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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the Matter of	Docket No's. 50-369-LR, 50-370-LR, 50-413-LR, and 50-414-LR
DUKE ENERGY CORPORATION	ASLBP No. 02-794-01-LR
(McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2)	November 4, 2003

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S PETITION FOR REVIEW OF LBP-03-17

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.786(b), Blue Ridge Environmental Defense League ("BREDL") hereby petitions the Nuclear Regulatory Commission ("NRC" or "Commission") for review of LBP-03-17, in which the Atomic Safety and Licensing Board ("ASLB") rejected BREDL's Amended Contention 2.[1]

II. FACTUAL AND PROCEDURAL BACKGROUND

In LBP-02-04, 55 NRC 49, 126-8 (2002), the ASLB admitted Contention 2, which asserted, *inter alia,* that Duke Energy Corporation's ("Duke's") Severe Accident Mitigation Alternative ("SAMA") analysis in its Environmental Report ("ER") is incomplete and insufficient to mitigate severe accidents, because it fails to include information from NUREG/CR-6427, a 2000 study by Sandia National Laboratories.[2] In

1 LBP-03-17, Memorandum and Order (Ruling on Intervenors' Amended Contention 2) (October 2, 2003). BREDL served as lead intervenor on this contention. Nuclear Information and Resource Service ("NIRS") also sponsored the contention, but is not a party to this petition.

2 NUREG/CR-6427, Assessment of the DCH [Direct Containment Heating] Issue for Plants With Ice Condenser Containments (April 2000).

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admitting Contention 2, the ASLB concluded that:

> a genuine dispute exists with regard to the material facts of whether and to what extent Duke's SAMA analysis should take into account the calculations and values referenced in NUREG/CR-6427 . . .

Id., 55 NRC at 127.

In NUREG/CR-6427, Sandia National Laboratories ("SNL") had concluded that in the event of an accident involving hydrogen ignition, ice condenser containments will fail with near certainty. *Id.* at 67 (Table 4.21, column 2). SNL also estimated that the overall probability of early containment failure for McGuire is 13.9%, higher than previously thought, due principally to "the relatively high SBO frequency and the relatively weak containment for McGuire." *Id.* at xviii-xix.

SNL recommended that in order to "develop a more integrated perspective for risk-informed regulation," the "insights" of NUREG/CR-6427 should be:

> factored into more complete Level II analyses for each significant plant damage state and that the evaluation of early containment failure be evaluated not only for internal events, but also for external events, low power shutdown events, and bypass events.

Id. at xix. According to SNL, the "best way to address the integration need is through detailed and credible Level I and Level II probabilistic analyses, specific to each individual plant." *Id.* at 28. For "completeness," SNL also recommended that "a formal uncertainty study be performed to quantify the impact of identified uncertainties on early containment failure," excluding uncertainties in the fundamental DCH processes of dispersal, fragmentation, and debris/gas heat transfer. *Id.* at *xx.*

On January 31 and February 1, 2002, Duke filed responses to requests by the NRC

Staff for additional information ("RAI Responses), which addressed NUREG/CR-6427.[3] Duke used a lower value for station blackout ("SBO") probability than had been used in NUREG/CR-6427, and came up with an estimate of the overall probability of containment failure was lower than the estimate in NUREG/CR-6427. Based largely on the results of its own PRA, Duke also concluded that the Severe Accident Mitigation Alternative ("SAMA") of adding an additional backup power supply for the hydrogen igniters would not be beneficial.

In May of 2002, the NRC Staff issued, in draft, Supplements 8 and 9 to NUREG-1437, the Generic Environmental Impact Statement for License Renewal of Nuclear Plants. Draft Supplements 8 and 9 addressed environmental impacts of license renewal for Catawba and McGuire.[4] The Draft Supplemental EISs relied on Duke probabilistic risk assessment ("PRA") data for their conclusions about the likelihood of accidents at the Catawba and McGuire plants, and data from NUREG/CR-6427 about the conditional probability of containment failure.

During an April 29, 2002, telephone conference, counsel for Duke argued that by addressing NUREG/CR-6427 its RAI responses, Duke had "effectively mooted" Contention 2. *Id.*, tr. at 871. In consideration both of Duke's argument and contradictory language in LBP-02-04 suggesting that the contention embraced the extent to which Duke

3 The January 31 response addresses the NRC's RAI with respect to McGuire, and the February 1 response answers the same questions with respect to Catawba.

4 Draft Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 8, Regarding McGuire Nuclear Station, Units 1 and 2 (May 2002) ("McGuire Draft Supp. GEIS"); Draft Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 9, Regarding Catawba Nuclear Station, Units 1 and 2) (May 2002) ("Catawba Draft Supp. GEIS"). These supplemental EISs were issued in final form in December 2002.

considered the NUREG (*see* 55 NRC at 127), the ASLB granted BREDL and NIRS an opportunity to amend the contention. Order (Addressing Matters Discussed at April 29, 2002, Telephone Conference . . .) (May 13, 2002). Therefore, on May 20, 2002, BREDL filed Amended Contention 2 in which it set forth with particularity the ways in which the ER had failed to take adequate account of NUREG/R-6427. The ASLB held an initial oral argument by telephone on July 10, 2002.

In December 2002, the Commission issued CLI-02-28, ruling that the original Contention 2 had been mooted by the issuance of NUREG/CR-6427. 56 NRC 373, 378-84 (2002). The Commission also made a number of suggestions to the ASLB regarding the resolution of Amended Contention 2. *Id.* at 384-388. The ASLB held an additional oral argument on March 18, 2003.

On October 2, 2003, the ASLB issued LBP-03-17, denying admission of Amended Contention 2. On October 7, 2003, ASLB Chair Ann Young filed a separate opinion dissenting from most of LBP-02-17.[5] On October 16, 2003, the ASLB issued LBP-03-19, which rejected an unrelated contention and terminated the proceeding.

III. THE COMMISSION SHOULD GRANT REVIEW.

The Commission should take review of the LBP-03-17, because it is based on legal and factual errors, and because it raises substantial issues of policy and discretion.

A. The ASLB Erred in Denying Admission of Subpart 2.

Subpart 2 of Amended Contention 2 faults Duke's RAI responses for their failure

5 Addendum to LBP-03-17, Separate Opinion (Concurring in Part and Dissenting in Part) (hereinafter "Addendum to LBP-03-17").

to provide documentation of Duke's assertions about the manner in which it took NUREG/CR-6427 into account. The contention criticizes the qualitative and summary nature of Duke's RAI responses, and calls for publication of Duke's PRA in support of its SAMA analysis. The ASLB dismissed Subpart 2 on three grounds: (1) that Subpart 2 is "in the nature of a discovery dispute;" (2) that NRC regulations do not require Duke to publish its entire PRA; and (3) as a factual matter, Duke has already submitted portions of its PRA that contain data sought by BREDL, and BREDL has not shown why it is inadequate. LBP-03-17, slip op. at 11.

The first two grounds of the ASLB's decision reflect a fundamental misapprehension of the law. Subpart 2 of Amended Contention 2 does not involve an issue of discovery, but one of public disclosure under the National Environmental Policy Act ("NEPA").[6] The fact that the NRC has no regulation requiring public disclosure of PRAs does not dispose of the question of whether such disclosure is reasonably required in order to satisfy the requirement of NEPA that an EIS or ER must take a "hard look" at the environmental consequences of agency decisions. *Foundation on Economic Trends v. Heckler,* 756 F.2d 143, 151 (D.C. Cir. 1985). The "critical juncture" in judicial enforcement of NEPA's "hard look" doctrine is "to ensure that the agency has adequately considered and disclosed the environmental impacts of its actions and that its decision is not arbitrary or capricious." *Id.* (emphasis added).[7] The question raised by Subpart 2 is

6 Moreover, as Judge Young explained in her separate opinion, "the circumstance that a given matter may at some point be the subject of a discovery dispute does not negate it for all other purposes." Addendum to LBP-03-17, slip op. at 13.

7 *See also Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 349 (1989) (NEPA ensures that government decision-makers will consider "detailed information" regarding environmental impacts; and

what constitutes "adequate" disclosure. As demonstrated in the basis of Subpart 2, BREDL believes that the only way to make a meaningful evaluation of the assertions in Duke's RAI responses regarding its consideration of NUREG/CR-6427 is to evaluate the quantitative assumptions and data that went into the analysis. Subpart 2 documents the basis for BREDL's position in detail, and is supported by the expert declaration of Dr. Edwin Lyman. Therefore, the contention meets the NRC's admissibility standard. 10 C.F.R. § 2.714(b)(2)(iii).

Moreover, in concluding that the portions of the PRA that had been submitted by Duke were sufficient to satisfy the concerns raised by Subpart 2, the ASLB improperly reached the merits of the contention. *See* Addendum to LBP-03-17 at 10-12; *Houston Power & Lighting Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALB-590, 11 NRC 542, 548 (1980).[8]

B. The ASLB Erred in Denying Admission of Subpart 5.

The Commission should take review of the ASLB's conclusion that although Duke failed to prepare a complete quantitative uncertainty analysis in support of its consideration of the information in NUREG/CR-6427, there is "no requirement for uncertainty analysis" in the circumstances of this case; and that in any event, Duke

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also "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.")

8 In any event, the ASLB was incorrect. While the IPE, IPEEE, and a summary of Revision 2 have been placed in the Public Document Room, Duke has withheld most of Revision 2 and all of Revision 3. Moreover, the Summary of Revision 2 lacks detail. As stated in the introduction to the McGuire summary, "[u]nlike the McGuire IPE submittal, this summary report is the only published documentation for the Catawba update. All detailed information has been removed and is kept in system notebooks located within the Severe Accident Analysis Section." McGuire Nuclear Station, PRA Revision 2 Summary report at 2-2

satisfied "applicable NRC guidance" with respect to uncertainty analysis. LBP-03-17, slip op. at 19.[9]

The ASLB's decision violates NEPA and NRC implementing regulations. It is flatly inconsistent with NEPA's requirement to take a "hard look" at environmental impacts. The decision is also inconsistent with NRC regulations requiring that a draft EIS must, to the "fullest extent practicable", "quantify the various factors considered." 10 C.F.R. § 51.71(d). As discussed in Subpart 5, uncertainty analysis constitutes an important element of quantifying the risks of a proposed nuclear project.

Moreover, the ASLB's decision is unlawful because it reaches the merits of the contention. Application of NRC guidance to the question of whether an uncertainty analysis should be prepared requires evaluation of whether uncertainty analysis is "practical within the bounds of the state-of-the art," and whether use of uncertainty analysis is "appropriate."[10] As discussed above, such a merits determination may not be made at this stage of the litigation.

Finally, the ASLB's decision undermines the NRC's stated policy of ensuring responsible use of PRAs. As the Commission has acknowledged, "[t]he treatment of uncertainties is an important issue for regulatory decisions."[11] It is the Commission's

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(December 1997). A virtually identical statement can be found at pages 2-1 – 2-2 of the Catawba Nuclear Station PRA Revision 2 Summary Report (January 1998).

9 The ASLB claims that BREDL misrepresented the extent of the uncertainty analyses prepared by Duke. To the contrary, the contention correctly represents the information that was provided in the RAI responses. *See* Amended contention 2 at 10.

10 *See* NUREG/BR-0184, *Regulatory Analysis Technical Evaluation Handbook* (January 1997); Draft Regulatory Guide DG-1110, *An Approach for Using Probabilistic Risk Assessment in Risk Informed Decisions on Plant-Specific Changes to the Licensing Basis* (June 2001).

11 Final Policy Statement, Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory

stated policy to increase the use of PRA in "all regulatory matters," but only to the "extent supported by the state-of-the-art in PRA methods and data." *Id.* By unquestioningly accepting a PRA with an incomplete and inadequate uncertainty analysis, the ASLB fatally undercut the NRC's policy for use of PRA in the decision-making process.[12]

C. The ASLB Erred in Denying Admission of Subpart 8.

In Subpart 8 of Amended Contention 2, BREDL contends that Duke assumes, without justification, that return fans are essential in order to ensure the effectiveness of hydrogen igniters. BREDL objects because the effect of this unjustified assumption is to inappropriately inflate the cost of the mitigative measure of hydrogen ignition.

The ASLB rejected Subpart 8 on three grounds: first, that it is not an aging issue and is therefore "beyond the scope of matters properly at issue in this proceeding;" second, that the requested relief of requiring the use of air-return fans is not available in the proceeding; and third, that the contention is "moot" because the only available relief has been granted. LBP-03-17, slip op. at 30. None of these grounds has legal merit.

First, the question of whether Subpart 8 raises an aging issue is irrelevant. Subpart 8 is a NEPA contention, which relates to the adequacy of the discussion of SAMAs in the Supplemental GEISs for Catawba and McGuire. If information arises that

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Activities, Section, Section II.B, 60 Fed. Reg. 42,622,(August 16, 1995).

12 The ASLB also finds that Subpart 5 is not timely because it could have been filed at the time the ER was submitted. LBP-03-17, slip op. at 19. This finding is not logical or fair. At the time the ER was submitted, BREDL filed a contention challenging the ER for failing to take NUREG/CR-6427 into account. *Id.* at xx. It was reasonable to believe that Duke would perform an uncertainty analysis in evaluating the highly significant information presented in NUREG/CR-6427. In fact, the NUREG itself calls for the conduct of an uncertainty analysis in taking the study's findings into account. *Id.* at xx. When Duke did not do so in its RAI response, BREDL appropriately amended Contention 2. BREDL has fully comported with the Commission's requirements for timeliness.

is new, significant, and relevant to a proposed license renewal decision, it must be considered in the Supplemental EIS, including alternatives that would mitigate the new and significant impacts. 10 C.F.R. §§ 51.53(c)(3)(iv), 51.95(c)(4).[13] There is no restriction or exclusion of the type of new information that is relevant and must be discussed under NEPA; only with respect to regulation of reactor safety under the Atomic Energy Act can the NRC exclude non-aging issues from consideration.

Second, the ASLB was incorrect when it characterized the relief sought by BREDL as "elimination of the option of using air-return fans." LPB-03-17, slip op. at 30. What BREDL seeks, as clearly stated in the contention, is either an adequate justification of the use of air-return fans, or elimination of the option from consideration in the ER and the Supplemental EISs. Amended Contention 2 at 17. As it stands now, the ER has an unsupported and misleading cost-benefit analysis which could lead to a decision rejecting the use of backup power to hydrogen igniters as unjustified. The Supplemental EISs do not cure the problem, because they merely suggest that Duke may be wrong, but provide no firm analysis that supports the suggestion. The misleading analysis in the ER, and the equivocal analysis in the Supplemental EISs, do not constitute the "hard look" required by NEPA.

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13 These provisions are meant to fulfill the NRC's "continuing duty," under the National Environmental Policy Act ("NEPA"), to gather and evaluate new information relevant to the environmental impact of its actions." *Warm Springs Dam Task Force v. Gribble,* 621 F.2d 1017, 1023-24 (9th Cir. 1980), citing 42 U.S.C. § 4332(2)(A), (B). *See also Friends of the Clearwater v. Dombeck,* 222 F.3d 552, 558 (9th Cir. 2000) ("[w]hen new information comes to light the agency must consider it, evaluate it, and make a reasoned determination whether it is of such significance as to require implementation of formal NEPA filing procedures"); *Marsh v. Oregon Natural Resources Council,* 490 U.S. 360, 374 (1989) (where aspects of a proposed action are addressed by a previously prepared EIS, a new EIS must be issued if there remains "major federal action" to occur, and if there is new information showing that the remaining action

Finally, the ASLB erred in concluding that the contention is moot because the NRC has granted the only relief available by considering the use of backup hydrogen igniters in the Supplemental EISs. BREDL is entitled to much more than the vague and equivocal statements by the Staff in the Supplemental GEISs for Catawba and McGuire.[14] The NRC Staff cannot avoid its statutory obligation to analyze environmental issues with clarity and completeness by postponing the analysis until resolution of Generic Safety Issue ("GSI") 189. Under NEPA, environmental impacts must be addressed before the action is taken, in order to ensure "that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast." *Robertson v. Methow Valley Citizens Council,* 490 U.S. at 349. There is no guarantee that GSI 189 will be resolved at all, let alone before Catawba and McGuire are granted permission to operate under renewed license terms.[15]

IV. CONCLUSION

For the foregoing reasons, the Commission should take review and reverse the ASLB's decision to reject Amended Contention 2.

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will affect the quality of the human environment "in a significant manner or to a significant extent not already considered.")

14 These equivocal statements include the following:

- "[N]one of the candidate SAMAs are cost-beneficial with the possible exception of one SAMA related to hydrogen control in SBO events; "
- "[B]ased on available technical information it is not clear that operation of an air-return fan is necessary to provide effective hydrogen control;"
- "Even if air-return fans are judged to be necessary to ensure effective hydrogen control in SBOs, the results of sensitivity studies suggest that this combined SAMA might also be cost-beneficial."

McGuire Supp. GEIS, § 5.2.7 at 5-29 – 5-30 (emphasis added). Virtually identical language can be found in § 5.2.7 of the Catawba Supp. 9 GEIS.

15 In this regard, it is important to note that GSI-189 remains unresolved.

Respectfully submitted,

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November 4, 2003

CERTIFICATE OF SERVICE

I hereby certify that on November 4, 2003, Blue Ridge Environmental Defense League's Petition for Review of LBP-03-17 were served on the following first-class mail, with courtesy service by e-mail as indicated below:

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