

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:  
Thomas S. Moore, Chairman  
Charles N. Kelber  
Peter S. Lam

DOCKETED  
USNRC

July 1, 2002 (4:10PM)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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In the Matter of )	June 27, 2002
DUKE COGEMA STONE & WEBSTER )	Docket No. 070-03098-ML
(Savannah River Mixed Oxide Fuel )	ASLBP No. 01-790-01-ML
Fabrication Facility) )	
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**DUKE COGEMA STONE & WEBSTER'S OBJECTIONS AND RESPONSES  
TO GEORGIANS AGAINST NUCLEAR ENERGY AND  
BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE  
FIRST SET OF INTERROGATORIES**

Applicant Duke Cogema Stone & Webster ("DCS") hereby provides the following objections and responses to the Georgians Against Nuclear Energy and Blue Ridge Environmental Defense League First Set of Interrogatories.

**GENERAL OBJECTIONS**

1. DCS objects to these interrogatories to the extent they seek information protected by the attorney-client privilege, attorney work product doctrine, or any other applicable privilege. Inadvertent disclosure of such information shall not constitute a waiver of any of the rights or privileges of DCS.

2. DCS objects to these interrogatories to the extent the information sought is cumulative or duplicative, and to the extent that compliance would be unduly burdensome, expensive, or oppressive.

3. DCS objects to these interrogatories to the extent that they seek information that is not relevant, or not reasonably calculated to lead to the discovery of admissible evidence.

4. DCS objects to these interrogatories to the extent that they go beyond the scope of discovery authorized by the Commission in this modified 10 CFR Part 2, Subpart L Construction Authorization Request (“CAR”) proceeding. Specifically, DCS objects to GANE and BREDL’s (“Intervenors”) attempt to seek unauthorized document discovery.

10 CFR Part 2, Subpart L does not provide for any formal discovery. In this proceeding, however, the Commission has authorized limited, formal discovery, in the form of interrogatories and depositions, to supplement the documentary materials in the “Hearing File” maintained by the NRC Staff. In CLI-01-13, the Commission stated that “document discovery should not be necessary, given the inclusiveness of the hearing file requirements of 10 CFR 2.1231(b)-(c).” The Commission also directed that the parties would be obligated to identify and make available for inspection and copying those documents “not already part of” the Hearing File upon which their experts plan to rely in their testimony, and that “to avoid burdening the record with extraneous and unsupported documents, any documents not part of the hearing file will be admissible as evidence

only if sponsored by an appropriate witness.”<sup>1</sup> DCS is identifying those documents upon which its experts presently plan to rely, in accordance with CLI-01-13 and the Atomic Safety and Licensing Board’s (“Board”) April 30, 2002 Memorandum and Order on discovery.

A substantial number of Intervenors’ interrogatories, however, constitute improper requests for discovery of documents. For example, in Interrogatory Nos. 14, 15, 19, 21, 22, and 23, Intervenors ask DCS to “identify” all documents which “address or resolve” the admitted contentions. “Identification” is defined by Intervenors as providing:

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.

Intervenors define “documents” as:

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, writing instructions, diaries, notes, interoffice and intraoffice communications, minutes of meetings, instructions, reports, demands, memoranda, data, schedules, notices, recordings, analyses, sketches, manuals, brochures, telephone minutes,

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<sup>1</sup> See also Commission “Notice of Acceptance for Docketing of the Application, and Notice of Opportunity for a Hearing, on an Application for Authority to Construct a Mixed Oxide Fuel Fabrication Facility,” 66 *Fed. Reg.* 19994, 19996 (Apr. 18, 2001).

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, corporate 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.

To respond to Intervenors' document-related interrogatories, DCS would be required to expend the considerable effort of searching out, reviewing, and describing such documents. In fact, the Intervenors' document-related interrogatories are even more onerous than a typical request for production, since they require not only collection and review, but also specific summarization of the "substance and nature" and other aspects of DCS documents. This documentary "fishing expedition" was not authorized by the Commission.

5. Some of the Intervenors' interrogatories request classified information or safeguards information. DCS objects to these interrogatories to the extent that they seek such information which DCS is not authorized to disclose.

### **RESPONSES AND OBJECTIONS**

All the foregoing objections shall be deemed reasserted as to each interrogatory to which they are applicable as if fully set forth in response to that interrogatory. In addition to the foregoing objections, and without waiver thereof, DCS makes the following specific objections and provides the following responses.

GENERAL INTERROGATORY NO. 1. State the name, business address, and job title of each person who supplied information for responding to these interrogatories, requests for admission, and requests for the production of documents. Specifically note for which interrogatories and requests for admissions each such person supplied information. For requests for production, note for which contention each such person supplied information.

**RESPONSE TO GENERAL INTERROGATORY NO. 1:**

The names, business addresses and job titles of those persons who supplied information for responding to these interrogatories is set forth below:

GANE Contention 1 "Lack of Consideration of Safeguards in Facility Design"

Gary A. Bell, Software Design Group (SDG) Manager  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Kenneth D. Bristol, Assistant Lead Engineer for MC&A  
Nuclear Fuel Services  
1205 Banner Hill Road  
Erwin, TN 37650

Donald R. Joy, Nuclear Safeguards Consultant  
JAI Corporation  
215 Candlewood Drive  
Conway, SC 29526-8982

GANE Contention 2 "Lack of Physical Protection in Facility Design"

Gary A. Bell

Scott C. Johnson, Assistant Lead Engineer for Security  
Nuclear Fuel Services  
1205 Banner Hill Road  
Erwin, TN 37650

Mike Golden, Principal Safeguards and Security Engineer  
Westinghouse Safety Management Solutions, LLC  
P.O. Box 5388  
Aiken, SC 29804-5388

GANE Contention 3 "Inadequate Seismic Design"

John M. McConaghy, Jr., Lead Civil/ Structural Engineer  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Lawrence A. Salomone, WSRC Site Chief Geotechnical Engineer  
Savannah River Site, 730-B, Rm. 304  
Aiken, SC 29808

GANE Contention 5 "Incorrect Designation of Controlled Area"

Peter S. Hastings, Manager, Licensing and Safety Analysis  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Kenneth A. Boucher, Manager, Emergency Operations  
Westinghouse Savannah River Company  
P.O. Box 616  
Aiken, SC 29802

GANE Contention 6 "Inadequate Safety Analysis"

Gary H. Kaplan, ISA Manager  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Thomas N. St. Louis, Lead Mechanical Engineer  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Werner Bergman, Ph.D., Consultant  
6260 Stoneridge Mall Road  
No. A213  
Pleasanton, CA 94588

GANE Contentions 9 "Inadequate Cost Comparison" and 11 "ER Fails to Address the Waste Stream from Aqueous Polishing"

Peter S. Hastings

Mary L. Birch, Manager, Environment Safety and Health  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Theodore J. Bowling, Consulting Scientist  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

**GENERAL INTERROGATORY NO. 2.** For each admitted GANE and BREDL contention, identify all individuals you intend to call as witnesses. For each of these individuals, give the following information. For purposes of answering subparts (a) and (b) of this interrogatory, the educational and scientific experience of expected expert witnesses may be provided by a resume of the person attached to the response.

- a. Name, employer, business address and telephone number;
- b. Current profession, areas of professional expertise, and educational and scientific experience;
- c. Whether the individual is to be called as a fact witness or an expert witness;
- d. Subject matter of the witness's testimony

**RESPONSE TO GENERAL INTERROGATORY NO. 2:**

2a. The name, employer, and business address of DCS' expert witnesses were provided to Intervenors on May 17, 2002, pursuant to the Board's April 30, 2001 Memorandum and Order. The business telephone numbers of DCS' expert witnesses are as follows:

Gary A. Bell	(704) 373-7962
Werner Bergman, Ph.D.	(925) 422-5227
Mary L. Birch	(704) 382-1401
Kenneth A. Boucher	(803) 725-4655
Theodore J. Bowling	(704) 597-0283
Kenneth D. Bristol	(423) 743-1766
Mike Golden	(803) 502-9753
Peter S. Hastings	(704) 373-7820

Donald R. Joy	(843) 347-9235
Scott C. Johnson	(423) 743-9141
Gary H. Kaplan	(704) 373-4829
John M. McConaghy, Jr., P.E.	(704) 382-3021
Lawrence A. Salomone	(803) 952-6854
Thomas N. St. Louis	(704) 373-8346

- 2b. The resumes of DCS' expert witnesses were provided to Intervenors on May 17, 2002, pursuant to the Board's April 30, 2002 Memorandum and Order.
- 2c. All identified individuals are to be called as expert witnesses.
- 2d. The expected subject matter of the witnesses' testimony is provided below. By providing the information below on Contentions 1 and 2, DCS is not waiving its position that it is not required to provide the design basis of its material control and accounting (MC&A) or physical security plans and programs at the CAR stage.

GANÉ Contention 1 "Lack of Consideration of Safeguards in Facility Design"

DCS' expert witnesses will testify regarding the substance and sufficiency of DCS' "design bases" for its MC&A plan and program. The testimony will demonstrate that those design bases are in accordance with applicable NRC requirements, provide reasonable assurance of protection of the common defense and security, and have been properly taken into account in the facility design at the CAR stage.

GANÉ Contention 2 "Lack of Physical Protection in Facility Design"

DCS' expert witnesses will testify regarding the substance and sufficiency of DCS' "design bases" for its physical security-related plans and programs. The testimony will demonstrate that those design bases are in accordance with applicable NRC requirements, provide reasonable assurance of protection of the common defense and security, and have been properly taken into account in the facility design at the CAR stage.

### Contention 3 “Inadequate Seismic Design”

DCS’ expert witnesses will testify regarding the substance and sufficiency of the MOX Facility seismic design bases, including the adequacy of the seismic analysis performed by DCS. The testimony is expected to address: the significance of regional historical seismic data to the MOX Facility’s design basis earthquake; the analyses performed to address potential soil liquefaction at the MOX Facility site; the probabilistic seismic hazards analysis performed for the MOX Facility; the spectrum of seismic events used in developing the seismic design bases; and the significance of alleged discrepancies in the return period for a 0.375 g seismic event at 5 Hz identified by GANE. The testimony will demonstrate that the seismic design bases for the MOX Facility are in accordance with applicable NRC requirements, and provide reasonable assurance of protection of public health and safety.

### GANE Contention 5 “Incorrect Designation of Controlled Area”

DCS’ expert witnesses will testify regarding the location of the selected Controlled Area boundary and, as appropriate, the extent to which the selected boundary is in accordance with applicable NRC requirements and provides reasonable assurance of protection of public health and safety. The testimony is expected to describe the arrangements DCS is establishing at the CAR stage to provide for adequate control of access to the Controlled Area (including the planned protocol with the Department of Energy).

### GANE Contention 6 “Inadequate Safety Analysis”

DCS’ expert witnesses will testify regarding the safety analysis performed by DCS as part of the CAR. The testimony is expected to address how the safety analysis

has addressed potential accident consequences and likelihoods (including accident scenarios with bounding consequences), and the manner in which DCS has addressed the performance requirements and defense-in-depth requirements of 10 CFR Part 70. In particular, the testimony is expected to address: the appropriate assumptions regarding the respirable airborne release fraction from a postulated fire in the PUO<sub>2</sub> buffer storage unit; and a postulated hydrogen explosion in the sintering furnace (and the appropriate assumptions regarding HEPA filter efficiency). The testimony will demonstrate that DCS' safety analyses are in accordance with applicable NRC requirements and provide reasonable assurance of protection of public health and safety.

GANÉ Contention 9 "Inadequate Cost Comparison"

DCS' expert witnesses will testify regarding the economic cost comparison of the MOX Facility (as the "proposed action" under the National Environmental Policy Act ("NEPA")) and of alternatives to the proposed action. The testimony will demonstrate that the cost comparison complies with DCS' obligations under NEPA and the NRC's implementing regulations.

GANÉ Contention 11 "ER Fails to Address the Waste Stream from Aqueous Polishing"

DCS' expert witnesses will testify regarding the treatment and analyses in its Environmental Report ("ER") of the amounts, characteristics and disposition of the waste streams from the aqueous polishing ("AP") process. The testimony will demonstrate that the ER adequately addresses the AP waste streams in accordance with DCS' obligations under NEPA and the NRC's implementing regulations.

GENERAL INTERROGATORY NO. 3. For each expert witness identified in response to General Interrogatory No. 2, provide a list of all publications authored by the expert within the preceding ten years, and a listing of any other cases in which the expert has testified as an expert at a trial, hearing or by deposition within the preceding four years.

**RESPONSE TO GENERAL INTERROGATORY NO. 3:**

Gary A. Bell

Testimony: None

Publications: None

Kenneth D. Bristol

Testimony: None

Publications: None

Donald R. Joy

Testimony: None

Publications:

- NRC NUREG-1280 (Rev.1 – April 1995)  
“Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment”
- NRC NUREG-1065 (Rev. 2 – December 1995)  
“Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities”
- “An Introduction to the Nuclear Fuel Cycle and Nuclear Safeguards” (October 1999 --- Published by JAI Corporation).

Scott C. Johnson

Testimony: None

Publications: None

Mike Golden

Testimony: None

Publications:

- H. Michael Golden, *Simulation Systems Effectiveness and Probability of Neutralization*, 42nd International Nuclear Materials Management Conference, June 2001.

John M. McConaghy, Jr.

Testimony: None

Publications:

- R. Rozier and J.M. McConaghy, *An Evaluation of Dual-Purpose Canisters in the Civilian Radioactive Waste Management System*, 6<sup>th</sup> Annual International High-

Level Radioactive Waste Management Conference and Exposition, Las Vegas, NV, May 1995

- J.B. Stringer, J.M. McConaghy, J.J. Burnette, and J.D. Hadley, *Commercial SNF Waste Form Disposal Studies*, 40<sup>th</sup> Annual Meeting of Institute of Nuclear Materials Management (INMM), Phoenix, AZ, July 1999
- J.M. McConaghy, J.V. Johnson, T.L. Bradley, C.T. Li, J.K. Meisenheimer, and N.C. Tsai, The Mixed Oxide (MOX) Fuel Fabrication Facility Project, 16<sup>th</sup> International Conference on Structural Mechanics in Reactor Technology, Washington, DC, August 2001

Lawrence A. Salomone

Testimony: None

Publications: Mr. Salomone's publications are listed in his resume submitted by DCS on May 17, 2002.

Peter S. Hastings

Testimony: None

Publications:

- Co-Author of "Implications of Occupational Exposure Considerations in the Preclosure Repository," 8th International High Level Radioactive Waste Management Conference, Las Vegas, NV, May 1998
- Co-Author of "Impacts of Additional Exploratory Drifting on the Potential Geologic Repository at Yucca Mountain," 8th International High Level Radioactive Waste Management Conference, Las Vegas, NV, May 1998
- Co-Author of "Determination of Importance Process During Yucca Mountain Site Characterization," 7th International High Level Radioactive Waste Management Conference, Las Vegas, NV, May 1996

Kenneth A. Boucher

Testimony: None

Publications: None

Gary H. Kaplan

Testimony: None

Publications:

- Co-Author of "Safety Assessment of the MFFF," EFCOG Conference, June 2001.

Thomas N. St. Louis

Testimony: None

Publications: None

Werner Bergman, Ph.D.

Testimony: *Millipore Corp. v. Mott Metallurgical Corp.* – Civil Action No. 96-12069.DPW U.S. District Court (D. Mass).

Publications: Dr. Bergman's publications are listed in his resume submitted by DCS on May 17, 2002.

Mary L. Birch

Testimony: None

Publications:

- Co-Author of NCRP Scientific Committee 46, NCRP Report No. 134, Operational Radiation Safety Training, 2000
- Ms. Birch also has performed and published some book reviews for the Health Physics Journal

Theodore J. Bowling

Testimony: None

Publications: None

INTERROGATORY NO. 1.

- a. Identify all physical security measures for the proposed MOX facility that have been proposed for consideration by the NRC.
- b. For each such measure, explain whether it is a design feature of the facility, or an operational feature.
- c. If you assert that any measure identified in response to (a) is not a design feature of the MOX facility, please explain your rationale.

**RESPONSE TO INTERROGATORY NO. 1:**

- 1a. *See* Proprietary Attachment A.
- 1b. *See* Proprietary Attachment A.
- 1c. *See* Proprietary Attachment A.

INTERROGATORY NO. 2. The third viewgraph refers to "Defense in depth: multiple barriers, alarms, communications, response."

- a. Please describe all multiple barriers, alarms, and communication systems that DCS plans or proposes to use at the MOX Facility.
- b. Identify all documents in which the items identified in response to (a) are described.
- c. For any document identified in response to (b) above, was the document submitted to the NRC? If so, how and when was it submitted?

**RESPONSE TO INTERROGATORY NO. 2:**

- 2a. *See* Proprietary Attachment A.
- 2b. DCS objects to INTERROGATORY NO. 2b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).
- 2c. *See* Objections to INTERROGATORY NO. 2b.

**INTERROGATORY NO. 3.** The fourth viewgraph states: “DCS presented detailed physical protection plan/protective strategy to NRC.”

- a. Please describe DCS’s detailed physical protection plan/protective strategy.
- b. Identify all documents in which the information identified in response to (a) are described.
- c. For any document identified in response to (b) above, was the document submitted to the NRC? If so, how and when was it submitted?

**RESPONSE TO INTERROGATORY NO. 3:**

- 3a. *See* Proprietary Attachment A.
- 3b. DCS objects to INTERROGATORY NO. 3b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).
- 3c. *See* objections to INTERROGATORY NO. 3b.

**INTERROGATORY NO. 4.** The fourth viewgraph states “Physical protection, T&Q and contingency plans approved by NRC.”

- a. Explain what T&Q means.
- b. Please describe physical protection, T&Q and contingency plans.
- c. Identify all documents in which the information identified in response to (b) are described.
- d. For any document identified in response to (c) above, was the document submitted to the NRC? If so, how and when was it submitted?
- e. How and when did the NRC approve the physical protection, T&Q and contingency plans?

**RESPONSE TO INTERROGATORY NO. 4:**

- 4a. “T&Q” means “Training and Qualifications.”

4b. DCS objects to INTERROGATORY NO. 4b on the grounds that it is unduly burdensome. Subject to and without waiving the foregoing objections, DCS responds as follows:

The Physical Protection Plan, Safeguards Contingency Response Plan, and Training and Qualifications Plan for Security Personnel are being prepared in accordance with the guidance of Reg. Guide 5.52, NUREG CR-6667, and NUREG CR-6668, respectively. All three plans will be submitted by DCS to the NRC with its application to possess and use special nuclear material.

4c. DCS objects to INTERROGATORY NO. 4c on the grounds that it is an unauthorized request for production of documents and is unduly burdensome. (See General Objection No. 4 and 2).

4d. See objections to INTERROGATORY NO. 4c.

4e. The NRC has not yet approved the Physical Protection Plan, Safeguards Contingency Response Plan, and Training and Qualifications Plan for Security Personnel. These plans will be submitted by DCS to the NRC with its application to possess and use special nuclear material and are outside the scope of the CAR proceeding.

INTERROGATORY NO. 5. The fifth viewgraph lists the following:

- Dual perimeter fences with isolation zone
- Vehicle barriers at the perimeter
- Perimeter intrusion detection and assessment system (PIDAS) with sufficient illumination
- Hardened central alarm station, independent secondary alarm station
- Volumetric alarms for unoccupied areas

- a. Describe the features identified in the bullets above.
- b. Identify all documents that describe the information described in the bullets above.

- c. How and when was the information described in the bullets above submitted to the NRC?
- d. Has NRC approved any of the features described in the bullets above?

**RESPONSE TO INTERROGATORY NO. 5:**

5a. The features identified in the bullets above are described below:

- Dual perimeter fences with isolation zone.  
See description of PIDAS in Proprietary Attachment A in response to INTERROGATORY NO. 2a.
- Vehicle barriers at the perimeter  
See description of physical barriers and the Vehicle Access Portal in Proprietary Attachment A in response to INTERROGATORY NO. 2a.
- PIDAS with sufficient illumination  
See description of PIDAS in Proprietary Attachment A in response to INTERROGATORY NO. 2a. With respect to illumination, the Security Lighting System will provide sufficient illumination to meet monitoring and observation requirements, at least 0.2 foot-candle average illumination as required by 10 CFR § 73.50(b)(5).
- Hardened central alarm station, independent secondary alarm station  
See the Central Alarm Station (CAS) and Secondary Alarm Station (SAS) descriptions provided in Proprietary Attachment A in response to INTERROGATORY NO. 2a.
- Volumetric alarms for unoccupied areas  
See the Interior Intrusion Detection Systems description provided in Proprietary Attachment A in response to INTERROGATORY NO. 2a.

- 5b. DCS objects to INTERROGATORY NO. 5b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).
- 5c. The information described in the bullets was discussed with the NRC and is reflected in slides presented to the NRC at meetings dated December 19, 1999 and March 8, 2001.
- 5d. To the best of DCS' knowledge, the NRC has not yet approved any of the features described in INTERROGATORY NO. 5. These features will be submitted by DCS to the NRC with its application to possess and use special nuclear material.

INTERROGATORY NO. 6. The sixth viewgraph refers to "occupied access control point," and "MAAs locked and alarmed, access limited and controlled."

- a. Describe these measures.
- b. Identify all documents in which the measures identified in response to (a) are described.
- c. Explain how and when the information described in response to (a) was submitted to the NRC.
- d. Has NRC approved any of the features described above?

**RESPONSE TO INTERROGATORY NO. 6:**

- 6a. See Proprietary Attachment A.
- 6b. DCS objects to INTERROGATORY NO. 6b on the grounds that it is contrary to CLI-01-13 and unduly burdensome. (See General Objection No. 4 and No. 2).
- 6c. The information described in response to INTERROGATORY NO. 6a may have been discussed with the NRC at meetings dated December 10, 1999 and March 8, 2001.
- 6d. To the best of DCS' knowledge, the NRC has not yet approved any of the features described in GANE INTERROGATORY No. 6. These features will be submitted by DCS to NRC with its application to possess and use special nuclear material.

**INTERROGATORY NO. 7.** The tenth viewgraph states that: “MOX Facility, in addition to meeting NRC regs. – must meet certain DOE ‘Landlord’ requirements.”

- a. To your knowledge, what DOE “Landlord” requirements must DCS meet?
- b. Upon what is your understanding of DOE Landlord requirements based?
- c. Have you been presented with a Memorandum of Understanding between NRC and DOE regarding the MOX Facility, or have the terms of a proposed MOU been discussed with you?
- d. If your answer to (c) is yes, please identify all documents and/or other communications in which an MOU or proposed MOU has been described to you.

**RESPONSE TO INTERROGATORY NO. 7:**

7a. The DOE “landlord requirements” are contained in DCS’ Contract with DOE, Contract No. DE-AC02-99CH10888. The statement of work for the MOX Facility requires that the facility must comply with DOE security requirements. These are provided in Attachment 10 of Section J of the Contract, and are listed below.

DOE Manual 200.1-1, *Telecommunications Security Manual*  
DOE Order 470.1, *Safeguards and Security Program*  
DOE Order 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*  
DOE Order 471.2A, *Information Security Program*, and accompanying manual  
DOE Order 472.1B, *Personnel Security Activities*  
DOE Manual 474.1-2, *Manual for Nuclear Materials Management and Safeguards System Reporting and Data Submission*  
DOE Order 5610.2, *Control of Weapon Data*  
DOE Order 5632.1C, *Protection and Control of Safeguards and Security Interests*  
DOE Order 5632.7A, *Protective Force Program*  
DOE Order 5633.3B, *Control and Accountability of Nuclear Material*  
DOE Order 5650.2.2B, *Identification of Classified Information*

7b. The Contract between DCS and DOE, Contract No. DE-AC02-99CH10888.

7c. Yes.

7d. To the extent INTERROGATORY NO 7d. requests the identification of documents, DCS objects on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2). Subject to and without waiving the foregoing objections, DCS responds as follows:

DCS had an informal conversation on December 19, 2001, with DOE-NNSA in which DOE indicated that they anticipated that the MOU would ultimately establish arrangements for personnel access authorization and access to classified matter comparable to those arrangements now in place between DOE and the NRC with respect to the Nuclear Fuel Services (NFS) and BWXT facilities. DOE expressed the opinion that, as a result, DCS did not have a need for DOE to promptly complete the MOU, but could look to the arrangements in place for NFS and BWXT for its planning purposes.

INTERROGATORY NO. 8. The tenth viewgraph states that “DCS plan meets and in some areas exceeds NRC regs.” Please explain what aspects of the DCS plan exceed NRC regs.

**RESPONSE TO INTERROGATORY NO. 8:**

*See Proprietary Attachment A.*

INTERROGATORY NO. 9. The tenth viewgraph refers to “current threat estimates.”

- a. Describe current threat estimates and how and by whom they were generated.
- b. Identify all documents in which current threat estimates are described.

**RESPONSE TO INTERROGATORY NO. 9:**

- 9a. “Current threat estimates” are equivalent to the design basis threat established by the DOE and by the NRC.
- 9b. DCS objects to INTERROGATORY NO. 9b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).

INTERROGATORY NO. 10. Identify all communications with NRC, including their content, regarding any existing or proposed changes to the design basis threat following the events of September 11, 2001.

**RESPONSE TO INTERROGATORY NO. 10:**

DCS has had no communications with the NRC regarding any existing or proposed changes to the design basis threat following the events of September 11, 2001.

INTERROGATORY NO. 11. Identify all communications with NRC, including their content, regarding the imposition of or consideration of additional security measures at the MOX Facility in response to the events of September 11, 2001.

**RESPONSE TO INTERROGATORY NO. 11:**

DCS received a letter dated November 8, 2001 from Mr. Andrew Persinko to Mr. Peter Hastings which informed DCS of the NRC's ongoing review of its security regulations and design basis threat as a result of the events of September 11, 2001. The letter included an enclosure entitled "Safeguards Advisory for Power Reactors, Decommissioning Reactors, Category 1 Fuel Facilities and Gaseous Diffusion Plants," that has been designated by the NRC as safeguards information. The letter, without the enclosure, is in the Hearing File. NRC has also advised DCS on several occasions that the review is still ongoing. DCS has had no specific communications with NRC regarding additional security measures at the MOX Facility in response to the events of September 11, 2001.

INTERROGATORY NO. 12. What physical aspects of the Materials Control and Accounting Design Basis have you submitted to the NRC?

**RESPONSE TO INTERROGATORY NO. 12:**

*See Proprietary Attachment A.*

INTERROGATORY NO. 13. At page 171 of the transcript of the November 16, 2001, ACRS meeting, Tom Pham of the NRC Staff states that: "At this stage, the staff found that the overall approach and the physical aspects of the DCS MC&A design basis, that they are adequate."

- a. What is the Materials Control and Accounting design basis?
- b. Identify all documents in which the MC&A design basis is described.
- c. For all documents identified in response to (b) above, which have been submitted to the NRC?
- d. For all documents identified in response to (c) above, describe how and when they were submitted to the NRC.
- e. Describe how and when DCS obtained approval of the MC&A design basis, including all documents and conversations which document this approval.

**RESPONSE TO INTERROGATORY NO. 13:**

- 13a. *See* Proprietary Attachment B.
- 13b. DCS objects to INTERROGATORY NO. 13b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).
- 13c. *See* objections to INTERROGATORY NO. 13b.
- 13d. *See* objections to INTERROGATORY NO. 13b.
- 13e. The NRC has not yet approved the MC&A design basis. DCS expects to submit the MC&A design basis to the NRC in its CAR supplement.

INTERROGATORY NO. 14. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the concerns raised in GANE Contentions 1 and 2.

**OBJECTIONS TO INTERROGATORY NO. 14:**

DCS objects to INTERROGATORY NO. 14 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).

INTERROGATORY NO. 15. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the concerns raised in GANE Contention 3.

**OBJECTIONS TO INTERROGATORY NO. 15:**

DCS objects to INTERROGATORY NO. 15 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).

INTERROGATORY NO. 16. Please provide references for all tables and figures at pages 1.3.6-27 through 1.3.6-35 of the Construction Authorization Request (“CAR”). In addition, please provide the following information:

- a. In particular, identify the catalogues that were consulted for each table and figure.
- b. How were any conflicts between catalogues resolved in producing Table 1.3.6-1, Table 1.3.6-2, Table 1.3.6-3?

**RESPONSE TO INTERROGATORY NO. 16:** Pages 1.3.6-27 through 1.3.6-35 of the CAR were derived from: WSRC, 2000b, *Natural Phenomena Hazards (NPH) Design Criteria and Other Characteristic Information for the Mixed Oxide (MOX) Fuel Fabrication Facility of Savannah River Site (U)*, WSRC-TR-2000-00454, Rev. 0, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC, November.

16a. The source of the tables on the referenced pages is WSRC-TR-2000-00454 (WSRC 2000b). The following text, extracted from page 126 of WSRC 2000b, describes the source of the earthquake data presented in these tables:

Historic record

The earthquake history of the southeastern U.S. (of which the SRS is a part) spans a period of nearly three centuries, and is dominated by the catastrophic Charleston earthquake of August 31, 1886. The historical database for the region is essentially composed of two data sets extending back to as early as 1698. The first set is comprised of pre-network, mostly qualitative data (1698-1974), and the second set covers the relatively recent period of instrumentally recorded or post-network seismicity (1974-present). Sibol and Bollinger created a comprehensive catalog that

successfully merged macroseismic, historical pre-network data with instrumental, mostly microseismic, post-network data (Sibol, M.S. and Bollinger, G.A. Earthquake Catalog for the Southeastern United States, 1698-1989. Virginia Polytechnic Institute and State University Seismological Observatory Computer File, Blacksburg, VA, 1990). Table 1.4-26 lists significant earthquake locations within 200 miles (32 / km) of SRS excerpted from this catalog. Today seismic monitoring results from all southeastern seismic networks are cataloged annually in the Southeast U.S. Seismic Network bulletins. Figure 1.4-60 shows both pre-network and post-network locations of activity for the southeastern U.S., from 1568 to the present within a 200-mile (327-km) radius of SRS.

16b. Since the source of historical and measured information is the same (Virginia Technical Seismic Center), there were no such conflicts.

INTERROGATORY NO. 17. Please explain how GANE can obtain copies of the following references to the CAR seismic analysis that are not available on the Westinghouse website:

Bledsoe, H.W., R.K. Aadland, and K. S. Sargent, 1990; Geomatrix Consultants, 1991; Housner, G.W., 1968; Lee, R.C., 1994; Lee, R.C., 1996; Lee, R.C., et al., 1997; Lee, R.C., 1998; Stieve, A.L. et al., 1994; Stokoe, K.H., et al., 1995; URS/John A. Blume and Associates, 1982; WSRC (Westinghouse Savannah River Company), 1992; WSRC, 1997a; WSRC, 1999a; WSRC, 1999b; WSRC, 1999c; WSRC, 2000a; WSRC, 2000b

**RESPONSE TO INTERROGATORY NO. 17:**

All of the references cited in INTERROGATORY NO. 17 are included in the public NRC docket, with the exception of: Bledsoe, H.W., R.K. Aadland, and K.S. Sargent, 1990; URS/John A. Blume and Associates, 1982; WSRC, 1992, and WSRC 1997a. Of the remaining four documents, Bledsoe and WSRC 1992 are hydrogeologic and environmental in nature and have no relevance to seismic design. The URS / John Blume 1982 report is related to seismic criteria, but is a historical point of reference through which the current SRS design criteria have evolved. None of these three will be

relied upon by DCS experts at the hearing. WSRC 1997a will be submitted to the NRC and should be available on the public docket shortly.

INTERROGATORY NO. 18. In the CAR, DCS asserts that it “evaluated the relationship between geologic structure and seismic sources within the general site region.” Identify all of the documents and/or individuals you consulted for this evaluation, and how they contributed to your evaluation.

**RESPONSE TO INTERROGATORY NO. 18:**

DCS consulted WSRC-TR-2000-00454 (WSRC 2000b), which summarized evaluations of the relationship between geologic structure and seismic sources in the general site region. Section 1.4.4.2 of WSRC 2000b (starts on page 132) is reproduced below. DCS did not consult any individuals, other than Mr. Lawrence Salomone, for this evaluation.

1.4.4.2 Relationship of Geologic Structure to Seismic Sources in the General Site Region

Within the southeastern United States, seismicity generally occurs in distinct zones superimposed on a regional background of very low level seismicity. These distinct zones of epicentral distribution are both parallel and oblique to the general northeastern trend of the tectonic structures in the region. As a general result, the relationship between the observed tectonic structures and seismic activity in the region remains unknown. Therefore, in most instances, the seismic sources are inferred rather than demonstrated by strong correlation with geologic structure. This diffuse characteristic of foci suggests the presence of multiple rather than specific seismogenic structural elements such as small-scale faults, intrusive bodies and edges of metamorphic belts.

In this region, only about 65 percent of the instrumentally recorded earthquakes have focal depth determined, and only then with modest accuracy of about +/- 5 km (3 miles) (Ref. 345). Bollinger et. al. (Ref. 336) estimate that about 90 percent of these earthquakes occur above a depth of 19 km (11 miles) and that this depth defines the thickness of the brittle seismogenic crust (Ref.

345). In the SRS region, the foci peak at about 5 km (3 miles) depth, although there is a smaller peak at about 8 km (5 miles).

For this discussion, we have defined a seismic zone to extend from the Brevard zone in northwest South Carolina to just northwest of Charleston, SC, where another seismic zone has been defined. The length of the zone is about 400 km (250 miles), and the width is 150 km (93 miles) on each side of the Savannah River. This places the SRS in about the center of the zone and includes the COCORP seismic reflections lines in Georgia .

The SRS seismic reflection data reprocessed by Virginia Polytechnical Institute present a remarkably high-resolution image of the crust from within 20 meters of the surface to the Moho. The upper crust is highly reflective and is dominated by southeast dipping bands of laminar reflective packages that are correlatable across the SRS (Ref. 346). Two of the most prominent of these packages appear to correspond to reflections identified in COCORP lines 5 and 8 in Georgia as the Augusta fault and a mid-crustal detachment (Ref. 289, 347). The midcrustal detachment at SRS is a discrete mappable southeastern dipping reflection that occurs at 14-22 km (8.7-13.7 miles) (Ref. 346). The Augusta fault is denoted by a distinct laminar southeast dipping reflector at 3.6-12 km (2.2-7.4 miles) depth (see Figure 1.4-32) (Ref. 346). In the southeastern portion of SRS, reflections from deformed Triassic-Jurassic strata are evident. These reflections are truncated by a complex southeast dipping package of reflections that may mark the detachment along which the Dunbarton basin formed (Ref. 346).

The quality of the reflection seismic data outside of the SRS is not as good except for the ADCOH data at the north northwestern end of the Savannah River Corridor and the COCORP lines 1, 5, and 8 obtained on the Georgia side on the Savannah River. The ADCOH data clearly imaged highly reflective strata of lower Paleozoic age beneath the Blue Ridge allochthon. This interpretation now appears to be generally accepted by most workers in the area. A similar seismic signature has also been imaged on COCORP line 5, suggesting that the lower Paleozoic platform rock extend southeastward at least as far as COCORP line 5 (Ref. 346). If these interpretations are correct, then the master decollement must lie above the highly reflective shelf strata.

Studies of the seismotectonics in central Virginia by Coruh et al. (Ref. 348) have shown a correlation between the distribution of hypocenters and seismic reflectors. They suggest that the earthquake activity might be associated with reactivation along existing faults above a major decollement. The seismic reflection data in the Savannah River Corridor also suggest that not only is

the seismicity similar to that in central Virginia, but it may be related to the seismic reflection data in a similar manner. That is, the seismicity is related to reactivation of existing faults above major detachments (Blue Ridge master decollement and August fault), but in general, does not penetrate below the midcrustal reflections until one approaches the East Tennessee seismic zone at the northwestern end of the corridor.

Although there are uncertainties in the determination of hypocentral depths, the earthquakes in the zone do appear to be localized above what is interpreted to be lower Paleozoic platform rock, which is separated by the master decollement from the overlying allochthon. It is reasonable to suggest that the earthquakes have been localized in the more brittle crystalline allochthon rather than in the more ductile underlying Paleozoic platform shelf strata. Indeed, this is generally the case for all of the seismic zones in the eastern U.S. as pointed out by Bollinger et al. (Ref. 349). Thus, there does appear to be an association of the seismicity with pre-existing structure in the upper 12 km of the brittle crust, which forms the seismogenic zone. This is important in that for earthquakes with a moment magnitude  $M > 5.5$ , the main shock usually occurs near the base of the seismogenic zone (Ref. 350-352). This may then represent the largest earthquakes that possibly could occur in the SRS region due to the limits on size created by the depth of the seismogenic zone.

INTERROGATORY NO. 19. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the [sic] any of the concerns raised in GANE Contention 5 or BREDL Contention 9A.

**OBJECTIONS TO INTERROGATORY NO. 19:** DCS objects to

INTERROGATORY NO 19 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).

INTERROGATORY NO. 20. Describe all arrangements DCS has made with the DOE regarding DCS control over the controlled area as described in the CAR.

**RESPONSE TO INTERROGATORY NO. 20:**

DCS does not yet have any arrangements with DOE regarding DCS control over the Controlled Area.

INTERROGATORY NO. 21. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the concerns raised in GANE Contention 6.

**OBJECTIONS TO INTERROGATORY NO. 21:**

DCS objects to INTERROGATORY NO. 21 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).

INTERROGATORY NO. 22. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the concerns raised in GANE Contention 9.

**OBJECTIONS TO INTERROGATORY NO. 22:** DCS objects to

INTERROGATORY NO. 22 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).

INTERROGATORY NO. 23. Identify all documents issued by DCS subsequent to August 13, 2001, which you believe address or resolve the concerns raised in GANE Contention 11/BREDL Contention 1E.

**OBJECTIONS TO INTERROGATORY NO. 23:** DCS objects to

INTERROGATORY NO. 23 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).

INTERROGATORY NO. 24. Identify all documents containing information about La Hague waste generation that is relevant to estimating the waste generation at the aqueous polishing line in the MFFF.

**OBJECTIONS TO INTERROGATORY NO. 24:** DCS objects to

INTERROGATORY NO. 24 on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (See General Objection No. 4 and No. 2).

**RESPONSE TO INTERROGATORY NO. 24:** Subject to and without waiving the foregoing objections, DCS responds as follows:

Although the basic AP design was developed based on processes at the La Hague facility, it was modified to reflect U.S. codes and standards. La Hague waste generation-related documents are not relevant to estimating waste generation at the AP line in the MOX Facility because estimates of AP waste generation rates for the MOX Facility were developed on the basis of MOX Facility-specific design information and process flow diagrams.

**INTERROGATORY NO. 25.** Does DCS have or contemplate any agreement with DOE regarding the High Alpha Waste Solidification Project/Program?

- a. Please describe any agreement identified above.
- b. Identify any documents that describe any agreement identified above.
- c. For any documents identified in (a) and (b), have the documents been supplied to NRC staff?

**RESPONSE TO INTERROGATORY NO. 25:**

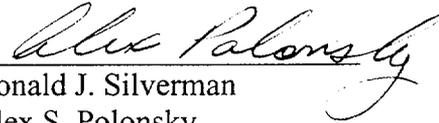
- 25a. DCS was advised by letter from DOE that DOE now plans to establish a stand-alone treatment facility for high alpha and HEU waste from the MOX Facility and PDCF. DOE advised DCS that action to implement this change in the Contract would be initiated by the DOE contracting officer.
- 25b. DCS objects to INTERROGATORY NO. 25b on the grounds that it is contrary to CLI-01-13 and is unduly burdensome. (*See* General Objection No. 4 and No. 2).

25c. To the best of DCS' knowledge, the letter referenced in the response to INTERROGATORY No. 25a has not been provided to the NRC.

Dated: June 27, 2002

For the Objections:

DUKE COGEMA STONE & WEBSTER



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Alex S. Polonsky

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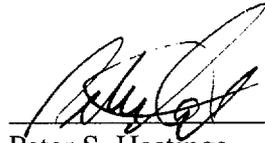
Telephone: (202) 739-5502

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**CERTIFICATION**

For the Answers:

I, PETER S. HASTINGS, the Licensing and Safety Analysis Manager for Duke Cogema Stone & Webster, being duly sworn, hereby depose and say that the responses in the foregoing "Objections and Responses to Georgians Against Nuclear Energy and Blue Ridge Environmental Defense League First Set of Interrogatories" were prepared by persons under my direction and supervision, and are true and correct to the best of my knowledge, information and belief.



\_\_\_\_\_  
Peter S. Hastings  
Duke Cogema Stone & Webster  
128 South Tryon Street  
Mail Code FC-12A  
Charlotte, NC 28202

Subscribed and sworn before me this 26th day of June, 2002.



\_\_\_\_\_  
Notary Public

My Commission Expires:

**My Commission Expires June 06, 2006**

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

**Before Administrative Judges:  
Thomas S. Moore, Chairman  
Charles N. Kelber  
Peter S. Lam**

_____ )	
In the Matter of )	June 27, 2002
DUKE COGEMA STONE & WEBSTER )	
(Savannah River Mixed Oxide Fuel )	Docket No. 070-03098-ML
Fabrication Facility) )	ASLBP No. 01-790-01-ML
_____ )	

**CERTIFICATE OF SERVICE**

I hereby certify that copies of "Duke Cogema Stone & Webster's Objections and Responses to Georgians Against Nuclear Energy and Blue Ridge Environmental Defense League First Set of Interrogatories" were served this day upon the persons listed below:

Non-proprietary portions were served via e-mail and Federal Express, and Proprietary Attachments A and B were served via Federal Express upon the following persons:

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Alex S. Polonsky

June 27, 2002  
Date