

December 24, 2003

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF OPPOSITION TO BREDL'S
SECOND SUPPLEMENTAL PETITION TO INTERVENE

INTRODUCTION

On December 2, 2003, the Blue Ridge Environmental Defense League (BREDL) filed a second supplemental petition to intervene,¹ requesting the admission of four late-filed contentions. Pursuant to 10 C.F.R. § 2.714(c) and the Atomic Safety and Licensing Board's (Board) December 15, 2003 Order (Regarding Deadlines and Scheduling Issues), the staff of the Nuclear Regulatory Commission (Staff) hereby files its response to BREDL's Late Filed Contentions. For reasons further discussed below, the Staff opposes the admission of BREDL's late-filed contentions based on failure to meet the criteria of 10 C.F.R. § 2.714(a)(1) regarding late-filed contentions, failure to meet the criteria for admission of contentions, pursuant to 10 C.F.R. § 2.714(b)(2), or both.

BACKGROUND

On August 25, 2003, BREDL filed a petition requesting a hearing and seeking to intervene in the license amendment proceeding relating to the license amendment request (LAR) filed by Duke Energy Corporation (Duke) to permit the use of four mixed oxide (MOX) fuel lead test assemblies (LTAs).² On October 21, 2003, BREDL filed a supplement to its petition to intervene,

¹ Blue Ridge Environmental Defense League's Second Supplemental Petition to Intervene, (December 2, 2003) (BREDL's Late-Filed Contentions).

² See Blue Ridge Environment Defense League's Request and Petition to Intervene (August 25, 2003) (BREDL Petition).

containing nine proposed contentions.³ On November 10, 2003, the Staff filed its response to BREDL's Contentions.⁴ On November 11, 2003, Duke filed its opposition to BREDL's Contentions. Oral argument on the nine proposed contentions was held on December 3-4, 2003. On December 2, 2003, BREDL filed its second supplemental petition (BREDL's Late-Filed Contentions), proposing four late-filed contentions.

DISCUSSION

A. Legal Standards for Admission of Late-Filed Contentions

The Commission's regulations provide that proposed late-filed contentions may only be admitted after a balancing of five factors:

- (i) Good cause, if any, for failure to file on time.
- (ii) The availability of other means whereby the petitioner's interest will be protected.
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in the development of a sound record.
- (iv) The extent to which the petitioner's interest will be represented by existing parties.
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

10 C.F.R. § 2.714(a)(1)(i)-(v). The first factor, whether good cause exists to allow the late-filed contentions, is entitled to the most weight. *State of New Jersey* (Department of Law and Public Safety), CLI-93-25, 83 NRC 289, 295 (1993). *See also Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-02-16, 55 NRC 317, 347 (2002). Absent a showing of good cause, the petitioner must make a compelling showing that the remaining four factors warrant

³ See Blue Ridge Environmental Defense League's Supplemental Petition to Intervene, (October 21, 2003) (BREDL Contentions).

⁴ 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) (Staff's Response to Contentions).

admission of the late-filed contentions. *New Jersey*, CLI-93-25, 83 NRC at 295; *Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 NRC 241, 244 (1986). *See also Diablo Canyon*, CLI-02-16, 55 NRC at 348 (Petitioner must show "strong countervailing reasons that override the lack of good cause."). As the party seeking admission of its late-filed contentions, BREDL bears the burden of showing that a balancing of the five factors weighs in favor of admitting the late-filed contentions. *See Baltimore Gas and Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 347 n.9 (1998).

In evaluating the five lateness factors, two factors -- the availability of other means to protect the petitioner's interest and the ability of other parties to represent the petitioner's interest -- are less important than the other factors, and are therefore entitled to less weight. *Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 29 (1992). With respect to the third factor (the potential contribution to the development of a sound record), petitioners must provide a "real clue about what they would say to support the contention beyond the minimal information they provide for admitting the contention." *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation) LBP-98-7, 47 NRC 142, 208-09 (1998). Stated differently, the petitioner must "set out with as much particularity as possible the precise issues it plans to cover, identify its prospective witnesses, and summarize their proposed testimony." *Braidwood*, 23 NRC at 246.

The Commission recently affirmed the principle that "NRC contention admissibility and timeliness requirements demand a level of discipline and preparedness on the part of petitioners." *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC ____ (Dec. 9, 2003), slip op. at 11. The Commission went on to state that "there would be no end to NRC licensing proceedings if the petitioners could disregard our timeliness requirements every time he or she 'realize[d] . . . that maybe there was something after all to a challenge if either originally opted not to make or which simply did not occur to it at the

outset." *Id.* at 11-12 (citations omitted). Thus, parties have "an obligation to examine the application and publicly available information, and to set forth their claims at the earliest possible moment." *Id.* at 12.⁵

In addition to making the showing required by 10 C.F.R. § 2.714(b)(1), the party seeking admission of its late-filed contentions must also show that the late-filed contentions meet the requirements of 10 C.F.R. § 2.714(d)(2). Each contention must consist of "a specific statement of the issue of law or fact to be raised or controverted" and must be accompanied by:

- a. A brief explanation of the bases of the contention;
- b. A concise statement of the alleged facts or expert opinion which supports the contention . . . together with references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion;
- c. Sufficient information (which may include information pursuant to paragraphs (b)(2) (i) and (ii) of this section) to show that a genuine dispute exists with the applicant on a material issue of law or fact. This showing must include references to the specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief. On issues arising under the National Environmental Policy Act, the petitioner shall file contentions based on the applicant's environmental report.

10 C.F.R. § 2.714(b)(2). The failure of a contention to comply with any one of these requirements is grounds for dismissing the contention. 10 C.F.R. § 2.714(d)(2)(i); *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991); see Rules of Practice for Domestic Licensing Proceedings -- Procedural Changes in the Hearing

⁵ See, e.g., *McGuire*, CLI-02-28, 56 NRC at 386 (late-filed contentions must be based on "new information not previously available"); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-1, 53 NRC 1, 7 (2001) (the regulations specify that impermissibly late contentions "will not be entertained").

Process, 54 Fed. Reg. 33,168 (1989). A full discussion of the Commission's contention requirements is contained in the Staff's Response to Contentions at 3-5.

B. BREDL's Proposed Late-Filed Contentions

Contention 10:

Failure to account for uncertainties in MOX fuel assembly behavior during Loss of Coolant Accidents.

Duke's safety analysis for design-basis loss-of-coolant accidents (LOCAs) in Section 3.7 of the LTA license amendment 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 low-enriched uranium (LEU) fuel behavior.

As basis for this contention, BREDL takes issue with Duke's deterministic analysis of the effect of MOX LTAs on loss of coolant accidents (LOCA), in that it fails to consider that "the experimental database for MOX fuel performance is woefully inadequate." BREDL Late-Filed Contentions at 3. BREDL cites an October 23, 2003, presentation by the Institut de Radioprotection et de Sureté Nucléaire (IRSN), to the NRC, recommending that it be retained to conduct tests on MOX fuel performance. *Id.* BREDL cites the IRSN's statement that fuel relocation occurs at a lower temperature in MOX fuel than in LEU fuel. *Id.* According to BREDL, fuel relocation could have various deleterious effects. *Id.* at 3-4. In its presentation, IRSN indicated that it wants to perform fuel bundle tests to assess various effects of MOX fuel. *Id.* Based on the presentation, BREDL alleges that "there is insufficient information to provide confidence that the MOX LTAs will not cause coolant blockage during a LOCA," and that the four MOX LTAs (2% of the core) could cause coolant blockage and uncontrolled core melt. *Id.* BREDL states that "Duke lacks a factual basis for assuring that the existing emergency core cooling systems at Catawba will meet the acceptance criteria in 10 C.F.R. 50.46." *Id.* at 4.

Staff Response to Contention 10:

This contention is inadmissible. The contention is late without good cause. The issues raised by BREDL in its pleading have long been in the public domain. For example, IRSN's recommendations have been made to the NRC on several occasions, well before the October 2003 date. In October of 2001, the NRC held a Nuclear Safety Research Conference. Excerpts from the Conference are attached hereto as Exhibit 1.⁶ During that conference, IRSN presented a paper discussing fuel behavior during a LOCA, and fuel relocation and the effects thereof. See Exhibit 1 at 432-434.⁷ The IRSN paper itself references documents dating back to the 1980s. *Id.* at 441. These issues are the very same issues raised by BREDL in Contention 10.

Further, on May 3, 2002, during an Advisory Committee on Reactor Safeguards (ACRS) meeting, IRSN made a presentation to the NRC on this same issue, making many of the same points as in their October 23, 2003 presentation.⁸ The presentation contained, among other topics, extensive discussion of fuel relocation and its effects. See, e.g., ACRS Tr. 296-300.

Fuel relocation and its potential effects, and fuel behavior during a LOCA, are not new issues. The petitioner and its witness were or should have been well aware of the issues long before the late-filed contentions were proposed.⁹ As discussed above, "NRC contention admissibility and timeliness requirements demand a level of discipline and preparedness on the

⁶ The full account of the proceedings was published at NUREG/CP-0176 and can be found on ADAMS at ML021710793 and ML021710831.

⁷ Further, Dr. Lyman, BREDL's witness, is listed as an attendee at the Conference. Exhibit 1 at xv.

⁸ Advisory Committee on Reactor Safeguards (ACRS) 492nd meeting, May 3, 2002 (ACRS Tr.), ADAMS Accession no. ML021370418.

⁹ The Staff notes that fuel relocation is not an issue unique to MOX fuel; it also occurs in uranium based fuels. Independent of fuel type and even with fuel relocation, the criteria of 10 C.F.R. § 50.46 must be met by the licensee.

part of petitioners,” who have “an obligation to examine the application and publicly available information, and to set forth their claims at the earliest possible moment.” *Duke Energy Corp.*, CLI-03-17, 58 NRC ____ (Dec. 9, 2003), slip op. at 11-12. BREDL has failed to meet its obligation. BREDL offers no valid reason why this contention was not filed in a timely manner. The fact that IRSN made a presentation on a topic it and other entities had been discussing with the NRC for several years,¹⁰ is not sufficient for BREDL to meet the good cause standard. Rather, in determining whether BREDL met the good cause standard, the relevant event is when the issues first arose. Thus, the contention should be rejected as untimely without good cause.

The four other late filing factors do not outweigh the timeliness factor, and BREDL has not made a “compelling” showing as to those remaining factors. As to factor three, contribution to the development of a sound record, BREDL has not “set out with as much particularity as possible the precise issues it plans to cover” or summarized its witness’ proposed testimony. *Braidwood*, CLI-86-8, 23 NRC at 246. Nor has it demonstrated that Dr. Lyman is, in fact, an expert on the issues raised in the contention. Rather, BREDL has discussed aspects of the IRSN presentation and has drawn some unsupported conclusions. Nowhere does it specify to what Dr. Lyman will testify. As to factor 5, broadening the issues or delaying the proceeding, BREDL concedes that admission of this contention will broaden the issues and delay the proceeding. Therefore, these two factors weigh against admission of the late-filed contention. While factor two (availability of other means to protect petitioner’s interest) and four (interest protected by other parties), may weigh in BREDL’s favor, they are the least important of the factors, and are not so compelling as to “outweigh the lack of good cause under factor one.” See *Private Fuel Storage* (Independent Spent Fuel Storage installation), LBP-00-28, 52 NRC 226, 238-39 (2000). Therefore,

¹⁰ The Staff notes that Duke, in its Answer of Duke Energy Corporation to the “Blue Ridge Environmental Defense League’s Second Supplemental Petition to Intervene”, filed December 23, 2003 (Duke’s Answer), cites several other meetings and presentations during which the matters raised in these contentions were discussed.

the contention should be rejected because it fails to meet the standards set out in 10 C.F.R. § 2.714.

BREDL makes unsupported statements and conclusions regarding the claimed effects of the use of MOX fuel. BREDL claims that "there is insufficient information to provide confidence that the MOX LTAs will not cause coolant blockage during a LOCA that could lead to an unacceptable loss of core coolant geometry and uncontrolled core melt." BREDL Late Filed Contentions at 4. But BREDL has alleged no basis for a conclusion that the four LTAs would or could cause those effects. Similarly, BREDL has no factual basis for its conclusion that use of the four LTAs may cause Duke to be in violation of 10 C.F.R. § 50.46. *Id.* Because there are no bases for these conclusions, the contention does not meet the requirements of 10 C.F.R. § 2.714 and must be rejected.

Finally, it is not significant that IRSN wants to conduct research into the effects of MOX fuel. IRSN is a research organization. Its function is to propose and conduct research projects. The fact that there is proposed research in this area is not a basis for the admission of a contention. What is significant is that there has been no evidence that the French regulatory authority has proposed to change its regulatory position regarding MOX fuel, proposed to stop the use of MOX fuel in French reactors, or that it even believes that any action is necessary. There is no basis for BREDL's assertion that "the experimental database for MOX fuel performance during LOCAs is woefully inadequate," or that any claimed gaps in the database could have any effect on the license amendment under review here. A proposal to perform research does not lead to the conclusion that the database is inadequate. The mere fact that research has been proposed is not a sufficient basis for a contention because it does not demonstrate a "material issue of law or fact." Because BREDL has failed to demonstrate with specificity a dispute with the applicant as to a material issue, the contention does not meet the criteria of 10 C.F.R. § 2.714(b) and should be rejected.

For all the reasons stated above, Contention 10 is inadmissible and should be rejected.

Contention 11:

Failure to consider uncertainties in MOX fuel assembly behavior on the probabilities and consequences of severe accidents.

Duke's analysis of the impact of the plutonium MOX LTAs on the probabilities and consequences of severe 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 low-enriched uranium (LEU) fuel behavior.

As basis for this contention, BREDL cites section 3.8 of Duke's LAR. That section discusses the risk of MOX use. BREDL faults the discussion for not considering that the "experimental database for MOX fuel performance during severe accidents is woefully inadequate." BREDL's Late-Filed Contentions at 5. BREDL again cites the IRSN presentation of October 23, 2003 regarding severe accidents. *Id.* BREDL concludes that "the different characteristics of MOX fuel and LEU raise substantial uncertainties with respect to the probabilities and consequences of severe accidents for the MOX LTA core." *Id.* at 6. BREDL requests that severe accident risk be fully analyzed in the LAR. *Id.*

Staff Response to Contention 11:

This contention is inadmissible. It is, like Contention 10, based on the presentation by IRSN. As discussed above, the issues discussed by IRSN in October of 2003, have been discussed on many occasions prior to that date. Thus, for the same reasons stated in the Staff's discussion in response to late-filed contention 10, this contention is late without good cause and should not be admitted. In addition, as discussed in response to Contention 10, the four other late filing factors do not outweigh the timeliness factor, and BREDL has not made a "compelling" showing as to those remaining factors.

In addition, the contention focuses on a demand that Duke analyze the risk of severe accidents in the LAR. As discussed in the Staff's Response to Contentions and at the oral argument on December 3-4, 2003, analysis of severe accidents is not a part of traditional

deterministic analysis and is not required to be submitted in support of a license amendment request that is not risk informed. See Staff Response to Contentions at 6-9. The NRC does not require submittal of analyses for beyond design basis or severe accidents for license amendments. See, *Florida Power and Light Co. (St. Lucie Nuclear Power Plant, Unit No. 2)*, ALAB-603, 12 NRC 30, 45 (finding that an accident with a conservatively calculated probability of 10^{-6} per year or a realistically calculates probability of 10^{-7} per year did not have to be considered in designing a plant). BREDL's arguments all relate to safety and risk issues regarding possible severe accident consequences of irradiating the LTAs. These issues, however, are not relevant in the instant proceeding. Stated another way, licensees need not design against severe accidents. *St. Lucie*, ALAB-603, 12 NRC at 45. Thus, the contention fails to address any issues material to this proceeding as required by 10 C.F.R. § 2.714 (b)(2)(iii), and should be rejected.

Contention 12:

Failure to consider effects of plutonium MOX fuel characteristics on severe accident potential.

Basis: As discussed above in Contentions 10 and 11, plutonium MOX fuel has characteristics that may affect the potential for and consequences of a LOCA or severe accident. The bases of these contentions are hereby adopted and incorporated by reference into this contention.

In Section 5.6.3.1 of its Environmental Report, Duke addresses the environmental impacts of design basis accidents. License Amendment Application at 5-8. In Section 5.6.3.2, Duke addresses the environmental impacts of severe accidents. *Id.* at 5-8 5-9. Neither section discusses 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. The Environmental Report should address the significance of these characteristics with respect to the potential for and consequences of a design basis accident or severe accident.

Staff Response to Contention 12:

This contention is inadmissible because it is late without good cause, for the same reasons as discussed above in the Staff's response to Contention 10. It is based on the same IRSN presentation as Contentions 10 and 11. Since the information in the IRSN presentation was available before October 23, 2003, the contention is late and BREDL has not demonstrated good cause for the late filing.¹¹ In addition, BREDL has not made a "compelling" showing as to the remaining lateness factors.

BREDL provides no facts to support its claim that slumping occurs or that cooling of the core would be prevented if slumping did occur in the four LTAs. Thus, the contention is lacking the required specificity and adequate basis and fails to demonstrate a genuine dispute as to a material issue. In addition, it is late without good cause. Therefore, this contention is not admissible and should be rejected.

Contention 13:

Failure to adequately address environmental impacts of plutonium shipments.

Duke's license amendment application must be rejected because it is not supported by an adequate analysis of the security-related environmental impacts of shipping plutonium oxide to France, or the security-related impacts of shipping the LTAs from France back to the United States.

As basis for this contention, BREDL states that Duke has conceded that the shipment of plutonium oxide to France and the return shipment of MOX fuel are related to the instant LAR. BREDL Late-Filed Contentions at 7. Duke then relies on the DOE analysis of the environmental effects of those actions. *Id.* "In its November 11, 2003, response to Contention 8, Duke asserted that the DOE has addressed the transportation question in two documents: the 1996

¹¹ The Staff notes that BREDL uses the term "slumping" in this contention, instead of "fuel relocation" as in Contention 10. The Staff is proceeding under the assumption that the terms are being used interchangeably to refer to the same phenomenon, since BREDL has not provided a definition of "slumping."

Programmatic Environmental Impact Statement for Storage and Disposition of Weapons-Usable Fissile Materials (DOE/ES-229) (hereinafter "Storage and Disposition PEIS); and DOE's November 2003 Supplemental Analysis, Fabrication of Mixed Oxide Fuel Lead Assemblies in Europe (DOE/EIS-0229-SA3) (hereinafter Supplemental Analysis)." *Id.* at 7-8. BREDL claims that the DOE analyses are completely inadequate because the Supplemental Analysis did not address the terrorist attacks of September 11, 2001 on the World Trade Center and the Pentagon. *Id.* at 8. BREDL seeks to have the NRC compel DOE to update its EISs in light of the terrorist threat and to postpone the MOX LTA program until the MOX Fuel Fabrication Facility is built. *Id.* 8-10.

Staff Response to Contention 13:

The proposed contention is inadmissible. As a general proposition, the Commission has decided that the effects of a terrorist attack on a nuclear facility is an issue beyond the purview of NEPA and, as such, it is not considered by the Commission in its compliance with the statute. *See Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-24, 56 NRC 335 (2002); *Private Fuel Storage* (Independent Spent Fuel Storage installation), CLI-02-25, 56 NRC 340 (2002). *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2, Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358 (2002); *Dominion Nuclear Connecticut, Inc.* (Millstone Power Station, Unit 3), CLI-02-27, 56 NRC 367 (2002). In the instant case, BREDL argues that the environmental report, as subsequently supplemented by the licensee (through submittal of the DOE Supplemental Analysis), is deficient because it does not adequately address the potential for terrorist attacks after September 11, 2001. BREDL, however, provides no basis to support their allegations that the omission of a discussion of terrorism is an insufficiency. In fact, their argument provides little or no citation to support the arguments that they advance in their contention. In addition, BREDL attempts to distinguish the instant case from the cases that were previously decided by the Commission. BREDL, however, provides no legal support for their argument that the instant case should be treated differently.

In addition, throughout BREDL's filing it is clear that the remedy that they seek is beyond the Board's authority. In several portions of their argument BREDL asks that DOE's EISs be redone and recirculated for comment. BREDL's Late File Contentions at 9, 10. The Commission does not have any authority over DOE's NEPA process and therefore the Board can not grant the Petitioner the remedy that they seek (i.e. a new environmental review by DOE). Any alleged deficiencies in DOE's documents must be addressed with DOE pursuant to its regulations.¹²

Finally, since it is the NRC that is reviewing Duke's environmental report pursuant to the NRC Commission's regulations, and the NRC that will be making any findings under NEPA relative to this LAR, it is the NRC's precedent that controls the nature and depth of the NRC NEPA review, rather than, as asserted by BREDL, DOE's precedent. Therefore, pursuant to the binding Commission precedents cited above, terrorism issues related to the shipment of plutonium oxide to France and the shipment of the MOX LTAs to this country will not be addressed by the Staff and need not be addressed by Duke in its ER.

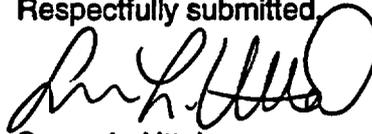
Based on the foregoing, and on the Staff's Reply to BREDL's Response to Board Question 2(c), filed herewith, this contention should be rejected for failure meet the requirements of 10 C.F.R. § 2.714(b) and (d)(2)(ii).

¹² Moreover, the shipments to and from France are the subject of an application for an Export/Import license filed by DOE, now pending before the NRC. Issues regarding the shipments covered by that application must be addressed in that proceeding.

CONCLUSION

Based upon the foregoing discussion, the proposed late-filed contentions should be rejected.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Susan L. Uttal", written in a cursive style.

Susan L. Uttal
Counsel for NRC staff

Dated at Rockville, Maryland
this 24th day of December, 2003.