

RAS 8095

LBP-04-13

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

ATOMIC SAFETY AND LICENSING BOARD PANEL

July 8, 2004 (2:32PM)

Before Administrative Judges:

Ann Marshall Young, Chair  
Anthony J. Baratta  
Thomas S. Elleman

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**RE-SERVED July 8, 2004**

In the Matter of

DUKE ENERGY CORPORATION

(Catawba Nuclear Station, Units 1 and 2)

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

ASLBP No. 03-815-03-OLA

July 2, 2004

MEMORANDUM and ORDER  
(Confirming June 25, 2004, Bench Ruling  
Regarding Expertise of Dr. Edwin S. Lyman)

During a closed session in this proceeding<sup>1</sup> held June 25, 2004, this Licensing Board made a verbal bench ruling relating to the expertise of Dr. Edwin S. Lyman on nuclear power plant security matters, finding that Dr. Lyman possessed sufficient knowledge, skill, experience, training, and education to be able to assist and aid the Board in making our determinations on the security issues in this proceeding. Tr. 2029. The need for this ruling arose out of the NRC Staff's June 23, 2004, determination, in response to a Blue Ridge Environmental Defense League [BREDL] June 19, 2004, Request for Need to Know Determination regarding various documents sought in discovery on security-related issues, that "BREDL does not have a need to know for the documents" in question, based on the Staff's finding that "there is insufficient basis on the record to find that BREDL's proffered security expert, Dr. Lyman, is an expert on

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<sup>1</sup>This proceeding involves Duke Energy Corporation's (Duke's) February 2003 application to amend the operating license for its Catawba Nuclear Station to allow the use of four mixed oxide (MOX) lead test assemblies at the station. On September 17, 2003, this Licensing Board was established to preside over this proceeding. 68 Fed. Reg. 55,414 (Sept. 25, 2003). By Memoranda and Orders dated March 5 and April 12, 2004 (the latter sealed as Safeguards Information; redacted version issued May 28, 2004), the Licensing Board granted BREDL's request for hearing and admitted various non-security-related and security-related contentions. LBP-04-04, 59 NRC \_\_\_ (2004); LBP-04-10, 59 NRC \_\_\_ (2004).

security matters.” NRC Staff’s Reponse to the [BREDL]’s Request for a Need to Know Determination (June 23, 2004), at 2; see Letter from Diane Curran to Susan L. Uttal, Esq. (June 19, 2004).

The Board stated its ruling through the Chair, after having previously considered the Staff’s June 23 written determination and the June 23 written arguments of Duke Energy Corporation (Duke), see Letter from Mark J. Wetterhahn to Antonio Fernández, Esq., and Susan L. Uttal, Esq. (June 23, 2004), and after holding *voir dire* examination of Dr. Lyman by all parties and the Board, and hearing the oral arguments of all parties. The Board found Dr. Lyman to be an expert on nuclear plant security issues, based upon his having demonstrated sufficient knowledge, skill, experience, training, and education to be able to ask appropriate probing questions and do appropriate evaluation on behalf of Intervenor BREDL so as to assist and aid the Board in making our determinations on the security issues in this proceeding. Tr. 2029.

As we indicated during the June 25 session, we then intended to issue a written confirmation of our verbal ruling at a later time, and this Memorandum and Order fulfills this statement of intent. We decided, however, to state our ruling from the bench during the June 25 session “so that we won’t hold up the Staff in going ahead and making [its] need-to-know determination on the necessity and indispensability aspects of the need issue.” Tr. 2029-30. The Staff had stated through counsel on June 25 that, if the Board on that date found Dr. Lyman to be an expert on the security matters at issue, the Staff would be able to provide its further determinations on other aspects of the need-to-know question, with regard to each affected document, by today’s date, July 2, 2004.<sup>2</sup> Tr. 1967-68; see Tr. 1952.

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<sup>2</sup>We note that the Staff has, since our June 25 session and verbal bench ruling, petitioned for review of our ruling by the Commission, and moved for a stay pending such review. NRC Staff’s Petition for Review of the Licensing Board’s Ruling Related to BREDL’s Proffered Security Expert (June 30, 2004) [hereinafter Staff Petition for Review]; NRC Staff’s Motions for Temporary Stay to Preserve the

With regard to the grounds for our ruling as stated above, we wish to note that in making our ruling we gave, and continue to give, considerable deference to the Staff in its determination regarding Dr. Lyman's expertise, as required by the Commission in CLI-04-6, 59 NRC 62, 75 (2004). Balancing all the evidence and argument on this issue, however, we found that BREDL and Dr. Lyman clearly demonstrated his expertise in the area of nuclear security, sufficient to support our ruling under relevant law. As stated during the June 25 session, we found that Dr. Lyman was quite straightforward in stating both those specific matters in which he has knowledge and experience and those in which he does not. He also provided information about various nuclear security-related articles he has authored, as well as about other participation in nuclear security-related subjects, which we describe below. We found, and herein find, that he has, despite some lack of knowledge of certain particular detailed tactical information, demonstrated the requisite skill and ability to understand, analyze, utilize and explain the significance of the sort of information, both conceptual and detailed, that would be relevant and that would aid us in the security-related determinations we are called

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Status Quo And for Stay Pending Interlocutory Review of the Licensing Board's June 25, 2004 Finding Regarding Dr. Edwin Lyman's Expertise (June 30, 2004). Thereafter, the Commission issued a "housekeeping stay" of our ruling. Commission Order (July 1, 2004).

In order to clarify certain matters relating to the Staff's Petition for Review and provide whatever assistance we may offer in its resolution, we find it appropriate to note certain matters arising out of the Staff's petition. In it, the Staff argues that any delay in the portion of this proceeding that involves security issues will be "outweighed by the possibility that the Board's ruling at issue will result in the unwarranted release of [safeguards information (SGI)] to an individual who has not been shown to meet the standard to be declared an expert." Staff Petition for Review at 2. Given the Staff's agreement to provide its further determinations on other aspects of the need-to-know question with regard to each affected document by today's date, the possibility of unwarranted release of safeguards documents would seem to be limited to those documents that the Staff would have found are needed by BREDL because they are "indispensable" and "necessary" to BREDL in its preparation for the hearing on its Security Contention 5 — the criteria defined by the Commission in CLI-04-6, 59 NRC 62, 73, 75 (2004). We note this in order to clarify that, in contrast to the statement that we "instructed the NRC Staff to give BREDL access to the safeguards information on Friday, July 2, 2004," see Commission Order (July 1, 2004), at 1, what we actually expected was that the Staff, *in accordance with its agreement* cited in the text, would *provide its determinations* on the need-to-know aspects other than expertise by July 2, and would provide *only* those documents with regard to which *the Staff found a need to know from the standpoint of indispensability and necessity*, subject, of course, to appropriate appeal and determination(s) on appeal.

upon to make in this proceeding. This, we found and do herein also find, satisfies the standard proposed by the Staff, from Federal Rule of Evidence 702, that “a witness qualified as an expert by ‘knowledge, skill, experience, training, or education,’ [may] testify ‘if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or determine a fact in issue.’” See Tr. 2013; Staff Petition for Review at 4 (citing *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 475 (1982) (citing Fed. R. Evid. 702)).

Specifically, we note Dr. Lyman’s A.B., M.S., and Ph.D. in physics, as well as his post-doctoral work for three years at the Center for Energy and Environmental Studies in the School of Engineering at Princeton University, where he researched issues associated with security and safety of nuclear materials and nuclear weapons, including the physical protection regime for the security of plutonium in general and MOX fuel in particular, and including his review of all publicly available documents at Princeton referring to the security and safety of the storage and processing of plutonium. See Tr. 1971-72.

In addition, we note Dr. Lyman’s experience, including: (1) his tenure from 1995 to April 2003 first as scientific director and then as president of the Nuclear Control Institute, where he focused on nuclear nonproliferation and evaluated publicly available aspects of the security and safety of the nuclear fuel cycle, the physical protection of special nuclear materials and nuclear facilities against sabotage, Tr. 1973; (2) as a member of the Institute of Nuclear Materials Management since 1996, providing at least one paper every year at the institute’s annual conference, many of which pertain to physical protection issues, *id.*, see also Tr. 2003-06; (3) his being invited to brief the Joint Atomic Energy Intelligence Committee on issues associated with post-September 11 security issues relating to nuclear terrorism, as well as briefing the National Intelligence Council and the Central Intelligence Agency on issues of security of spent fuel storage, *id.*, see also Tr. 2001; (4) his participation in routine meetings

with NRC Staff and the nuclear industry on issues pertaining to the security of nuclear power plants, force-on-force exercises, and the revised rulemaking on 10 C.F.R. Part 73, *id.*; (5) his speaking twice on being invited to be a member of panels on NRC safeguards policy at the NRC Regulatory Information Conference, Tr. 1974; (6) his expertise being sought out by Lawrence Livermore National Laboratory scientists on a particular vulnerability with regard to the use of nuclear materials in a radiological device, Tr. 1974-75; (7) his study and writing on the useability of reactor-grade plutonium in nuclear weapons, including verification of a statement of J. Robert Oppenheimer regarding the potential yield of nuclear weapons, Tr. 1975; and (8) his current employment as a Senior Staff Scientist with the Union of Concerned Scientists, *see* Curriculum Vitae of Edwin Stuart Lyman, Attachment to [BREDL] Supplemental Petition to Intervene (Oct. 21, 2003) [hereinafter Lyman CV].

We also note articles of Dr. Lyman in the journals, *Science* and *Science and Global Security*, among others, on subjects including “Revisiting Nuclear Power Plant Safety” in the former, in 2003, and “The Proliferation Risks of Plutonium Mines” in the latter, in 2000. Lyman CV; *see* Tr. 1999-2003. He also published articles on spent fuel pool and repository security-related issues in *Science and Global Security*. We note that *Science and Global Security* is a double-blind peer-reviewed journal. Tr. 1996-2003.

We find that the preceding information qualifies Dr. Lyman as an expert under all relevant standards, including FRE 702 as well as NRC precedent, and further find that the NRC Staff in making its determination on Dr. Lyman’s expertise gave insufficient attention to this information and to the nature of his education, research and other experience, including his having provided the benefits of his expertise to various respected entities on issues relevant to our inquiry herein, his writing on pertinent subjects, as well as his current employment and work on nuclear security-related issues.

These qualifications and experience, we find, demonstrate that Dr. Lyman possesses the “technical competence necessary to evaluate [relevant portions of a nuclear plant security] plan,” and constitute “extensive training and experience” in fields that are closely related to nuclear plant security so as to enable him to “assess overall plant security with an appreciation for its interrelated aspects,” as required, respectively, under *Pacific Gas and Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-410, 5 NRC 1398, 1404 (1977), cited by the Staff in its June 23 determination; and *Duke Power Company* (Catawba Nuclear Station, Units 1 and 2), LBP-82-51, 16 NRC 167, 176 (1982), cited by Duke in its June 23, 2004, letter to NRC Staff counsel regarding BREDL’s need-to-know request.

Thus, as in *Carolina Power & Light* (Shearon Harris Nuclear Power Plant), LBP-01-9, 53 NRC 239 (2001), another case cited by the Staff in its June 23 determination, while BREDL’s expert may have little actual detailed tactical experience in nuclear plant security, given his combination of education and experience, we find he has sufficient knowledge and experience that “can aid the Board in its determinations.” *Id.* at 251; *see id.* at 250. Specifically, we find that Dr. Lyman has extensive knowledge and experience at the conceptual and strategic level, particularly with regard to the integrated nature of nuclear power plant security and its many facets, including training, communications, detection, and physical protection, among others. *See* Tr. 1989-92, 2010-11. We find that this knowledge and experience provides him with sufficient practical ability to analyze the matters at issue in a manner consistent with the relevant legal standards, and assist us in our deliberations, so as to render him an acceptable expert to examine, with his NRC-issued “L” level clearance, appropriate documents, or portions thereof, that may be safeguards information.<sup>3</sup> We will, as in *Shearon Harris*, of course, give

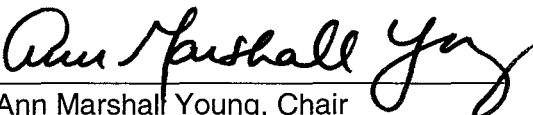
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<sup>3</sup>We find that Dr. Lyman’s education, knowledge and experience all taken together, as elucidated in his *voir dire*, demonstrate not only that he is qualified, but that he is far more qualified to examine and analyze appropriate documents in this proceeding, and assist the Board in our deliberations in this proceeding, than the proffered but not accepted expert in the case of *Pacific Gas*

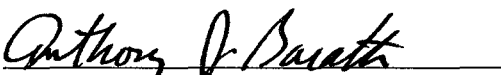
any testimony of Dr. Lyman “appropriate weight commensurate with his expertise and qualifications.” *See Shearon Harris* at 250.

It is so ORDERED.


THE ATOMIC SAFETY  
AND LICENSING BOARD



Ann Marshall Young, Chair  
ADMINISTRATIVE JUDGE



Anthony J. Baratta  
ADMINISTRATIVE JUDGE



Thomas S. Elleman  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
July 2, 2004<sup>4</sup>

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*and Electric Company* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-78-36, 8 NRC 567 (1978), was with regard to the issues in that proceeding, with that licensing board. *See id.* at 569-73. In that case, the expert did not have either the demonstrated academic science knowledge or experience in nuclear security-related matters that Dr. Lyman has.

<sup>4</sup>Copies of this document were sent this date by Internet e-mail to all parties.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
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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 the foregoing LB MEMORANDUM AND ORDER (CONFIRMING JUNE 25, 2004, BENCH RULING REGARDING EXPERTISE OF DR. EDWIN S. LYMAN) (RE-SERVED AS LBP-04-13) have been served upon the following persons by deposit in the U.S. mail, first class, or through NRC internal distribution.

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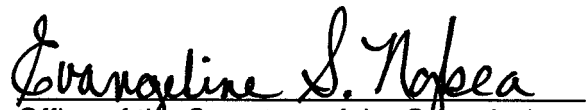
Docket Nos. 50-413-OLA and 50-414-OLA  
LB MEMORANDUM AND ORDER  
(CONFIRMING JUNE 25, 2004,  
BENCH RULING REGARDING  
EXPERTISE OF DR. EDWIN S. LYMAN)  
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Dated at Rockville, Maryland,  
this 8<sup>th</sup> day of July 2004