

June 16, 2003

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

DOCKETED  
USNRC

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

June 24, 2003 (10:35AM)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of )

DUKE COGEMA STONE & WEBSTER )

(Savannah River Mixed Oxide Fuel )  
Fabrication Facility) )

Docket No. 0-70-03098-ML

ASLBP No. 01-790-01-ML

**GEORGIANS AGAINST NUCLEAR ENERGY'S  
REPLY TO NEW INFORMATION AND ARGUMENTS IN  
NRC STAFF'S RESPONSE TO DCS'S  
MOTION FOR SUMMARY DISPOSITION OF  
GANE CONTENTIONS 1 AND 2**

**I. INTRODUCTION**

Pursuant to the Atomic Safety and Licensing Board's ("ASLB's") order of May 22, 2003, Georgians Against Nuclear Energy ("GANE") hereby replies to new information and arguments presented in NRC Staff's Response to Motion for Summary Disposition Submitted by Duke Cogema Stone & Webster (June 5, 2003) (hereinafter "NRC Staff's Response").

The NRC Staff argues that the ASLB should grant Duke Cogema Stone & Webster's Motion for Summary Disposition on Contentions 1 and 2 (May 9, 2003) (hereinafter "DCS Motion"), and claims to provide factual support for DCS's Motion in

affidavits filed by Thomas Pham (Material Control and Accounting) and Edward Johannemann (physical security). Neither the Staff's brief nor the Staff's affidavits support the granting of summary disposition, however. In fact, the Staff's Response raises far more questions than it answers.

With respect to Material Control and Accounting ("MC&A"), the Staff's statements are so general that it is impossible to determine on what factual grounds they are based. Given that GANE has had no opportunity to question the Staff in discovery, GANE has had no means of discerning the basis for the Staff's position. Accordingly, pursuant to 10 C.F.R. § 2.749(c), granting of the motion must be denied or postponed.

With respect to physical security, the Staff's response is illogical and internally inconsistent. Without explanation, the Staff reverses the position it took not two months earlier, that it is necessary to review the revised Design Basis Threat ("DBT") before reaching any conclusions about the adequacy of the proposed MOX Facility design. Now the Staff appears to believe the revised DBT is irrelevant to the MOX Facility design – but does not say why or even acknowledge the contradiction. Given the Staff's own statement that Category 1 facilities (which include the proposed MOX Facility), "are subject to the most stringent physical protection requirements contained in 10 C.F.R. Part 73," the Staff's breezy change of mind is shocking and disturbing. As a matter of law, in the absence of any cogent or lucid Staff opinion on the completeness of DCS's application or the adequacy of the DCS design with respect to physical security, DCS's motion must be denied as a matter of law.

## **II. THE NRC STAFF'S RESPONSE DOES NOT SUPPORT SUMMARY DISPOSITION OF CONTENTION 1.**

The Staff urges the ASLB to grant DCS's Motion with respect to MC&A. The supporting Affidavit of Thomas Pham (June 4, 2003), however, does little more than make general statements that Mr. Pham agrees with DCS's expert witnesses, Kenneth Bristol and Donald Joy. Mr. Pham does not explain the basis for most of his opinions. Moreover, GANE has not had an opportunity to question him in discovery regarding the basis for his position. As a result, it is impossible for Dr. Lyman to evaluate and respond to the bases for Mr. Pham's opinion, including the facts he considered or the criteria that he applied.<sup>1</sup>

GANE's expert, Dr. Edwin S. Lyman, has a number of questions that need to be answered before he can make an adequate evaluation of the professional opinions expressed by Mr. Pham, and thereby determine whether the Staff has adequately addressed GANE's concerns in its review.<sup>2</sup> See attached Declaration of Dr. Edwin S.

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<sup>1</sup> The importance of ensuring that DCS has submitted an adequate facility design with respect to MC&A has been thrown into relief by a recent report from the NRC's Office of Inspector General. See Memorandum from Stephen d. Dingbaum, Assistant IG, to William D. Travers, EDO re: Audit of NRC Regulatory Oversight of Special Nuclear Materials (OIG-03-A-15) (May 23, 2003). As summarized in the cover letter, the IG concluded that: "NRC's current levels of oversight of licensees' material control and accounting (MC&A) activities do not provide adequate assurance that all licensees properly control and account for SNM. Specifically, NRC performs limited inspections of licensees' MC&A activities and cannot assure the reliability of the Nuclear Materials Management and Safeguards System Data." If the NRC is ineffective in MC&A oversight once a facility is operating, then the MC&A-related elements of the facility design of the facility become all the more important.

<sup>2</sup> These questions are in addition to the questions posed by Dr. Lyman in Declaration of Edwin S. Lyman Regarding Contention 1 (Material Control and Accounting) (June 5, 2003). His declaration was filed in support of Georgians Against Nuclear Energy

Lyman Pursuant to 10 C.F.R. § 2.749(c). Accordingly, the ASLB should deny summary disposition until these questions are answered.

In particular, Dr. Lyman needs answers to the following questions before he is able to respond effectively to Mr. Pham's statement of his opinions:

- What were your criteria for determining the adequacy of the design bases of the proposed MOX Facility with respect to MC&A?
- On what documents did you base your review? To what degree of detail did you evaluate the MOX Facility design bases?
- What degree of detail do you consider to be "reasonable," as the term is used in your Affidavit at par. 9?
- What level of detail do you consider "adequate," as the term is used throughout your Affidavit?
- What MC&A design basis elements did you consider relevant to your design review?

In your Affidavit, you disagree with my view that the Japanese experience at the Plutonium Fuel Production Facility is relevant to the design of the proposed MOX Facility. The reason you give for your view is that the PFPF facility "was not subject to the NRC's 10 C.F.R. Part 74 regulations, such as the process monitoring (to detect abrupt losses of SSNM), item monitoring, and alarm resolution program requirements referenced in par. 6 (a-c)." As you state in paragraph 11 of your Affidavit, however, you agree with Mr. Joy's statement that there is no regulatory requirement for SSNM holdup measurement [or] management. Please explain in qualitative and quantitative detail how compliance with 10 C.F.R. Part 74 regulations will prevent the kinds of holdup problems at PFPF from occurring at the DCS MOX Facility.

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Therefore, the ASLB should not grant summary disposition before GANE has had an opportunity to pose these questions to Mr. Pham.

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Opposition to Duke Cogema Stone & Webster's Motion for Summary Disposition of GANE Contentions 1 and 2 (June 5, 2003) (hereinafter "GANE's Opposition").

### **III. THE NRC STAFF'S RESPONSE DOES NOT SUPPORT SUMMARY DISPOSITION OF CONTENTION 2.**

With respect to physical security, the NRC Staff's response to DCS's summary disposition motion is extremely illogical, and completely inconsistent with statements made in both the 2002 and 2003 Draft Safety Evaluation Reports ("SERs").<sup>3</sup> Moreover, the inconsistency is unacknowledged and unexplained. As a result, the Staff's Response is inadequate as a matter of law to support DCS's Motion.

In the Draft SER issued by the Staff in April of 2002 and revised in April of 2003, the Staff stated that it has postponed reaching any conclusion on the adequacy of the MOX Facility design with respect to physical security, pending post-September 11 revisions to the DBT. In Section 13.2 of the 2003 Revised Draft SER, for instance, the Staff stated that:

The Nuclear Regulatory Commission (NRC) is conducting a comprehensive review of safeguards programs and design basis threats as a result of the September 11, 2001 events. When this review is completed, a determination will be made with respect to the effect on the Mixed Oxide Fuel Facility design.

*Id.* at 13.1-1. Section 13.2 of the 2002 Draft SER contained a virtually identical statement. *Id.* at 13.1-1.

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<sup>3</sup> Draft Safety Evaluation Report on the Construction Authorization Request for the Mixed Oxide Fuel Fabrication Facility, Docket No. 70-3098 (April 30, 2002) (hereinafter "2002 Draft SER"); Draft Safety Evaluation Report on the Construction Authorization Request for the Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina, Revision 1, Docket No. 70-3098 (April 30, 2003) (hereinafter "2003 Revised Draft SER").

In its Response to DCS's Motion, the Staff concedes that the NRC has not yet issued a revised DBT for the proposed MOX Facility.<sup>4</sup> NRC Response at 3. The Staff, however, appears to have completely forgotten its previous statement that it would review the effects of any changes to the DBT on the proposed MOX Facility design. In fact, the Staff makes no mention at all of the Draft SER. Instead the Staff baldly reports the following conclusion:

the design bases in the revised CAR pertaining to physical protection . . . considerations will, if effectively implemented, result in physical protection . . . meeting the requirements of 10 C.F.R. Parts 73 and 74.

NRC Staff Response at 8. *See also* Affidavit of Edward Johannemann, par. 4 (“the revised CAR provides sufficient information to show that DCS has adequately taken physical protection concerns into account during the preliminary design phases of the facility.”)

The Staff does not claim to have reached this conclusion after reviewing the effect of the revised DBT on the design of the proposed MOX Facility. Instead, it appears that the Staff has simply changed its mind about the relevance of the revised DBT to the MOX Facility design. Apparently, the Staff now considers that revisions to the DBT will be relevant only to the review of contingency plans in the operating license proceeding:

The NRC Staff intends to seek the Commission's approval to send the revised DBT to DCS, for use by DCS in preparing its physical security and safeguards contingency plans that would be part of any future DCS application for a license to possess and use special nuclear material at the proposed MOX facility.

NRC Staff Response at 3.

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<sup>4</sup> The Staff appears to consider that the revised DBT issued to Nuclear Fuel Services and BWX Technologies on April 29, 2003, would govern the proposed MOX Facility. *Id.* at 2-3.

By failing to explain why it suddenly considers the revised DBT to be irrelevant to the design of the proposed MOX Facility, the Staff has fatally undermined the credibility of the opinion offered in its Response. Considering the important role played by the NRC Staff in any licensing review, and the degree to which the ASLB must necessarily rely on the Staff, GANE believes the ASLB should be deeply concerned by the Staff's willingness to sign off on the completeness and adequacy of the security-related MOX Facility design, based on a DBT that it concedes has been proven obsolete by the events of September 11, 2001, and is now superseded by the revised DBT. Without a cogent or lucid safety finding by the Staff on the completeness and adequacy of the MOX Facility design, the ASLB has no lawful grounds for granting the motion. *See* GANE's Opposition at 7. Therefore, as a matter of law, the motion should be denied.

Moreover, even setting aside the internal inconsistency of the Staff's position, the sheer illogic of the Staff's Response renders it completely insufficient to support DCS's Motion. To make a finding that the design of the MOX Facility is adequate, without knowing what the design basis threat will be, is irrational in the extreme. As DCS itself stated in a report to the U.S. Department of Energy, "[t]he design basis threat affects some very fundamental design concepts of the facility." Risk Assessment Form PP6-7A, submitted by DCS to the U.S. DOE on November 9, 1999.<sup>5</sup> *See also* Declaration of Edwin S. Lyman Regarding Contention 2 (Physical Security), pars. 12-16. Thus, the Staff's Response does not show the absence of a genuine dispute of material fact with respect to Contention 2.

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<sup>5</sup> A copy of the relevant page of the report is attached as Exhibit A to the Declaration of Edwin S. Lyman Regarding GANE Contention 2 (Physical Security) (June 5, 2003).

Even if the ASLB finds that GANE has not presented sufficient grounds to deny the motion as a matter of law or for insufficiency of the Staff's factual assertions, pursuant 10 C.F.R. § 2.749(c), the motion should be denied or postponed until GANE has had an opportunity to conduct discovery against the Staff. In order to make an effective evaluation of and response to the opinions expressed in Mr. Johannemann's Affidavit, GANE requires an opportunity to question him regarding the reason for the change in the Staff's position regarding the relevance of the revised DBT to the MOX Facility design, and the criteria the Staff used in order to reach its conclusion that the proposed MOX Facility design is adequate with respect to physical security. *See attached Declaration of Dr. Edwin S. Lyman Pursuant to 10 C.F.R. § 2.749(c).*

#### IV. CONCLUSION

For the foregoing reasons, the ASLB should find that the NRC Staff's Response is inadequate to support DCS's motion for summary disposition of Contentions 1 and 2. In the alternative, disposition of the motion should be denied or postponed until GANE has been able to complete discovery against the NRC Staff.

Respectfully submitted,



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In the Matter of	)	
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DUKE COGEMA STONE & WEBSTER	)	Docket No. 0-70-03098-ML
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(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 01-790-01-ML
	)	

**DECLARATION OF DR. EDWIN S. LYMAN  
PURSUANT TO 10 C.F.R. § 2.749(c)**

Under penalty of perjury, I, Edwin S. Lyman, declare as follows:

1. On June 5, 2003, I provided expert declarations in support of Georgians' Against Nuclear Energy's ("GANE's") Opposition to Duke Cogema Stone & Webster's Motion for Summary Disposition of GANE's Contentions 1 and 2.
2. I have reviewed the NRC Staff's Response to Motion for Summary Disposition Submitted By Duke Cogema Stone & Webster (June 5, 2003), including supporting expert declarations by Thomas Pham and Edward Johannemann.
3. I find it is not possible to adequately evaluate and respond to statements made by the Staff's experts, without having an opportunity to question them regarding the bases for their statements. The information I am requesting is necessary for the development of my own professional opinion regarding the degree to which the NRC Staff has addressed GANE's concerns in reviewing the proposed MOX Facility design. In particular, I would ask the following questions:

**Contention 1: Questions for Mr. Pham**

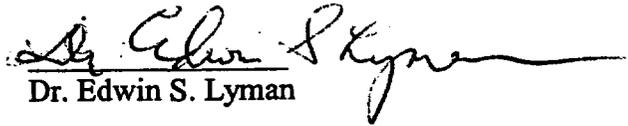
- (a) What were your criteria for determining the adequacy of the design bases of the proposed MOX Facility with respect to MC&A?

- (b) On what documents did you base your review? To what degree of detail did you evaluate the MOX Facility design bases?
- (c) What level of design detail do you consider to be “reasonable”, as the term is used in your Affidavit at par. 9?
- (d) What level of design detail do you consider “adequate” or “sufficient” as the terms are used throughout your Affidavit?
- (e) What MC&A design basis elements did you consider relevant to your design review?
- (f) In your Affidavit, you disagree with my view that the Japanese experience at the Plutonium Fuel Production Facility is relevant to the design of the proposed MOX Facility. The reason you give for your view is that the PFPF facility “was not subject to the NRC’s 10 C.F.R. Part 74 regulations, such as the process monitoring (to detect abrupt losses of SSNM), item monitoring, and alarm resolution program requirements referenced in par. 6 (a-c).” As you state in paragraph 11 of your Affidavit, however, you agree with Mr. Joy’s statement that there is no regulatory requirement for SSNM holdup measurement [or] management. Please explain in qualitative and quantitative detail how compliance with 10 C.F.R. Part 74 regulations will prevent the kinds of holdup problems at PFPF from occurring at the DCS MOX Facility.

#### **Contention 2: Questions for Mr. Johannemann**

- (a) Between April 2003 and May 2003, you appear to have completely changed your position on the need to review the design of the proposed MOX Facility with respect to the post-9/11 Design Basis Threat. Explain the basis for this change. Who made the decision to change the Staff’s position?
- (b) What criteria did you use to evaluate the adequacy of the design basis for the MOX Facility with respect to physical security?
- (c) Do you consider the revised DBT to be at all relevant to the adequacy of the MOX Facility design? If so, in what ways and to what extent? If not, how do you square your position with DCS’s 1999 statement to the U.S. Department of Energy that the DBT could have a significant effect on the MOX Facility design?
- (d) Does the Staff plan to order DCS to implement the revised DBT that was issued on April 29 to NFS and BWX Technologies?
- (e) Why is the Staff planning to ask the Commission for permission to send the revised DBT for NFS and BWX Technologies to DCS? Doesn’t the NRC have a plan to revise the DBT for the proposed MOX Facility?

I hereby certify that the above factual statements are true and correct to the best of my knowledge and belief, and the questions are based on my best professional judgment.

  
Dr. Edwin S. Lyman

CERTIFICATE OF SERVICE

I hereby certify that on June 16, copies of the foregoing Georgians Against Nuclear Energy's Reply to New Information and Arguments in NRC Staff's Response to DCS's Motion for Summary Disposition Motion of Contentions 1 and 2 and copies of GANE's Response to DCS's Motion for Summary Disposition of Contentions 1 and 2 were served on the following by e-mail and/or first-class mail:

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