

RAS 7970

RELATED CORRESPONDENCE

June 19, 2004

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED
USNRC

In the Matter of

DUKE ENERGY CORPORATION

(Catawba Nuclear Station, Units 1 and 2)

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

June 21, 2004 (3:11PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

**BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S
FIRST SET OF DISCOVERY REQUESTS TO NRC STAFF
REGARDING SECURITY PLAN SUBMITTAL**

I. INTRODUCTION

Pursuant to the Atomic Safety and Licensing Board's ("ASLB's") Order of April 28, 2004, Blue Ridge Environmental Defense League ("BREDL") hereby requests the NRC Staff to answer the following interrogatories separately, fully, in writing, and under oath, and produce the documents requested below within the schedule established by the ASLB. These discovery requests pertain to BREDL's Security Contention 5, as admitted by the ASLB in its Memorandum and Order (Ruling on Security-Related Contentions) (April 12, 2004) and amended by LBP-04-12, the ASLB's June 12, 2004, Memorandum and Order (Ruling on BREDL "Amendments" to Security Contention 5).

Pursuant to 10 C.F.R. § 2.744, BREDL directs its documents production requests in Sections IV and V below to the Executive Director for Operations. As required by 10 C.F.R. § 2.744, the categories of document requests in those sections are described with reasonable particularity. Moreover, the requested documents are relevant to the litigation of Contention 5, because they seek the production of documents that the NRC Staff intends to rely on at the hearing on Contention 5, and because they seek relevant information regarding the Staff's

Template = SECY-035

SECY-02

evaluation of Duke Power Corporation's ("Duke's") request for an exemption from NRC security regulations governing Category I facilities.

II. INSTRUCTIONS

A. Scope of Discovery. These discovery requests cover all information in the possession, custody and control of the U.S. Nuclear Regulatory Commission ("NRC") Staff, including information in the possession of employees, agents, servants, representatives, attorneys, or other persons directly or indirectly employed or retained by the NRC, or anyone else acting on the Staff's behalf or otherwise subject to its control. The discovery sought by this request encompasses material contained in, or which might be derived or ascertained from, the personal files of Staff employees, representatives, investigators, and agents.

B. Lack of Information. If you currently lack information to answer any Interrogatory completely, please state:

1. The responsive information currently available;
2. The responsive information currently unavailable;
3. Efforts which you intend to make to secure the information currently unavailable; and
4. When you anticipate receiving the information currently unavailable.

C. Supplemental Responses. Each of the following requests is a continuing one pursuant to 10 C.F.R. § 2.740(e) and BREDL hereby demands that, in the event that at any later date the Staff obtains or discovers any additional information which is responsive to these interrogatories and request for admissions and production of documents, the Staff shall supplement its responses to this request promptly and sufficiently.

Such supplementation shall include, but not be limited to:

1. the identity and location of persons having knowledge of discoverable matters;

2. the identity of each person expected to be called as an expert witness at any hearing, the subject matter on which she/he is expected to testify, and the substance of her/his testimony; and

3. new information which makes any response hereto incorrect.

D. Objections. If you object to or refuse to answer any interrogatory or document request under a claim of privilege, immunity, or for any other reason, please indicate the basis for asserting the objection, privilege, immunity or other reason, the person on whose behalf the objection, privilege, immunity, or other reason is asserted, and describe the factual basis for asserting the objection, privilege, immunity, or other reason in sufficient detail so as to permit the administrative judges in this matter to ascertain the validity of such assertion.

If you withhold any document covered by this request under a claim of privilege, immunity, or for any other reason, please furnish a list identifying each document for which the privilege, immunity, or other reason is asserted, together with the following information: date, author and affiliation, recipient and affiliation, persons to whom copies were furnished and the job title and affiliation of any such persons, the subject matter of the documents, the basis for asserting the privilege, immunity, or other reason, and the name of the person on whose behalf the privilege, immunity, or other reason is asserted.

E. Estimates. Interrogatories calling for numerical or chronological information shall be deemed, to the extent that precise figures or dates are not known, to call for estimates. In each instance that an estimate is given, it should be identified as such together with the source of information underlying the estimate.

III. DEFINITIONS

Each of the following definitions, unless otherwise indicated, applies to and shall be a part of each interrogatory and request for production which follows:

1. "NRC Staff," "Staff," "you," and "your" refers to the Staff of the NRC, including its employees, agents, servants, representatives, attorneys, or other persons directly or indirectly employed or retained by the Staff, or anyone else acting on its behalf or otherwise subject to their control.
2. The term "documents" means the originals as well as copies of all written, printed, typed, recorded, graphic, photographic, and sound reproduction matter however produced or reproduced and wherever located, over which you have custody or control or over which you have the ultimate right to custody or control. By way of illustration, but not limited thereto, said term includes: records, correspondence, telegrams, telexes, wiring instructions, diaries, notes, interoffice and intra-office communications, minutes of meetings, instructions, reports, demands, memoranda, data, schedules, notices, recordings, analyses, sketches, manuals, brochures, telephone minutes, calendars, accounting ledgers, invoices, charts, working papers, computer tapes, computer printout sheets, information stored in computers or other data storage or processing equipment, microfilm, microfiche, meeting minutes, blueprints, drawings, contracts and any other agreements, rough drafts, and all other writings and papers similar to any of the foregoing, however designated by you. If the document has been prepared and several copies or additional copies have been made that are not identical (or are no longer identical by reason of the subsequent addition of notations or other modifications), each non-identical copy is to be construed as a separate document.

3. "All documents referring or relating to" means all documents that in whole or in part constitute, contain, embody, reflect, identify, state, interpret, discuss, describe, explain, apply to, deal with, evidence, or are in any way pertinent to a given subject.

4. The words "describe" or "identify" shall have the following meanings:

(a) In connection with a person, the words "describe" or "identify" mean to state the name, last known home and business address, last known home and business telephone number, and last known place of employment and job title;

(b) In connection with a document, the words "describe" or "identify" mean to give a description of each document sufficient to uniquely identify it among all of the documents related to this matter, including, but not limited to, the name of the author of the document, the date, title, caption, or other style by which the document is headed, the name of each person and entity which is a signatory to the document, the date on which the document was prepared, signed, and/or executed, the person or persons having possession and/or copies thereof, the person or persons to whom the document was sent, all persons who reviewed the document, the substance and nature of the document, the present custodian of the document, and any other information necessary to adequately identify the document;

(c) In connection with an entity other than a natural person (*e.g.*, corporation, partnership, limited partnership, association, institution, etc.), the words "describe" or "identify" mean to state the full name, address and telephone number of the principal place of business of such entity.

(d) In connection with any activity, occurrence, or communication, the words "describe" or "identify" mean to describe the activity, occurrence, or communication, the date of its occurrence, the identify of each person alleged to have had any involvement with or

knowledge of the activity, occurrence, or communication, and the identity of any document recording or documenting such activity, occurrence, or communication.

5. "Date" shall mean the exact day, month, and year, if ascertainable, or if not, the best approximation thereof (including by relationship to other events), and the basis for such approximation.

6. The word "discussion" shall mean communication of any kind, including but not limited to, any spoken, written, or signed form of communication.

7. The word "person" shall include any individual, association, corporation, partnership, joint venture, or any other business or legal entity.

8. Words herein of any gender include all other genders, and the singular form of words encompasses the plural.

B. The words "and" and "or" include the conjunctive "and" as well as the disjunctive "or" and the words "and/or."

IV. GENERAL DISCOVERY

A. GENERAL INTERROGATORIES

GENERAL INTERROGATORY NO. 1. State the name, business address, and job title of each person who was consulted and/or who supplied information for responding to each of the interrogatories and requests for the production of documents posed by BREDL herein. Specifically note for which interrogatories and requests for production each such person was consulted and/or supplied information.

If the information or opinions of anyone who was consulted in connection with your response to an interrogatory or request for admission differs from your written answer to the discovery request, please describe in detail the differing information or opinions, and indicate

why such differing information or opinions are not your official position as expressed in your written answer to the request.

GENERAL INTERROGATORY NO. 2. Give the name, address, profession, employer, area of professional expertise, and educational and scientific experience of each person whom the Staff expects to call as a fact or expert witness at the hearing regarding Contention 5. For expert witnesses, provide a list of all publications authored by the witness within the preceding ten years and a listing of any other cases in which the witness has provided fact and/or expert testimony and/or submitted affidavit(s) or declaration(s) within the preceding four years. For purposes of answering this interrogatory, the educational and scientific experience of expected witnesses may be provided by a resume of the person attached to the response. Fact and expert witnesses should be distinguished.

GENERAL INTERROGATORY NO. 3. For each witness identified in response to General Interrogatory No. 2 above, describe the facts and opinions to which each witness is expected to testify, including a summary of the grounds for each opinion, and identify the documents (including all pertinent pages or parts thereof), data or other information which each witness has reviewed and considered, or is expected to consider or to rely on for his or her testimony.

B. GENERAL DOCUMENT PRODUCTION REQUESTS

Please produce the following documents:

REQUEST NO 1. All documents in your possession, custody or control that are identified, referred to or used in any way in responding to all of the above general interrogatories and the following interrogatories relating to Contention 5.

REQUEST NO. 2. All documents in your possession, custody or control relevant to Contention 5, and to the extent possible, segregated by contention and separated from already produced documents.

REQUEST NO. 3. All documents (including experts' opinions, workpapers, affidavits, and other materials used to render such opinion) supporting or otherwise relating to testimony or evidence that you intend to use in the hearing on Contention 5.

V. SPECIFIC DISCOVERY

A. SPECIFIC INTERROGATORIES

INTERROGATORY NO. 1: Describe all methods used to verify Duke's claim that the Catawba physical security plan, plus the proposed revisions in the Security Plan Submittal, provide a physical protection system capable of protecting against the design basis threat for theft of strategic special nuclear material in 10 C.F.R. § 73.1(a)(2), including but not limited to table top exercises, security drills, force-on-force exercises, and computer models.

INTERROGATORY NO. 2: Describe all technical analyses performed by the Staff to verify Duke's claim that the Catawba physical security plan, plus the proposed revisions in the Security Plan Submittal, provide a physical protection system capable of protecting against the design basis threat for theft of strategic special nuclear material in 10 C.F.R. § 73.1(a)(2).

INTERROGATORY NO. 3: For each analysis described in response to Interrogatory No. 2, provide the results.

INTERROGATORY NO. 4: Explain what the Staff means by the phrase "attractive to potential adversaries from a proliferation standpoint," as used in the Staff's Supplement 1 to the MOX LTA Safety Evaluation (May 5, 2004) (hereinafter "Supplement 1 to the MOX LTA SE").

In particular:

a. define what the Staff means by “potential adversaries,” in terms of numbers, training, equipment, transportation, armaments, motivation, and all other relevant characteristics, including insider capabilities.

b. define what the Staff means by “attractive.”

INTERROGATORY NO. 5: Identify all applicable NRC statutes, regulations and regulatory guidance that contain or refer to the concept of attractiveness of special nuclear material to potential adversaries from a proliferation standpoint.

INTERROGATORY NO. 6: Explain how the NRC’s regulations were applied to the concept of attractiveness of special nuclear materials to potential adversaries from a proliferation standpoint in approving the adequacy of Duke’s application for an exemption from NRC security regulations under 10 CFR § 73.5.

INTERROGATORY NO. 7: Identify and describe in detail, providing bases and justification for, any analyses or evaluations that NRC staff has performed and/or expect to rely upon in its testimony to demonstrate that 4 MOX lead test assemblies, containing a total of about 80 kilograms of weapon-grade plutonium, or 40 formula quantities of plutonium, is not attractive to potential adversaries from a proliferation standpoint due to its low Pu concentration, composition and form (size and weight).

INTERROGATORY NO. 8: Identify and describe in detail, providing bases and justification for, any analyses or evaluations that NRC staff has performed and/or expects to rely upon in its testimony to demonstrate that 4 MOX lead test assemblies, containing a total of about 80 kilograms of weapon-grade plutonium, represent a significantly less attractive theft target, from a proliferation standpoint, as compared to the materials at Category I fuel fabrication facilities. In particular, specify in detail the characteristics of the adversary that the NRC staff

assumes will find 4 MOX lead test assemblies to be a significantly less attractive theft target, from a proliferation standpoint, as compared to the materials at the Category I fuel fabrication facilities. If the NRC staff did not have a particular adversary in mind when it made this determination, state that fact.

INTERROGATORY NO. 9: Discuss whether and to what extent this finding would remain valid for:

(a) an adversary force with capabilities of the pre-9/11 design basis threat for theft of Category I quantities of strategic special nuclear material;

(b) an adversary force with capabilities of the post-9/11 design basis threat for theft of Category I quantities of strategic special nuclear material, as issued to Nuclear Fuel Services (“NFS”), BWXT and provided to DCS;

(c) to the extent that neither (a) nor (b) encompass this capability, an adversary force capable of staging an overt, armed assault that neutralizes all members of the on-site armed response force, and possesses a motor vehicle capable of transporting 4 unirradiated MOX LTAs off the site.

INTERROGATORY NO. 10: Identify all applicable NRC statutes, regulations and regulatory guidance supporting the NRC staff’s allegation, as stated in the Staff’s Supplement 1 to the MOX LTA SE at page 2, that 10 C.F.R. §§ 73.45 and 73.46 were primarily intended to address the materials at Category I fuel cycle facilities and not Category I quantities of strategic special nuclear material not at Category I fuel cycle facilities.

INTERROGATORY NO. 11: Identify all NRC statutes, regulations and/or regulatory guidance that specifically define “Category I fuel cycle facilities” and distinguish them from

other types of NRC-licensed facilities that may possess or use Category I quantities of strategic special nuclear materials.

INTERROGATORY NO. 12: Explain how the NRC Staff's distinction between materials at Category I fuel cycle facilities and MOX fuel LTAs differs from the distinction between strategic special nuclear material "other than alloys, fuel elements or fuel assemblies," and strategic special nuclear materials in the form of "alloys, fuel elements, or fuel assemblies," as stated in 10 CFR § 50.46(c)(5).

INTERROGATORY NO. 13: Explain how the NRC Staff's distinction between materials at Category I fuel cycle facilities and MOX fuel LTAs differs from the distinction between "unalloyed or unencapsulated strategic special nuclear material" and "alloyed or encapsulated strategic special nuclear material," as stated in 10 CFR §§ 50.46(h)(7) and 50.46(h)(8).

INTERROGATORY NO. 14: Define "improvised nuclear device," as used in Supplement 1 to the MOX LTA SE. In particular, for the Staff's concept of an "improvised nuclear device," specify:

- (a) the assumed minimum critical mass;
- (b) the assumed minimum explosive yield;
- (c) the minimum number of casualties that would result from detonation;
- (d) the materials and equipment assumed to be available to an adversary for assembly of an improvised nuclear device, including neutron reflectors, neutron initiators and explosives.

INTERROGATORY NO. 15: Define "[nuclear] weapon," as used in Supplement 1 to the MOX LTA SE. In particular, describe in detail how the Staff's concept of a "[nuclear] weapon" differs from its concept of an "improvised nuclear device."

INTERROGATORY NO. 16: Discuss in detail how the NRC staff's conclusion in Supplement 1 to the MOX LTA SE (p. 2) that "a large quantity of MOX fuel and an elaborate extraction process would be required to yield enough material for use in an improvised nuclear device or weapon" would differ from a conclusion that MOX fuel "cannot be used directly in the manufacture of a nuclear explosive device," as stated in 10 CFR §50.46(c)(5)(i).

INTERROGATORY NO. 17: Specify the minimum quantity of MOX fuel that would be required to yield enough material for use in an improvised nuclear device.

INTERROGATORY NO. 18: Specify the minimum quantity of MOX fuel that would be required to yield enough material for use in a nuclear weapon.

INTERROGATORY NO. 19: Define and discuss in detail the "elaborate extraction process" that the NRC staff concludes would be required to "yield enough material for use in an improvised nuclear device or weapon." Discuss the assumptions made by the staff as to the size, cost and detectability of the facility needed to carry out this process. Discuss the availability of technical information in the open literature regarding this process.

INTERROGATORY NO. 20: At page 3 of its January 29, 2004, Review Plan for Evaluating the Physical Security Protection Measures Needed for Mixed Oxide Fuel and Its Use in Commercial Nuclear Reactors, the Staff states that "current NRC regulations for plutonium do not distinguish between the composition ... or form ... The concept of attractiveness in the NRC regulations relates to uranium and enrichment, as opposed to plutonium. Therefore, the staff position is that subjecting MOX fuel at power reactor sites to all the requirements associated with Category I SNM is neither appropriate nor necessary." Does the staff imply or infer here that the dilution of plutonium in a uranium matrix, as is the case with MOX fuel, is functionally similar

to the dilution of uranium-235 in uranium-238 to levels below 20% uranium-235, with regard to the ease of recovery of weapon-usable material from the mixture?

INTERROGATORY NO. 21: Does the NRC staff believe that there is significant new information not considered in the development of the current NRC regulations that warrants consideration of the composition or form of Category I quantities of plutonium in establishing physical protection requirements? If so, please describe all such information in detail.

INTERROGATORY NO. 22: Does the NRC staff agree that according to DOE Manual 474.1-1B, *Manual for Control and Accountability of Nuclear Materials*, Table I-4, p. I-10 (June 13, 2003), a MOX fuel assembly containing 20 kg weapon-grade plutonium, as a "fuel assembly" containing more than 6 kg of plutonium, would be considered Category I, Attractiveness Level C?

INTERROGATORY NO. 23: For each individual piece of documentation, identified in response to Specific Document Production Request No. 1 below, state whether it was issued before or after September 11, 2001. Also, state whether the documentation was a DOE order or a non-binding recommendation for implementation of DOE orders.

INTERROGATORY NO. 24: The NRC staff has pointed to an exemption granted to Public Service Company of Colorado on January 19, 1989 from the upgraded physical protection requirements for Category I fuel cycle facilities issued in November 1988, regarding the storage of unirradiated high-temperature gas-cooled reactor fuel containing highly enriched uranium (HEU), as an appropriate precedent for the exemption that it intends to grant to Duke Energy regarding storage of the 4 MOX LTAs. Please compare the physical characteristics of Fort St. Vrain fuel elements with MOX LTAs with regard to their attractiveness for theft. In particular, compare (1) the amount of strategic special nuclear material in the fuel elements; (2) the weight-

percent of strategic special nuclear material per fuel element; (3) the difficulty of extraction of highly enriched uranium from Fort St. Vrain gas-cooled reactor fuel in 1989, compared to the difficulty of extraction of plutonium from mixed-oxide fuel in 2004, taking into account the level of technical development of the respective treatment processes.

INTERROGATORY NO. 23: In light of your response to Interrogatory 22, discuss the rationale for the NRC staff's assertion that the exemption granted in 1989 for Fort St. Vrain fuel is relevant to consideration of Duke Energy's exemption request for the MOX LTAs.

INTERROGATORY NO. 24: Identify and describe in detail, providing bases and justification for, any analyses or evaluations that the NRC staff has performed and/or expects to rely upon in its testimony to demonstrate that an exemption to physical protection requirements granted in 1989 has any bearing on the issue of whether such an exemption should be granted in 2004, given what is now known about the nature of the terrorist threat today.

B. SPECIFIC DOCUMENT PRODUCTION REQUESTS

DOCUMENT PRODUCTION REQUEST NO. 1: Provide all documentation to support the NRC staff's claim that fresh MOX fuel assemblies with an SNM content of less than 10% would be designated as a DOE Category II quantity of Attractiveness Level D (low-grade) material.

DOCUMENT PRODUCTION REQUEST NO. 2: Provide all documentation of Operational Safeguards Response Evaluation ("OSRE") exercises in which the mock adversary force was able to defeat the licensee's armed response force by neutralizing all the guards.

DOCUMENT PRODUCTION REQUEST NO. 3: Provide all documents that evaluate Duke's claim that the Catawba Security Plan Submittal, plus the proposed revisions in the

Security Plan Submittal, provide a physical protection system that is capable of protecting against the design basis threat for theft of strategic special nuclear material in 10 C.F.R. § 73.1(a)(2).

Respectfully submitted,



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June 19, 2004

CERTIFICATE OF SERVICE

I hereby certify that on June 19, 2004, copies of Blue Ridge Environmental Defense League's First Set of Discovery Requests to NRC Staff Regarding Security Plan Submittal were served on the following by e-mail and/or first-class mail, as indicated below.

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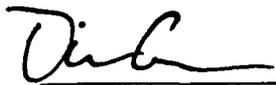
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