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July 20, 2004

Ann Marshall Young, Chairman
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Anthony J. Baratta
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dr. Thomas S. Elleman
Administrative Judge
5207 Creedmoor Road # 101
Raleigh, N.C. 27612

Re: Duke Energy Corporation, Catawba Nuclear Station, Units 1 and 2 (Docket Nos. 50-413-OLA, 50-414-OLA)

Dear Administrative Judges:

As allowed by the Atomic Safety and Licensing Board at the close of the evidentiary hearing on July 15, 2004, enclosed for filing in the above-referenced docket is the supplemental rebuttal testimony of Duke Energy Corporation on Contention 1. This supplemental rebuttal testimony addresses Exhibit C (marked for identification) offered without prior notice by Blue Ridge Environmental Defense League at the evidentiary hearing.

Very truly yours,

David A. Repka

David A. Repka
Counsel for Duke Energy Corporation

Enclosure

cc : See enclosed Certificate of Service

Template=SECY-055

SECY-02

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 50-414-OLA
	)	
(Catawba Nuclear Station, Units 1 and 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "SUPPLEMENTAL REBUTTAL TESTIMONY OF STEVEN P. NESBIT AND J. KEVIN McCOY ON BEHALF OF DUKE ENERGY CORPORATION ON CONTENTION I" in the captioned proceeding have been served on the following by Federal Express overnight courier this 20th day of July, 2004. Additional e-mail service has been made this same day, as shown below.

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Washington, DC 20555

David A. Repka
Counsel for Duke Energy Corporation

July 20, 2004

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,	)	50-414-OLA
Units 1 and 2)	)	
	)	
	)	

SUPPLEMENTAL REBUTTAL TESTIMONY OF STEVEN P. NESBIT AND J. KEVIN McCOY ON BEHALF OF DUKE ENERGY CORPORATION ON CONTENTION I

July 20, 2004

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,	)	50-414-OLA
Units 1 and 2)	)	
	)	
	)	

SUPPLEMENTAL REBUTTAL TESTIMONY OF STEVEN P. NESBIT AND J. KEVIN McCOY ON BEHALF OF DUKE ENERGY CORPORATION ON CONTENTION I

1. *(Nesbit)* I, Steven P. Nesbit, am an Engineering Supervisor II employed by Duke Energy Corporation (Duke). I currently serve as the Duke Mixed Oxide (MOX) Fuel Project Manager. A full statement of my Professional Qualifications was included with Duke's initial written testimony in this proceeding (Exhibit 47).

2. *(McCoy)* I, J. Kevin McCoy, am an Advisory Engineer in the fields of metallurgy and materials engineering, employed by AREVA Framatome ANP, Inc. A full statement of my Professional Qualifications was provided with Duke's initial written testimony in this proceeding (Exhibit 50).

3. *(Nesbit, McCoy)* As we stated previously we are familiar with Duke's License Amendment Request (LAR), dated February 27, 2003. The LAR seeks NRC approval for Duke's proposal to use four MOX fuel lead assemblies at Catawba. We also recognize that we remain under oath with respect to our testimony in this proceeding (Tr. 2095).

4. *(Nesbit, McCoy)* The purpose of this supplemental rebuttal testimony is to specifically address one new proposed exhibit (marked as Exhibit C for identification) offered by the Blue Ridge Environmental Defense League (BREDL) on July 15, 2004, in connection with the live, surrebuttal testimony of Dr. Edwin S. Lyman. Exhibit C is a Nuclear Energy Agency/Nuclear Science Committee document: *Status of NSC Activities in the Field of Fuel Behaviour [NEA/NSC/DOC(2003)12]* (May 2003).

5. *(Nesbit, McCoy)* In his initial written testimony (answer 12), Dr. Lyman stated that differences between MOX and Low Enriched Uranium (LEU) fuel in the area of pellet-cladding interaction may impact fuel relocation during a Loss of Coolant Accident (LOCA). He noted that MOX fuel has been observed to have better pellet-cladding mechanical interaction (PCMI) performance than LEU fuel. During the hearing and referencing Exhibit C, Dr. Lyman hypothesized that PCMI differences could indicate pellet-cladding chemical interaction (PCCI) differences which might impact fuel relocation.

6. *(McCoy)* Dr. Lyman specifically cites the discussion of PCCI in Annex 2 of the NEA document (Exhibit C, at 17) as evidence supporting a potential link between PCCI and PCMI, and somehow providing a bridge between observed MOX/LEU PCMI differences, on the one hand, and the extent of fuel relocation during a LOCA on the other. However, the discussion in Annex 2 does not do that. Annex 2 does not propose that MOX/LEU PCMI differences are linked to PCCI differences. It also does not show that PCCI is a significant factor in a LOCA event. PCCI occurs during normal operation — but the bond is most likely broken under LOCA conditions. There is no evidence in Exhibit C that the bond is maintained in a LOCA.

7. *(McCoy)* Furthermore, Annex 2 is not a report on research results but merely a description of issues and topics to be discussed in a workshop that was to be held later (*see*

Exhibit C, Section 5.3, at 12). The authoritative report on the workshop is a later document, NEA/NSC/DOC(2004)8, which was previously cited by Dr. Lyman as BREDL's Exhibit J (Exhibit 34). As is discussed in paragraph 42 of our rebuttal testimony, the latter document, like Annex 2, makes no suggestion that pellet-cladding bonding is a possible explanation for differences that may exist between the PCMI performance of MOX and LEU fuels.

8. *(McCoy)* We addressed the potential for pellet-cladding interaction to affect fuel relocation in Section V.E of our initial direct testimony. Concerning the proposal that MOX and LEU fuel might be different with respect to the strength of the pellet-cladding chemical bond, in paragraph 123 we explained our judgment that the MOX and LEU pellet-cladding bonds should be similar. Even if there were a difference, we noted in paragraph 128 that we are not aware of any assessments of potential fuel relocation impacts on design basis LOCAs that have credited pellet-cladding bonding for mitigating relocation effects.

9. *(Nesbit, McCoy)* In summary, Exhibit C does not provide evidence of a difference in fuel pellet-cladding chemical interaction between MOX and LEU fuel. Moreover, Exhibit C, does not provide any evidence that, if such a difference actually existed, that it would matter under LOCA conditions.