulations address human activity as a current license activity: 10 C.F.R. Part 55 governs operator licensing; 10 C.F.R. § 50.120 addresses the training and qualification of power plant personnel; and technical specifications address control room operator staffing requirements.

As a basis for the contention, BREDL argues that Duke's operational history indicates that most incidents and accidents have human error as a contributing cause. BREDL Contentions at 21. This basis is insufficient. First, BREDL fails to establish a nexus between the operational history and aging management of the systems, structures and components within the scope of license renewal and subject to an aging management review. Second, one of the cited incidents related to an inadequate procedure. *Id.* at 22. Third, all of the incidents relate to current operation, are addressed by current regulations, reporting requirements and ongoing oversight. They are, therefore, outside the scope of this proceeding.

Finally, although BREDL raises an issue concerning a potential link between chronic exposure to radiation and reduction in neurocognitive abilities, it is not clear how the assertion relates to the contention. Moreover, BREDL fails to establish a link between operation at Catawba and McGuire and the chronic exposure to radiation discussed in BREDL's Exhibit 2.

In sum, the contention is a direct challenge to the Commission's regulations concerning the need for HRA. Other than the demand that HRA be performed, BREDL points to nothing in the license renewal application with which it takes issue or that it finds insufficient. It fails to demonstrate that the aging management programs or TLAAs are insufficient. BREDL has, therefore, not demonstrated that a genuine dispute exists with the applicant on any material issue of fact or law related to license renewal. The contention does not meet the requirements of 10 C.F.R. § 2.714(b)(2) and is inadmissible.

BREDL Contention 3

The aging management program for steam generators and associated components such as steam generator tubes is insufficient and incomplete, and does not assure safe operations that prevent design basis and severe catastrophic accidents. In addition, the DBA frequency for steam generator tube rupture is grossly underestimated.

BREDL Contentions at 22. As bases for this contention, BREDL states that loss of integrity of the mechanical pressure boundary of the steam generators could lead to accidents that result in unacceptable off-site radiation exposure, economic losses due to shutdown and loss of electric supply to the region. *Id.* at 23. BREDL states that two of the known steam generator tube rupture occurrences in this country occurred at McGuire. *Id.* BREDL asserts that the description of the steam generator surveillance program in the license renewal application (Appendix B, Section 3.31) is "simplistic, overly brief, and contains numerous discrepancies and omissions . . . compliance with 10 C.F.R. § 54.13 and subsequently 10 C.F.R. § 54.21(a) is being disputed by BREDL." *Id.* at 23-24. Omissions are said to include failure to mention tube rupture incidents at the Palo Verde 2 and Indian Point 2 reactors, and the susceptibility of steam generator tubes to corrosion. *Id.* at 25. BREDL states that Table 3.1.1 of the surveillance program or the UFSAR do not identify several generic issues. *Id.* at 32. BREDL objects to the timing of completion of the Alloy 600 Aging Management Review as not providing the assurance required by 10 C.F.R. § 54.21. *Id.* at 24, 32-33. BREDL objects to the Chemistry Control Program because it fails to "identify past

problems with chemistry control prevalent throughout the industry and the efforts required to prevent further recurrence.” *Id.* at 24, 33. BREDL objects to relief granted to Duke for pre-service inspection of steam generator components. *Id.* at 24, 33. Finally, BREDL states that the application does not include sufficient operating experience. *Id.* at 33.

Staff Response to Contention 3

BREDL fails to demonstrate with the specificity required that the information contains numerous discrepancies and omissions. It fails to point to anything specific in the surveillance program that it contends will be inadequate to detect the detrimental effects of aging. BREDL provides no support for its statement that two of the fifteen known tube ruptures occurred at McGuire 1. BREDL provides no support for its statement that the design basis accident (DBA) frequency for steam generator tube rupture is grossly underestimated.

BREDL claims that the failure of the license renewal application to mention steam generator tube ruptures at Palo Verde 2 (PV2), Indian Point 2 (IP2) and other plants is a deficiency. BREDL fails to relate the tube failures at PV2 and IP2 to any deficiencies in Duke’s programs for aging management of the steam generators. BREDL fails to demonstrate the relationship between the steam generators at the other plants and those at McGuire or Catawba. There is no showing that the allegedly omitted information is relevant to Duke’s application. In three of the four Duke plants, the steam generators and associated tubing have been replaced. License Renewal Application at B.3.31-2. The steam generator tubes at McGuire and Catawba are made of a different material than those at PV2 and IP2. The replacement steam generator tubes at McGuire 1 and 2 and Catawba 1 are fabricated from thermally treated Alloy 690. LRA at 3.1-22. The tubes at Catawba 2 are fabricated from thermally treated Alloy 600. See NUREG-1604, “Circumferential Cracking of Steam Generator Tubes,” at B-4 (1997). BREDL has not demonstrated that there have been any tube ruptures in plants that use these materials. The tubes at IP2 and PV2 were mill annealed Alloy 600. *Id.* See generally, NUREG/CR 6365, Steam Generator Tube Failures, April 1996.

BREDL has not demonstrated a relationship between the tube ruptures at IP2 and PV2 and the tubes used at McGuire and Catawba. Since relevance to the McGuire and Catawba license renewal application has not been demonstrated, the omission cannot be characterized as a deficiency.

Moreover, BREDL has failed to allege any defect in the steam generator aging management programs proposed by the applicant in the application that would cause them to be unable to detect, monitor, and repair the tubes so as to ensure structural and leakage integrity.

Although BREDL states that the steam generator tubes are susceptible to corrosion and stress corrosion cracking, it does not demonstrate that the applicant's proposed programs for managing the effects of tube cracking are inadequate. BREDL cites Dr. Hopenfeld's Differing Professional Opinions (DPOs)²² regarding steam generator tubes, but does not relate them to aging management or to the license renewal application under consideration in this case. Nor does BREDL demonstrate that the issues raised in the DPOs have any nexus to the steam generators at McGuire and Catawba. In addition, the DPOs, and the other sources cited,²³ relate to current operating issues and are, thus, outside the scope of this proceeding.

BREDL makes several claims regarding the deficiencies in the aging management program for steam generators. First BREDL complains that the program is equivalent, not equal, to the program described in NUREG-1723, but does not relate this statement to any deficiency in the program. BREDL also claims that "generic issues" were not identified in Table 3.1.1 of the Technical Review, Appendix B, Part B.3.31 or in the UFSAR. BREDL Contentions at 32. The

²² The Staff notes that many of the citations used by BREDL in this and other sections of its pleading are to documents that have not been produced within the time limits set by the Board. Moreover, many of the citations are incomplete and do not specify date, volume, page or other identifying information, making it difficult or impossible for the parties to locate the source of the citation. The Staff objects to consideration of such improperly cited and identified sources.

²³ Generic Letter 95-05, cited by BREDL, describes an alternative repair criterion that BREDL fails to demonstrate is applicable to McGuire and Catawba.

purpose of Table 3.1.1. is not to address generic issues, but to specify structures and components that meet the scoping and screening criteria, its materials and environments and aging effects, and the aging management program(s) credited to manage the aging of these structures and components. Table 3.1.1. provides the aging management programs for steam generators for Catawba 2, as well as the other units. The aging management programs designated for steam generator tubes and plugs address cracking and loss of material. See License Renewal Application, Table 3.1.1 and Appendix B at B.3.31(See BREDL Contentions at 32, Contention 3, §E.2.a.i). Steam generator tube corrosion at tube support plate intersections is addressed in the application at Appendix B at B.3.31-1 and B.3.31-2 (See BREDL Contentions at 32, Contention 3, § E.2.a.ii). Regarding the initiation mechanisms for cracking (BREDL Contentions at 32, Contention 3, §E.2.a.iii), Part 54 does not require identification of aging mechanisms in the license renewal application. See SOC, Final Rule, 60 Fed. Reg. at 22,463. Therefore, this issue is beyond the scope of this proceeding. Further evaluation of Alloy 600 steam generator tube components, as recommended by the NRC (See BREDL Contentions at 32, Contention 3, §E.2.a.iv), refers to further Staff evaluation to determine the adequacy of the aging management program.

BREDL objects to the Alloy 600 Aging Management Review because it will not be completed until the end of the initial 40-year period. BREDL Contentions at 32. But, BREDL does not demonstrate that the timing renders the program deficient or that it is inadequate to manage the effects of aging for the period of extended operation. In addition to the review cited by BREDL, there are other programs cited in the application that will be used to manage and monitor aging. See Alloy 600 Aging Management Review, LRA at § B.3.1, page B.3.1-1.

BREDL objects to the Chemistry Control Program due to an alleged failure to identify past problems. BREDL Contentions at 33. Contrary to BREDL's assertion, a discussion of plant-

specific and industry operating experience is provided in the LRA at pages B.3.6-4 to 5. BREDL does not assert that the program is deficient in any other respect.

BREDL objects to the applicant's pre-service examination of the new steam generators because it occurred after installation. BREDL makes no effort to relate the examinations to any aging management issue. Therefore, this issue is beyond the scope of this proceeding.

In sum, many of the bases for the contention relate to current operating issues. Other bases are insufficient because they reflect an incorrect reading of the LRA or because they are not adequately supported by facts or expert opinion. Thus, BREDL has failed to demonstrate a genuine dispute as to a material issue of fact or law with the applicant. BREDL has failed to demonstrate relevant deficiencies in the application. The contention does not meet the requirements of 10 C.F.R. § 2.714 and is, therefore, inadmissible.

BREDL Contention 4

The aging management programs associated with the Catawba and McGuire Ice Condenser systems are insufficient to assure safe operations and prevent design-basis and severe accidents.

BREDL Contentions at 34. As bases for this contention, BREDL states that ice-condenser containment systems are the most vulnerable of all U.S. nuclear power plants to loss-of-containment-accidents. *Id.* The applicant's aging management programs for ice condenser systems and components are incomplete and inaccurate and fail to provide "reasonable assurance that aging management will allow these systems to function as designed when necessary and prevent a catastrophic release of fission products" *Id.* at 34-35. BREDL asserts that the applicant's SAMA analysis is incomplete because it fails to incorporate "new and extensive" information regarding the vulnerabilities of ice-condensers, specifically, the information in NUREG/CR-6427, SAND99-2253. *Id.* at 35, 36-37. The applicant's operational experience shows a history of deficiencies and the application was incomplete and inaccurate regarding the operational record. *Id.* In support of this basis, BREDL cites the granting of Duke's June 22, 1999,

request for exemption from 10 C.F.R. § 54.17(c), in which Duke asserted that there were regular exchanges of information between its plants regarding operating experience, and a 1998 Allegation Review Board allegedly finding that problems with D.C. Cook's ice condenser containment were known, but not reported, by D.C. Cook, Watts Bar, McGuire, and Westinghouse. *Id.* at 41-42.

Staff Response to Contention 4

This contention is inadmissible. BREDL does not challenge the scoping of the passive ice condenser structures listed in Table 3.5-1 of the application. Nor does BREDL assert that, or demonstrate why, the aging management programs, ice basket inspection and ice condenser engineering inspection proposed by Duke are incomplete and inaccurate or how they fail to provide "reasonable assurance that aging management will allow these systems to function as designed when necessary and prevent a catastrophic release of fission products" The main thrust of the contention appears to be concerns with ice condenser containment design, rather than aging. As such, it is outside the scope of this proceeding and is a challenge to the Commission's regulations. Ice condenser containments are fully licensed by the NRC. The original licensing of Catawba and McGuire was the subject of hearings and operating licenses were issued. BREDL's dissatisfaction with the design notwithstanding, the instant proceeding is concerned with aging management and BREDL has not demonstrated that the aging management programs are inadequate to meet the requirements of Part 54.

BREDL claims that the applicant's SAMA analysis is incomplete because it fails to incorporate the information in NUREG/CR-6427, SAND99-2253. This claim has no merit. See, Staff's Response to NIRS Contention 1.1.4(a), *supra*.

BREDL asserts that aging management and time-limited aging management²⁴ programs of numerous ice condenser systems and components are required to comply with 10 C.F.R. § 54.4,

²⁴ That is, time limited aging analyses (TLAAs).

10 C.F.R. § 54.21(a)(1), and 10 C.F.R. § 54.21(a)(3). The applicant has complied with those regulations in its application. The applicant has proposed aging management programs (where aging effects are applicable) for ice condenser structures (Table 3.5-1, p. 3.5-6 of the LRA). Duke also proposed aging management programs (where aging effects are applicable) for ice condenser refrigeration components (Table 3.2-2, pp. 3.2-15-18). BREDL does not assert that the applicant wrongly omitted systems, structures or components from the scope of license renewal. BREDL also does not assert that the aging management programs proposed are inadequate to detect or manage aging during the extended period of operation. BREDL also contends that time-limited aging analyses (TLAAs) of numerous ice condenser systems and components are required by the regulations. However, Page 4.1-1 of the Standard Review Plan for License Renewal (SRP-LR, NUREG-1800) states that “it is an applicant’s option to include more analyses than those required by 10 C.F.R. § 54.21(c)(1).” Page 4.1-3 of the SRP-LR states that “the number and type of TLAAs vary depending on the plant-specific CLB [current licensing basis]. All six criteria set forth in 10 CFR 54.3 . . . must be satisfied to conclude that a calculation or analysis is a TLAA.” Table 4.1-2 of the SRP-LR presents possible TLAAs, none of which apply to ice condenser containments. Furthermore, the applicant made a determination that there are no calculations regarding the containment that meet the 6 criteria for a TLAA in 10 C.F.R. § 54.3. See § 4.5 of LRA. Therefore, BREDL has not identified a dispute with the applicant’s decision to exercise the option of crediting aging management programs to manage the effects of aging of ice condenser structures and components.

BREDL’s statement that ice condenser containment systems are the most vulnerable among all U.S. nuclear power plants to loss of containment accidents is unsupported by fact or expert opinion. Furthermore, the petitioner fails to establish that any such vulnerability is associated with aging.

BREDL does not specify the “deficiencies” in the aging management program. Nor does BREDL demonstrate that the aging management programs proposed by the applicant are inadequate with respect to the historical deficiencies it raises in its contention.²⁵

In sum, BREDL has raised issues related to design and current operation. Such issues are beyond the scope of the proceeding. BREDL has failed to demonstrate deficiencies in the application. BREDL has failed to demonstrate a genuine dispute with the applicant as to a material issue of fact or law. Therefore, the contention does not meet the criteria of 10 C.F.R. § 2.714 (b)(2) and is inadmissible.

BREDL Contention 5

The assessment of reactor vessel integrity with regard to embrittlement and metal fatigue is insufficient and incomplete.

As bases for this contention, BREDL states that neutron bombardment degrades metal parts of the reactor and it becomes brittle. This embrittlement, BREDL argues, increases with age. Embrittlement is a well-known phenomenon that has caused premature closing of power reactor facilities. Assessment of reactor vessel integrity must account for all forms of vessel weakness caused by normal operations. The “operator” fails to include important factors in its assessment including prolonged cycles of heating and cooling and stress fatigue in critical reactor parts not

²⁵ BREDL raises an issue regarding the exemption permitting the license renewal applications to be filed before 10 C.F.R. § 54.17(c) would permit. 10 C.F.R. § 54.17 (c) (requiring that applications be filed no earlier than twenty years prior to the license’s expiration). But, any issues relating to the exemption are beyond the scope of this proceeding. BREDL also cites an alleged 1998 Allegation Review Board (ARB) finding that information regarding problems with ice condenser containment were not shared between McGuire and Catawba that it alleges demonstrates that the operating experience in the application is incomplete. BREDL Contentions at 41-42. This basis has no merit. First, there is no demonstration that the problem cited is related to aging management or any license renewal issue. Thus, it is beyond the scope of this proceeding. Second, BREDL mischaracterizes the ARB document cited. It is not a final finding of the ARB. It contains a recitation of the alleged’s testimony before the Department of Labor and an identification of issues raised. See Memorandum from Oscar De Miranda, Region II to Jean Lee, NRR, Re: TVA, AEP and Duke Power Ice Condensers -Region II Review of DOL Transcripts, June 22, 1998 (Adams Accession No. ML012610561).

revealed by current methods. BREDL asserts that the coupon test fails to account for stress fatigue. The coupons, which are pieces of containment vessel metal installed in a new reactor to assist in the monitoring of tensile strength losses, are insufficient to determine embrittlement effects during the 20-year license extension period. Alternative methods of assessing reactor vessel embrittlement based on extrapolations of past performance will not provide adequate assurances of vessel integrity and protection of health and safety. Moreover, BREDL asserts that the coupon test fails to address stress fatigue caused by repeated cycles of heating and cooling. In addition, BREDL asserts that the reactor stud bolts are exposed to greater stress than the reactor vessel and there is insufficient information to address the tensile properties of the stud bolts. BREDL asserts that Duke Energy has not identified actions that have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components or time-limited aging analyses that have been identified under 10 C.F.R. § 54.29. Therefore, BREDL contends that there is no reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB. BREDL cites a single low-significance event as illustrative of unusual stresses on reactor components.

Staff Response to Contention 5

This contention is inadmissible. It is not supported by facts or expert opinion. Although BREDL raises the issue of aging, it fails to recognize that current regulatory oversight and current regulations govern pressurized thermal shock and impose limits regarding the material properties of the reactor vessel. In addition, Appendix G of 10 C.F.R. Part 50 imposes operating limits on reactor coolant system pressure and temperature based on the degree of vessel embrittlement evidenced by changes to the vessel's material properties. Although BREDL states that the applicant fails to include important factors in its assessment, BREDL does not show that the TLAAs in Section 4 of the application are inadequate to meet the criteria of 10 C.F.R. § 54.21(c)(1).

BREDL fails to demonstrate any dispute regarding any deficiencies in the applicant's reactor vessel neutron embrittlement TLAA (Section 4.2). BREDL does not point out the specific portions of the application that it alleges are inadequate to address aging. It does not allege that the TLAA is not adequate to ensure that the analyses remain valid during the period of extended operation. To the extent that BREDL contends that the coupon test is insufficient to address embrittlement during the license extension period, it is an impermissible challenge to the Commission's regulations. See 10 C.F.R. Part 50, Appendix H. The coupon test is not intended to address thermal fatigue or stress fatigue; it is used only to index neutron embrittlement of the vessel. Metal fatigue is addressed in Section 4.3 of the license renewal application (TLAA). In Section 4.3.1.1, Duke proposes to use the Thermal Fatigue Management Program to "manage the thermal fatigue basis for those component evaluations that include analyses that explicitly addressed thermal fatigue transient limits." BREDL fails to demonstrate that the metal fatigue TLAA and Thermal Fatigue Management Program, are inadequate to ensure that the analyses remain valid during the period of extended operation. In fact, the license renewal application includes aging management programs to address bolt aging as well as TLAAs to address reactor vessel neutron embrittlement and metal fatigue in accordance with 10 C.F.R. § 54.21. Finally, the non-cited violation referred to in BREDL's contention was addressed under current regulations. BREDL failed to establish a nexus between the cited violation and the aging management programs or TLAAs described in the application. In fact, BREDL barely mentions the application in this contention. Since BREDL is required to demonstrate material issues in dispute regarding the application, this contention must fail.

CONCLUSION

For the reasons stated above, NIRS has now established standing with regards to Catawba. Based upon the foregoing discussion, however, NIRS and BREDL have failed to proffer any admissible contention and, therefore, this proceeding should be dismissed.

Respectfully submitted,

/RA/

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/RA/

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Dated at Rockville, Maryland
this 13th day of December 2001.