

March 9, 2005

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of

DUKE ENERGY CORPORATION

Docket No's. 50-413-OLA,
50-414-OLA

(Catawba Nuclear Station, Units 1 and 2)

**BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S
PETITION FOR EXPEDITED DISCRETIONARY REVIEW OF
NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION
AND REQUEST FOR IMMEDIATE ORDER THAT
DUKE MAY NOT ACCEPT PLUTONIUM MOX FUEL SHIPMENT**

I. INTRODUCTION

Pursuant to 10 C.F.R. § 50.86(b)(6), Blue Ridge Environmental Defense League (“BREDL”) hereby petitions the Commissioners of the U.S. Nuclear Regulatory Commission (“NRC” or “Commission”) for discretionary review of the NRC Staff’s decision of March 3, 2005, to issue a license amendment authorizing Duke Energy Corporation (“Duke”) to test four plutonium mixed oxide (“MOX”) lead test assemblies (“LTAs”) at the Catawba nuclear power plant. The Staff’s decision is unlawful because it was made before the Atomic Safety and Licensing Board (“ASLB”) issued a decision on BREDL’s Security Contention 5, which challenges Duke’s application for an exemption from certain NRC security regulations designed to protect the plutonium MOX fuel assemblies from the design basis threat (“DBT”) for theft of formula quantities of strategic special nuclear material (“SSNM”). Under the prior hearing requirement of the Atomic Energy Act and NRC’s implementing regulations, BREDL was entitled to a

decision on Security Contention 5 before the Staff could issue the license amendment. The Commission should also reverse the Staff's decision because it undermines the integrity of the hearing process on Security Contention 5, which was expedited for the purpose of allowing the ASLB to reach a decision before Duke could be allowed to accept plutonium MOX fuel at Catawba. Moreover, the license amendment should be revoked because it is grossly inconsistent with the Commission's post-9/11 policy of ensuring the rigor of security at its licensed nuclear facilities.

BREDL also requests that the Commission immediately order Duke not to accept shipment of the four plutonium MOX LTAs unless and until the ASLB issues a favorable decision regarding Duke's exemption application and the adequacy of the incremental measures Duke has proposed to protect against the Category I DBT. BREDL respectfully submits that the Commission should also notify the U.S. Department of Energy ("DOE") of its order.¹

BREDL requests expedited consideration of this petition because plutonium fuel shipments to Catawba appear to be imminent, and may occur within the next several weeks.

BREDL's request for expedited consideration and an immediate order to Duke not to accept plutonium fuel shipments is supported by the Declaration of Dr. Edwin S. Lyman in Support of BREDL Petition for Discretionary Review and Stay Motion (March 8, 2005) (hereinafter "Lyman Declaration"), attached as Exhibit 1.

¹ BREDL has submitted this petition to the Secretary of Energy, under a cover letter that is being copied to the Commissioners.

II. FACTUAL BACKGROUND

On February 27, 2003, Duke Energy Corporation (“Duke”) filed a license amendment request seeking approval to test plutonium MOX fuel assemblies at the Catawba and McGuire nuclear power plants.² Duke’s application included a Security Plan Submittal, which revised the existing Catawba Security Plan to add measures to protect the plutonium MOX fuel from theft or diversion, as required by 10 C.F.R. § 73.20. These proposed measures constituted incremental upgrades to the existing Security Plan, which contained measures for protection of the Catawba nuclear power plant fuel against sabotage.

In the same submittal, Duke sought exemptions from several security regulations applicable to facilities possessing formula quantities of SSNM, including requirements related to physical barriers for vital areas (“VAs”) and Material Access Areas (“MAAs”), the requirement to establish a Tactical Response Team, requirements related to armed guards at MAA access points, requirements for search of personnel entering or exiting MAAs; and requirements for security clearances for personnel with unescorted access to MAAs and VAs. Duke did not, however, seek an exemption from the design basis threat (“DBT”) for theft or diversion of formula quantities of SSNM. *See* LBP-04-10, Memorandum and Order (Ruling on Security-Related Contentions), 59 NRC 296, 311-12 (2004).

BREDL litigated two contentions regarding Duke’s license amendment request. The hearing on the first contentions, which related to the adequacy of Duke’s application to satisfy NRC safety regulations, began on July 14, 2004. The ASLB issued a decision

² Duke later dropped McGuire from the application.

on December 22, 2004, ruling for Duke. LBP-04-32, Partial Initial Decision (Regarding BREDL Safety Contention I).

The second contention, BREDL Security Contention 5, asserted that Duke had not demonstrated that its proposed exemption from certain NRC regulations designed to protect formula quantities of SSNM against the design basis threat for theft met the standards for exemptions in 10 C.F.R. §§ 73.5 and 11.9. Contention 5 argued that if the requested exemptions were granted, Duke would not be able to provide a high assurance that it could protect against the DBT for theft of formula quantities of SSNM. *Id.* at 17-18. The ASLB admitted Contention 5 in Memorandum and Order (Ruling on Security-Related Contentions) (April 12, 2004). The proceeding was conducted on an expedited schedule in order to ensure that a decision would be reached well in advance of the refueling outage when Duke wanted to be able to load the MOX fuel assemblies. *See* transcript of closed ASLB session at 3065-69 (August 10, 2004). A hearing was held January 11-14, 2005. Proposed findings of fact and conclusions of law were filed on January 28, 2005; and proposed reply findings were filed on February 7, 2005.

On July 12, 2004, the NRC published a proposed NSHCD in the Federal Register at 69 Fed. Reg. 41,852. Although the ASLB had admitted Security Contention 5 several months earlier, the notice made no mention of Duke's exemption application. Moreover, the analysis applying the no significant hazards considerations criteria listed in 10 C.F.R. § 50.92(c)(1)-(3) was strictly limited to safety issues.

On March 3, 2005, the NRC issued Duke's requested license amendment and regulatory exemptions. Letter from Robert E. Martin, Sr., NRC, to H.B. Barron, Duke, re: Catawba Nuclear Station, Units 1 and 2 re: Issuance of Amendments (TAC Nos.

MB7863 and MB7844) (March 3, 2005) (Accession NO. ML 042320059) (hereinafter “Martin License Amendment Letter”); letter from Robert E. Martin, Sr., NRC, to H.B. Barron, Duke, re: Catawba Nuclear Station, Units 1 and 2 re: Exemptions from Title 10 of the Code of Federal Regulations for the Use of Mixed Oxide (MOX) Fuel Lead Test Assemblies (TAC Nos. MB7863 and MB7864)(March 3, 2005) (Accession No. ML 0423200171) (hereinafter “Martin Exemption Letter”).

The Staff’s final NSHCD was recorded at pages 13 through 19 of a supplement to the Staff’s Safety Evaluation Report.³ The Final NSHCD contained no analysis of any security issues, but rather addressed the same safety issues that had been addressed in the proposed NSHCD.⁴

III. ARGUMENT

A. The Commission Should Exercise Its Discretion to Take Review of The Staff’s NSHCD and Revoke the License Amendment.

Pursuant to 10 C.F.R. § 50.58(b)(6), the Commission may exercise its discretion to review a NSHCD. *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-86-12, 24 NRC 1, 3-4 (1986) (hereinafter “*Diablo Canyon*”). In this case, there are three reasons why the Commission should exercise its discretion to take

³ Supplement No. 3 to Safety Evaluation by the Office of Nuclear Reactor Regulation and the Office of Nuclear Security and Incident Response Related to Amendment No. 220 to Renewed Facility Operating License NPF-35 and Amendment No. 215 to Renewed Facility Operating License NPF-52, Duke Energy Corporation et al, Catawba Nuclear Station, Units 1 and 2, Docket Nos. 50-413 and 40-414 (hereinafter “SER Supp. 3”), attached to Martin License Amendment Letter.

⁴ The Staff did report that it had received a comment that testing of plutonium fuel is a threat to national security. It did not relate this comment to no the significant hazards consideration criteria, however. Instead, it merely responded that Duke’s security provisions for protection of the MOX fuel had been addressed previously in the first supplement to the SER. *Id.* at 19.

review of the Staff's decision to issue the license amendment to Duke, and should reverse that decision.

1. The NRC Staff has violated the law by issuing the license amendment before issuance of the ASLB's decision on Security Contention 5.

Pursuant to Section 189a of the Atomic Energy Act, the NRC may not amend a nuclear power plant operating license without offering interested members of the public an opportunity for a hearing. 42 U.S.C. § 2239(a). The hearing must be conducted before the license amendment is issued, unless the NRC makes a valid determination that it poses "no significant hazard considerations." *San Luis Obispo Mothers for Peace v. NRC*, 799 F.2d 1268, 1270 (9th Cir. 1986), citing 42 U.S.C. § 2239(a)(2)(A). The NRC's implementing regulations for these NSHCDs are found in 10 C.F.R. §§ 50.91 and 50.92. Where an applicant for a license or license amendment has also requested an exemption from NRC regulations, and where the exemption request must be resolved in order to grant the license application, the scope of the prior hearing must include the exemption request. *Private Fuel Storage, L.L.C. (Independent Fuel Storage Installation)*, CLI-01-12, 53 NRC 459, 466-67 (2001) (hereinafter "*Private Fuel Storage*").⁵

⁵ In *Private Fuel Storage*, the Commission rejected an argument by the applicant and the Staff that the applicant's request for an exemption from NRC seismic design requirements could be excluded from the scope of the hearing on the applicant's application for a license for an independent spent fuel storage installation ("ISFSI"). As the Commission explained:

. . . [H]ere we face a case where seismic analysis of the site for the proposed facility and establishing the facility's design earthquake are required elements of the *license application* process. Pursuant to 10 C.F.R. § 72.40, [the applicant] must show that it meets our regulatory requirements, or that an exemption from a particular requirement is in order, before the NRC can find the facility safe and license it. Because resolution of the exemption request directly affects the licensability of the proposed ISFSI, the exemption raises material questions

In this case, resolution of Duke’s exemption request “directly affects” the question of whether Duke’s license amendment should be granted. *Private Fuel Storage*, 53 NRC at 467. Thus, under *Private Fuel Storage*, Duke’s exemption request is subject to the prior hearing requirement of the Atomic Energy Act. *Id.* The only lawful means whereby the Staff could avoid the prior hearing requirement would be to issue a valid NSHCD determination that covers the issues raised by the exemption application.

The Staff has completely failed to show that an exception to the prior hearing requirement is justified under the NRC’s criteria in 10 C.F.R. § 50.92(c). In fact, the Staff did not even attempt to apply the criteria to Duke’s exemption request. As discussed above in Section II, the Staff’s July 2004 proposed NSHCD did not even identify the exemption request, let alone subject it to an analysis against the no significant hazards criteria of 10 C.F.R. § 50.92(c).⁶ Nor does the Final NSHCD contain any analysis of the exemption application against the criteria of Section 50.92(c).

As the Court of Appeals observed in *San Luis Obispo Mothers for Peace v. NRC*, Congress intended that any doubts about the safety implications of a proposed license amendment must be resolved in favor of a prior hearing. 799 F.2d at 1270. Here, the Staff has not even attempted to address the degree to which the significant departures from compliance with NRC security regulations proposed by Duke could decrease the

directly connected to an agency licensing action, and thus comes within the hearing right of interested parties.

53 NRC at 467 (emphasis in original) (footnote omitted).

⁶ It is not clear how the Section 50.92(c) criteria – which relate to accidents and their probability and consequences and to the margin of safety provided by a license amendment – could be applied in a security context. The Staff should have addressed the applicability of the NSHCD criteria in its proposed finding. If the Staff found they are inapplicable, it should have stated that the NSHCD criteria could not be used to justify issuance of the exemptions and license amendment before the conclusion of the hearing.

margin of security at the Catawba plant, and thereby place the common defense and security at risk. Accordingly, the Staff has no grounds for relying on its NSHCD as a basis for granting Duke's exemption request before issuance of the ASLB's decision. As required by the Atomic Energy Act, the Commission must revoke the exemptions, and therefore must also revoke Duke's license amendment.

2. The Commission Should Take Review to Protect the Integrity of the Hearing Process.

In addition to the patent illegality of the Staff's decision, Commission review is also warranted in order to preserve the integrity of the hearing that has been conducted on Security Contention 5. As discussed above in Section II, the security proceeding before the ASLB was expedited in order to ensure that the ASLB would be able to issue a decision well before the refueling outage when Duke wanted to be able to load the MOX fuel assemblies in the Catawba reactor. BREDL participated in the process in good faith and submitted, under the greatly accelerated deadlines of the hearing schedule, a substantial quantity of evidence that Duke's exemption application does not provide high assurance that it can protect against the DBT for theft of formula quantities of SSNM. The ASLB also made many accommodations to ensure that the proceeding went ahead as quickly as possible. To issue the license, without even addressing the security issues raised by Contention 5 in a properly noticed NSHCD, makes a mockery of the NRC's hearing process and the efforts of the ASLB and parties.

3. The Commission should take review as part of its ongoing effort to improve security at licensed nuclear facilities.

Finally, the Commission should take review as part of its ongoing effort to improve security at its nuclear facilities in the aftermath of the terrorist attacks of

September 11, 2001. By issuing a license amendment that allows Duke to possess formula quantities of plutonium at MOX fuel, before the ASLB has ruled on the serious security issues raised by BREDL, the Staff has effectively repudiated the NRC's commitment to enhance nuclear facility in the post-9/11 era. The Commission should exercise its supervisory authority over the Staff to ensure that the Staff carries out the agency's commitment.⁷

B. The Commission Should Order Duke Not to Accept any Shipment of Plutonium MOX Fuel at the Catawba Nuclear Power Plant Until the ASLB Has Issued Its Decision.

BREDL also requests the Commission to immediately order that Duke may not accept any shipment of plutonium MOX fuel to the Catawba nuclear power plant until such time as the ASLB may issue a decision in its favor. As set forth in the attached

⁷ While BREDL did not submit comments on the proposed NSHCD, there are several reasons why this should not bar the Commission from taking review of the Staff's decision. First, the purpose of the general rule that issues not raised below cannot be raised on appeal [*see, e.g.*, 10 C.F.R. § 2.786(b)(5)] is designed to protect the integrity of the NRC's tiered system for making adjudicatory decisions. Under this system, it is important to ensure that all contested issues are fully litigated before the ASLB before they go to the Commission level. In contrast, the Commission has a broad supervisory responsibility with respect to its technical staff which supersedes its appellate role. In this case, the Commission has an overriding responsibility to ensure that its technical staff does not issue an invalid or unsafe license.

Moreover, the Commission should take into account the fact that the Staff waited over a year after Duke filed its license amendment application and exemption request to publish the proposed NSHCD, until a period that was one of the busiest times in this proceeding. During the summer of 2004, BREDL's counsel and expert were overwhelmed with the responsibilities of preparing for and attending a hearing on BREDL's safety contention issue and meeting the demands of the expedited discovery process regarding Security Contention 5. Given the pressures of the litigation, they simply did not have time to review or comment on the NSHCD.

Finally, the Federal Register notice requested comments on safety issues only. It did not even mention Duke's exemption request, let alone seek comment on the applicability of the Section 50.92(c) criteria to the request. Thus, BREDL was not give proper notice that the exemption request was part of the NSHCD.

Lyman Declaration, Duke has not demonstrated with high assurance that plutonium MOX fuel at the Catawba plant will be adequately protected from the DBT for theft of formula quantities of SSNM from the Catawba plant if the requested exemptions are granted. Lyman Declaration, par.4. Therefore, Duke should not be permitted to accept plutonium MOX fuel until the concerns raised by BREDL have been resolved.⁸

BREDL believes that it would be appropriate for the Commission to make arrangements with the DOE to delay shipments of the plutonium MOX fuel assemblies from France to the United States until such time as the adequacy of Duke's exemption application has been approved by the ASLB. In the event that such delay is not possible, BREDL believes the NRC should request the DOE to make arrangements to store the plutonium MOX fuel to be stored on a temporary basis at the Savannah River Site.

Lyman Declaration, par. 7. While BREDL believes that as a general matter, surplus plutonium should be disposed of through immobilization and that storage of plutonium at the Savannah River Site should be avoided, BREDL nevertheless believes that using the

⁸ Moreover, the safety analysis supporting its exemption decision contains the bizarre and completely erroneous implication that the security risk posed by the MOX LTAs can be equated with the security risk posed by conventional low enriched uranium ("LEU") fuel, which is enriched to less than 20% uranium-235. *Id.* To BREDL's knowledge, the Staff has never before advanced this theory.

As Dr. Lyman explains in paragraph 5 of his declaration, the Staff's argument is inconsistent with the NRC's practice regarding security and safeguards measures and all international standards of which he is aware. The process needed to convert LEU fuel to highly enriched uranium usable in a nuclear weapon requires uranium enrichment capability. Uranium enrichment is so much more difficult that the process needed to separate the plutonium from the uranium in an unirradiated MOX fuel assembly as to be utterly incomparable for purposes of establishing security requirements. If this argument is allowed to stand, it could undermine the entire regulatory basis for physical protection and safeguards of SSNM.

Savannah River Site for this limited purpose would be significantly more secure than sending the plutonium MOX fuel to the Catawba plant at this juncture.

BREDL's request for immediate action by the Commission meets the standard for a stay as set forth in 10 C.F.R. § 2.788. *See Diablo Canyon*, 24 NRC at 5. As discussed above in Section II.A, BREDL has a strong likelihood of prevailing on the merits, because the Staff's NSHCD is so patently invalid. Second, BREDL and the general public will suffer irreparable harm if the plutonium MOX fuel is shipped to Catawba before adequate security measures are in place, because the presence of plutonium fuel at Catawba will be unacceptably vulnerable to theft. Lyman Declaration, par. 4. Third, a balancing of the equities favors immediate action. As discussed above, allowing the Duke license amendment to stand would threaten public security and make a mockery of the adjudicatory proceeding on Security Contention 5. On the other hand, Duke has little or nothing to lose by waiting until the case is resolved, since the ASLB committed to providing a decision by March 2005 – a deadline that was acceptable to Duke. *See* Order (Confirming Matters Addressed and Ruled on in October 25, 2004 closed session) at 9 (November 5, 2004) (establishing a decision target date of March 2005). It is now clear that the MOX program, including construction and operation of the MOX Facility where batch quantities of plutonium MOX fuel will be produced, is at least a year behind schedule. *See* letter from Samuel W. Bodman, Secretary of Energy, to Hon. Duncan Hunter, Chairman, House Committee on Armed Services (February 7, 2005) stating that target date for beginning production of plutonium MOX fuel has slipped from 2008 to sometime after January 2009.

Finally, immediate issuance of an order to Duke is in the public interest, because it would support and affirm the Commission's ongoing commitment to enhance post-9/11 security of NRC-licensed nuclear facilities. In fact, refusal to act would be grossly inconsistent with that commitment.

IV. CONCLUSION

For the foregoing reasons, the Commission should take review of the NRC Staff's NSHCD and reverse it. The Commission should take any measures necessary to ensure that shipment by DOE of plutonium MOX fuel to Catawba is delayed until the ASLB has issued a decision regarding Security Contention 5.

Respectfully submitted,

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