June 5, 2003

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 070-03098
DUKE COGEMA STONE & WEBSTER	)	
	)	
Mixed Oxide (MOX) Fuel Fabrication Facility (Construction Authorization Request)	)	

NRC STAFF'S RESPONSE TO MOTION FOR SUMMARY DISPOSITION SUBMITTED BY DUKE COGEMA STONE & WEBSTER

INTRODUCTION

On May 9, 2003, Duke Cogema Stone & Webster (DCS) submitted a motion for summary disposition[1] on two of the contentions made by Georgians Against Nuclear Energy (GANE) in this proceeding on the DCS construction authorization request (CAR) regarding the proposed MOX fuel fabrication facility. The DCS Motion seeks the dismissal of GANE's contentions pertaining to material control and accounting (MC&A) and physical protection issues. In support of the DCS Motion the NRC Staff attaches hereto the affidavits of Thomas Pham and Edward Johannemann as Exhibits 1 and 2, respectively. The discussion below supplements information provided in the DCS Motion.

BACKGROUND

As previously stated by the Commission in its 2001 order referring the hearing requests of GANE and others to the Atomic Safety and Licensing Board Panel, the proposed MOX fuel fabrication facility is one which "would implement a significant objective of national security and

[1] *See* "[DCS'] Motion For Summary Disposition on Contentions 1 and 2" (DCS Motion). Pursuant to GANE's request for an extension of time, the Atomic Safety and Licensing Board issued an unpublished order on May 22, 2003, directing the staff of the Nuclear Regulatory Commission (NRC Staff) to submit its response to the DCS Motion by June 5, 2003.

policy: reducing the inventory of plutonium in the nation's nuclear weapons' inventory." CLI-01-13, 53 NRC 478, 484 (2001). Accordingly, to help ensure the timely resolution of contested issues, the Commission ordered that the contention requirements and certain discovery provisions contained in the Subpart G hearing procedures be applied in this CAR proceeding, even though this proceeding is still generally governed by the 10 C.F.R. Part 2, Subpart L hearing procedures. *See* CLI-01-13, 53 NRC at 480-84.

After the Commission issued its referral order, the terrorist attacks of September 11, 2001 took place. In response, the Commission conducted a comprehensive review of its safeguards and security programs and requirements applicable to NRC licensees, with the goal of strengthening the capabilities and readiness of existing nuclear facilities to respond to potential future attacks. As part of this comprehensive review, orders dated April 29, 2003 were issued to two 10 C.F.R. Part 70 licensees -- BWX Technologies and Nuclear Fuel Services Inc. -- imposing a revised design basis threat (DBT) against which these NRC licensees must modify their physical security and safeguards contingency plans required by 10 C.F.R. § 70.22.[2] The revised DBT sent to BWX Technologies and Nuclear Fuel Services Inc. supercedes the DBT set forth in 10 C.F.R. § 73.1. *See* 68 Fed. Reg. at 26675, col.2. Like these facilities licensed under 10 C.F.R. Part 70, the proposed MOX facility would be a "Category 1" fuel cycle facility. The term "Category 1" derives from the 10 C.F.R. § 70.4 definition of "formula quantity," which states that strategic special nuclear material (SSNM) in a quantity greater than 5000 grams "is sometimes referred to as a Category I quantity of material." DCS has stated that operation of the proposed MOX facility would involve the possession and use of SSNM in quantities greatly exceeding 5000 grams. *See* Table 1.2-1 of the revised CAR. Because any 10 C.F.R. Part 70 license that may later be issued to DCS would

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[2] *See* 68 Fed. Reg. 26675-76, and 26676-78 (May 16, 2003) (orders dated April 29, 2003, issued to BWX Technologies and Nuclear Fuel Services Inc., respectively). The revised DBT is referenced as an attachment to the April 29 orders (*id.*, at 26675 n.1), but contains classified information and will not be released to the public.

necessarily authorize DCS to possess a "formula quantity" of SSNM, the proposed MOX facility would be a Category I fuel cycle facility. Such facilities are subject to the most stringent physical protection requirements contained in 10 C.F.R. Part 73.

Section 13.1.1.1 of the revised CAR (proprietary version), submitted by DCS on October 31, 2002, sets forth the DBTs for radiological sabotage and theft or diversion of formula quantities of SSNM. These DBT descriptions in the revised CAR are repeated in the DCS Motion, and are those which are also set forth in 10 C.F.R. § 73.1. Section 13.1.1.1 of the revised CAR (proprietary version) was submitted to show that DCS, during the early design phases of the proposed MOX facility, had properly developed physical protection design bases which, if effectively implemented at the possession and use license stage, will lead to a physical protection program meeting the requirements of 10 C.F.R. Part 73.[3] Pursuant to 10 C.F.R. §§ 70.22(h)(1) and 70.22(j)(1), DCS will be required to submit a physical security plan and a safeguards contingency plan as part of any application it may later file for a license to possess and use special nuclear material. But the DBT to be addressed by the physical security and safeguards contingency plans DCS will be required to submit is no longer the DBT set forth in 10 C.F.R. § 73.1, because as discussed above that DBT was superseded by the April 29, 2003 orders issued to BWX Technologies and Nuclear Fuel Services Inc.

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.

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[3] *See* DCS Motion, at 12, and its supporting affidavit of Scott Johnson, at ¶¶ 3, and 7-13.

DISCUSSION

A. Standards Governing Summary Disposition Motions

The resolution of summary disposition motions is governed by 10 C.F.R. § 2.749. DCS has summarized the requirements of 10 C.F.R. § 2.749(a-b) and (d), and has discussed relevant case law on summary disposition of contentions. *See* DCS Motion, at 2-4.[4] Because 10 C.F.R. § 2.749 is contained in Subpart G of 10 C.F.R. Part 2, it is a procedural rule applicable to all types of NRC adjudicatory proceedings. *See* 10 C.F.R. § 2.2. Should any such general rule conflict with a special procedural rule in another subpart of 10 C.F.R. Part 2, the special rule governs. *See* 10 C.F.R. § 2.3. Because 10 C.F.R. § 2.749 does not conflict with any of the 10 C.F.R. Part 2, subpart L rules governing this proceeding, the DCS Motion is one which this Board may properly consider. Moreover, while the Commission in its 2001 referral order did not discuss the use of summary disposition motions, it did emphasize the need to timely resolve contested issues (*see* CLI-01-13, 53 NRC at 484), and summary disposition of contentions, if warranted, will help achieve this goal.

The requirements of 10 C.F.R. § 2.749(c) apply to any parties opposing motions for summary disposition. If such a party states in one or more affidavits that it cannot now "present by affidavit facts essential to justify" its opposition, the licensing board may deny the motion for summary disposition, defer ruling to permit additional opposing affidavits to be submitted, "or make such other order as is appropriate." 10 C.F.R. § 2.749(c). With respect to this last-quoted portion of 10 C.F.R. § 2.749(c), the Commission has made clear that such other order may be one granting

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[4] There, DCS cites *Advanced Medical Systems, Inc.* (One Factor Row, Geneva, Ohio), CLI-93-22, 38 NRC 98 (1993), and discusses other NRC case law and relevant federal case law pertaining to analogous motions for summary judgment under Rule 56 of the Federal Rules of Civil Procedure. The NRC Staff does not repeat those discussions here, but adds that the Commission recognizes that an NRC licensing board, when ruling on a motion for summary disposition, "must view the record in the light most favorable to the party opposing such a motion." *Advanced Medical Systems*, 38 NRC at 102 (footnote omitted).

the motion for summary disposition. *See Public Service Co. of New Hampshire, et al.* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 151-52 (1992) (affirming a licensing board's grant of a motion for summary disposition[5]). The Commission stated that a party claiming the need to conduct discovery in response to a summary disposition motion must, pursuant to 10 C.F.R. § 2.749(c), "identify by affidavit what specific information it seeks to obtain," and that, in the absence of such specificity, summary disposition may be appropriate. *Seabrook,* CLI-92-8, 35 NRC at 152. Furthermore, under 10 C.F.R. § 2.749(c), if a licensing board finds there are no genuine issues of material fact, "it may grant summary disposition even before discovery is otherwise completed if the opposing party cannot identify what specific information it seeks to obtain through further discovery."[6]

B. GANE's Obligations in Responding to the DCS Motion

Should GANE choose to oppose the DCS Motion, in whole or in part, by claiming the need for further discovery pursuant to 10 C.F.R. § 2.749(c), GANE must do more than submit a generally-worded affidavit of Dr. Edwin Lyman (its expert supporting contentions 1 and 2) -- GANE must adequately specify in such an affidavit what further information it needs to obtain through discovery, and provide some plausible explanation of how such information may show the presence of disputed material facts. *See Seabrook,* CLI-92-8, 35 NRC at 152.

Similarly, to avoid summary disposition of contentions 1 and 2, any Dr. Lyman affidavit opposing the DCS Motion must establish that a genuine issue of material fact remains in dispute regarding contentions 1 and 2. *See Florida Power & Light Co.* (Turkey Point Nuclear Generating

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[5] *See Public Service Co. of New Hampshire, et al.* (Seabrook Station, Units 1 and 2), LBP-91-24, 33 NRC 446 (1991). There, the board granted a motion for summary disposition and terminated the proceeding even though the intervenor, in opposing the motion, had submitted an affidavit of an individual whom the board found was qualified to testify as an expert witness in the proceeding. *See Seabrook,* LBP-91-24, 33 NRC at 450 and n.9.

[6] *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16 NRC 1245, 1263 (1982) (footnote omitted).

Plant, Units 3 and 4), ALAB-950, 33 NRC 492, 496-99 (1991) (affirming licensing board's grant of motion for summary disposition despite difference of opinion between intervenor's metallurgy expert supporting motion and the licensee).

Moreover, in discussing changes made in 1989 to the contention requirements of 10 C.F.R. § 2.714 and the summary disposition criteria of 10 C.F.R. § 2.749, the Commission described as follows the higher level of evidentiary support needed to withstand summary disposition motions, compared to the standard for admitting contentions:

> The Commission expects that at the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion. At the summary disposition stage the parties will likely have completed discovery and essentially will have developed the evidentiary support for their positions on a contention. Accordingly, there is much less likelihood that substantial new information will be developed by the parties before the hearing. Therefore, the quality of the evidentiary support provided in affidavits at the summary disposition stage is expected to be of a higher level than at the contention filing stage.[7]

Thus, any GANE affidavits opposing the DCS Motion which simply reiterate statements made in previous affidavits filed in support of contentions 1 and 2 should be regarded by the Board as insufficient to defeat the DCS Motion.

C. Present Record Supports DCS Motion

To approve construction of the MOX facility, the NRC must determine whether the "design bases of the principal structures, systems, and components" (principal SSCs) of the proposed facility, "and the quality assurance program provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents." 10 C.F.R. § 70.23(b) (emphasis

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[7] 54 Fed. Reg. 33168, at 33171 col.3 (August 11, 1989) (emphasis added), *aff'd. sub nom. Union of Concerned Scientists v. NRC*, 920 F.2d 50 (D.C. Cir. 1990). An NRC appeal board earlier noted in similar fashion that a proper contention only gains an intervenor admission as a party to an NRC proceeding, and does not preclude later summary disposition of the admissible contention. *See Point Beach, supra*, 16 NRC at 1258 n.15.

added).[8] This provision limits the scope of the Staff's required pre-construction design findings to the issue of whether the principal SSC design bases adequately protect against the effects of natural events such as earthquakes, severe weather and accidents. The Commission previously stated in this proceeding that because the Board's jurisdiction extends only to construction authorization issues, the Board must limit its adjudication of safety-related contentions to issues pertaining to design bases and the quality assurance program. *See* CLI-02-9, 55 NRC 245, 249 and n.15 (2002), *citing* 10 C.F.R. § 70.23(b).

Nothing in the record to date shows that the physical protection systems required by 10 C.F.R. Part 73, and the MC&A programs required by 10 C.F.R. Part 74, would have any role in protecting against natural phenomena and the consequences of potential accidents. As stated by DCS, with respect to GANE's contentions 1 and 2, only the design bases of the MC&A programs and the physical protection systems are at issue at this phase of the licensing process. *See* DCS Motion, at 7-8. Neither GANE's contentions 1 and 2, nor any discovery conducted since these contentions were admitted in 2001, identify any genuine issues of material fact on whether the MC&A and physical protection systems of the proposed MOX facility would be within the set of

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[8] The starting point in construing this, or any other NRC regulation, is its "language and structure." *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-97-15, 46 NRC 294, 299 (1997), *citing Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 NRC 275, 288 (1988), *review declined*, CLI-88-11, 28 NRC 603 (1988). Any regulatory interpretation must be consistent with the "plain meaning" of the regulatory wording at issue, and the entire provision must be given effect. *Shoreham, supra*, 28 NRC at 288 (citations omitted). By its terms, 10 C.F.R. § 70.23(b) provides no outside reference to any standard for judging the adequacy of the principal SSC designs. In deciding whether the CAR should be approved, the adequacy of the principal SSC designs is thus determined solely by whether they are found sufficiently protective against "natural phenomena and the consequences of potential accidents," as stated in 10 C.F.R. § 70.23(b).

principal SSCs protecting against natural phenomena and the consequences of potential accidents.[9] As discussed further below, the Board should therefore grant the DCS Motion.

In the NRC Staff's view, GANE's contentions 1 and 2 may be summarized as claiming that DCS failed to take MC&A and physical protection considerations into account in designing the proposed MOX facility. The DCS Motion and its supporting affidavits establish that the design bases in the revised CAR pertaining to physical protection and MC&A considerations will, if effectively implemented, result in physical protection and MC&A controls meeting the requirements of 10 C.F.R. Parts 73 and 74. The NRC Staff supports these conclusions. *See* NRC Staff Exhibit 1, at ¶¶ 9 and 14 (pertaining to MC&A design issues); and NRC Staff Exhibit 2, at ¶ 4 (pertaining to physical protection design issues).

With respect to GANE's contention 1, its claim that the MC&A design bases must, pursuant to 10 C.F.R. Part 74, include information on how strategic special nuclear material (SSNM) holdup accumulation would be measured has no legal or factual basis, a point which GANE now concedes. *See* DCS Motion, at 15 and n.39. Moreover, it is established that with respect to the design elements to minimize residual holdup accumulation amounts of SSNM in the aqueous polishing and MOX processing areas, DCS need not identify design bases specifying non-destructive assay measurement parameters for detecting such residual holdup. *See* NRC Staff Exhibit 1, at ¶ 11. The functions and values for controlling parameters for physical inventory of SSNM identified in revised CAR section 13.2.1.4.5 (proprietary version) are sufficient. *Id.* Additionally, to the extent GANE's contention 1 relies on incidents at foreign plutonium fuel fabrication facilities, the Board previously stated that such incidents are not relevant in this proceeding. *See* LBP-01-35, 54 NRC 403, 428 (2001). *See also* NRC Staff Exhibit 1, at ¶ 7 (incident at Plutonium Fuel Production

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[9] Similarly, in opposing the admission of GANE's Contentions 1 and 2, the NRC Staff concluded that GANE had failed to identify any disputes with DCS on material legal issues, as required by 10 C.F.R. § 2.714(b).

Facility (PFPF) in Tokaimura, Japan, not relevant to the proposed MOX facility, because the PFPF was not subject to the NRC's 10 C.F.R. Part 74 regulations).

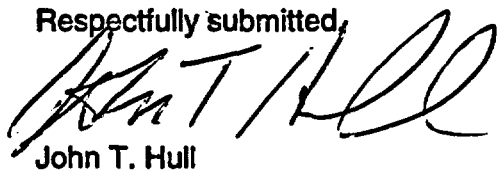
GANE's contention 1 also alleges that DCS may not be able to meet the 10 C.F.R. Part 74 scrap control requirements. This claim lacks a factual basis. DCS has established that while an active scrap control program will most likely not be needed at the proposed MOX facility, DCS has nevertheless properly identified in the revised CAR adequate "scrap control" design bases which pertain to the regulatory requirements of 10 C.F.R. § 74.59(h)(2). *See* NRC Staff Exhibit 1, at ¶ 13. These scrap control program requirements would apply to DCS if it becomes a licensee operating the proposed MOX facility, and detects facility conditions requiring implementation of its scrap control program. *Id.*

GANE's contention 2 claims that DCS failed to take physical protection considerations into account in designing the proposed MOX facility. The record now establishes that on the contrary, the DCS design process has resulted in several improvements related to physical protection, and that these improvements have been properly analyzed and incorporated into the MOX facility design. *See* DCS Motion, at 23-27. The NRC Staff affirms that DCS' statements in this regard are correct. *See* NRC Staff Exhibit 2, at ¶¶ 4 and 8.

CONCLUSION

As shown above, the burden is now on GANE to demonstrate that genuine issues of material fact remain in dispute between it and DCS on the MC&A and physical protection concerns raised by GANE's contentions 1 and 2. Absent such a demonstration by GANE, DCS is entitled as a matter of law to a Board decision dismissing GANE's contentions 1 and 2, pursuant to 10 C.F.R. § 2.749(d).

Respectfully submitted,



John T. Hull
Counsel for NRC Staff

Dated at Rockville, Maryland
this 5th day of June, 2003

NRC Staff Exhibit 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 070-03098
DUKE COGEMA STONE & WEBSTER	)	
	)	
Mixed Oxide (MOX) Fuel Fabrication Facility (Construction Authorization Request)	)	

AFFIDAVIT OF THOMAS PHAM

I, Thomas Pham, being duly sworn, declare as follows:

1. I am competent to make this affidavit, and the statements herein are true and correct to the best of my knowledge, information, and belief. The opinions expressed herein are based on my best professional judgment.

2. I am the lead technical reviewer on material control and accounting (MC&A) issues pertaining to the request submitted by Duke Cogema Stone & Webster (DCS) for authority to construct a mixed oxide fuel fabrication facility (MOX facility). A summary of my educational training, professional experience, and employment history was provided as Exhibit 1 of the "NRC Staff's Identification of Expert Witnesses," filed in this proceeding on May 16, 2003.

3. This affidavit reflects my previous familiarity with and/or recent review of the following documents: (a) the construction authorization request (CAR) submitted by DCS in February of 2001; (b) the revised CAR submitted by DCS in October of 2002; (c) NUREG-1718, "Standard Review Plan for the Review of an Application for a Mixed Oxide Fuel Fabrication Facility (MOX SRP); (d) "[DCS'] Motion For Summary Disposition on Contentions 1 and 2" dated May 9, 2003 (DCS Motion); (e) affidavit of Kenneth Bristol, dated May 8, 2003, which pertains to GANE contention 1 and is attached to the DCS Motion as Tab B (Bristol Affidavit); and (f) affidavit of

Donald Joy, dated May 5, 2003, which pertains to GANE contention 1 and is attached to the DCS Motion as Tab C (Joy Affidavit).

4. The Bristol Affidavit discusses the MC&A design bases information provided in the revised CAR, and the steps taken by DCS to factor MC&A considerations into the MOX facility design process. I agree with Mr. Bristol's opinions stated in the Bristol Affidavit. Below, in ¶¶ 5 to 9 of my affidavit, I discuss in further detail many of Mr. Bristol's opinions, and provide my own opinions as well on GANE's contention 1.

5. I concur with Mr. Bristol's statements (*see, e.g.,* ¶¶ 7-9 of the Bristol Affidavit) that DCS, in the early design phases of the MOX facility, has adequately taken MC&A considerations into account, and that this is reflected in section 13.2 (proprietary version) and other sections of the revised CAR.

6. I agree with Mr. Bristol's statements (*see* ¶¶ 3-4 of the Bristol Affidavit) that the revised CAR (1) sufficiently describes the design bases of MC&A-related structures, systems and components; and (2) adequately addresses the need to control, account for and detect any losses of the quantities of strategic special nuclear material (SSNM) that DCS would hold if its expected application for a possession and use license is later granted. As stated by Mr. Bristol, regarding the future potential that DCS would be authorized to hold SSNM, the revised CAR adequately addresses the following four high-level MC&A requirements that would then be applicable: (a) the ability to detect any abrupt losses of SSNM; (b) the ability to verify the presence and integrity of SSNM items on a statistical sampling basis; (c) the ability to resolve the nature and causes of any MC&A alarm within approved time periods; and (d) the establishment of MC&A quality assurance and accounting programs addressing the eleven elements specified in MOX SRP section 13.2.3.D.

7. In ¶ 16 of the Bristol Affidavit, Mr. Bristol references the Plutonium Fuel Production Facility (PFPF) in Tokaimura, Japan. GANE also referenced the PFPF in its supporting basis

statement for GANE contention 1, citing it as an example of how MC&A design flaws can lead to excessive holdup accumulation (at the PFPF, from 1988 to 1994, 70 kilograms of plutonium accumulated on plant surfaces and process equipment). In my opinion, the PFPF experience is not relevant to the proposed MOX facility, because this Japanese 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 ¶ 6 (a-c), above.

8. Accordingly, I concur with Mr. Bristol's opinions (*see, e.g.*, ¶¶ 3 and 5 of the Bristol Affidavit) that the MC&A design bases identified in the revised CAR sufficiently demonstrate that DCS will be able to develop an adequate Fundamental Nuclear Material Control Plan (FNMCP).

9. In my professional opinion, DCS has provided in its revised CAR reasonably detailed MC&A design basis information. If such information is effectively applied, this would create an adequate MC&A program meeting the applicable performance objectives and system capabilities. I am thus in agreement with Mr. Bristol's conclusion (*see* ¶ 17 of the Bristol Affidavit) that the MC&A design bases will result in specific MC&A controls meeting the 10 C.F.R. Part 74 requirements which would be applicable if DCS submits a possession and use license application for the proposed MOX facility.

10. The Joy Affidavit discusses the management and measurement of holdup accumulation amounts of SSNM, and scrap control. I agree with Mr. Joy's opinions stated in the Joy Affidavit. I worked with Mr. Joy from 1990 to 1996 in the NRC's Office of Nuclear Material Safety and Safeguards, performing licensing reviews of MC&A-related activities, and developing guidance documents on NRC's safeguards policy. I consider Mr. Joy to be an expert in his field. Below, in ¶¶ 11 to 15 of my affidavit, I discuss in further detail many of Mr. Joy's opinions, and provide my own opinions as well on GANE's contention 1.

11. I concur with Mr. Joy's statements (*see, e.g.*, ¶ 16 of the Joy Affidavit) that DCS has adequately addressed management and measurement of SSNM holdup accumulation by sufficiently describing in the revised CAR the design elements associated with the aqueous polishing (AP) and MOX processing (MP) process areas. I agree with Mr. Joy's statements (*see* ¶¶ 17-20 of the Joy Affidavit) that with respect to the design elements to minimize residual holdup accumulation amounts of SSNM in the AP and MP process areas, DCS need not identify design bases specifying non-destructive assay (NDA) measurement parameters for detecting such residual holdup. The functions and values for controlling parameters for physical inventory of SSNM identified in revised CAR section 13.2.1.4.5 (proprietary version) are sufficient. I also agree with Mr. Joy's statement (*see* ¶ 10 of the Joy Affidavit) that there is no regulatory requirement for SSNM holdup measurement management.

12. I similarly agree with Mr. Joy's statements in ¶ 15 of the Joy Affidavit pertaining to the adequacy of the physical inventory and abrupt loss detection programs described in the revised CAR.

13. I concur with Mr. Joy's statements (*see* ¶¶ 27-33 of the Joy Affidavit) that while an active scrap control program will most likely not be needed at the proposed MOX facility, DCS has properly identified in the revised CAR adequate "scrap control" design bases which pertain to the regulatory requirements of 10 C.F.R. § 74.59(h)(2). These scrap control program requirements would apply to DCS if it becomes a licensee operating the proposed MOX facility, and detects facility conditions requiring implementation of its scrap control program.

14. The MC&A information provided in the revised CAR meets the acceptance criteria stated in the portions of MOX SRP section 13.2 applicable to authorizing construction of the proposed MOX facility. DCS, in my opinion, has provided adequate MC&A design basis information and related commitments which will lead to an FNMCP -- to be submitted as part of a later DCS application for a possession and use license which will be required to operate the

proposed MOX facility -- that will meet the acceptance criteria stated in section 13.2.4 of the MOX SRP. Similarly, it is my opinion that the information on MC&A design bases provided by DCS in the initial and revised CAR is substantive, detailed, and responsive to the acceptance criteria of the MOX SRP. For example, in revised CAR sections 13.2.1.1 through 13.2.1.3 (proprietary version), DCS has properly identified SSNM control and process monitoring points associated with its abrupt loss detection and alarm resolution programs. Accordingly, in my opinion, the design information provided to date by DCS will, if effectively implemented, result in an adequate MC&A program and FNMCP. It is my further opinion that DCS has taken appropriate measures in designing the MOX facility so as to provide adequate assurance that DCS will be able to meet the regulatory requirements of 10 C.F.R. Part 74.

15. I therefore conclude that DCS in section 13.2 of the revised CAR (proprietary version) has provided adequate details showing that DCS has taken the appropriate MC&A measures into consideration in designing the MOX facility. If the CAR is approved and DCS submits the required application for a possession and use license, the NRC staff would then review DCS' FNMCP, and would perform site inspections to ensure that DCS met the 10 CFR Part 74 requirements that would then be in force.

16. The statements expressed above are true and correct to the best of my knowledge, information and belief.

Thomas Pham

Sworn and subscribed to before me
this 4th day of June, 2003

Notary Public
My commission expires: March 1st 2007

CIRCE E. MARTIN
NOTARY PUBLIC
MONTGOMERY CO., MD.

CIRCE E. MARTIN
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires March 1, 2007

NRC Staff Exhibit 2

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 070-03098
DUKE COGEMA STONE & WEBSTER	)	
	)	
Mixed Oxide (MOX) Fuel Fabrication Facility (Construction Authorization Request)	)	

AFFIDAVIT OF EDWARD JOHANNEMANN

I, Edward Johannemann, being duly sworn, declare as follows:

1. I am competent to make this affidavit, and the statements herein are true and correct to the best of my knowledge, information, and belief. The opinions expressed herein are based on my best professional judgment. A summary of my educational background, training, and employment history was provided as Exhibit 2 of the "NRC Staff's Identification of Expert Witnesses," filed in this proceeding on May 16, 2003.

2. This affidavit reflects my previous familiarity with and/or recent review of the following documents: (1) the construction authorization request (CAR) submitted by Duke Cogema Stone & Webster (DCS) in February of 2001; (2) the revised CAR submitted by DCS in October of 2002; (3) "[DCS'] Motion For Summary Disposition on Contentions 1 and 2" dated May 9, 2003 (DCS Motion); and (4) affidavit of Scott Johnson dated May 6, 2003, attached to the DCS Motion as Tab D.

3. As referenced in ¶ 1 of Scott Johnson's affidavit, the MOX facility would be a "Category 1" fuel cycle facility. The term "Category 1" derives from the 10 C.F.R. § 70.4 definition of "formula quantity," which states that strategic special nuclear material (SSNM) in a quantity greater than 5000 grams "is sometimes referred to as a Category I quantity of material." DCS has

stated that operation of the proposed MOX facility would involve the possession and use of SSNM in quantities greatly exceeding 5000 grams. *See* Table 1.2-1 of revised CAR. Because a 10 C.F.R. Part 70 license, if granted, would necessarily authorize DCS to possess a "formula quantity" of SSNM, the proposed MOX Facility would be a Category I fuel cycle facility. Such facilities are subject to the most stringent physical protection requirements contained in 10 C.F.R. Part 73.

4. I have carefully reviewed Scott Johnson's affidavit, and agree with all of his opinions. I concur with Scott Johnson's statements (*see, e.g.*, ¶¶ 2 and 6) that 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. In my opinion, DCS has adequately committed to meet the 10 C.F.R. Part 73 security requirements applicable to a Category 1 facility.

5. The revised CAR, dated October 31, 2002, provided more physical protection details than the original CAR, including details concerning protection related structures, systems and components, as attested to in Scott Johnson's affidavit.

6. In my opinion, the planned design of the MOX facility shows that DCS would meet the 10 C.F.R. Part 73 requirements regarding theft, sabotage or diversion of licensed material. For example, the intrusion detection system is being designed to detect and then allow for assessment of the intrusion violation, which would provide for an effective response by armed personnel.

7. The revised CAR provides adequate details of how the alarm system would work, in that it would provide redundant communication to the central alarm station and the secondary alarm station. Further details provided in the revised CAR explain the sophistication of the alarm system in that the wiring and other components are what is known in the electronics industry as supervised. This means that any attempts to cut a wire or "jumper" a wire or component would be detected and thus responded to in an appropriate manner.

8. There are many more details in the revised CAR that evidence the fact that DCS has taken the appropriate measures into consideration in designing the MOX facility so that the applicable 10 C.F.R. Part 73 requirements would be met. If the CAR is approved allowing construction of the MOX facility to begin, and DCS submits the required application for a possession and use license, the NRC staff would review the details of the DCS physical security and safeguards contingency plans, and would perform site inspections to ensure that DCS met the 10 C.F.R. Part 73 requirements that would then be in force.

9. The statements expressed above are true and correct to the best of my knowledge, information and belief.

Edward Johannemann

Sworn and subscribed to before me
this 28th day of May, 2003

CIRCE E. MARTIN NOTARY PUBLIC MONTGOMERY CO., MD.

Notary Public
My commission expires: March 1, 2007

CIRCE E. MARTIN
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires March 1, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
DUKE COGEMA STONE & WEBSTER	)	Docket No. 70-3098
	)	
(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC STAFF'S RESPONSE TO MOTION FOR SUMMARY DISPOSITION SUBMITTED BY DUKE COGEMA STONE & WEBSTER," and NRC Staff Exhibits 1 and 2 in support of said response, have been served upon the following persons this 5th day of June, 2003, by electronic mail, and by U.S. mail, first class (or as indicated by an asterisk (*) through the Nuclear Regulatory Commission's internal distribution system).

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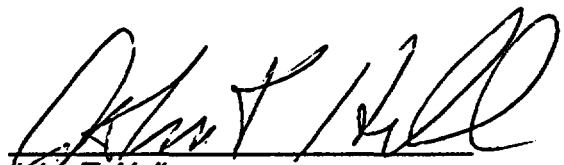

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