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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

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ADJUDICATIONS STAFF

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

MEMORANDUM OF LAW IN SUPPORT OF DUKE ENERGY CORPORATION'S APPEAL FROM THE ATOMIC SAFETY AND LICENSING BOARD'S MEMORANDUM AND ORDER LBP-04-04 (RULING ON STANDING AND CONTENTIONS)

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I. INTRODUCTION

On March 5, 2004, the Atomic Safety and Licensing Board ("Licensing Board") in this proceeding issued a Memorandum and Order admitting three consolidated and reframed contentions for hearing.[1] Pursuant to Nuclear Regulatory Commission ("NRC") regulations in 10 C.F.R. § 2.714a, Duke Energy Corporation ("Duke") hereby appeals the Licensing Board's decision in LBP-04-04.

This proceeding relates to Duke's License Amendment Request ("LAR") of February 27, 2003, to authorize the use of four mixed oxide ("MOX") fuel lead assemblies at the Catawba Nuclear Station ("Catawba"). The lead assemblies are intended to support the potential future use of larger quantities of MOX fuel in support of an important Department of Energy

[1] *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-04-04, __ NRC __ (slip op. March 5, 2004) ("Memorandum and Order").

("DOE") nuclear non-proliferation program. The LAR included Duke's Environmental Report ("ER") on the lead assembly proposal.

The admitted, reformulated contentions are based on thirteen proposed contentions filed by petitioner Blue Ridge Environmental Defense League ("BREDL"). Nine were proposed in an initial set of contentions filed in October 2003,[2] four more in a late-filed supplemental set filed in December 2003.[3] The Licensing Board did not admit any of five proposed contentions proffered by petitioner Nuclear Information and Resource Service ("NIRS").[4]

The proposed contentions filed by BREDL and NIRS supplemented the petitions for leave to intervene and requests for hearing that the petitioners had previously filed in August 2003.[5] Duke responded to the initial sets of proposed contentions on November 11, 2003,[6] opposing admission of all of the proposed contentions. The Licensing Board heard oral argument on the admissibility of these contentions on December 3-4, 2003, in Charlotte, North

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2 "Blue Ridge Environmental Defense League's Supplemental Petition to Intervene" (Oct. 21, 2003) ("BREDL Contentions").

3 "Blue Ridge Environmental Defense League's Second Supplemental Petition to Intervene" (Dec. 2, 2003) ("BREDL Supplemental Contentions").

4 "Contentions of Nuclear Information and Resource Service" (Oct. 21, 2003) ("NIRS Contentions"). Accordingly, NIRS is not a party to this proceeding. Memorandum and Order, at 64.

5 "Blue Ridge Environmental Defense League's Hearing Request and Petition to Intervene" (Aug. 25, 2003) and NIRS's "Request for Hearing and Petition to Intervene" (Aug. 21, 2003).

6 "Answer of Duke Energy Corporation to the 'Blue Ridge Environmental Defense League's Supplemental Petition to Intervene' and the 'Contentions of Nuclear Information and Resource Service'" (Nov. 11, 2003) ("Duke Answer"). The NRC Staff also responded to the Petitioners' proposed contentions; *see* "NRC Staff's Response to (1) Blue Ridge Environmental Defense League's Supplemental Petition to Intervene and (2) Nuclear Information and Resource Service's Contentions" (Nov. 10, 2003) ("Staff Answer"). The Staff opposed admission of all of petitioners' initial proposed contentions except for BREDL Proposed Contention 7.

Carolina. *See* Tr. 71-576. Duke responded in opposition to BREDL's supplemental contentions on December 23, 2003.[7] The Licensing Board heard oral argument on the admissibility of these contentions on January 15, 2004, in Charlotte, North Carolina. *See* Tr. 615-826.

In its March 5, 2004 Memorandum and Order, the Licensing Board reformulated and admitted the following three BREDL contentions:

> *Contention I:* The LAR is inadequate because Duke has failed to account for differences in MOX and . . . [low-enriched uranium ("LEU")] fuel behavior (both known differences and recent information on possible differences) and for the impact of such differences on . . . [Loss of Coolant Accidents ("LOCAs")] and on the . . . [design basis accident ("DBA")] analysis for Catawba.
>
> *Contention II:* The LAR is inadequate because Duke has (a) failed to account for the impact of differences in MOX and LEU fuel behavior (both known differences and recent information on possible differences) on the potential for releases from Catawba in the event of a core disruptive accident, and (b) failed to quantify to the maximum extent practicable environmental impact factors relating to the use of the MOX . . . [lead assemblies] at Catawba, as required by . . . [the National Environmental Policy Act ("NEPA")].
>
> *Contention III:* The Environmental Report is deficient because it fails to consider Oconee as an alternative for the MOX . . . [lead assemblies or "LTAs"].

Memorandum and Order, at 63. Contentions I and II are based on seven of BREDL's proposed contentions (referred to herein as the "source contentions"). As reframed, Contention I appears to be a safety contention addressed to DBAs, including LOCAs. Contention II appears to be an environmental issue under NEPA, related to beyond-design-basis, or "severe," accidents. Contention III is a subset of one proposed contention and is clearly a limited environmental

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[7] "Answer of Duke Energy Corporation to the 'Blue Ridge Environmental Defense League's Second Supplemental Petition to Intervene'" (Dec. 23, 2003) ("Duke Supplemental Answer"). The NRC Staff also responded to BREDL's supplemental contentions; *see* "NRC Staff Opposition to BREDL's Second Supplemental Petition to Intervene" (Dec. 24, 2003) ("Staff Supplemental Answer").

contention under NEPA. All of the proposed contentions and all of the reframed contentions are inadmissible.

II. ISSUES PRESENTED

- Whether the Licensing Board erred in failing to dismiss all of the original proposed (non-security) contentions submitted in this proceeding by petitioner BREDL.
- Whether the Licensing Board erred in admitting reformulated contentions that are themselves inadmissible.
- Whether the reformulated contentions, if determined by the Commission to be admissible, should be narrowed and clarified, to provide needed guidance to the parties as to the actual issues in dispute and their supporting bases, thereby facilitating the efficient litigation of these issues.

This appeal from LBP-04-04 is necessitated by the fact that, contrary to the Licensing Board's ruling, none of BREDL's proposed contentions raised an admissible matter. All of BREDL's original and supplemental (non-security) proposed contentions should therefore have been rejected. This appeal is also prompted by the fact that the Licensing Board's reformulated Contentions I and II are themselves inadmissible. They lack sufficient specificity to define the scope of the litigation and are broader in scope than the original proposed contentions on which they are based. Contention III is inadmissible because it raises an issue that has no basis in law or fact, and relates to a matter that has, in any event, become moot. To the extent that the Commission determines any portions of these contentions to be admissible, those portions must be specified, to enable the parties to litigate the genuine and material issues in an efficient fashion.

III. STANDARD OF REVIEW ON APPEAL

If proposed contentions are initially admitted into litigation by a presiding board, the applicant and the NRC Staff may appeal admission of those contentions to the Commission

pursuant to 10 C.F.R. § 2.714a. Section 2.714a(c), by which Duke appeals herein, states that "[a]n order granting a petition for leave to intervene and/or request for a hearing is appealable by a party other than the petitioner on the question whether the petition and/or the request for a hearing should have been wholly denied." Accordingly, the standard of review is whether the contentions were properly admitted and the hearing request properly granted.[8]

As a matter of policy, the Commission has clearly expressed its intention to "exercise its inherent supervisory authority" in particular proceedings[9] and has emphasized that it will "take action in individual proceedings, as appropriate, to provide guidance to the boards and parties and to decide issues in the interest of a prompt and effective resolution of the matters set for adjudication."[10] An expedited Commission ruling on this appeal is necessary to ensure an efficient resolution of this proceeding, consistent with the MOX program schedule requirements of DOE.

IV. ARGUMENT

A. The Licensing Board Erred in Reframing and Admitting Contentions I and II

In its Memorandum and Order the Licensing Board found that "significant portions . . . of BREDL Contentions 1, 2, 6, 7, 10, 11, and 12 meet the general contention admissibility standards of 10 C.F.R. § 2.714(b), (d)." Memorandum and Order, at 41. Rather than admit or deny each contention, the Licensing Board "consolidated . . . and reframed and renumbered" the admissible (but unspecified) "portions" of those contentions into Contentions I

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8 *See, e.g., Vt. Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-869, 26 NRC 13 (1987), *aff'd,* ALAB-876, 26 NRC 277 (1987) (reversing a licensing board decision to admit contentions).

9 *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC 18, 20 (1998).

10 *Id.* at 25.

and II. *Id.* at 41-42. In so doing, the Licensing Board erred for two reasons. First, the source proposed contentions were not admissible and therefore cannot support the consolidated, reframed, and renumbered contentions. Second, the Licensing Board erred in reformulating BREDL's proposed contentions. The admitted contentions do not appropriately identify those "portions" of the source contentions (and their supporting bases) that have been admitted, are drafted in vague and overbroad terms, and actually exceed the scope of the BREDL proposed contentions. As such, Contentions I and II are inconsistent with Commission policy, do not meet Commission requirements, and are inadmissible.

1. The Source Proposed Contentions (BREDL Contentions 1, 2, 6, 7, 10, 11 and 12) Were Not Admissible

Contentions I and II, as reframed and admitted, are drawn from BREDL Contentions 1, 2, 6, 7, 10, 11 and 12. Contentions I and II are intended to consolidate admissible "portions" of these seven contentions. However, the Licensing Board did not specifically delineate the admissible portions. And, as a more fundamental matter, those source contentions were not admissible in the first place and therefore cannot form an issue for a hearing, whether in their original form or a "reframed and consolidated" form. The source contentions injected risk issues into the context of the safety review of a non-risk-informed amendment application; asserted the need for a probabilistic risk assessment ("PRA") to support an environmental analysis where no such requirement exists; and would require Duke to address purported design basis and beyond-design-basis issues based on no more than a vague, unfunded research proposal by a foreign research agency. In total, the source contentions involved matters that should not pass the Commission's contention threshold admissibility standards.

BREDL Contention 1: Duke's risk impact analysis is inadequate, because it presents the results of its analysis in qualitative terms only.

This contention asserted that the LAR safety analysis (as distinct from the Environmental Report) was inadequate because it provided only a qualitative risk assessment (in Section 3.8 of Attachment 3 of the LAR). BREDL Contentions, at 4-5. BREDL noted, correctly, that Duke "does not attempt to calculate the changes in core damage frequency (CDF) and Large Early Release Frequency (LERF) associated with the proposed license amendment." *Id.*, at 5. The contention therefore charged that the risk assessment was inadequate for "risk informed decision-making" under the criteria of NRC Regulatory Guide 1.174, Rev. 1.[11] *Id.* Nothing in the proposed contention specifically identified "differences in MOX and LEU fuel behavior," as alluded to in the Licensing Board's consolidated reframed Contentions I and II, and no specific basis was offered regarding such differences. *Id.* at 4-5.

This proposed safety contention should not have been admitted in any form. The MOX fuel lead assembly LAR on its face is *not* a risk-informed application for a change to the licensing basis within the scope of Reg. Guide 1.174, Rev. 1. Rather, the LAR is based on a traditional, deterministic engineering evaluation, including a safety analysis of the effect of four MOX fuel assemblies on the design basis transients and accidents described in the facility Updated Final Safety Analysis Report ("UFSAR"). Thus, Reg. Guide 1.174, Rev. 1 is inapplicable. Duke's safety analysis is included in Section 3.7 of Attachment 3 of the LAR, and was not in any way challenged by the proposed contention. That analysis demonstrates that applicable acceptance criteria for the design basis transients and accidents are met considering

[11] *See* Regulatory Guide ("Reg. Guide") 1.174, Rev. 1, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (Nov. 2002).

the use of four MOX fuel lead assemblies.[12] In particular, for postulated transients and accidents, Duke demonstrated that radiological consequences (in terms of dose) remain within the limits of the relevant regulatory criteria. *See* LAR, Section 3.7.3. The relief that the contention specifically demanded — further calculations of changes in CDF and LERF associated with the proposed amendment — exceeds what is required by NRC regulations and therefore cannot be granted in this proceeding.

In the analysis of the source contentions in the Memorandum and Order (at page 39-42), the Licensing Board does *not* address BREDL Contention 1 specifically. The Licensing Board observes (at page 39) that "some of the concerns raised [in the group of seven source contentions] do not rise to the level of genuine disputes on material issues of fact or law." But, other than referring to one issue regarding the alleged "incompleteness" of the guidance in Reg. Guide 1.174 (part of BREDL Contention 2, discussed below), the Licensing Board does not otherwise identify the inadmissible portions of the source contentions. This issue — BREDL Contention 1 asserting the need for quantitative risk information — should not have been admitted on its own or in any unspecified form under reframed Contentions I and II. The contention asserted the need for a risk assessment in a safety analysis where none is required by NRC regulations.

In Section 3.8 of Attachment 3 of the LAR, Duke did provide a perspective on the risk implications of the LAR. *See* Tr. 203-09, 232-34. The Licensing Board in its Memorandum and Order suggests that it would consider risk — where no risk assessment is required — because Duke used risk perspectives "to its benefit." Memorandum and Order, at 40. However,

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[12] A deterministic approach is also premised upon the NRC's defense-in-depth philosophy reflected in the Commission's requirements. These include requirements for engineering margin in equipment design; safety systems; and quality assurance in design, manufacture, and construction.

as is discussed in connection with BREDL Contention 2 below, Duke offered to withdraw Section 3.8 and therefore would derive no benefit from that section. Moreover, an applicant's voluntary offering of risk perspective in an amendment application cannot be equated to a requirement compelling a quantitative assessment of changes to CDF and LERF — the relief sought in this contention. Furthermore, BREDL Contention 1 actually did not in any way specifically challenge the risk perspectives in Section 3.8 (that section is the subject of Contention 2, also discussed below.) Nor did BREDL provide any basis of its own on which to conclude that the amendment would change CDF, LERF, or public health risk.[13] Therefore, BREDL Contention 1 should have been determined to be inadmissible under 10 C.F.R. § 2.714(b)(2)(iii) because it lacks both a regulatory basis and a factual basis sufficient to demonstrate the existence of a genuine dispute on a material issue. The proposed contention also should have been excluded under 10 C.F.R. § 2.714(d)(2)(ii), because, if proven, it would not entitle BREDL to relief in this proceeding.

BREDL Contention 1 was, in effect, an exercise in burden shifting. The burden at this stage of an NRC proceeding is on a petitioner to plead an appropriate, affirmative contention, with basis. Rather than asserting, with supporting basis, how the design basis accident analyses would be impacted, or even how public health and safety risk would be increased, BREDL merely faulted Duke for failing to provide a quantitative risk assessment to prove that there would be no adverse risk impacts — and thereby attempted to bring into

[13] Indeed, the LAR analysis concluded that the proposed changes in the core (four MOX lead assemblies) will *not* significantly change the decay heat produced, increase the likelihood of design basis events, or change the ability of the plant to mitigate the consequences of design basis events. *See* LAR, Attachment 3, Section 3.7.2. The impact of changes in fission products and source term introduced by the LAR on the design basis accident analysis is also addressed in Section 3.7 of the LAR. BREDL Contention 1 did not address any of this.

litigation a matter not required by regulations.[14] This approach to pleading a risk-based contention could be applied to any non-risk-informed license amendment, leading to a result that risk would effectively need to be addressed in all cases to prove the negative (*i.e.*, that the amendment involves no adverse risk impacts). This is *not* Commission policy, and it should not be an approach sanctioned in this case under any admitted contention — consolidated, reframed, or otherwise. In sum, BREDL Contention 1 was not admissible, and none of the bases for that contention should have been accepted as part of a reframed contention.

> *BREDL Contention 2:* Duke has failed to support its claim [in Section 3.8 of the LAR] that the increase in severe accident consequences associated with the MOX [lead assembly] loading will not be significant.

This safety contention, like BREDL Contention 1, related to the risk assessment provided in Section 3.8, Attachment 3, of the LAR. However, as discussed above in connection with BREDL Contention 1, a risk assessment is not required by NRC regulations for this LAR. The proposed contention nevertheless cited four perceived "inadequacies" in the risk assessment:

- Duke's risk assessment is based on a linear scaling of the results from DOE's published assessment of severe accident consequences, and the linear scaling was incorrect (resulting in an increase in Duke's estimate by a factor of 2);
- Duke should have used the most recent version of its plant-specific Probabilistic Risk Assessments ("PRAs"), not DOE's assessment, as the basis for a risk assessment;
- Duke did not take into account published research (principally that authored by BREDL's technical consultant, Dr. Edwin Lyman) that discussed alleged flaws in the DOE analysis; and
- Duke's risk assessment cannot be fully evaluated because of the "incompleteness" of the guidance in Reg. Guide 1.174, Rev. 1, as that document might pertain to use of MOX fuel.

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[14] In fact, as discussed in connection with BREDL Contention 2, LAR Section 3.8 included a risk assessment that (while not required) *was quantitative.*

BREDL Contentions, at 5-7. Of these bases, only the third above could potentially relate to "differences in MOX and LEU fuel behavior" as alluded to in reframed Contentions I and II. However, only the fourth basis above was specifically *excluded* by the Licensing Board's Memorandum and Order. As discussed above, the Licensing Board instead vaguely indicated that it was "not inclined to exclude completely any evidence related to risk, within reasonable and practical limits." Memorandum and Order, at 40. The Licensing Board did not define those limits. In fact, all four bases should have been excluded.

Fundamentally, all four bases proffered for BREDL Contention 2 challenge a risk assessment that is not required by NRC regulations. As discussed above, Duke offered to withdraw that portion of the application and does not need to rely upon Section 3.8 of the LAR as a basis for the NRC to make the "reasonable assurance" safety findings required by 10 C.F.R. §§ 50.92(a) and 50.57(a). The NRC Staff explained that it also would not rely on that assessment. Tr. 125-26; 219-222. *See also* Staff Answer, at 6-7. Risk issues are beyond the scope of the findings required for the LAR and beyond the scope of this proceeding. Therefore, BREDL Contention 2 should not have been admitted.

At oral argument, BREDL argued that the risk assessment of severe accidents is warranted under NRC Staff guidance documents such as Reg. Guide 1.174, Rev. 1, and the NRC Standard Review Plan ("SRP"), NUREG-0800, Chapter 19, Appendix D.[15] Tr. 92-94. However, this reference does not justify shifting the burden at this stage of the proceeding to Duke to provide further risk assessment. Even if risk could be considered, it would be BREDL's burden to affirmatively plead and support an admissible issue. Instead, as with many of the source contentions, BREDL primarily asserted Duke's "failure," omission, or "lack of support."

[15] NUREG-0800, Chapter 19, "Use of Probabilistic Risk Assessment in Plant-Specific, Risk-Informed Decisionmaking: General Guidance" (Nov. 2002).

BREDL made no attempt to directly address the criteria of SRP Chapter 19, Appendix D, and its proffered bases were inadequate to demonstrate a genuine risk issue.[16]

With respect to the first basis, the Licensing Board correctly observed that Duke conceded that the scaling in Section 3.8 of the LAR was incorrect. Duke's assessment was based on the consequences published by DOE in its programmatic environmental impact statement related to plutonium disposition.[17] The DOE consequences were calculated for cores with 40% MOX fuel. With only four MOX lead assemblies, Duke should have scaled the results by multiplying DOE's results by 4/76 rather than 4/193. *See* Duke Answer, at 19. However, simple arithmetic reveals that, based on this correction, the public health risk from severe accidents as described in Section 3.8 of the LAR would change to a range of minus 0.2% to plus 0.7% (rather than minus 0.1% to plus 0.3%). *Id.* Quite simply, these numbers alone do not establish a genuine dispute regarding the risk significance of the proposed amendment. *Id.* at 19-20. Nor did this basis establish differences in fuel behavior between MOX fuel and LEU fuel, the subject of reformulated Contentions I and II. Accordingly, this part of the contention should not have been admitted in support of the reframed Contention because it fails to establish a genuine dispute. *See* 10 C.F.R. § 2.714(b)(2)(iii). Moreover, because Duke has provided the revised numbers in its earlier response, no further relief can be granted. *See* 10 C.F.R. § 2.714(d)(2).

The second basis for Contention 2 should also have been specifically excluded as inadmissible. The argument that Duke *must* utilize its plant-specific PRA is completely lacking in regulatory basis. As discussed in connection with BREDL Contention 1, Duke has supported

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[16] For example, BREDL made no attempt in proposed Contention 11 to specify how four lead assemblies in a core could reasonably create "special circumstances" such that compliance with existing regulations would be inadequate to protect public health and safety.

its LAR with a traditional safety analysis. There is no requirement that Duke perform *any* probabilistic risk assessment of the proposed amendment, much less an assessment based on a plant-specific PRA. There is no requirement that Duke even maintain a PRA, much less apply it to every license amendment application.[18] BREDL would, in effect, require all licensees that maintain a PRA to use it on all licensing actions. This precedent would discourage licensees from maintaining PRAs. Accordingly, this part of the contention should have been clearly rejected for lack of regulatory support. *See* 10 C.F.R. §§ 2.714(b)(2)(iii), 2.714(d)(2).

The third basis for this proposed contention is arguably the only one within the scope of reframed Contentions I and II, although that limitation is not clear in the Memorandum and Order. Even this basis, however, should properly have been rejected. Again, this basis addresses *severe accident risk*, which is beyond the scope of the required *safety* analysis. Furthermore, as discussed in the Duke Answer, at 21-23, BREDL in this basis cited two documents — a study authored by Dr. Lyman on the public health risks of MOX fuel[19] and an NRC contractor report on source terms for MOX fuel.[20] Significantly, however, the proposed contention made no specific references to either of these documents. In fact, the significance of the contractor report cited in the proposed contention was never explained. Apparently relying

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17 *DOE Surplus Plutonium Disposition Environmental Impact Statement,* DOE/EIS-0283 (Nov. 1999) ("SPDEIS").

18 *Cf. Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), LBP-03-17, 58 NRC 221, 230 (2003) ("Furthermore, NRC regulations do not require Duke to publish its entire PRA, and the Intervenors fail to provide any legal support for that proposition.").

19 E. Lyman, "Public Health Risks of Substituting Mixed-Oxide for Uranium Fuel in Pressurized Water Reactors," *Science & Global Security* 9 at 33-79 (2001) ("Lyman Study"). This is the report noted above that concludes (*e.g.,* pages 13, 20) that health risks due to reactor grade MOX fuel are substantially greater than those due to weapons grade MOX fuel.

20 ERI/NRC 02-202, "Accident Source Terms for Light-Water Nuclear Power Plants: High Burnup and Mixed Oxide Fuels" (Nov. 2002).

on the Lyman Study in its totality, BREDL asserted only that the "increase in consequences associated with using MOX fuel depends strongly on the assumed values of the actinide release fractions, which are parameters with large uncertainties." BREDL Contentions, at 6. The contention, however, did not establish a *specific* dispute on a material issue of law or fact, nor did it establish a basis for relief in this proceeding.

Quite simply, BREDL's broad reference (without discussion) to two documents and its single assertion regarding "uncertainties" do not establish a specific, genuine, and material issue that could make a difference in the outcome of this matter. The Commission has previously stated that a petitioner "'has the obligation not just to refer generally to voluminous documents (here totaling several hundred pages), but to provide analysis and supporting evidence as to why particular sections of those documents . . . provide a basis for the contention.'" *Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 204 (2003) (footnote omitted).[21] On this basis alone, this aspect of BREDL Contention 2 should have been rejected.

Beyond that, a licensing board is not constrained to simply "accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention." *Private Fuel Storage L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181 (1998); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90 (1996) ("A document put forth by an intervenor as the basis for a contention is subject to scrutiny both for what it does and does not show."). Indeed, the NRC's

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[21] *See also Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 348 (1998) ("mere reference to documents does not provide an adequate basis for a contention"); *Private Fuel Storage L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-10, 47 NRC 288, 298 (1998) (merely "attaching a document in support of a contention without any explanation of its significance does not

threshold requirements for contentions demand an assessment of the "sufficiency" of a basis, to assure that there is a specific and "genuine" dispute. As explained in the Duke Answer, at 21-24, the Lyman Study reveals only Dr. Lyman's conclusion in a sensitivity study that the radiological consequences (in terms of public health) would increase by as much as 30% — depending on the assumed fraction of actinides releases — for a 40% MOX fuel core (76 MOX fuel assemblies). *See, e.g.*, Lyman Study, at Table 5 (ST-H latent cancer fatalities). Without even engaging the merits of the study itself, a linear scaling of Dr. Lyman's limiting 30% increase for 40% MOX fuel cores to cores with only four MOX fuel lead assemblies as proposed in the LAR (*i.e.*, multiplying the results by 4/76), would lead to a maximum change in public health consequences associated with the lead assemblies of only 1.6%. As noted in connection with the first basis for BREDL Contention 2, in a risk analysis of hypothetical severe or beyond-design-basis accidents, this is not a significant number. Therefore, applying a critical reading of this basis, as demanded by the NRC's rules themselves, and considering also that no public health consequences assessment is even required by the NRC's regulations, this basis does not establish a genuine dispute that would be of consequence in this proceeding. It should not have been admitted in any form.

Finally, as noted above, the Licensing Board itself found the fourth basis for BREDL Contention 2 to be inadmissible. In total, therefore, no aspect of BREDL Contention 2 was properly admitted, and none of the bases for that contention should have been accepted as part of a reframed contention. BREDL Contention 2 was written as a safety issue, not an environmental issue under NEPA. Because it addresses risk assessment of beyond-design-basis accidents, it should not be considered in connection with a safety contention such as reframed

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provide an adequate basis for a contention"), *citing La. Energy Servs., L.P.* (Claiborne Enrichment Center), LBP-91-41, 34 NRC 332, 338 (1991).

Contention I. Because it was not proposed as an environmental contention, it should not be considered in connection with reframed Contention II. BREDL Contention 2 should have been specifically rejected by the Licensing Board.

> *BREDL Contention 6:* Duke in its Environmental Report fails to provide "quantitative support" for its assertion that the consequences of a severe accident involving use of MOX fuel lead assemblies will increase 0.3% at most, in violation of 10 C.F.R. § 51.45(c).

This proposed contention challenged Duke's ER rather than the safety analysis in the LAR. BREDL cited a reference in 10 C.F.R. § 51.45(c) to "quantitative" assessment of environmental factors and, based on that citation, asserted — as in BREDL Contention 1 — the need for a full-blown plant-specific assessment of the public health consequences of beyond-design-basis accidents at Catawba (for four lead assemblies). BREDL Contentions, at 13-14. BREDL faulted the Duke ER simply because it does not attempt to calculate the changes in CDF and LERF associated with the proposed license amendment, and because the ER does not include a "full description of core inventory release fractions, consequence modeling, techniques used, and a full accounting of uncertainties." *Id.*, at 14. This latter aspect of the proposed contention — referring to core inventory and release fractions — may pertain to differences between MOX fuel and LEU fuel and therefore is presumably included in reframed Contention II (if that is assumed to be the environmental contention). However, no part of this contention should have been admitted; it is based on an overstatement of the requirements of 10 C.F.R. § 51.45(c), and therefore lacked a valid regulatory basis.

As discussed in the Duke Answer, at 43-44, 10 C.F.R. § 51.45(c) does *not* mandate a risk assessment on the scale of the relief requested in BREDL Contention 6. The regulation states only that:

> The analyses for environmental reports shall, to the fullest extent practicable, quantify the various factors considered. To the extent that there are important qualitative considerations or factors that cannot be quantified, those considerations or factors shall be discussed in qualitative terms. The environmental report should contain sufficient data to aid the Commission in its development of an independent analysis.

Responsive to this regulation, the LAR includes a *quantitative* assessment of the impacts of postulated accidents. Based on the safety analysis in Section 3.7 of the LAR technical justification, Section 5.6.3.1 of the ER includes *quantitative* results for changes in dose consequences associated with design basis accidents that would derive from the introduction of four MOX fuel assemblies in the core. The limiting cases remain within regulatory limits. LAR, Attachment 5, at 5-8. In the public health risk assessment in Section 3.8 of the technical justification, the LAR also includes a *quantitative* assessment of the changes in consequences of postulated severe accidents. Drawn from DOE's environmental work documented in the SPDEIS, as discussed above, these quantitative results show that the use of four MOX fuel lead assemblies would not significantly increase public health risk.

Nothing in 10 C.F.R. § 51.45(c) requires Duke to provide additional quantitative information concerning the "risk analysis on which Duke relies for its conclusions regarding environmental impacts," or "a full description of core inventory, release fractions, consequence modeling, techniques used, and a full accounting of uncertainties." BREDL Contentions, at 14. The NRC's requirement that an applicant quantify the various factors considered in its ER "to the fullest extent practicable" does not specifically require Duke to provide a probabilistic risk analysis — which in effect is what this proposed contention demands.[22] Consistent with its plain language, Section 51.45(c) requires the ER to quantify those factors that can be quantified and to

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[22] *Cf. McGuire/Catawba,* LBP-03-17, 58 NRC at 230 (stating that NRC regulations do not require Duke to publish its entire PRA).

address other considerations (those that cannot be practicably quantified) qualitatively. By contrast, this proposed contention, and apparently the Licensing Board, would construe the regulation to require: (1) completely quantitative analysis; and (2) an analysis that provides the greatest level of detail, based on the most complex available tools. This interpretation would discourage maintaining PRAs and is at odds with a NEPA "rule of reason." Moreover, the basis for proposed BREDL Contention 6 provided no support for the assertion that a full-blown risk assessment would be practicable. Indeed, at oral argument, Duke counsel explained some of the difficulties that would be involved in conducting such an assessment. Tr. 163-65; 288. BREDL did not dispute that point.

BREDL's argument on this contention is one of generic applicability. The argument could be applied to any license amendment application, creating a new, unwarranted burden on any applicant for a license or license amendment. Indeed, in the ongoing NRC MOX fuel fabrication facility ("MFFF") licensing proceeding, the petitioner submitted a similar contention asserting in part that the applicant's accident analysis in the ER violated Section 51.45(c) because the ER did not quantify the probability of accidents or explain why it is not practicable to quantify them. In that case, the presiding board correctly decided that 10 C.F.R. § 51.45(c) does not support the contention:

> This unambiguous regulation implementing the Commission's responsibility under NEPA . . . does not by its terms mandate the preparation of a probabilistic risk assessment. Further, no other Commission environmental or safety regulation requires DCS to prepare a probabilistic risk assessment for the MFFF.

Duke Cogema Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 448 (2001) (internal citation omitted). Similarly, Section 51.45(c) does not

require Duke to include a "risk analysis" as described in BREDL Contention 6 to support its conclusions regarding environmental impacts.[23]

In its Memorandum and Order, the Licensing Board provides only a brief assessment of BREDL Contention 6. The Licensing Board states that "BREDL has presented sufficient basis, facts and expert opinion to demonstrate a genuine dispute on these issues — one factual, one a combined legal/factual issue — which are clearly material to the proposal before us." Memorandum and Order, at 40. The precise issues to which the Licensing Board here refers are never identified. Regardless, none of this responds to Duke's fundamental legal argument that there is no basis in Section 51.45(c) for the extraordinary relief requested in the proposed contention. Further, none of this addresses the Licensing Board's clear departure from the decision of a sister board in another proceeding on a virtually identical issue.

In sum, an environmental report is not a safety assessment and it is not a probabilistic risk assessment. There is no showing in BREDL Contention 6, or any basis in fact, on which to conclude that it would be "practicable" for the NRC to *require* that an environmental report include a quantitative risk assessment, on the scale requested in this contention, for every license amendment or for this one. Furthermore, given the level of detail already included in the SPDEIS and the LAR, there is no basis on which to conclude that further information must be

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[23] *See also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-29, 48 NRC 286 (1998). In ruling on an intervenor's proposed late-filed contentions that challenged the applicant's proposal to build a rail spur to transport spent fuel shipping casks to the ISFSI, the board specifically rejected the intervenor's assertion that the application did not comply with 10 C.F.R. § 51.45(c) because it allegedly did not quantify and analyze the attendant costs and cumulative environmental impacts. The board stated that Section 51.45(c) imposes a burden on an applicant to provide a quantification discussion only 'to the fullest extent practicable.' *Id.* at 296, n. 8. The board further suggested that this proposed contention impermissibly challenged NRC regulations or rulemaking-associated generic determinations, and lacked adequate factual or expert opinion support. *See id.*

developed for this proceeding or to aid the Commission in its environmental analysis.[24] This proposed contention therefore should have been rejected for lack of sufficient basis to demonstrate a genuine issue (10 C.F.R. § 2.714(b)(2)(iii)), and because it seeks relief that cannot be granted in this proceeding (10 C.F.R. § 2.714(d)(2)(ii)).

> *BREDL Contention 7:* Duke has failed to support its claim that the increase in severe accident consequences associated with the MOX fuel lead assembly loading will not be significant.

BREDL Contention 7 reprised its proposed Contention 2, in brief form, with the distinction that BREDL here challenged the ER rather than the LAR safety analysis. This contention again raised the issue of the change in public health risk shown in the LAR, calculated by scaling the results from DOE's SPDEIS for a 40% MOX fuel core to a 2% MOX fuel core as proposed in the present LAR. BREDL Contentions, at 14. The proposed contention again asserted that "Duke must use its own up-to-date PRA" and provide the results. *Id.* at 15. The contention, therefore, is another example of burden shifting. It offered no affirmative assessment of severe accident consequences, with a supporting basis; rather, BREDL merely claimed that Duke "failed to support" its conclusions in the LAR.[25] Nothing in this proposed contention and basis specifically addressed differences between MOX and LEU fuel behavior.

As discussed in the Duke Answer, at 46, and above in connection with BREDL Contention 6, this proposed contention first lacks any regulatory basis. There is no support cited in the contention for the proposition that an ER for a license amendment must include a quantitative assessment of the public health consequences of beyond-design-basis accidents

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[24] As discussed above, the Duke ER conclusions are also generally consistent with BREDL's own numbers in the Lyman Study referenced in BREDL Contention 2 — that is, a maximum 1.6% change in consequences associated with four lead assemblies, if Dr. Lyman's limiting results are scaled to cores with only four assemblies.

[25] This contention did not even reference the Lyman Study cited in BREDL Contention 2.

based on a plant-specific PRA. As discussed above, 10 C.F.R. § 51.45(c) does not support such an argument, and the BREDL approach would, in effect, punish licensees that maintain PRAs. Moreover, because NRC regulations do not require that licensees maintain PRAs, it would be illogical to conclude that PRAs are nonetheless required to support environmental assessments of license amendments. The relief requested in this contention exceeds regulatory requirements and therefore, in accordance with 10 C.F.R. § 2.714(d)(2), the proposed contention should not have been admitted.

This proposed contention also lacks a factual basis sufficient to support an assertion that some extraordinary risk assessment should be required. The contention itself, as its hypothesis, asserted no more than an "increase in consequences of no more than 2%." BREDL Contentions, at 15. The contention instead argued that "the change in risk could be significant for CDFs 100 times higher than what Duke assumed, as may be the case if sump recirculation is not available." *Id.* This statement was made without explanation, citation, or other basis. The statement appears to be an allusion to the argument raised in BREDL Contention 3 related to the risk implications of Generic Safety Issue ("GSI") 191 related to potential containment sump blockage. GSI 191 remains under review by the NRC. However, the Licensing Board in its Memorandum and Order correctly concluded that this issue, and BREDL Contention 3, are beyond the scope of the present proceeding. *See* Memorandum and Order, at 44 (stating that "the sump clogging issue at Catawba . . . is not relevant to measuring any increased impact on safety resulting from the use of the four MOX [lead assemblies], which is the only question before us"). Therefore, the reference to 100-fold increases in CDF could not provide a basis for BREDL Contention 7.

The Licensing Board in its Memorandum and Order does not elaborate on the admissibility of BREDL Contention 7, or address how this issue relates to the reframed contentions.[26] However, as with the other proposed contentions, if the source contention is not admissible, there can be no issue to consolidate and reframe. Contrary to the Licensing Board's ruling, BREDL Contention 7 — even to the extent it "challenges the technical merit of Duke's conclusions relating to severe accident environmental impacts" (Memorandum and Order, at 32, 33) — is not admissible. While a challenge to the technical merit of Duke's conclusions might be within the scope of this proceeding (to the extent the challenge is not based on GSI-191), there was no basis in BREDL Contention 7 adequate to support a conclusion that there *is* a genuine technical dispute regarding Duke's severe accident risk conclusion. The only "dispute" identified in the contention again revolves around the difference between a 0.7% increase in consequences (as calculated in Duke's revised scaling) and a 1.6% (or 2%) increase, as can be derived from Dr. Lyman's analysis and as is assumed in this proposed contention. This is not a "dispute" that justifies a hearing. It is not a "dispute" that would be of consequence or lead to meaningful relief. *See* 10 C.F.R. § 2.714(d)(2). In sum, BREDL Contention 7 should not have been admitted, and none of the bases for that contention should have been accepted as part of a reformulated contention.

> *BREDL Contention 10:* Duke's safety analysis for design basis LOCAs in Section 3.7 of the application is inadequate because it fails to account for uncertainties in the technical understanding of the behavior of MOX fuel during LOCAs that may lead to significant deviations from LEU fuel behavior.

This is the first of three late-filed BREDL proposed contentions, all based entirely upon a slide presentation to the NRC Staff made at an October 23, 2003 meeting by Messrs. A.

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[26] The Licensing Board discussed the bases for BREDL Contention 7 at pp. 23-24 of the Memorandum and Order, and states at p. 40 that part of the contention is admissible.

Mailliat and J.C. Melis of the French Institut de Radioprotection et de Sûreté Nucleaire ("IRSN"). IRSN is a research arm of the French nuclear oversight regime.[27] The slide presentation related to IRSN's *proposed* "series of tests at the Phébus experimental reactor to close gaps in the experimental database for both MOX fuel and high-burnup LEU [fuel]." BREDL Supplemental Contentions, at 3.[28] As such, this proposed contention, and those that follow, did in fact relate to potential differences in behavior between MOX fuel and LEU fuel as addressed in reframed Contentions I and II. Because BREDL Contention 10 addressed design basis LOCA analyses, it is presumably encompassed under reframed Contention I (although, as discussed elsewhere, the relative scope of the two reframed contentions is not clear).

To maintain focus on the most important issues and errors in the Memorandum and Order, Duke will not here address at length the conclusion of the Licensing Board regarding the timeliness of this (and the other related) contentions. *See* Memorandum and Order, at 35-39. The Licensing Board's conclusions regarding timeliness of the BREDL Supplemental Contentions, however, do appear to establish a dangerous precedent. The Duke Supplemental Answer (at 2-4, 6-9) addressed timeliness at length. In this case BREDL is taking an

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27 According to the IRSN website (*see* http://www.irsn.fr (last visited Mar. 12, 2004)), "the IRSN carries out research and analysis on the risk related to radioactivity and their consequences on man and the environment." The organization with safety oversight authority for French nuclear plants is the General Department for Nuclear Safety and Radioprotection ("DNSGR"). Again from the IRSN website (*see* http://www.irsn.fr/va/02_pre/02_pre_3/02_pre_32.shtm (last visited Mar. 12, 2004)). DNSGR "was created at the same time as the IRSN, to exercise the functions of authorization and control, with the exception of those relating to national defense."

28 The PHEBUS program is an international cooperative research program. The PHEBUS experimental work is performed at the Cadarache Centre in France. The October 7, 2003 NRC meeting notice for the October 23, 2003 meeting with IRSN describes the purpose of the meeting as discussion of *proposed* testing at the PHEBUS test facility of "(a) fuel bundles under LOCA conditions to observe temperature effects and possible fuel relocation, and (b) fuel bundles under core melt conditions with air present to measure fission product release (source term)."

inconsistent position. It is asserting that its technical consultant, Dr. Lyman, is an expert who can support BREDL's proposed contentions. On the other hand, however, he is not being held to any reasonable standard of awareness of the potentially relevant technical literature. He is being allowed to bring forward new contentions whenever "new" material crosses his desk or computer screen, regardless of how long that material has been discussed in public forums. *See* Tr. at 670. Putting this aside, however, Duke addresses below the Licensing Board's tacit admission of this issue in reframed Contention I. A conclusion that this contention is admissible nullifies the threshold basis requirements of 10 C.F.R. § 2.714(b)(2)(iii). BREDL Contention 10, as it relates to LOCA analysis, is completely lacking in any meaningful support.

In its response to this proposed contention, Duke outlined numerous reasons why the IRSN presentation — the sole support for the contention — does not establish a genuine dispute *regarding the LOCA analysis in Section 3.7 of the LAR*. *See* Duke Supplemental Answer, at 10-15. The Licensing Board in its Memorandum and Order does not directly address any of these points. Rather, the Licensing Board characterizes those arguments as "strong factual arguments . . . which may become more pertinent in merits-based consideration of the issues in an evidentiary hearing." Memorandum and Order, at 39. The Licensing Board's approach ignores the requirement that some assessment of material offered in a proposed contention is necessary at the threshold to assure that there is "sufficient" basis to demonstrate a "genuine" dispute. The words in 10 C.F.R. § 2.714(b)(2) must be given meaning.

In this case, the basis offered amounted to no more than a reference to a slide presentation that was not addressing Duke's proposal. The slide presentation did not even include substantive findings on LOCA issues. Rather, it addressed an un-funded research proposal to address perceived "gaps" or "uncertainties" in the experimental database (to use

BREDL's own characterization). A research proposal is not a basis for a contention, and a complete experimental database and perfect certainty are not prerequisites to approval of any NRC license or license amendment. Admission of this, and the other similar contentions, would be a prescription for turning the NRC's adjudicatory process into an academic forum. Such theoretical discourse is better suited for other NRC forums. If some relevant findings were to result, only then might the issue be ripe and establish a basis for an adjudicatory setting.[29]

Duke will not repeat here all the arguments that it made previously on BREDL Contention 10. Reference can be made to the Duke Supplemental Answer, as appropriate. Most significantly, the Licensing Board failed to fully appreciate the nature of the data that *was* described in the IRSN presentation — the VERCORS RT2 test referenced on Slide 6 of the presentation. The reference in the IRSN slide provides no detail on the test — and no further detail was provided in either the proposed contention or the basis statement. As can be seen from the context of the slides themselves, however, the IRSN statement relates to a discussion of source term for a severe (beyond-design-basis) accident, not LOCA tests. As a source term test, the RT2 test was not intended to simulate conditions characteristic of a design basis LOCA. (Unlike a severe accident source term test, which assumes extended loss of cooling, a design basis LOCA test would include restoration of core cooling within a few minutes of accident initiation and maintenance of PCT below 2200° F in accordance with 10 C.F.R. § 50.46(b)). The mere existence of the test, and the oblique reference to it on the slide, do not establish any

[29] The requirement in Section 2.714(b)(2)(iii) for a genuine dispute on a material issue of fact means "a dispute that actually, specifically, and directly challenges and controverts the application, with regard to a legal or factual issue, the resolution of which 'would make a difference in the outcome of the licensing proceeding.'" *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 2), LBP-03-3, 57 NRC 45, 64 (2003) (internal citations omitted).

genuine dispute with respect to Duke's compliance in the LAR with 10 C.F.R. § 50.46 (in the lead assembly design basis LOCA analysis for ECCS performance).[30]

The Licensing Board relies on three BREDL assertions, based on the IRSN presentation, to support its conclusion that there are genuine disputes on material issues. Memorandum and Order, at 40-41. However, these assertions are not based on facts, fail to draw any explicit nexus to Duke's LOCA analysis, and do not demonstrate a dispute regarding the required design basis safety analysis. In the context of the present LAR, and the applicable NRC requirements, BREDL's statements amount to mere speculation. To the extent those statements even support a reasonable uncertainty in connection with the limited amendment now before the NRC, BREDL provided no basis as to how uncertainties (which always exist) would not be bounded by conservatisms in the NRC's requirements and Duke's LOCA analyses.

In discussing the admissibility of the restated contentions, the Licensing Board first points to the following statement from BREDL:

> The IRSN presentation points out that plutonium MOX fuel relocation has been observed at a lower temperature than LEU fuel relocation (stated at the meeting to be 200°C - 300°C lower), *i.e.*, that during a LOCA, the MOX fuel pellet column collapses into the lower part of the fuel rod sooner than LEU fuel. . . . This would increase power and negatively affect heat transfer, with a deleterious impact on important LOCA parameters[, [including] increases in peak clad temperature ("PCT") (stated at the meeting to be 100°C higher), clad oxidation (stated at the meeting to be a 5%-10% increase in the oxide layer) and clad hydrogen uptake. . . .

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30 The fuel relocation observed in the RT2 test occurred at temperatures far in excess of design basis LOCA temperatures. The RT2 test was also discussed at the February 19-21, 2002 NRC meetings on severe accident source terms. Mr. Clement, the French official from IPSN (the relevant agency at the time), indicated that another VERCORS test on MOX fuel (RT7) did *not* exhibit the lower temperature fuel relocation that was seen in RT2. *See* Meeting Tr. 262-273 (2/19/02).

BREDL Supplemental Contentions, at 3-4 cited at Memorandum and Order, at 41.[31] Here, BREDL is suggesting that IRSN finds ("points out") that fuel relocation has occurred at LOCA temperatures and therefore could affect a design basis accident analysis. However, IRSN did not make a *finding* on that point; rather, it is BREDL's speculation and it is no more than argument, not a basis for a contention. In fact, at oral argument, BREDL admitted that the reference to large differences in fuel relocation temperature (200° C to 300° C) was based on oral observations made by IRSN on the VERCORS tests at *severe accident* (near fuel melt) conditions. Tr. 704-05; 711-12. Therefore, these observations are not applicable to BREDL Contention 10, which relates to a *design basis LOCA*. The IRSN slides themselves (see Slides 21 and 25) merely raise an issue — fuel relocation under LOCA conditions — that IRSN believes could be investigated experimentally to reduce uncertainty. The mere fact of proposed testing to improve technical understanding and reduce uncertainty signifies nothing in and of itself, except that an ongoing technical process continues. Again, the proposed contention did not demonstrate how the LOCA analyses in the LAR are inadequate to account for any uncertainties that may exist.[32] Proposed Contention 10 is also at odds with the verifiable fact that MOX fuel is currently being used in several European countries, including France, and that

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31 The Licensing Board apparently finds this BREDL statement sufficient to "render admissible [BREDL's] contention that Duke's design basis safety analysis is inadequate in its discussion of LOCAs, and that the LAR inadequately addresses the potential for releases and the potential environmental impact of both design basis and severe accidents." Memorandum and Order, at 40. Significantly, however, at the January 15, 2004 oral argument, BREDL amended proposed Contention 10 to delete all of the language in the first sentence of BREDL's statement following "MOX fuel location" in the first line, thereby omitting the language relating to severe accidents. See Tr. 644-45. Based on this citation in the Memorandum and Order, it is not clear that the Licensing Board recognized this narrowing of proposed Contention 11 to design basis (LOCA) issues.

32 BREDL does not dispute that fuel relocation at LOCA temperatures is a known issue that the NRC has addressed for a number of years, and that fuel relocation "is an issue for uranium fuel as well as for plutonium fuel." Tr. at 650, 653, 707. *See also* Tr. at 684, 705 (Staff counsel); Staff Supplemental Answer, at 6-7; Tr. at 716-17 (counsel for Duke).

none of the relevant regulators has taken any action to restrict MOX fuel use due to the results of the VERCORS tests, the research proposal by IRSN, or the issues asserted by BREDL.

In discussing the admissibility of the reframed contention, the Licensing Board next relies upon the following BREDL statement:

> The IRSN presentation further points out that modern, low-tin, high ductility cladding materials, such as the M5 cladding that will be used in the MOX LTAs, will form bigger "balloons" than conventional Zircaloy and are likely to have higher blockage ratios.

BREDL Supplemental Contentions, at 4; cited in Memorandum and Order, at 41. This statement appears to be referencing IRSN Slides 24 and 25. The Licensing Board's reliance on this claim is inexplicable since this is just a bald statement with no nexus whatsoever to Duke's proposal or the LAR. It is more a question than a basis. Further, BREDL's statement ignores that M5 cladding has been tested and has been approved by the NRC for use in the United States.[33] Tr. 719. BREDL offered no specific challenge to the MOX fuel design report referenced as part of the LAR.[34] And BREDL provided no basis whatsoever to support a hypothesis that cladding ballooning would cause unacceptable impacts during a postulated LOCA.

Finally, the Licensing Board quotes BREDL's statement:

> Phenomena that could affect the consequences of severe accidents include both higher release rates and higher release fractions for both fission products and actinides compared to LEU, as a result of the MOX fuel microstructure and different oxidation potential.

BREDL Supplemental Contentions, at 5-6; cited in Memorandum and Order, at 41. This, however, is a disconnected statement that echoes the speculation in BREDL Contention 2. It is a

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[33] *See* "NRC Staff's Response to (1) Blue Ridge Environmental Defense League's Supplemental Petition to Intervene and (2) Nuclear Information and Resource Service's Contentions" (November 10, 2003), at 27. The Staff cites the topical report BAW-10227P, *Evaluation of Advanced Cladding and Structural Material (M5) in PWR Reactor Fuel*, approved by Safety Evaluations of December 14, 1999 and February 4, 2000.

severe accident issue that has no relevance in the context of a design basis safety analysis contention such as proposed BREDL Contention 10 and reframed Contention I.

In the end, BREDL is arguing that the proposed license amendment cannot be granted until further MOX fuel LOCA tests are conducted. However, no such tests are currently funded or scheduled. Moreover, as explained in IRSN Slide 9, the proposed experimental program would require "actual irradiated fuel . . . with the appropriate burnup." BREDL's proposed contention therefore creates a "chicken and egg" paradox. BREDL would argue that the LAR cannot be approved until experimental data is gathered to address the perceived "gap" in the data. However, if the "necessary" experiment requires representative irradiated MOX fuel, the experiment cannot be performed. This only serves to highlight that a contention based on no more than speculation, based on a research proposal rather than findings, should not be admitted in either the original or reframed form.[35]

> *BREDL Contention 11:* Duke's analysis of the impact of the MOX fuel lead assemblies on the probabilities and consequences of severe [beyond design basis] accidents is inadequate, because it fails to account for uncertainties in the technical understanding of the behavior of MOX fuel during severe accidents that may lead to significant deviations from LEU fuel behavior.

Proposed Contention 11 was another safety contention (in contrast to an environmental contention) based upon the same IRSN slide presentation as proposed Contention 10. This contention specifically challenged Duke's risk assessment of *severe accidents* in Section 3.8 of the LAR (as opposed to the evaluation of design basis accidents in Section 3.7 of the LAR, purportedly challenged in BREDL Contention 10). BREDL Supplemental

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34 *MOX Fuel Design Report,* BAW-10238 (NP), Revision 1 (May 2003).

35 The data from the RT2 test (and other VERCORS tests) are proprietary to IRSN and are not presently available to Duke or, presumably, to BREDL. It is not clear what BREDL would rely upon in a hearing.

Contentions, at 4-5. In that respect, BREDL Contention 11 was similar in focus to BREDL Contention 2. In this proposed contention BREDL cited IRSN Slide 6 and argued that "[a]nother part of the IRSN Phébus proposal . . . was a plan to address uncertainties in the behavior of MOX fuel during severe accidents." *Id.*, at 5. The contention asserted that the probabilities of severe accident could be affected by "the poorer performance of MOX fuel during a LOCA," and that the consequences of severe accidents could be affected by "both higher release rates and higher release fractions for both fission products and actinides." *Id.* at 5-6 (again citing Slide 6). This is the third of the three statements specifically relied upon by the Licensing Board in its Memorandum and Order (at 41), discussed above.

As discussed above, Section 3.8 of the LAR is a risk assessment that is not required. *See* Duke Answer, at 15-17. In addressing "uncertainties" with respect to *beyond design basis* severe accidents, the contention again raised an issue that need not be addressed in a license amendment application such as this one — based on a traditional, deterministic safety evaluation. Accordingly, the proposed contention should not have been admitted because it fails to establish a genuine dispute regarding a *material* issue of fact. *See* 10 C.F.R. § 2.714(b)(2)(iii). Moreover, for the same reason, even if severe accident "uncertainties" exist, the contention would not entitle BREDL to relief in this proceeding. *See* 10 C.F.R. § 2.714(d)(2)(ii). For the reasons already discussed in connection with Contention 10 and in the Duke Supplemental Answer, at 17-19, the basis for the contention also did not establish a *genuine* dispute. While severe accident uncertainties always exist, there is absolutely no basis provided for the claim that "there are uncertainties in aspects of MOX fuel behavior that may have a significant impact on Duke's risk analysis for the Catawba core with four plutonium MOX [lead assemblies]." BREDL Supplemental Contentions, at 5. No showing was made in the contention as to how the

"uncertainties" purportedly at issue would be significant for the *four* lead assemblies presently proposed.

In proposed Contention 11, BREDL specifically asserted that the fuel performance differences noted by IRSN ". . . could increase the chance that an accident cannot be mitigated." BREDL Supplemental Contentions, at 5. However, a careful review shows that the IRSN slides do not make that statement. In contrast, Duke has addressed LOCA analyses in the LAR, Section 3.7.1. BREDL never explained how four assemblies (2% of the core) would substantively change ECCS performance (and, therefore, the probability of severe accidents). Duke has stated that MOX fuel and LEU fuel are fundamentally similar (MOX fuel is approximately 95% uranium). Section 3.7.1 of the amendment application explains potential impacts of MOX fuel phenomena on LOCA analyses, and concludes that there are no significant differences in calculated LOCA performance between LEU and MOX fuel. None of this is directly addressed (or disputed) by BREDL, with the required specificity.

BREDL also asserted again that there will be "higher release rates and higher release fractions for both fission products and actinides." BREDL Supplemental Contentions, at 5-6. However, a review of Slide 6 reveals only a reference to characteristics of both MOX fuel and high burnup UO_2 fuel that *might* affect the source term; the slide makes no broad conclusion that MOX fuel has higher release rates and higher release fractions. Nevertheless, as it did in several others of the source contentions, BREDL argued that these factors would increase severe accident consequences. However, even assuming higher release rates and release fractions, in this proposed contention BREDL still did not provide any basis for asserting that differences in 2% of the fuel would substantively change the consequences of severe accidents. The IRSN slides do not do that. Even Dr. Lyman's own worst-case analysis, discussed above in connection

with proposed Contentions 2 and 10, did not support a significant change in public health consequences from severe accidents involving only four MOX fuel assemblies.[36]

Accordingly, to the extent the Licensing Board intended to incorporate this safety issue under either reframed Contention I or Contention II, it erred. The Licensing Board did not explain how a severe accident risk issue is material to the required findings for Duke's deterministic LAR. Moreover, even if severe accident risk were considered to be material, the IRSN research proposal and BREDL's speculative arguments were insufficient to establish a genuine dispute.

> *BREDL Contention 12:* Duke's Environmental Report fails to consider the effects of plutonium fuel characteristics on severe accident potential (in particular, the susceptibility of plutonium MOX fuel to "slumping" during a LOCA or the adverse effect that slumped fuel may have on the ability of the safety injection system to cool the entire core).

Proposed Contention 12 was identical in substance to Contentions 10 and 11, differing only in its argument that the IRSN issues (*i.e.*, the "uncertainties," "gaps" or "unknowns" addressed in the slide presentation) should be addressed in the ER. BREDL argued that "MOX fuel has characteristics that may affect the potential for and consequences of a LOCA or severe accident" and that the "significance of these characteristics" must be addressed "with respect to the potential for and consequences of a design basis or severe accident." BREDL Supplemental Contentions, at 6-7. For the reasons similar to those discussed above, this proposed contention is not admissible and should not have been included in any reframed contention. It is entirely unclear how an ER could be meaningfully revised to address

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[36] *See* Duke Answer, at 23. Again, taking Dr. Lyman's worst case results — a sensitivity study with high release fractions resulting in a 30% increase in one measure of public health consequences for a 40% MOX fuel core — and scaling those results to a 2% MOX lead assembly core, results in a maximum increase in consequences in risk terms of 1.6% — a number well within the uncertainty of the analysis and the margins inherent in the Catawba plant.

"uncertainties" created by a "gap" in experimental data, where the experiments have not been completed (and are not funded or scheduled) to definitively resolve those uncertainties or gaps. Nor do NRC regulations require that Duke do so.

The NRC's NEPA regulations generally require an assessment of potential consequences of both design basis and severe accidents, subject to the general NEPA "rule of reason."[37] Duke included such an assessment in its LAR, Attachment 5, Section 5.6.3. As discussed above, 10 C.F.R. § 51.45(c) generally requires an analysis of "the environmental effects of the proposed action" as well as "alternatives available for reducing or avoiding adverse environmental effects," and "consideration of the economic, technical, and other benefits and costs of the proposed actions and of alternatives." Duke's ER does this, explaining that even in beyond-design-basis accidents, any differences introduced by four MOX fuel assemblies will not meaningfully increase public health risk. The proposed contention did not in any way show how these discussions would be substantively affected by consideration of the IRSN proposal.

As discussed above, the IRSN has offered no opinion on Duke's proposed MOX lead assemblies. There was no substantive finding in the IRSN slides or in the proposed contention showing that Duke's LOCA analysis for four assemblies would be specifically affected, or that severe accident consequences would significantly increase beyond the projections Duke has already made and included in its ER. In the proposed contention, BREDL and its consultant made no attempt to quantify the alleged "uncertainties" or show how risk might be quantitatively increased. Certainly, the proposed contention did not articulate how — pending actual conduct of the proposed experiments — further discussion, quantitative or

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37 The consideration of impacts under NEPA "must be guided by a rule of reasonableness. *Limerick Ecology Action v. U.S. Nuclear Regulatory Comm'n,* 869 F.2d 719, 745 (3d Cir. 1989) (*citing Natural Resources Defense Council v. Morton,* 458 F.2d at 837); *La. Energy Servs., L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998).

otherwise, could be provided as a practical matter, or how such discussion would be meaningful for the lead assembly program proposed by Duke. The contention therefore failed to demonstrate a genuine dispute on a material issue (*see* 10 C.F.R. § 2.714(b)(2)(iii)); it also failed to identify what relief could be granted (*see* 10 C.F.R. § 2.714(d)(2)). Accordingly, proposed Contention 12 should not have been admitted and none of its bases should have been incorporated into any consolidated or reframed contention.

2. *Reframed and Consolidated Contentions I and II Are Not Admissible*

The consolidated and reframed Contentions I and II admitted by the Licensing Board are:

> *Contention I:* The LAR is inadequate because Duke has failed to account for differences in MOX and LEU fuel behavior (both known differences and recent information on possible differences) and for the impact of such differences on LOCAs and on the DBA analysis for Catawba.
>
> *Contention II:* The LAR is inadequate because Duke has (a) failed to account for the impact of differences in MOX and LEU fuel behavior (both known differences and recent information on possible differences) on the potential for releases from Catawba in the event of a core disruptive accident, and (b) failed to quantify to the maximum extent practicable environmental impact factors relating to the use of the MOX LTAs at Catawba, as required by NEPA.

Memorandum and Order, at 63. These contentions should not have been admitted. As discussed above, these contentions are inadmissible because there are no admissible source contentions. Furthermore, as discussed below, these are not the contentions submitted by BREDL; they are more general and more broad than the source contentions (BREDL proposed Contentions 1, 2, 6, 7, 10, 11 and 12) and — by their own terms — are not sufficiently specific to meet the NRC's requirements for contentions.

In its *Statement of Policy on Conduct of Adjudicatory Proceedings,* CLI-98-12, 48 NRC 18, 22 (1998), the Commission reemphasized that:

> licensing boards should continue to require adherence to section 2.714(b)(2), and that the burden of coming forward with admissible contentions is on their proponent. A contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions in 10 C.F.R. § 2.714(b)(2).

Similarly, the Commission has noted that a licensing board is not authorized to expand the scope of a petitioner's original contention. *See generally Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 362 n.10 (2001), *reconsideration denied,* CLI-02-01, 55 NRC 1 (2002) (the Commission cited with approval the finding of a majority of the presiding board that the intervention petition did not "implicitly" include a claim under 10 C.F.R. § 50.36). The Commission's contention rule "is strict by design." *Id.* at 358.

In the present case, the Licensing Board erred by reformulating or reframing the contentions. As discussed above, the Licensing Board did not evaluate — one by one — the specific contentions and bases actually offered by BREDL and assess the admissibility of each against the applicable pleading requirements and other legal requirements. Instead, the Licensing Board simply swept, in total, all seven source contentions (with one minor exception related to the "completeness" of Reg. Guide 1.174, Rev. 1) into two new contentions wholly of the Licensing Board's own making. Significantly, the reframed contentions involve the concept of "differences in MOX and LEU fuel behavior" that is not specifically addressed in any of the BREDL contentions, and is only arguably implicated in portions of a few of the contentions. The reformulated contentions also introduce terminology such as "a core disruptive accident" that is completely foreign to BREDL's contentions and is never elsewhere defined. There can be no doubt that these contentions are not BREDL's; they are the Licensing Board's. This approach to reformulating the contentions is directly contrary to the Commission's policy cited above.

In admitting Contentions I and II without addressing the actual proposed contentions, and without addressing Duke's responses to those contentions, the Licensing Board has effectively avoided addressing several fundamental issues that are crucial to defining the scope of this proceeding. For example, the Memorandum and Order and the reframed contentions leave unresolved the following questions:

- whether *any* risk assessment, much less a plant-specific PRA, is required in a safety analysis for a license amendment that is based on a traditional deterministic design basis accident analysis;
- whether the basis requirement of Section 2.714(b)(2) can be satisfied by the mere reference to a few slides in a research proposal, by a foreign government entity, where the slides are not directed at the amendment proposal at hand and no basis is offered to show any direct correlation to the design basis LOCA analysis submitted to support the amendment; and
- whether a detailed, plant-specific and quantitative risk assessment is required in an Environmental Report for an amendment application by the terms of 10 C.F.R. § 51.45(c).

Without addressing these questions, the Licensing Board's tacit answer to each appears to be an affirmative — sweeping several variations of a limited number of demands made in BREDL's contentions into the scope of Contentions I and II. This approach is undeniably an invitation to broad, unfocused discovery and litigation. This approach is completely at odds with the Commission's view that its threshold contention requirements are "strict by design." Moreover, it flies in the face of the Commission's 1998 policy statement.

The Commission's mandatory requirements in Section 2.714 place parties on notice as to the issues in the hearing and the scope of the proceeding. The Commission has written:

> Our strict contention rule serves multiple interests. First, it focuses the hearing process on real disputes susceptible of resolution in an adjudication. . . . *Second, the rule's requirement of detailed pleadings puts other parties in the proceeding on notice of the Petitioners' specific*

> *grievances and thus gives them a good idea of the claims they will be either supporting or opposing.* Finally, the rule helps to ensure that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.

Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3) CLI-99-11, 49 NRC 328, 334 (1999) (emphasis added). The text of reframed Contentions I and II, the failure of the Licensing Board to resolve the key questions, and the failure of the Board to specify the precise fate of the source contentions, all result in a failure to meet the Commission's interests and expectations.

Indeed, the reframed contentions are so broad and vague they actually appear to greatly expand the scope of issues subject to litigation. Contention I admits any issue related to "differences in MOX and LEU fuel behavior," not just those arguably identified by BREDL. Contention I also raises the issue of the impact of such differences on LOCAs and on the entire DBA analysis for Catawba. However, no BREDL contention ever meaningfully raised issues concerning any DBA other than a LOCA, and many of the source contentions actually addressed beyond-design-basis ("severe") accidents rather than DBAs. In addition, Contention II is ambiguous as to whether it is a safety or environmental contention. (All of the BREDL source contentions were at least clear in this definitional respect.) This reframed contention also takes a broad view of the scope of differences in MOX and LEU fuel behavior to be considered ("both known differences and recent information on possible differences"). Contention II is not limited in any way to the differences asserted in proposed contentions by BREDL. It introduces the undefined "core disruptive accident," creating unnecessary ambiguity. Finally, Contention II would seemingly allow litigation under NEPA of the issue of quantitative risk assessment "to the maximum extent practicable." This is at odds with 10 C.F.R. § 51.45(c).

Moreover, the Memorandum and Order does not help to rein in the reframed and admitted contentions. The Licensing Board in the decision suggested that it would offer limits, but never delivered. For example:

- In discussing the issue of "risk" (apparently in either a safety or environmental context), the opinion suggests that "we are not inclined to exclude completely any evidence related to risk, within reasonable and practical limits." Memorandum and Order, at 40. However, those limits are never explained.

- The opinion states that "we find that significant portions (as specifically defined below) of BREDL's Contentions 1, 2, 6, 7, 10, 11, and 12 meet the general contention admissibility standards of 10 C.F.R. § 2.714(b), (d)." *Id.* at 41. However, despite the promise for further definition, the admissible "portions" are not anywhere defined.

- The Licensing Board's decision directs that: "We will . . . expect the parties to present their evidence in a manner that is limited to direct, to-the-point exposition of the issues defined in the reframed contentions." *Id.* at 42. While clearly a desirable goal, such expectations could not be met in this case, given that the issues are so poorly defined by the text of the reframed contentions and the accompanying decision.

At a minimum, any reformulation of a contention by a licensing board should result in the clarification and simplification of the issues in dispute.[38] Here, the reformulation of BREDL's

[38] *See, e.g., Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-15, 44 NRC 8, 22 (1996) ("[E]xercising our general authority to simplify and clarify the issues, *see* 10 C.F.R. § 2.714(f), we recast what the Petitioners set out as two contentions into one."); *Consol. Edison Co. of N.Y.* (Indian Point, Unit No. 2), LBP-83-5, 17 NRC 134, 137 (1983) ("Our reconsideration of Contention 3.2 has also convinced us that, as originally admitted, it is overly vague. Therefore, we have reformulated it to provide some additional specificity."); *Pa. Power & Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 295-96 (1979) ("[A] Board is not required to recast contentions to make them acceptable. . . . We are also not precluded from doing so. In this instance, such a course commended itself to us because of the similarity of different contentions, the commingling in some contentions of certain extraneous, irrelevant, or legally unacceptable statements, and the desirability of defining issues simply and directly, while including therein all matters raised by the petitioners which are suitable for litigation in this proceeding.") (internal citation omitted).

proposed contentions has, if anything, made the issues in dispute broader and less clearly defined.

At bottom, the Licensing Board took an approach here in reformulating the contentions that is contrary to Commission policy. Even worse, the Licensing Board created new contentions that appear to exceed the scope of the originals. The Licensing Board's decision leaves unresolved all of the crucial issues that would define the scope of this proceeding. The reframed contentions are vague and, by their own terms, do not provide the level of specificity required by Section 2.714(b). As such, the Licensing Board's decision should be reversed and reframed Contentions I and II should not be admitted.

B. The Licensing Board Erred in Admitting Contention III on the Alleged Alternative of Oconee

Contention III is based entirely on BREDL Contention 5. As reframed, the admitted contention reads:

> The Environmental Report is deficient because it fails to consider Oconee as an alternative for the MOX [lead assemblies].

The Licensing Board suggests that this "alternatives" issue might only be considered "to the extent required for a 'brief discussion' under 10 C.F.R. § 51.30(a)." However, the Licensing Board inconsistently elaborated that, on this issue, it "will permit BREDL and the other parties to present evidence relating to the comparative safety, practicability, and appropriateness of using the MOX lead test assemblies at Catawba and Oconee." Memorandum and Order, at 51.

The reframed contention lacks proper legal and factual basis and does not establish a genuine dispute on a material issue, as required by 10 C.F.R. § 2.714(b)(2). Additionally, when assessed against the requirements of NEPA, the contention is clearly inadmissible. The error in admitting the contention is only exacerbated by the Licensing Board's broad statement regarding the scope of the litigation that will be permitted on the contention.

That scope is entirely inconsistent with the NEPA case law discussed below, and could only result in overbroad and protracted discovery and litigation. Furthermore, to the extent this contention could have been considered a contention of omission, it is moot based upon Duke's responses to an NRC Staff Request for Additional Information ("RAI") filed on March 1, 2004. For this additional reason, the reframed contention is inadmissible under 10 C.F.R. § 2.714(d)(2)(ii) because it involves a matter which would be of no consequence in this proceeding because it would not entitle BREDL to any relief.

1. Contention III Lacks Legal and Factual Basis

As discussed in the Memorandum and Order, BREDL's proposed Contention 5 broadly asserted that Duke's ER is deficient because it failed to consider alternative nuclear power plants, other than Catawba and McGuire, for testing and batch use of MOX fuel. BREDL Contentions, at 12. BREDL sought a *comparative assessment* of public health and environmental risks of use of the MOX fuel assemblies at other nuclear plants, including non-Duke plants and Duke's Oconee Nuclear Station. The Licensing Board correctly concluded that it does "not have jurisdiction to consider in this proceeding alternatives not within the control of Duke," and rejected the proposed contention "to this extent." Memorandum and Order, at 50.[39] The Licensing Board limited Contention III to the alternative of Oconee. However, the contention limited to the alternative of Oconee is nonetheless inadmissible for lack of legal and factual basis.

There can be no dispute that NEPA's directive that federal agencies consider alternatives to a proposed action in an environmental review is not unlimited, and that the scope

[39] Based on the text of reframed Contention III, the Licensing Board, at least implicitly, also seems to have correctly rejected any aspect of BREDL Contention 5 that was directed at alternative plants for *batch use* of MOX fuel assemblies.

of the alternatives analysis is governed by a "rule of reason." The agency's analysis need not consider the environmental effects of alternatives that are "'deemed only remote and speculative possibilities.'" *Vt. Yankee Nuclear Power Corp. v. Natural Res. Defense Council,* 435 U.S. 519, 551 (1978) (citation omitted). Similarly, the Commission has held that under NEPA:

> Agencies need only discuss those alternatives that are reasonable and 'will bring about the ends' of the proposed action. *Citizens Against Burlington v. Busey,* 938 F.2d 190, 195 (D.C. Cir.), *cert. denied,* 502 U.S. 994 (1991). 'When the purpose is to accomplish one thing, it makes no sense to consider the alternative ways by which another thing might be achieved.' *Id.* (citing *City of Angoon v. Hodel,* 803 F.2d 1016, 1021 (9th Cir. 1986), *(per curiam), cert. denied,* 484 U.S. 870 (1987)).

Hydro Res., Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 55 (2001).

Duke's MOX LAR is the "proposed action" here, and Duke's purpose in filing the license amendment request is to obtain NRC authorization to use four MOX fuel lead assemblies at Catawba to support subsequent batch use at either Catawba or at its sister plant, McGuire. The only viable alternative to the proposal for lead assemblies at Catawba are: (1) McGuire — which is inherently considered in the ER; and (2) the continued use of LEU fuel — that is, the "No Action" alternatives which is also addressed in the ER. The alternative of Oconee suggested in the admitted contention is not a reasonable alternative, and no basis whatsoever was provided in BREDL Contention 5 to support an assertion otherwise.[40]

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[40] As originally submitted, BREDL's proposed Contention 5 did not refer to Duke's Oconee Nuclear Station, but merely asserted that "alternative" nuclear plants "other than Catawba and McGuire" should be considered "for testing and batch MOX fuel use." *See* BREDL Supplemental Petition to Intervene, Oct. 21, 2003, at 12. Indeed, the entire focus of BREDL's proposed contention was that McGuire and Catawba are not "appropriate" for MOX fuel batch use because their ice condenser containments allegedly make them more vulnerable to reactor sump clogging accidents and accidents involving hydrogen ignition. *Id.*, at 12-13. BREDL argued that this information compelled a re-evaluation of conclusions by DOE in the SPDEIS. BREDL's proposed contention did *not* specifically propose that Duke consider use of Oconee for MOX fuel.

As discussed at oral argument on the proposed contentions, the fuel design at Oconee differs from that used at Catawba or McGuire. Tr. 449-52, 460-62. A MOX fuel lead assembly program at Oconee therefore would not, technically, support the only four mission reactors (the two McGuire units and two Catawba units) currently designated under the Duke-Cogema-Stone & Webster ("DCS") contract with the DOE. Oconee has never been part of the proposal, DOE has never included Oconee in the contract or agreed to provide MOX fuel for use at Oconee, and there are no plans or options for large scale MOX fuel use at Oconee. Tr. 450, 460-62. Absent any basis to support a contention that Oconee is a practical alternative, it was an error for the Licensing Board to conclude that Oconee is a viable alternative that must be considered, even if only a "brief discussion" would be required.

In *Citizens Against Burlington,* the Court upheld the scope and discussion of alternatives considered by the agency. In connection with a plan to expand an airport, the agency was not required to evaluate alternatives involving siting and building other airports. 938 F.2d at 197-98. The Court noted that even the guidelines of the Council on Environmental Quality ("CEQ") "oblige agencies to discuss only alternatives that are feasible." *Id.* at 195. Similarly, the lessons of the *City of Angoon* case are that: (1) the scope of alternatives reasonably considered follows from the purpose or objective of the proposal (*see* 803 F.2d at 1021); and (2) to be considered, alternatives "must be ascertainable and reasonably within reach" (*see id.* at 1021-22). BREDL's contention never articulated why a MOX fuel lead assembly program at Oconee would be "feasible" or how such a program could support batch use of MOX fuel at Catawba or McGuire. The Licensing Board's Memorandum and Order also does not address that failure in the proposed contention. The Memorandum and Order fails to demonstrate how

the contention meets the specificity and basis requirements of 10 C.F.R. § 2.714(b)(2) and how the contention is consistent with the NEPA case law.

The Licensing Board's error is clearly exacerbated by its broad description of the litigation it intends to permit on Contention III. The Licensing Board intends to "permit . . . evidence" (and therefore, presumably, discovery as well) on the "comparative safety, practicability, and appropriateness of using the MOX lead test assemblies at Catawba and Oconee." Memorandum and Order, at 51. This scope is essentially unbounded. The case law cited above would support, at most, a contention that use at Oconee would be "feasible" and would support Duke's purpose for a lead assembly program — if any basis had ever been offered on that point (and there was not). The statement that the contention could range into the undefined issue of "appropriateness" could seemingly lead into litigation of the DCS contract and DOE's selection of mission reactors.[41] The statement that the contention could range into "comparative safety" between Catawba and Oconee would seemingly lead into issues that — absent a showing that Oconee is even a feasible alternative — are impermissibly wide-ranging and, at a minimum, premature.

In sum, Oconee is not by any reasonable measure a "feasible" alternative for a MOX fuel lead assembly program. Oconee has never been offered as part of the DCS MOX fuel proposal to DOE and is not part of that contract. Oconee is not a designated mission reactor for MOX fuel. Oconee utilizes fuel of a different design than Catawba and McGuire, and a MOX fuel lead assembly program at Oconee would not serve either Duke's or DOE's purposes in the present amendment application. Lacking any basis for a contention that Oconee is a feasible

[41] Duke is also aware of no regulation, precedent, or guidance that requires a plant-specific license amendment application to include an assessment of the alternative of making the change at another nuclear plant instead.

alternative, BREDL Contention 5 and admitted Contention III involve only a "remote and speculative" alternative. Contention III lacks any basis in fact or under NEPA, and therefore does not involve a genuine dispute on a material issue as required by 10 C.F.R. § 2.714(b)(2)(iii).

2. *Contention III is Moot and Would Not Entitle Petitioners Relief*

In addressing Contention III, apart from the broad statement of the evidence it will permit, the Licensing Board acknowledges that the contention would seem to require only a *de minimis* addition to the ER — a "'brief discussion'" under 10 C.F.R. § 51.30(a). Memorandum and Order, at 51. In this light, the contention should be viewed as a contention of omission: a contention that the ER lacks the "brief discussion" to conclude that Oconee is not a "feasible" alternative. In addition to the fact that there never was a basis provided to support a contention that Oconee *is* feasible (see above), the contention nonetheless is not an issue that justifies a hearing. Duke would merely need to document the reasons already given as to why Oconee is not a feasible alternative. Alternatively, the NRC Staff could "cure" the omission in its environmental review document. No meaningful relief is available in this proceeding and the contention is inadmissible under 10 C.F.R. § 2.714(d)(2). A *de minimis* "omission" should not lead to open-ended litigation of "appropriateness" and "comparative safety."

Furthermore, the NRC Staff raised the issue of Oconee as an alternative in an RAI on the LAR. Duke responded to the RAI on March 1, 2004. Accordingly, to the extent there ever was an "omission" in the LAR, that omission has been addressed. Contention III is now moot. *See Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-19, 42 NRC 191, 195 (1995) (*citing Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), CLI-93-10, 37 NRC 192 (1993)) (mootness "occurs when a justiciable controversy no longer exists"). To the extent BREDL has any basis to challenge the feasibility of Oconee as an

alternative, it would need to submit a new contention with specific basis and justify why that argument could not have been made previously. *Cf. Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-84 (2002).

In sum, the Commission should reverse the Licensing Board's decision to admit Contention III. The contention does not involve a genuine dispute and cannot lead to any further relief in this proceeding. Moreover, the Commission need not defer the issue of mootness to the Licensing Board. To assure a prompt and efficient resolution of this issue, an exercise of appellate jurisdiction or inherent supervisory authority is clearly warranted.

V. CONCLUSION

Memorandum and Order LBP-04-04 should be reversed. Contentions I, II, and III should not be admitted for hearing.

Respectfully submitted,

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ATTORNEYS FOR DUKE ENERGY CORPORATION

Dated in Washington, District of Columbia
This 15th day of March 2004

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	
DUKE ENERGY CORPORATION	)	Docket Nos. 50-413-OLA 50-414-OLA
	)	
	)	
Catawba Nuclear Station,	)	
Units 1 and 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "NOTICE OF APPEAL OF DUKE ENERGY CORPORATION FROM ATOMIC SAFETY AND LICENSING BOARD'S MEMORANDUM AND ORDER LBP-04-04 (RULING ON STANDING AND CONTENTIONS)" and "MEMORANDUM OF LAW IN SUPPORT OF DUKE ENERGY CORPORATION'S APPEAL FROM THE ATOMIC SAFETY AND LICENSING BOARD'S MEMORANDUM AND ORDER LBP-04-04 (RULING ON STANDING AND CONTENTIONS)" in the captioned proceeding have been served on the following by deposit in the United States mail, first class, this 15th day of March, 2004. Additional e-mail service, designated by **, has been made on March 15, 2004, as shown below.

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