RAS 6615

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 14, 2003 (10:52AM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of	)	July 9, 2003
DUKE COGEMA STONE & WEBSTER	)	Docket No. 070-03098-ML
(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 01-790-01-ML

DUKE COGEMA STONE & WEBSTER'S MOTION FOR SUMMARY DISPOSITION ON CONSOLIDATED CONTENTION 11

I. INTRODUCTION

Georgians Against Nuclear Energy ("GANE") Contention 11 argues that the Environmental Report ("ER") for the Mixed Oxide Fuel Fabrication Facility ("MOX Facility") "understates the impacts of the waste stream from aqueous polishing to remove gallium." Blue Ridge Environmental Defense League ("BREDL") Contention 1E, which was consolidated with GANE Contention 11, claims that the ER is deficient for failing to address the environmental impacts of the proppsed high-alpha "liquid waste stream pipeline from the [MOX Facility] to the F-Area Outside Facility" (referred to collectively as "Contention 11"). There is no factual basis for Contention 11. As such, Contention 11 presents no genuine issues of fact or law, and should be summarily dismissed.

Accordingly, Duke, Cogema, Stone & Webster ("DCS") files this Motion for Summary Disposition on Contention 11, pursuant to 10 CFR §§ 2.1237 and 2.749. This Motion is

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SECY-02

supported by a separate "Statement of Material Facts on Which No Genuine Issue Exists" (Attachment 1), and by a sworn Affidavit from Mary Birch, DCS Manager, Environmental Safety and Health (Attachment 2).

II. STATEMENT OF THE LAW GOVERNING SUMMARY DISPOSITION MOTIONS

Pursuant to 10 CFR § 2.749, summary disposition "as to all or any part of the matters involved in the proceeding"[1] is warranted "if the filings in the proceeding, depositions, answers to interrogatories, and admissions on file, together with the statements of the parties and the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law."[2]

Summary disposition is not simply a "procedural shortcut"; rather, it is designed "to secure the just, speedy and inexpensive determination of every action," and should be granted when appropriate.[3] In fact, Commission policy states that summary disposition should be granted "upon a written finding that such a motion will likely substantially reduce the number of issues to be decided or otherwise expedite the proceeding."[4] In this case, summary disposition of Contention 11 would reduce the total number of contentions to be addressed at hearing, and would substantially expedite the process.

The Commission has held that Section 2.749 summary disposition motions are analogous to summary judgment motions under Rule 56 of the Federal Rules of Civil Procedure, and should

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1 10 CFR § 2.749(a).

2 10 CFR § 2.749(d).

3 *Celotex Corp. v. Catrett*, 477 U.S. 317, 327 (1986) (citations omitted); *see also Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-554, 10 NRC 15, 19 (1979).

4 *Policy on Conduct of Adjudicatory Proceedings*; Policy Statement, CLI-98-12, 48 NRC 18, 20-21 (1998).

be evaluated by the same standards.[5] Pursuant to both NRC and federal caselaw, the party seeking summary disposition bears the burden of showing the absence of a genuine issue as to any material fact.[6] In response, the party opposing the motion must set forth specific facts showing that there is a genuine issue.[7] To be considered genuine, "the factual record, considered in its entirety, must be enough in doubt so that there is a reason to hold a hearing to resolve the issue."[8] Bare assertions or general denials are insufficient to oppose a motion for summary disposition,[9] as are mere "quotations from or citations to [the] published work of researchers [or experts] who have apparently reached conclusions at variances with the movant's affiants."[10] Furthermore, if the party opposing the motion fails to controvert any material fact properly set out in the statement of material facts that accompanies a summary disposition motion, then that fact will be deemed admitted.[11]

If the moving party makes a proper showing, and the opposing party does not show that a genuine issue of material fact exists, then the Licensing Board may summarily dispose of the

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5 *See Advanced Medical Systems, Inc.* (One Factor Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993).

6 *Adickes v. Kress & Co.*, 398 U.S. 144, 157 (1970); *Advanced Medical Systems, Inc.*, 38 NRC at 102.

7 10 CFR § 2.749(b).

8 *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), LBP-83-46, 18 NRC 218, 223 (1983).

9 10 CFR § 2.749(b); *Advanced Medical Systems, Inc.*, 38 NRC at 102; *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-629, 13 NRC 75, 78 (1981).

10 *Carolina Power & Light Co. and North Carolina Eastern Municipal Power Agency* (Shearon Harris Nuclear Plant, Units 1 and 2), LBP-84-7, 19 NRC 432, 435-36 (1984); *see also United States v. Various Slot Machines on Guam*, 658 F.2d 697, 700 (9th Cir. 1981) (holding that "in the context of a motion for summary judgement, an expert must back up his opinion with specific facts" in an affidavit).

11 10 CFR § 2.749(a); *Advanced Medical Systems, Inc.*, 38 NRC at 102-03.

contentions on the basis of the pleadings.[12] As discussed below, Contention 11 is clearly the type of contention for which no evidentiary hearing is necessary, and which can be readily and expeditiously resolved in DCS's favor through summary disposition procedures.

III. CONTENTION 11 PRESENTS NO GENUINE ISSUES OF MATERIAL FACT, AND DCS IS ENTITLED TO JUDGMENT AS A MATTER OF LAW

GANE's proposed Contention 11, as originally submitted to the Atomic Safety and Licensing Board ("Board") alleged that DCS, in its original ER:

> (1) understates the impacts of the waste stream from aqueous polishing to remove gallium; (2) doesn't acknowledge problems with the same process in Europe; (3) and adds to the burden of radioactive waste at SRS [Savannah River Site] without designing a plan for managing the waste as required under NEPA.[13]

BREDL's proposed Contention 1E made a number of broad allegations related to waste management issues.

The Board consolidated GANE Contention 11 and BREDL Contention 1E, but admitted only certain limited aspects of the consolidated Contention into the proceeding. In particular, the Board noted that "the central part of [GANE's] contention indicating that the ER fails adequately to address and analyze the impacts from the high-alpha waste stream... meet[s] the minimum requirement for admissibility. ...Thus, that portion of Contention 11 is admissible."[14] The Board also stated: "that portion of GANE Contention 11 asserting that DCS' ER understates the

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12 *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-73-12, 6 AEC 241, 242 (1973), aff'd sub. nom. *BPI v. AEC*, 502 F.2d 424 (D.C. Cir. 1974).

13 Georgians Against Nuclear Energy Contentions Opposing a License for Duke Cogema Stone & Webster to Construct a Plutonium Fuel Factory at Savannah River Site, at 41 (August 13, 2001).

14 *Duke, Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), Memorandum and Order (Finding on Standing and Admitting Contentions), LBP-01-35, 54 NRC 403, 442 (2001).

impacts of the waste stream from the aqueous polishing process is admissible."[15] Thus, the Board explicitly removed from further consideration any GANE claims regarding "problems" with European processes, the "burdens" of radioactive waste at the SRS, or the alleged absence of a waste management plan. Indeed, GANE has itself stipulated that the portion of Contention 11 claiming that DCS "adds to the burden of radioactive waste at SRS without designing a plan for managing the waste as required under NEPA" is moot[16]:

> It seems to me that the whole phrase 'adds to the burden of radioactive waste at SRS without designing a plan'...was the thrust of this contention, there was no plan to manage the waste. Obviously there is a plan now...clearly the part of the contention that was concerned about the lack of a plan for managing the waste is gone. So I think we can stipulate to that.[17]

With respect to BREDL Contention 1E, the Board admitted only "the environmental portion of the Contention concerning the unanalyzed impacts of the high-alpha liquid waste transfer line" to the F-Area Tank Farm on the SRS.[18] BREDL Contention 1E has been mooted by the revised ER. The revised ER, issued June 20, 2003, states that the high-alpha liquid waste streams will not be transferred to the F-Area Tank Farm, but instead will be transferred to a new Waste Solidification Building ("WSB") to be built on the SRS. Since DCS will not be constructing a pipeline from the MOX Facility to the F-Area Tank Farm, BREDL's Contention questioning the adequacy of the NEPA analysis of that pipeline is moot.[19] Accordingly,

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15 *Id.* at 444.

16 Deposition of Glenn Carroll, at 96:09-96:21 (May 29, 2003).

17 *Id.* at 96:03-96:17; *see also* 32:13-33:12 (conceding that the aspect of the Contention addressing DCS' previous plan to utilize the existing waste tanks at SRS for the high-alpha waste is no longer relevant); 81:08-81:18 (same).

18 *Duke, Cogema, Stone & Webster*, 54 NRC at 451.

19 The impacts of the pipeline from the MOX Facility to the WSB are outside the scope of BREDL's Contention 1E, and neither BREDL nor GANE raised a concern about such a pipeline

Contention 11 now consists of a single claim: that "the ER understates the impacts of the aqueous polishing stream to remove gallium." As discussed below, there is no basis for that claim.

In Interrogatory 11.1, DCS asked GANE to "[i]dentify and fully explain why GANE contends that the ER 'understates the impacts of the waste stream from aqueous polishing to remove gallium.'"[20] In response, GANE set forth four bases in support of its claim.[21] None of these bases presents a material issue of fact or law.

First, GANE claims that the ER understates the impacts of the high-alpha waste stream because "in the space of less than two years the liquid waste stream figures changed from 0 gallons of waste from a dry ARIES [Advanced Recovery and Integrated Extraction System] process to 80,000 gallons from aqueous polishing."[22] In other words, GANE suggests, inexplicably, that an alleged *increase* in DCS' waste estimates is indicative of an *understatement* of the correct waste amount. This claim is illogical and, simply, wrong.[23] As GANE now concedes, at no point did DCS ever suggest that the MOX Facility would produce zero gallons of

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in a late-filed contention after learning of the decision to send high-alpha liquid waste to the WSB. In any event, DCS has adequately considered the environmental impacts of such a pipeline. *See, e.g.*, ER § 5.1.1, 5.1.11 (discussing the impacts of constructing the waste transfer line); and CAR Table 5A-10 (discussing the impacts of a transfer line break).

20 Duke Cogema Stone & Webster's First Set of Interrogatories to Georgians Against Nuclear Energy and Blue Ridge Environmental Defense League, Interrogatory No. 11.1 (May 31, 2002).

21 *See* GANE Objections and Responses to Applicants' First Set of Interrogatories, and Request for Protective Order, at 48 (June 28, 2002).

22 *Id.*

23 Indeed, when asked how the claim that DCS' waste figures increased from 0 to 80,000 gallons supports the Contention that DCS *understates* the environmental impacts of this waste stream, Ms. Carroll replied "...I will acknowledge that it was kind of a smart ass answer." Carroll Deposition at 40:02-40:12.

liquid waste[24]; nor will DCS use the ARIES process at the MOX Facility.[25] GANE also concedes that DCS will not produce 80,000 gallons of high-alpha liquid waste.[26]

The original ER, filed in December, 2000, stated that the MOX Facility aqueous polishing process would create 13,300 gallons of high-alpha liquid waste. Subsequently, DOE informed DCS that it would be required to process 6.5 tons of alternate feed stock ("AFS"), originally slated for immobilization, at the MOX Facility.[27] Accordingly, the estimated amount of high-alpha liquid waste increased to 21,841 gallons, as indicated in the revised ER.[28] The revised ER fully accounts for the anticipated impacts from the high-alpha liquid waste stream, both during normal operations and due to processing of the AFS.

GANE's second basis for its claim that the ER understates the impact of the high-alpha waste stream is: "lack of verifiable data from the MELOX factory which is experiencing problems with a greater than anticipated amount of scrap to be re-processed."[29] This claim is meritless. The Board has already rejected that portion of GANE's contention claiming that "environmental data from the French facilities must be made available"[30] As the Board noted elsewhere in its Memorandum and Order (Ruling on Standing and Admissibility of Contentions), "any foreign MOX fuel industry is irrelevant...because such facilities are not licensed by the

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24 *Id.* at 43:17-43:22.

25 *Id.* at 43:11-43:16.

26 *Id.* at 44:05-44:10; 45:04-45:07; *see also* ER Table 3-3.

27 Surplus Plutonium Disposition Program, 68 *Fed. Reg.* 20134 (April 24, 2003).

28 Revised ER, Table 3-3.

29 GANE Response to DCS Interrogatory 11.1.

30 *Duke, Cogema, Stone & Webster*, 54 NRC at 442.

NRC under 10 CFR § 70.23(b)."[31] Accordingly, the experiences at the MELOX Facility have no relevance to the analysis of the MOX Facility ER.

The experience at the MELOX Facility is also irrelevant because MELOX does not use an aqueous polishing process.[32] In any event, GANE's purpose for requesting this information is now groundless. Apparently, GANE originally believed that MELOX solid scrap was sent to the La Hague facility for processing, thereby adding to the latter facility's aqueous polishing waste stream. By extending this incorrect assumption, GANE contended that the MOX Facility might reprocess solid scrap through its aqueous polishing process, thereby adding to its high-alpha liquid waste stream.[33] GANE has now acknowledged that Cogema is "not currently planning" – and in fact is not authorized – to process scrap produced at MELOX through the aqueous polishing process at La Hague.[34] GANE has further acknowledged that there is no established pathway to route scrap powders or pellets produced at the MOX Facility for reprocessing in the aqueous polishing process.[35] Accordingly, the alleged "lack of verifiable data from MELOX" is irrelevant to this Contention.

GANE's third basis for its claim that the ER understates the impacts of the high-alpha liquid waste stream is "the use of different units of measurements to describe the waste stream."[36] Specifically, GANE's statement referred to the fact that Table 3.3 of the original ER

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31 *Id.* at 428.

32 GANE acknowledges that the MELOX facility does not have an aqueous polishing process. *See* Carroll Deposition at 59:16-59:18.

33 *Id.* at 60:01-60:16; 64:20-65:15.

34 *Id.* at 64:12-64:19.

35 *Id.* at 79:16-80:16; *see also* CAR Figure 11.2.1.

36 GANE Response to DCS Interrogatory 11.1.

stated the volume and mass, but not the radioactivity, of the high-alpha liquid waste streams.[37] Characterization of the waste stream in curies, rather than (or in addition to) gallons or grams, is not required by any applicable law or regulation. Moreover, as GANE concedes, the radioactivity of the high-alpha liquid waste stream can be readily calculated from the known mass of the materials, which was provided at Table 3.3 of the original ER.[38] As such, DCS' choice of one among several reasonable descriptions of the waste stream cannot, by definition, lead to an "understatement" of the waste stream.

Nevertheless, in its revised ER, DCS characterized the liquid americium stream – the source of over 99% of the radioactivity in the high-alpha waste stream – in curies, as well as gallons and kilograms.[39] The other two components of the high-alpha waste stream – the excess acid stream and the alkaline stream – were not converted to curies in the revised ER, because they account for only nominal quantities of radioactivity (specifically, the radioactivity of those components of the high-alpha waste stream are approximately 430 curies and 18 curies, respectively). This represents about 0.5% of the total radioactivity in the combined high-alpha waste stream.[40]

GANE's fourth and final basis for its claim that the ER understates the impacts of the high-alpha liquid waste stream is: "the waste figures are likely to change dramatically, again, when DCS and DOE characterize the waste stream from the junk plutonium that has been added to the MOX program."[41] This basis, as set forth in GANE's response to DCS Interrogatory 11.1

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37 Carroll Deposition at 65:19-66:15.

38 *Id.* at 106:04-106:07.

39 Affidavit of Mary Birch at ¶ 4.

40 *Id.* at ¶¶ 5, 6.

41 GANE Response to DCS Interrogatory 11.1.

on June 28, 2002, is an obvious post-hoc rationalization of the Contention, and is outside the scope of the Contention.[42] At the time that Contention 11 was submitted, on August 13, 2001, there was no plan to process AFS (which GANE refers to as "junk plutonium") at the MOX Facility, and GANE acknowledges that it was not aware of such a plan until January, 2002.[43] DOE announced its intention to process AFS at the MOX Facility on April 24, 2003.[44] At that time, if GANE had any concerns regarding the processing of AFS at the MOX Facility, it should have filed a late-filed contention within 30 days of its receipt of the new information. GANE did not do so, and is therefore barred from raising the issue now.

In any event, as GANE concedes, DCS has addressed the impacts of the AFS in its revised ER.[45] The revised ER recognizes that the diversity of impurities and the impurity levels are higher for the AFS feeds, and calculates the environmental impact of the aqueous polishing waste stream accordingly.[46] As such, none of the four bases relied upon by GANE supports the claim that "the ER understates the impact of the aqueous polishing waste stream to remove gallium."

Indeed, GANE concedes that Contention 11 is based not in fact, but upon sheer speculation[47]:

> Q: My question to you, again, is what is your basis for believing that DCS has underestimated its liquid waste stream from the aqueous polishing process?

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42 Carroll Deposition at 77:15-78:03.

43 *Id.* at 77:15-77:22.

44 68 *Fed. Reg.* 20134.

45 Carroll Deposition at 71:16-71:20.

46 *See, e.g.*, Revised ER §§ 3.2.1; 3.3.2; 3.3.2.1; Table 3-3.

47 *Id.* at 45:22-46:04 ("Q: Do you have any evidence to indicate that these numbers [in ER Table 3-3] are incorrect? A: No, only suspicions, because we can't verify the numbers"); *see also* 24:05-24:15 ("we don't have any information to go on to find out what your estimates are").

A: We don't trust you and you haven't shown us anything and we don't trust that. That is the basis of our belief.[48]

Because Contention 11 has no basis in fact or law, it should be summarily dismissed.

IV. CONCLUSION

The defects alleged in Contention 11 are meritless. Because Contention 11 fails to present any genuine issues of material fact, the Board should grant DCS' summary disposition and dismiss the Contention as a matter of law.

Dated: July 9, 2003

Respectfully submitted,

DUKE COGEMA STONE & WEBSTER

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[48] *Id.* at 88:06-88:12; *see also* 39:16-40:01; 89:14-90:05 ("Q: do you have any reason to believe that we understated [the amount of radioactivity in the high alpha waste stream]? A: ...we don't trust Cogema, who we see as the player in DCS, at least in the manufacturing of the fuel. So if you don't tell us any detail, we are going to assume you are covering up something and we want the details.")

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ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of	)	July 9, 2003
DUKE COGEMA STONE & WEBSTER	)	Docket No. 070-03098-ML
(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 01-790-01-ML

STATEMENT OF MATERIAL FACTS
ON WHICH NO GENUINE ISSUE EXISTS
IN SUPPORT OF DCS' MOTION FOR
SUMMARY DISPOSITION ON CONSOLIDATED CONTENTION 11

Duke Cogema Stone & Webster ("DCS") submits, in support of its Motion for Summary Disposition on Consolidated Contention 11, this Statement of Material Facts as to which DCS contends there is no genuine issue to be heard.

1. On August 13, 2001, GANE filed Contention 11, entitled "ER Fails to Address the Waste Stream from Aqueous Polishing," as part of its Contentions Opposing a License for Duke Cogema Stone & Webster to Construct a Plutonium Fuel Factory at Savannah River Site. Also on August 13, BREDL Filed Contention 1E, as part of its Responses and Objections to the Proposed MFFF. GANE Contention 11 claims: (1) the ER understates the impacts of the waste stream from aqueous polishing to remove gallium,[1] (2) the ER doesn't acknowledge problems with the same process in Europe,[2] and (3) the aqueous polishing process adds to the burden of radioactive waste at the SRS without designing a plan for managing the waste as required under NEPA.[3] BREDL Contention 1E claims "the F-

1 GANE Contentions at 41.

2 *Id.*

3 *Id.*

Area Infrastructure Upgrade will including 'constructing a liquid waste pipeline from the MFFF to the F-Area Outside Facility.' This upgrade has never been analyzed under NEPA."[4]

2. In its Memorandum and Order of December 6, 2001, the Licensing Board admitted subsection (1) of GANE Contention 11, and BREDL Contention 1E, consolidating them together as dealing with DCS' failure to "appropriately analyze the impacts of the high-alpha waste stream from the aqueous polishing process as required by NEPA."[5]

3. BREDL Contention 1E is moot since DCS no longer intends to transfer high alpha waste via pipeline from the MOX Facility aqueous polishing process to the "F-Area Outside Facility" tank farm.

4. In its Memorandum and Order of December 6, 2001, the Licensing Board rejected that portion of GANE's Contention claiming that the aqueous polishing process "adds to [the] burden of radioactive waste at the SRS without designing a plan for managing the waste as required under NEPA."[6] In addition, on May 29, 2003, GANE rescinded that portion of its Contention.[7]

5. The ER, revised as of June 20, 2003, addresses the impacts of the high-alpha waste stream from the aqueous polishing process as required by NEPA.[8]

6. GANE concedes that it has no evidence to indicate that the impacts of the waste stream from the MOX Facility aqueous polishing process are understated in the ER.

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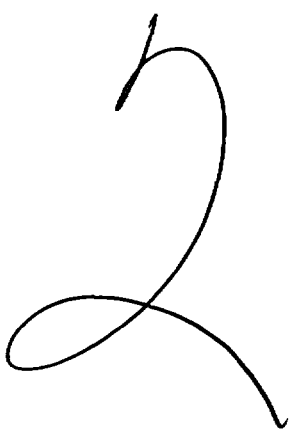
4 BREDL Contentions at 20.

5 *Duke Cogema Stone & Webster* (Mixed Oxide Fuel Fabrication Facility), Memorandum and Order (Ruling on Standing & Admissibility of Contentions), LBP-01-35, 54 NRC 403, 452 (2001).

6 *Id.* at 452.

7 Carroll Deposition at 96:10-96:21.

8 Revision 3 to the Mixed Oxide Fuel Fabrication Facility (Change Pages to Revisions 1 and 2), DCS-NRC-000143 (June 20, 2003).



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DUKE COGEMA STONE & WEBSTER	)	Docket No. 070-03098-ML
(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 01-790-01-ML

AFFIDAVIT OF MARY BIRCH

City of Charlotte)
)
State of North Carolina)

Mary Birch, being duly sworn, states as follows:

1. I am the Manager of Environmental Safety and Health at Duke, Cogema, Stone & Webster ("DCS"). I have over 34 years of experience in the environmental safety and health ("ES&H") field. I am certified by the American Board of Health Physics and a registered professional engineer (nuclear engineering). My experience includes the development of the ES&H program for the mixed oxide fuel fabrication facility ("MOX Facility"). During the course of my career, I have worked in a number of positions, including System (department) Radwaste Engineering Manager, System

Health Physicist, and Catawba Nuclear Station Nuclear Safety Assurance Manager for Duke Power; and Regulatory and Licensing Manager and Senior Licensing Consultant for Duke Engineering. Currently, I am the manager for the MOX Project ES&H organization. In this capacity, I am the project manager responsible for the development and maintenance of the MOX Facility Environmental Report ("ER"). In that role, I am responsible for the technical content, the budget and schedule, and interfacing with the regulator regarding the content of the ER.

2. GANE Contention 11 alleges that the MOX Facility ER "understates the impacts of the aqueous polishing waste stream to remove gallium." The purpose of this Affidavit is to confirm that Table 3-3 of the ER, as revised, has accurately stated the impacts of the high alpha waste stream.

3. In its response to Interrogatory 11.1, GANE claims that DCS understates the impacts of the high alpha liquid waste stream because it "use[s]...different units of measurements to describe the waste stream." Specifically, GANE was concerned because Table 3-3 of the original ER did not characterize the waste stream in curies. In its revised ER, DCS calculated the radioactivity of the americium waste stream in curies. DCS did not calculate the radioactivity of the other two components of the high alpha waste stream (the excess acid stream and alkaline stream) because they contain only nominal amounts of radioactivity.

4. The americium waste stream will contain 84,000 curies annually, which constitutes over 99% of the radioactivity in the high alpha waste stream.

5. The excess acid waste stream is expected to contain approximately 430 curies annually, which is approximately 0.5% of the radioactivity in the high alpha waste stream.

6. The alkaline waste stream is expected to contain approximately 18 curies annually, which is approximately 0.02% of the radioactivity in the high alpha waste stream.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Mary L. Birch

Mary Birch, CHP, PE
Duke, Cogema, Stone & Webster
128 South Tryon Street
Charlotte, NC 28202

Subscribed and sworn before me this 7th day of July, 2003.

Susan L. Cooler

Notary Public

My Commission Expires: My Commission Expires June 06, 2006

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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

Washington, D.C.
Thursday, May 29, 2003

The deposition of GLENN CARROLL, called for examination by counsel for Plaintiff in the above-entitled matter, pursuant to Notice, in the offices of Morgan, Lewis & Bockius, 1111 Pennsylvania Avenue, N.W., Washington, D.C., convened at 9:45 a.m., before Cathy Jardim, a notary public in and for the District of Columbia, when were present on behalf of the parties:

be the waste that would come out of the waste solidification building.

Q. So what exactly were you attempting to compare?

A. Because we don't have any information to go on to find out what your estimates are, we have been fooling around trying to figure out what DCS is doing and why they are saying what they are saying. We are lay people wondering how good this contention is and whether we should expend resources on an expert and what we would give that expert, how do we approach this expert, so we have been turning this thing every which way but loose trying to figure out what we have here, and we cannot find any basis for the published estimates.

Q. You said you have been fooling around -- you don't have any information to go on to find which estimates there are. Which estimates?

A. The estimates in 3.3 and 4.11.

Q. The estimates of?

A. The waste streams.

Q. Take a little break, go off the record

distribution waste streams?

A. Yes.

Q. Have you had an opportunity to review the relevant sections in the NRC's draft environmental impact statement?

A. Yes.

May I have another cup of coffee.

Q. Let's call a five-minute break.

(Discussion off the record.)

(Recess.)

BY MS. MASHHADI:

Q. Talking about contention 11, the one talking about aqueous polishing stream. Can you relate for me the documents you were relying on when you were forming the contention in the first place?

A. You would want to know any documents I looked at, whether they are cited?

Q. Precisely.

A. The construction authorization request, the ER -- these are the non-revised versions because this is dated 2001. The SPD EIS. I

believe that is --

(The witness consulted with counsel.)

THE WITNESS: If I may consult the contention, I think that will refresh my memory.

BY MS. MASHHADI:

Q. Absolutely. Feel free.

(Pause.)

THE WITNESS: It is no longer relevant, but at the time that we drafted the contention, the tanks at Savannah River Site were anticipated to be used and we looked at a high-level waste storage tank closure document. It is DOE EIS 0303D, dated November 2000. There was a web site at the Defense Nuclear Facility Safety Board that we looked at, about the tanks, which, again, is no longer relevant.

I remembered somebody that I consulted in drafting the contention, and that is Robert Alvarez, and I believe Ms. Curran probably knows his current affiliation. I know him personally and I wasn't sure of his affiliation.

MS. CURRAN: I am not sure either.

of responses to DCS's interrogatories so you can follow along with me. Feel free to look at the whole document. I am going to be looking at 11.1, which begins on page 47. I am going to go through each of those responses you gave one at a time.

The first basis for your contention that the ER understates, was, "in the space of less than two years the liquid waste stream figures changed from 0 gallons of waste from a dry ARIES process to 80,000 gallons from aqueous polishing."

My first question is how does your claim that the liquid waste stream figures from the aqueous polishing process have increased demonstrate that the ER understates the impact of the high alpha liquid waste stream?

A. I would say that our point in making this point was to imply or say that because this waste has not been very neatly defined, that that suggests or implies the potential for inaccurate estimates. We would be most concerned that you would underestimate it -- as environmentalists, we would be most concerned that you would

underestimate rather than overestimate, naturally.

Q. So you noted that -- and we will go back and talk about this, but within two years the DCS changed its figures from zero to 80,000 gallons of waste. How would that suggest we are understating the impacts?

A. Well, keeping in mind that we are environmental activists, not waste experts or lawyers, and we were at the time we answered these discovery responses still pro se, I will acknowledge that it was kind of a smart-ass answer, in a way. I know what was in my mind.

We have been opposed to MOX all along, before there was a contractor we were opposed to MOX on principle and we have been following it, GANE, with many, many other groups all over the planet, not just in the U.S., and at the time that the Department of Energy said it intended to use a dry process, as I recall, people like Dr. Makhijani, who were at that time really helping to educate lay volunteers like GANE and myself about the issue, it was foreseen in our community

the ARIES process will be used at the MOX Facility?

A. I didn't remember that I said PDCF in here. And you say this is contained on page 42?

Q. Yes, in the middle paragraph.

A. Although PCDF is not contained in there, when you say plutonium -- that happens at the PDCF facility you are referring to?

Q. Do you agree with the statement made here?

A. Of course, but let me try to stay with your question -- the question is do I believe that ARIES will be used in the MOX fabrication process?

Q. Correct.

A. I do not believe that ARIES will be used in the MOX -- I don't know, I really don't know, but I don't believe it will be used.

Q. Now, are you suggesting by your contention that DCS ever claimed that the MOX Facility was going to produce zero gallons of liquid waste?

A. No -- I don't know that DCS ever made that claim.

Q. So the basis for your contention that is in --

A. I believe DOE made that claim, but not DCS.

Q. Great. Now, what is the basis for your statement that the MOX Facility aqueous polishing process will now generate 80,000 gallons of liquid waste?

A. I derived that figure by erroneously including the stripped uranium stream in the -- I added up -- this is not the table I used at the time, this is the revised table, but I added up -- I actually think the revised table is, as I recall -- might be laid out differently from the first table, but I am not looking at the original table I used.

But I used four classes of work, liquid americium, the alkaline stream, and the stripped uranium stream, and the figure was something like 81,000 gallons, but I rounded it off. I have a recollection from seeing a note that said 81,000 gallons in the margin.

Q. You do agree that the stripped uranium stream is not part of the high alpha stream?

A. Yes.

Q. What is the maximum amount of high alpha liquid waste that could be generated at the MOX Facility in one year?

A. 21,841.

Q. This is Table 3.3 of the revised ER.

A. What did you say?

Q. This is the revised ER?

A. Yes, and I would like to add, when we added up, in the course of preparing for this, the three waste streams, that figure actually is not right, the 21,841 is not right. I don't remember what it is off the top of my head, but when we added it up, we didn't get that. But if somebody has a calculator, I am sure they can do that. It is more like 22 -- obviously it is more like -- I will add it for you. 22,898 gallons. It is kind of interesting that in a simple little adding it up a mistake was made in your ER.

Q. Do you have any evidence to indicate that

these numbers are incorrect?

A. No, only suspicions, because we can't verify the numbers. We can't find enough information to match the plutonium to the chemistry, to whatever, to see what we would estimate.

Q. What information exactly are you referring to?

A. I believe we need more information about your process in order to be able to do independent estimates to see what we would estimate the waste stream would be or even see if we think you did your calculations correctly.

Q. What information specifically would you need?

A. Well, as a lay person, I think some of it is in there, just not enough. As a lay person, common sense tells me we need to know how much plutonium and how much solvent you will use, and how much water you will use to clear all of that up and probably many more details to it, which may be proprietary, may even be, what do you call it when

Because the French intention was to take the scrap and put it back in the front end of the hopper and produce MOX from it eventually, it could impact the amount of plutonium being processed and, therefore, the waste being generated -- the omission of scrap in the analysis about MOX leads to an omission of a potential waste stream from processing scrap, which adds to the possibility that we are not getting an accurate waste picture.

Q. That may well be, but I am asking about the aqueous polishing process, and in response to the question about why we understated the aqueous polishing process, you stated this document. So I am trying to figure out where this document fits into the aqueous polishing process.

Are you aware that the MELOX facility does not have an aqueous polishing process?

A. Yes.

Q. Why do you think that the availability of data from the MELOX facility would be relevant to whether the MOX Facility ER understates the impacts of the high alpha liquid waste stream?

A. It is in the aspect of the scrap from MELOX which is sent to La Hague, which does have aqueous polishing, so it is not that aqueous polishing is done at MELOX. MELOX generates scrap which is sent to La Hague with the intention of being redissolved and reconstituted.

Q. What is the basis for your belief that the scrap from MELOX will be redissolved and reprocessed through an aqueous polishing process?

A. I can't remember.

Q. Do you want to take a few minutes to think about that?

A. I developed that picture in the process of developing the contention.

I can't remember how I arrived at that understanding.

Q. Do you have any reason to believe that DCS will reprocess scrap through its aqueous polishing process?

A. Yes.

Q. Can you please identify for me the relevant sections of the DCS licensing documents

scrap which has been sent to La Hague will be sent through their aqueous polishing process?

A. It says here it is not authorized to do that, but they are in a different program. They are making reactor fuel. In La Hague they are reclaiming plutonium from spent fuel. We are in a different situation here. We are attempting to safeguard weapons grade plutonium. It has to all end up in MOX, so we will have to do whatever it takes to get that plutonium from whatever state it is in into MOX.

Q. So you understand that it is not -- that the scrap fuel that is sent to La Hague you understand will not be sent through their aqueous polishing facility, they will not be processing that?

A. My understanding is they are not currently planning to do that or authorized to do that.

Q. And what makes you think that we would reprocess scrap in our aqueous polishing facility?

A. I think you will have to.

Q. Why?

A. Because you have to get every gram of that plutonium into a reactor and you will have to do that by creating a qualified fuel pellet and putting it in a fuel rod. So if you have a faulty pellet, if you have one or if you have a million, you will have to do that to make it into a good fuel pellet.

Q. And have you no information that what that takes is putting it through aqueous polishing process, do you?

A. That was my understanding, that it would -- that the pellets would require aqueous polishing, but I don't have any documents that tell me that, I don't believe.

Q. Off the record.

(Discussion off the record.)

BY MS. MASHHADI:

Q. Now, going back to your response to interrogatory 11.1, you gave us four reasons. I am going to go to the third reason. The third basis for GANE's contention that the ER understates the

impact of the high alpha liquid waste stream was, according to your response, "the use of different units of measurement to describe the waste stream."

Now, my understanding is that GANE was referring to DCS's decision in the original environmental report to characterize the waste stream in gallons instead of curies; is that correct?

A. That is correct -- wait, wait, wait. Repeat your question?

Q. My understanding is that what you were referring to in this response was that GANE was -- DCS's decision to characterize the waste stream in gallons instead of curies.

A. Right.

Q. Now, I think you have Table 3.3 of our revised ER in front of you. Looking at the americium waste stream, can you tell me if that is expressed in curies?

A. The americium is.

Q. And it is also defined in gallons?

A. Yes.

say junk plutonium, are you referring to the alternate feed stock?

A. Yes.

Q. Your interrogatory response that described -- this interrogatory response I am reading, 11.1, is dated June 8, 2002; is that correct?

A. I believe so --

Q. Sorry, June 28, 2002.

A. Yes.

Q. DCS's revised its environmental report on July 11 to take into account the alternate feed stock in its discussion of the aqueous polishing waste stream; is that correct?

A. Repeat the question?

Q. After you responded to interrogatory 11.1, DCS actually revised its environmental report to take into account the alternate feed stock; is that correct?

A. Yes.

Q. Since DCS -- and you can look back at this number 4, since DCS has now characterized the

Q. Let me pull that because I would like to pin down what you are referring to. What would you like?

A. Your responses to our interrogatories, and we only asked you questions in the first round of it, I believe.

It was stripped uranium stream.

Q. And do you refer to the stripped uranium stream -- do you refer to the error in the stripped uranium stream in the contention?

A. At the time we wrote the contention, you hadn't discovered the error.

Q. So, do you refer to it?

A. No.

Q. When did you become aware that DCS was planning to include alternate fuel stock to the facility?

A. From what I recall, it would have been around the first of 2002.

Q. Were you aware of this plan when you filed the contention?

A. No.

Q. Does the contention say anything at all about the use of alternate fuel stock?

A. No.

MS. MASHHADI: Why don't we take a break?

(Discussion off the record.)

(Whereupon, at 11:40 a.m., the deposition was recessed to reconvene at 12:40 p.m. this same day.)

AFTERNOON SESSION

(12:45 p.m.)

Whereupon,

GLENN CARROLL,

having been previously duly sworn, was further examined and testified as follows:

EXAMINATION BY COUNSEL FOR THE DCSW

BY MS. MASHHADI:

Q. There is one thing I would like to revisit. We were discussing the WISE-Paris document and you noted that you were concerned DCS might reprocess scrap through its aqueous polishing process. I would like to show you --

A. I don't think I used the word concerned. I assumed.

Q. Your belief was that DCS might be reprocessing scrap through its AP process. I am going to show you figure 11.2-1 from DCS's revised CAR. This is a MOX process diagram and if you will notice on the right-hand side, you see where the scrap reprocessing goes back in, on the dry side. It does not get recycled in the aqueous polishing

process again.

Given this document, given this understanding, do you have any reason to believe that DCS would reprocess its scrap through the aqueous polishing process.

(The witness consulted with counsel.)

THE WITNESS: It doesn't look like from this that it re-enters the aqueous polishing. This is not the kind of detail we were hoping for overall. I am not an expert, but I would agree that looking at this document, it would appear that it does not re-enter the aqueous polishing process.

BY MS. MASHHADI:

Q. Do you have any reason to believe that this document is incorrect?

A. No.

Q. We will move on. In GANE's opinion, what will be the environmental impacts associated with the waste stream from the aqueous polishing process to remove gallium?

A. Well, GANE prefers a mobilization as a disposition path for plutonium. So besides other

aspects of MOX, the proliferation risk, the expense, the fact that it has a waste stream, a significant waste stream, contrasts unfavorably with the preferred method, so the fact that MOX has a waste stream is a negative to us because we see another way, a better way to handle the mission, to safeguard plutonium.

Beyond that, there has been a longstanding part of GANE's advocacy program and mission -- we concerned ourselves with Savannah River Site, and one of the greatest concerns has been the waste tanks and, of course, when we started, that was a significant basis of this contention, that any liquid waste adding to that burden was a terrible, terrible idea to us.

This is not part of our contention now, I don't believe, since you have instituted a proposal for the waste solidification building, but in answer to your question, I would say that we are not at ease about converting the waste to concrete because our understanding is that the form of concrete, the life span of concrete is no match for

before lunch that it was in the stripped uranium stream.

BY MS. MASHHADI:

Q. I just want to be sure it is the same error you are referring to.

My question to you, again, is what is your basis for believing that DCS has underestimated its liquid waste stream from the aqueous polishing process?

A. We don't trust you and you haven't shown us anything and we don't trust that. That is the basis of our belief.

Q. You told me about DOE, but do you have any basis for not trusting DCS?

A. Your DOE contractor, you are making money off of the American public, you are doing a project we disapprove of; the main member of your consortium is Cogema, who now owns Duke; the fact that 100 people can keep a philosophical independence from who owns the rest of their companies, we don't believe it.

We think Cogema has a dreadful past in

France, we think they have contaminated the coast in La Hague. We think similar processes in Britain have had the same philosophy. Britain and France are our allies to the point that we have hired a french national firm that has contaminated France to do this. The waste is besides the whole basic MOX premise, which is phenomenally dangerous, is a clear environmental impact. It is long-lived radiation that is going to occupy the surface of this planet essentially forever, and you haven't given us any details about it. Do we think you are overstating how much waste there will be and what the impact will be? No, we don't.

Q. Do you have any reason to believe that we are understating the amount of radioactivity in the waste stream?

A. You haven't even stated it except in one case.

Q. Do you have any reason to believe we have understated it?

A. You haven't stated it at all except in one case, and in that case, you can refer to my

previous answer. We don't trust Cogema, who we see as the player in DCS, at least in the manufacturing of the fuel. So if you don't tell us any detail, we are going to assume you are covering up something and we want the details.

MS. CURRAN: We need to take a break for a minute.

(Discussion off the record.)

(Recess.)

MS. CURRAN: Do you want to amend your answer?

THE WITNESS: Yes.

BY MS. MASHHADI:

Q. Feel free.

A. Your question was do we have any reason -- maybe you should repeat your question, I think it would be helpful.

Q. I had two questions based on what you had told me earlier. The first was do you have -- what is the basis for your belief that the liquid waste streams from the aqueous polishing process, the high alpha liquid waste streams, are understated?

MS. CURRAN: Can I object because -- I want to rely on the language of this contention and it seems to me that the whole phrase adds to the burden of radioactive waste at SRS without designing a plan, and that was the thrust of this contention, there was no plan to manage the waste. Obviously there is a plan now.

It seems to me that this is getting very confusing. Glenn has conceded there is a plan now to manage the waste. I don't think this is a live part of the contention any more, although she remains concerned from the standpoint of when you understate impacts, it can affect management, but clearly the part of the contention that was concerned about the lack of a plan for managing the waste is gone. So I think we can stipulate to that.

MS. MASHHADI: Great.

BY MS. MASHHADI:

Q. Do you agree with that?

A. Yes.

MS. MASHHADI: Off the record.

the waste incremental aqueous polishing process are understated in part because of the use of different units of measurements to describe the waste stream.

Does GANE agree that it is possible to calculate radioactivity of the waste stream through knowing the mass of the materials?

A. We agree that it is possible, but the average member of the public would not be able to do that, and we believe that the EIS as a public document should communicate clearly to the public.

Q. And in response to DCS interrogatory 11.10, you indicated, and I am paraphrasing, the use of different measurements obscures the figures that DCS is publishing. Are the figures that DCS published correct?

A. I don't know.

Q. With regard to interrogatory 11.11 and GANE's response, I will give you a moment to review that. GANE indicated in its response that "DCS has not provided a detailed initial inventory of the non-pit plutonium that it expects to receive." Given that the revised CAR -- and I do not have a

copy of that in front of me -- the revised CAR contains descriptions of the MOX fuel fabrication facility, plutonium storage capacity, and the bounding values of chemical contaminants in both the pit assembly and feed and alternate feed stock, which includes radionuclide information, do you still believe there is insufficient detail regarding the initial inventory such that the ER understates the impact of the waste stream from the aqueous polishing process?

A. Without seeing the CAR, I don't feel comfortable answering that.

MR. BRAY: That is all I have. Thank you.

MS. MASHHADI: We are done. Thank you very much.

(Whereupon, at 1:43 p.m., the taking of the deposition was concluded.)

(Signature not waived.)

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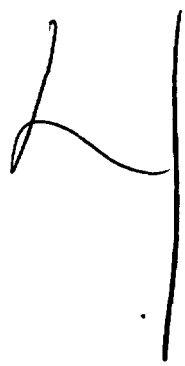

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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

In the Matter of	)	July 9, 2003
DUKE COGEMA STONE & WEBSTER	)	Docket No. 070-03098-ML
(Savannah River Mixed Oxide Fuel Fabrication Facility)	)	ASLBP No. 01-790-01-ML

CERTIFICATE OF SERVICE

I hereby certify that copies of "Duke Cogema Stone & Webster's Motion for Summary Disposition on Consolidated Contention 11" and all its attachments were served this day upon the persons listed below, by electronic and first class mail.

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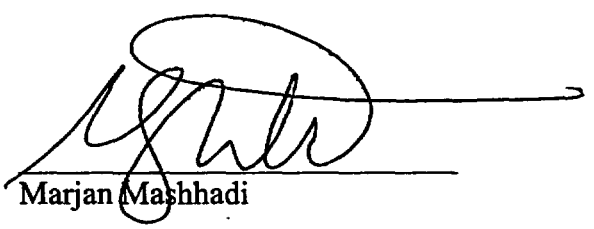

Marjan Mashhadi

7/09/03
Date