September 8, 2004

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	Docket No. 70-3103-ML
LOUISIANA ENERGY SERVICES, L.P.	)	
	)	ASLBP No. 04-826-01-ML
(National Enrichment Facility)	)	

RESPONSE OF LOUISIANA ENERGY SERVICES, L.P. TO THE QUESTION CERTIFIED TO THE COMMISSION BY MEMORANDUM AND ORDER (RULINGS REGARDING STANDING, CONTENTIONS, AND PROCEDURAL/ADMINISTRATIVE MATTERS)

James R. Curtiss, Esq.
David A. Repka, Esq.
Martin J. O'Neill, Esq.
WINSTON & STRAWN LLP
1400 L Street, NW
Washington, DC 20005
202-371-5700

John W. Lawrence, Esq.
LOUISIANA ENERGY SERVICES, L.P.
One Sun Plaza
100 Sun Lane NE, Suite 204
Albuquerque, NM 87109
505-944-0194

COUNSEL FOR LOUISIANA ENERGY SERVICES, L.P.

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I. INTRODUCTION

On August 18, 2004, the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") issued a Memorandum and Order accepting certification of a question from the Atomic Safety and Licensing Board ("Licensing Board" or "Board") presiding in this uranium enrichment facility licensing proceeding.[1] That question, which the Licensing Board certified to the Commission in LBP-04-14,[2] pertains to the appropriate classification of depleted uranium under 10 C.F.R. Part 61. In response to the Commission's request, Louisiana Energy Services, L.P. ("LES") herein addresses the certified question and the related admissibility of Basis D of

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1 *Louisiana Energy Servs., L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC __ (Aug. 18, 2004) (slip op.).

2 *Louisiana Energy Servs., L.P.* (National Enrichment Facility), LBP-04-14, 60 NRC __ (July 19, 2004) (slip op.).

the Nuclear Information and Resource Service/Public Citizen ("NIRS/PC") "plausible strategy" contention EC-3/TC-1.[3] *See* CLI-04-25, slip op. at 1, 4-5.

In short, the basis giving rise to the certified question accepted for review by the Commission, Basis D, alleges that "disposition of depleted uranium tails must be addressed based on the radiological hazards of this material that require that it be disposed of in a deep geological repository." NIRS/PC Petition at 31. In particular, NIRS/PC assert that the depleted uranium tails to be generated by the enrichment process at LES's National Enrichment Facility ("NEF") cannot be classified as low-level radioactive waste because it is "clearly comparable" to transuranic waste. *Id.* at 30. Accordingly, NIRS/PC maintain that the depleted uranium waste would be unsuitable for either transfer to the Department of Energy ("DOE") under Section 3113 of the USEC Privatization Act[4] or disposal in a disposal facility licensed under 10 C.F.R. Part 61. *Id.* at 27-29.

Under 10 C.F.R. Part 61, depleted uranium is properly classified as "Class A" waste. The plain language of Sections 61.2 and 61.55(a) can support no other conclusion. As set forth herein, this fact is reflected in prior agency assessments of the proper waste classification of depleted uranium, in which both the NRC Staff and a licensing board have concluded that depleted uranium must be classified as Class A waste. Indeed, in the recently-issued draft environmental impact statement ("DEIS") for the NEF, the NRC Staff reached the same

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[3] "Basis D" is the original designation given to this basis of proposed contention 2.1 by NIRS/PC in their April 6, 2004 intervention petition. *See* "Petition to Intervene by Nuclear Information and Resource Service and Public Citizen" (Apr. 6, 2004) ("NIRS/PC Petition") at 27-31. The Licensing Board subsequently redesignated this contention NIRS/PC EC-3/TC-1, and upon admitting the contention, redesignated "Basis D" as "Basis C." *See* LBP-04-14, App. A at 5 (slip op.).

[4] 42 U.S.C. § 2297h-11 (2003).

conclusion.[5] Moreover, it is clear that the performance-objective approach contained in 10 C.F.R. Part 61 is intended to accommodate all types of low-level waste, regardless of their specific class, as long as the land disposal facility receiving the waste meets the Part 61 performance objectives. Accordingly, given the clear status of depleted uranium as Class A waste under Part 61, any NIRS/PC basis alleging that depleted uranium is not low-level waste and "must" be placed in a deep geological repository, or that the Section 3113 option is not "plausible" for that reason, should be dismissed by the Commission as an improper collateral attack on NRC's Part 61 land disposal regulations.[6]

II. BACKGROUND

A. Relevant Procedural History

This proceeding relates to LES's December 12, 2003 application for the specific NRC license necessary to authorize construction and operation of the NEF, a gas centrifuge uranium enrichment facility, to be located in Lea County, New Mexico. If granted, the license will authorize LES to construct and operate the facility, which will enrich natural uranium for conversion into fuel to be used in nuclear power reactors. A license would be issued in

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5 *See* NUREG-1790, *Environmental Impact Statement for the Proposed National Enrichment Facility – Draft Report for Comment*, Lea County, New Mexico, Docket No. 70-3103, Louisiana Energy Services L.P., NRC/NMSS (Sept. 2004) ("NEF DEIS") at 2-27.

6 Bases A, H, and I of contention NIRS/PC EC-6/TC-3 (originally NIRS/PC 4.1) also challenge the classification of depleted uranium as low-level waste. Specifically, Basis A questions the "unstated assumption" in the "LLNL Report" that depleted uranium is low-level waste. Basis H alleges, in part, that the mine disposal option advanced by LES in its license application cannot be considered plausible if DUF_6 is not considered low-level waste. Similarly, Basis I alleges that the "engineered trench" method of waste disposal discussed by LES in its application is not likely to be acceptable if DUF_6 is not considered low-level waste. *See* NIRS/PC Petition at 34, 37-38. If the Commission determines that depleted uranium is low-level waste and dismisses Basis D of NIRS/PC EC-3/TC-1, then these bases likewise should be dismissed.

accordance with 10 C.F.R. § 70.31(d), upon appropriate findings that the facility would not be inimical to the common defense and security or constitute an unreasonable risk to the health and safety of the public.[7] A Notice of Hearing and Commission Hearing Order were published in the *Federal Register* on February 6, 2004.[8] In response, the New Mexico Environment Department ("NMED") and the Attorney General of New Mexico ("AGNM") filed petitions to intervene pursuant to 10 C.F.R. § 2.309, on March 23 and April 5, 2004, respectively.[9] NIRS/PC filed their joint intervention petition on April 6, 2004.

LES responded first to NMED's petition to intervene on April 19, 2004, and then to petitions of the AGNM and NIRS/PC on May 3, 2004.[10] The NRC Staff responded to the NMED, AGNM, and NIRS/PC intervention petitions on April 19, April 30, and May 3, 2004, respectively. NIRS/PC replied to the LES and NRC Staff answers on May 10, 2004.[11]

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7 Licenses would also be issued under 10 C.F.R. Parts 30 and 40 for possession and use of source and byproduct materials.

8 In the Matter of Louisiana Energy Services, L.P. (National Enrichment Facility); Notice of Receipt of Application for License; Notice of Availability of Applicant's Environmental Report; Notice of Consideration of Issuance of License; and Notice of Hearing and Commission Order, 69 Fed. Reg. 5,873 (Feb. 6, 2004) ("Hearing Order").

9 *See* "The New Mexico Environment Department's Request for Hearing and Petition for Leave to Intervene" (Mar. 23, 2004); "The New Mexico Attorney General's Request for Hearing and Petition for Leave to Intervene" (Apr. 5, 2004). NMED and the AGNM filed a joint supplement to their petitions to intervene on April 23, 2004, in response to the Licensing Board's Initial Prehearing Order dated April 15, 2004.

10 *See* "Answer of Louisiana Energy Services, L.P. to the New Mexico Environment's Request for Hearing and Petition for Leave to Intervene" (Apr. 19, 2004) ("LES Answer to NIRS/PC Petition"); "Answer of Louisiana Energy Services, L.P. to the Requests for Hearing and Petitions for Leave to Intervene of the New Mexico Attorney General and Nuclear Resource Information Service, and Public Citizen" (May 3, 2004).

11 *See* "Reply by Nuclear Information and Resource Service and Public Citizen to Answers of Nuclear Regulatory Commission Staff and Louisiana Energy Services, L.P." (May 10, 2004).

After hearing oral argument on the various petitioners' proposed contentions at a prehearing conference on June 15, 2004 in Hobbs, New Mexico, the Licensing Board ruled on the admissibility of those contentions on July 19, 2004. *See* LBP-04-14, slip op. The Licensing Board referred five of its contention determinations to the Commission pursuant to 10 C.F.R. § 2.323(f), noting that they raised "novel" legal or policy questions. *See id.*, slip op. at 2, 16, 18, 22-23, 25, 27. These certified rulings involved one contention proposed by NMED, three contentions proposed by the AGNM, and one contention proposed by NIRS/PC. The Licensing Board's certified rulings on the NMED and AGNM contentions all involved the same issue, *i.e.*, the ability of the Board, in ruling on the admissibility of a proposed contention, to consider purportedly material supporting information that was first submitted as part of a reply pleading. The Board's certified ruling on the NIRS/PC issue sought Commission guidance on a different issue, *i.e.*, the "status of depleted uranium hexafluoride as low-level waste." *Id.*, slip op. at 27.

On August 18, 2004, the Commission affirmed the admissibility determinations of the Licensing Board with respect to four of the five referred contentions.[12] *See* CLI-04-24, slip op. at 4. As noted above, however, the Commission opted to further review Basis D of contention NIRS/PC EC-3/TC-1 concerning the appropriate waste classification of depleted uranium under 10 C.F.R. Part 61. *Id.*, slip op. at 5. Citing some confusion in the hearing record relative to the parties' interpretation of the Commission's original hearing notice, the Commission specifically noted that the notice "should not be understood to preclude consideration of whether petitioners' contention on appropriate waste classification amounts to an impermissible attack on NRC regulations (10 C.F.R. Part 61)." *Id.* In this regard, the

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[12] The Commission concurred with the Board in declining to consider additional support, first submitted as part of a reply brief, for the one NMED and three AGNM contentions at issue.

Commission directed the parties to address in particular Sections 61.2 and 61.55(a)(6), as well as a vacated Licensing Board decision that considered the waste classification issue in the context of a waiver petition submitted in the prior Claiborne Enrichment Center ("CEC") proceeding. *Id.*, slip op. at 5 n.18. These matters are discussed in LES's argument below. LES concludes that Basis D was inadmissible precisely because it was an attack on Part 61.

B. Overview of Contention Giving Rise to the Certified Question

In the Hearing Order for this proceeding, the Commission set forth what would constitute one possible "plausible strategy" for disposal of the LES depleted uranium tails. Specifically, the Commission stated that, "unless LES demonstrates a use for the uranium in the depleted tails as a potential resource, the depleted tails may be considered waste." 69 Fed. Reg. at 5877 col. 3. The Commission further specified that, "if such waste meets the definition of 'waste' in 10 C.F.R. 61.2, the depleted tails are to be considered low-level radioactive waste within the meaning of 10 C.F.R. part 61, in which case an approach by LES to transfer to DOE for disposal by DOE of LES['s] depleted tails pursuant to Section 3113 of the USEC Privatization Act constitutes a 'plausible strategy' for dispositioning the LES depleted tails." *Id.*

In Basis D of proposed contention NIRS/PC 2.1 (now designated Basis C of contention NIRS/PC EC-3/TC-1), NIRS/PC specifically challenged the transfer of DUF_6 from the NEF to DOE for deconversion and ultimate disposition, pursuant to Section 3113 of the USEC Privatization Act of 1996, as a "plausible strategy." *See* NIRS/PC Petition at 27-31. Petitioners argued that DOE acceptance of DUF_6 waste is "plausible" only if the NRC makes a formal determination that depleted uranium is low-level radioactive waste. *Id.* at 27-28. The gravamen of Petitioners' argument is that such a determination would be inappropriate, in that the "radiological hazards" of depleted uranium "require" that it be "classified . . . in a category

that would mark it for deep geological disposal" of the type ordinarily contemplated for Greater-than-Class C ("GTCC") waste. *Id.* at 30-31. In support of this position, Petitioners set forth the following arguments:

(1) LES erroneously concludes that depleted uranium waste falls, by default, into the low-level waste category. *Id.* at 28.

(2) LES omits to note that it is the NRC, not LES, that determines waste classification. *Id.*

(3) The classification of low-level waste can apply only to waste that would clearly be appropriate for (a) shallow land disposal and (b) 100-year institutional control, and depleted uranium meets neither criterion. *Id.*

(4) The fact that depleted uranium has a specific activity greater than 100 nanocuries per gram, and that its three uranium isotopes all are alpha emitters with long half-lives, "all point to the classification of [depleted uranium] as GTCC waste." Such wastes are clearly comparable to the wastes defined as transuranic ("TRU") wastes by DOE and EPA. *Id.* at 29-30.

(5) GTCC waste requires "special disposal methods," *i.e.*, disposal in a "deep geologic repository." *Id.* at 28, 30.

LES opposed admission of Basis D, on the ground that it constitutes an impermissible attack on the Hearing Order and the NRC's Part 61 regulations. LES Answer to NIRS/PC Petition at 32. In addition, LES contended that Basis D contains factually and legally incorrect assertions and fails to properly challenge the Application. *Id.* As noted above, while the Licensing Board concluded that this basis supported admission of the contention, it referred its ruling to the Commission for further review given the "novel legal or policy question" associated with the classification of depleted uranium as low-level waste. LBP-04-14, slip op. at 27.

III. ARGUMENT

The issue before the Commission is whether the depleted uranium to be generated by operation of the NEF meets the 10 C.F.R. Part 61 definition of "waste." If the Commission

answers this question in the affirmative, LES would have met its obligation, as provided in the Commission's Order of January 30, 2004, to demonstrate that it has a "plausible strategy" for the disposition of the depleted uranium generated by the NEF (*i.e.*, the Section 3113 option).

The issue certified by the Licensing Board to the Commission for resolution is, in reality, one of straightforward regulatory interpretation. The Commission apparently recognized this fact when it directed the parties to specifically address Sections 61.2 and 61.55(a)(6). In short, the plain language of these provisions makes it clear that depleted uranium is "Class A" waste that need not be disposed of in a "deep geological repository." Indeed, as discussed below, prior NRC treatment of this very issue confirms the validity of this position. In this context, therefore, Basis D does not involve a litigable fact-based issue of whether depleted uranium is Class A low-level waste. Rather, it represents an invalid legal argument that depleted uranium "must" be addressed differently and an impermissible challenge to Commission regulations.

A. Depleted Uranium Can Be Classified Only as Class A Waste Under the Plain Language of 10 C.F.R. §§ 61.2 and 61.55(a)(6)

It is well-established that interpretation of an agency regulation begins with the language and structure of the provision itself. *See, e.g., Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Unit 3), CLI-01-10, 53 NRC 353, 361 (2001) (citing *Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), CLI-97-15, 46 NRC 294, 299 (1997)). The language and structure of Sections 61.2 and 61.55(a) are unambiguous, and when construed in accordance with their clear terms, can lead only to the conclusion that depleted uranium is Class A waste for purposes of Part 61. First and foremost, Section 61.2 provides that:

> *Waste* means those low-level radioactive wastes containing source, special nuclear, or byproduct material that are acceptable for disposal in a *land disposal facility*. For the purposes of this definition, low-level waste has

> the same meaning as in the Low-Level Waste Policy Act, that is, radioactive waste *not* classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act (uranium or thorium tailings and waste).[13]

10 C.F.R. § 61.2 (emphasis added). Thus, as the NRC Staff noted in its DEIS for the NEF, "[l]ow-level radioactive waste is defined by what it is not." NEF DEIS at 2-27 (inset). Depleted uranium is *not* high-level radioactive waste, is *not* transuranic waste, is *not* spent nuclear fuel, and *is* not Section 11e.(2) byproduct material, as those terms are defined in the Atomic Energy Act and NRC regulations. Therefore, absent its use as a resource, it is low-level waste under the plain language of 10 C.F.R. § 61.2.

NIRS/PC contend that certain properties of depleted uranium make it "clearly comparable to the wastes defined as transuranic [] waste by DOE and EPA." NIRS/PC Petition at 30. Notwithstanding the questionable technical veracity of this statement (as discussed further below), depleted uranium cannot be deemed "transuranic waste" for purposes of 10 C.F.R. § 61.2. In particular, Section 11ee. of the Atomic Energy Act ("AEA") of 1954, as amended, which provides the applicable NRC definition of that term, states that "transuranic waste" is:

> material contaminated with elements that have an atomic number *greater than* 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 10 nano-curies per gram, or in such other concentrations as the [NRC] may prescribe to protect the public health and safety.[14]

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[13] Section 61.2 defines "land disposal facility" as land, building, structures, and equipment which are intended to be used for the disposal of radioactive wastes, but *excluding* a "geologic repository" as defined in 10 C.F.R. Parts 60 or 63. 10 C.F.R. § 61.2.

[14] *See also* http://www.nrc.gov/reading-rm/basic-ref/glossary.html (NRC Glossary defining "transuranic waste as "[m]aterial contaminated with transuranic elements that is produced primarily from reprocessing spent fuel and from use of plutonium in fabrication of nuclear weapons," and "transuranic element" as "[a]n artificially made, radioactive

42 U.S.C. § 2014ee. (2003) (emphasis added). Because the depleted uranium waste to be generated by LES is not expected to be contaminated with elements having an atomic number greater than 92, it cannot be considered "transuranic waste" under the applicable NRC statutory and regulatory frameworks (*i.e.*, the AEA, Low-Level Waste Policy Act, and 10 C.F.R. Part 61).[15] *See* Affidavit of George A. Harper (attached), at 3. The manner in which the Department of Energy or Environmental Protection Agency define "transuranic" waste simply is not relevant to NRC regulations or the certified question before the Commission.

This fact is further reflected in the waste classification scheme set forth in 10 C.F.R. § 61.55(a). That regulation establishes three classes of low-level waste – Classes A, B, and C – that are based on the concentrations (in curies per cubic meter) of specified "long-lived" and "short-lived" radionuclides in the waste. These radionuclides and their concentrations are listed in 10 C.F.R. § 61.55(a)(3), Table 1 (long-lived radionuclides) and Table 2 (short-lived radionuclides).[16] For radioactive waste that does not contain any of the specific radionuclides listed in Table 1 or Table 2, Section 61.55(a)(6) provides that the waste "is Class A" waste. Because neither depleted uranium nor any of its associated uranium isotopes is listed in Table 1 or Table 2 of Section 61.55(a)(3), depleted uranium is Class A waste under the clear terms of Section 61.55(a)(6). *See* Affidavit of George A. Harper, at 3.

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element that has an atomic number higher than uranium in the Periodic Table of Elements such as neptunium, plutonium, americium, and others").

[15] The feed material to be used would be natural UF_6 obtained principally from Port Hope, Canada or Metropolis, Illinois. Thus, since the only radioactive material entering the facility, other than calibration sources, will be "low-level" natural uranium hexafluoride, the depleted uranium resulting from the enrichment process will not have contamination that is higher than "low-level."

[16] The NRC also takes into account the "physical form and stability requirements set forth in 10 C.F.R. § 61.56" in evaluating appropriate disposal options for low-level waste.

B. The Classification of Depleted Uranium as Class A Waste is Consistent With Prior NRC Determinations on this Issue

The conclusion that depleted uranium is Class A waste under Part 61 is consistent with prior NRC determinations regarding the proper waste classification of depleted uranium. In SECY-91-019, for example, the NRC Staff considered a number of issues related to the disposition of depleted uranium tails generated by a commercial enrichment facility. *See* SECY-91-019, "Disposition of Depleted Uranium Tails from Enrichment Plants" (Jan. 25, 1991). With respect to the waste classification of depleted uranium, the Staff concluded as follows:

> [I]n accordance with 10 C.F.R. Parts 40 and 61, depleted uranium tails from the enrichment process are source material and, if waste [as opposed to a resource], are included within the definition of [low-level waste], and could be disposed of in a [low-level waste] disposal facility under 10 C.F.R. Part 61, *if in proper waste form*. . . . Under 10 C.F.R. 61.55(a), DUF_6 tails are Class A wastes."

Id., Enclosure at 3-4 (emphasis added).

Approximately four years later, a Licensing Board considered this issue in connection with a waiver petition by an intervenor to the licensing proceeding for the proposed Claiborne Enrichment Center ("CEC").[17] In its petition, filed under former Section 2.758, the intervenor, Citizens Against Nuclear Trash ("CANT"), requested that the NRC *waive* the waste classification provisions of 10 C.F.R. §§ 61.5(a)(3) and (a)(6) for that proceeding, such that the depleted uranium to be generated by the proposed CEC could be classified as GTCC and require disposal in a "geologic repository."[18] In the absence of such a waiver, the intervenor contended,

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[17] *See Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), Memorandum and Order (Ruling on Intervenor's Petition to Waive Certain Regulations), 1995 WL 110611 (N.R.C. Mar. 2, 1995), *petition for interlocutory review denied*, CLI-95-7, 41 NRC 383 (1995), *vacated*, CLI-98-5, 47 NRC 113 (1998).

depleted uranium would be considered Class A waste under Part 61. *See* CANT Waiver Petition at 2. Without question, this is the same end sought by NIRS/PC in this proceeding, albeit through a different procedural mechanism (*i.e.*, without the explicit request for a waiver).

The Licensing Board's ruling on the CANT petition is discussed in greater detail below, in connection with the "performance-based" nature of Part 61. However, at this point, it warrants mention that the Licensing Board reached the same conclusion set forth above regarding the proper waste classification of depleted uranium. Specifically, the Board concluded that, "[b]ecause depleted uranium, the low-level radioactive waste from the Applicant's proposed enrichment facility, is not listed in either Table 1 or 2 it is Class A waste under the terms of section 61.55(a)(6)."[19] *Claiborne*, 1995 WL 110611, at *1.

The NRC Staff's most recent affirmation of those conclusions can be found in the DEIS for the proposed NEF, issued on September 3, 2004. The DEIS states, in relevant part:

> [I]n accordance with 10 CFR Parts 40 and 61, depleted uranium is a source material and, if treated as a waste, it would fall under the definition of a low-level radioactive waste per 10 C.F.R. § 61.55(a). This means that it could be disposed of in a licensed low-level radioactive waste facility if it is in a suitably stable form and meets the performance requirements of 10 C.F.R. Part 61. *Therefore, under 10 CFR § 61.55(a), depleted uranium is a Class A low-level radioactive waste.*

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18 "Citizens Against Nuclear Trash's Petition for Waiver of 10 C.F.R. § 61.55(a)(3) and 10 C.F.R. § 61.55(a)(6) and for Classification of Depleted Uranium Tails as Greater Than Class C Radioactive Waste" (Jan. 17, 1995) (NRC Accession No. 9501270140) ("CANT Waiver Petition").

19 In the CEC proceeding, the NRC Staff also took the view that depleted uranium is Class A waste. *See, e.g.*, "NRC Staff Response in Opposition to [CANT's] Petition for Waiver of 10 C.F.R. § 61.55(a)(3) and 10 C.F.R. § 61.55(a)(6) and for Classification of Depleted Uranium Tails as Greater Than Class C Radioactive Waste" (Feb. 6, 1995) (NRC Accession No. 9502160119) ("NRC Staff Response to CANT Waiver Petition").

NEF DEIS at 29 (inset) (citing SECY-91-019) (emphasis added). Thus, the view that depleted uranium is properly classified as Class A waste is one long held – and still held– by the NRC Staff. Indeed, as evidenced by the Licensing Board's ruling on the CANT waiver petition in 1995, no other conclusion is legally tenable given the unambiguous terms of Sections 61.2 and 61.55(a).[20]

C. The Assertion That Depleted Uranium "Must" Be Disposed of in a Deep Geological Repository Ignores the Performance-Based Approach of 10 C.F.R. Part 61

A key feature of 10 C.F.R. Part 61 is its use of "performance objectives." Specifically, Section 61.40 provides that "[l]and disposal facilities *must* be sited, designed, operated, closed, and controlled after closure so that *reasonable assurance* exists that exposures to humans are within the limits established in the performance objectives in §§ 61.41 through 61.44." 10 C.F.R. § 61.40 (emphasis added). Sections 61.41 through 61.44, in turn, respectively require (1) protection of the general population from releases of radioactivity from the disposal site to the environment, (2) protection of individuals from inadvertent intrusion into the disposal site, (3) conduct of disposal facility operations in compliance with the radiation protection standards of 10 C.F.R. Part 20, and (4) post-closure stability of the disposal site. Unless these performance objectives are met, a given waste – regardless of its particular classification under Section 61.55(a) – cannot be disposed of pursuant to Part 61.

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[20] Consistent with this conclusion, the AGNM, in a September 3, 2004 filing, stated its view that depleted uranium tails "are low-level radioactive waste by default," and that under 10 C.F.R. § 61.55(a)(6) appear to be Class A waste. While the AGNM expressed a concern that this interpretation might conflict with the "intruder protection" requirements found elsewhere in Part 61, it is clear, as discussed in Section C, *infra*, that agency has the authority under Subpart C of Part 61 to establish appropriate "performance based" requirements with regard to the disposal of depleted uranium as Class A waste.

In asserting that depleted uranium waste generated by the NEF "must be disposed of in a deep geological repository" (NIRS/PC Petition at 30), NIRS/PC not only ignore and/or misconstrue the waste classification provisions of Section 61.55(a), they overlook the performance-based approach of Part 61. Turning Part 61 on its head, NIRS/PC contend that the low-level waste designation can apply *only* to waste that would clearly be appropriate for shallow land disposal and 100-year institutional control. *Id.* at 28. They further assert that depleted uranium meets neither criterion. *Id.*

Notably, in the *Claiborne* proceeding, the Licensing Board rejected the foregoing argument – made at the time by the intervenor CANT instead of NIRS/PC. The Board correctly noted that the Part 61 performance objectives "are the final determinant on the type of land disposal for the wastes involved, *not the waste classification.*" *Claiborne*, 1995 WL 110611, at *7 (emphasis added). The Board summed up its findings on this issue as follows:

> [T]he Intervenor's premise is incorrect because all waste, regardless of its classification, and all types of land disposal *must meet the performance objectives of Subpart C* before [the waste] can be disposed of under Part 61. If the near-surface disposal of enrichment tails, regardless of how the waste is classified, cannot meet the performance objectives of Subpart C, it cannot be disposed of in a near-surface facility.[21]

Id. at *6 (emphasis added). In other words, while the waste classification provisions are intended to establish a hierarchy of sorts based on the relative potential hazards posed by different waste types and forms, ultimately they do not dictate the specific type of land disposal to be used for a given type or quantity of waste.[22] As the *Claiborne* Board noted, "[t]he performance objectives

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[21] In this regard, the Licensing Board agreed with the NRC Staff that, "as long as the disposal of uranium enrichment tails meets the performance objectives of Subpart C, Part 61 is intended to accommodate such disposal, and the Commission, 'by necessary implication,' considered the disposal of this waste in the rulemaking proceeding." *Claiborne*, 1995 WL 110611 at *5.

of Subpart C, which the Intervenor has not challenged, ensure that the safety objectives of Part 61 are met." *Id.* Therefore, "the classification of depleted uranium tails as Class A waste under the catch-all provision of section 61.55(a) does not undercut the purpose of the Part 61 regulations." *Id.*

The argument inherent in Basis D is, indeed, that the mere classification of depleted uranium as low-level waste will somehow preclude proper disposal of that waste. This argument, however, neglects to consider the performance-objective approach embodied in 10 C.F.R. Part 61. NRC determinations pertaining to the land disposal of such waste are, in fact, governed principally by the need to comply with the Part 61 performance objectives.

D. The Purported "Radiological Hazards" Identified by NIRS/PC Fail to Establish a Basis for Classification of Depleted Uranium as GTCC Waste

Petitioners' purported justification for classifying depleted uranium as GTCC waste under 10 C.F.R. Part 61 is sparse and uncompelling. As set forth above, classification of depleted uranium as anything other than Class A waste would contravene the clear terms of Sections 61.2 and 61.55(a) and the long history of NRC interpretations of these provisions. In this regard, as a purely legal matter, depleted uranium is not GTCC waste. Notwithstanding, in their intervention petition, NIRS/PC contend that depleted uranium "cannot *logically* be classified" as anything other than "transuranic" or GTCC waste. NIRS/PC Petition at 30. In particular, they maintain that, because depleted uranium has a specific activity greater than 100

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[22] As the Board correctly stated, "Part 61 establishes a broad regulatory scheme for the land disposal of radioactive waste other than disposal in a geologic repository." *Id.* Indeed, the Commission has noted that "[t]he Part 61 regulation is intended to be performance-oriented rather than prescriptive, with the result that the Part 61 technical criteria are written in relatively general terms, allowing applicants to demonstrate how their proposal meet these criteria for various near-surface disposal methods." Advanced Notice of Proposed Rulemaking, *Definition of High-Level Radioactive Waste*, 52 Fed. Reg. 5992, 5999 col. 2 (Feb. 27, 1987).

nanocuries per gram, and its three uranium isotopes all are alpha emitters with long half-lives, it should be classified as GTCC waste. *Id.* at 29-31.

The preceding argument is precisely the same argument that was rejected by the Licensing Board in the *Claiborne* proceeding. In fact, the CANT waiver petition dismissed by the Board was "supported by the affidavit of Dr. Arjun Makhijani," the very same individual upon whose expert opinion Petitioners in this case relied in crafting contention NIRS/PC EC-3/TC-1.[23] CANT Waiver Petition at 3. In the *Claiborne* proceeding – as in this proceeding – the intervenor asserted that depleted uranium should be classified as GTCC waste because the decay mode, specific activities, and half-lives of its uranium isotopes purportedly make it "much more comparable to GTCC TRU waste." *Id.* at 15. In this regard, CANT, like NIRS/PC, argued that depleted uranium waste "must be placed in a deep geologic repository to prevent dangerous contamination of the environment." *Id.*

Thus, the "technical" argument proffered by NIRS/PC to support classification of depleted uranium as GTCC is nothing more than a recapitulation of the argument made by CANT and Dr. Makhijani in the *Claiborne* proceeding. Notably, the Licensing Board summarily rejected that argument, stating as follows:

> Suffice it to note that the linchpin of the Intervenor's claim is an asymmetrical comparison (*i.e.*, apples to oranges comparison) between depleted uranium and the concentrations of long-lived transuranic wastes

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[23] As LES has previously noted, Dr. Makhijani's affidavit in support of the CANT Section 2.758 petition constitutes a clear acknowledgment on his part that, under the terms of 10 C.F.R. Part 61, depleted uranium is not classified as GTCC waste. That is to say, in the *Claiborne* proceeding, Dr. Makhijani supported a "waiver" of the applicable regulatory language. Otherwise, he maintained, depleted uranium would have to be considered Class A waste under Part 61. In the instant proceeding, he supports Petitioners' argument that the NRC should simply disregard the relevant language as a matter of "logic," now contending that depleted uranium is *not* Class A waste.

> listed in 10 C.F.R. § 61.55. The expert affiants of the Applicant and the Staff fully rebut [the Intervenor's] conclusions and adequately demonstrate why the Intervenor's characterization of depleted uranium as GTCC transuranic waste is not technically sound.[24]

Claiborne, 1995 WL 110611 at *8. Based on its review of the expert affidavits presented by LES and the NRC Staff, the Board further concluded that "the potential hazards associated with the disposal of GTCC transuranic waste are many times higher than those for depleted uranium." *Id.* Thus, any attempt by NIRS/PC and Dr. Makhijani to resurrect the same flawed and unsubstantiated argument – whether viewed as a contention or as a waiver request – should be similarly rejected by the Commission.

E. The NIRS/PC Challenge to the Classification of Depleted Uranium As Low-Level Radioactive Waste is an Improper Collateral Attack on NRC Regulations

In the final analysis, given the plain language of Sections 61.2 and 61.55(a)(6) and the language of Basis D, it is evident that NIRS/PC is seeking to challenge the NRC's waste classification scheme as set forth in Part 61. For example, in Basis D, NIRS/PC contend that depleted uranium "cannot *logically* be classified" as anything other than "transuranic" or GTCC waste. NIRS/PC Petition at 30 (emphasis added). Additionally, they state that "[t]he conclusion that [depleted uranium] is GTCC fits squarely within the NRC definition for that category, *if we ignore the nomenclatural difference between uranium and transuranium radionuclides and focus on the substance.*" *Id.* (emphasis added). Insofar as Basis D might also be regarded as a *de facto* request for a waiver of the applicable provisions, *i.e.*, Sections 61.2 and 61.55(a), it bears

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[24] *See* "Affidavit of Yawar H. Faraz" (Feb. 6, 1995) (attached to NRC Staff Response to CANT Waiver Petition) (NRC Accession No. 9502160119); "Affidavit of John M.A. Donelson" (Feb. 1, 1995) (attached to "Louisiana Energy Services' Response to [CANT's] Petition for Waiver of 10 C.F.R. § 61.55(a)(3) and 10 C.F.R. § 61.55(a)(6) and for Classification of Depleted Uranium Tails as Greater Than Class C Radioactive Waste" (Feb. 1, 1995) (NRC Accession No. 9502090036).

repeating that just such a request was submitted by CANT and Dr. Makhijani – and rejected – in the *Claiborne* proceeding.

Because Section 2.335 of the Commission's hearing procedures expressly bars petitioners from challenging applicable Commission rules or regulations in agency adjudicatory proceedings, any NIRS/PC challenges to Part 61's waste classification provisions must be dismissed. *See* 10 C.F.R. § 2.335(a); *Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974), *cited in International Uranium (USA) Corp.* (Receipt of Material from Tonawanda, New York), LBP-98-21, 48 NRC 137, 143 n.9 (1998) (stating that a proposed contention must be rejected if it constitutes an attack on applicable statutory requirements or challenges the basic structure of the Commission's regulatory process).

Moreover, it is well-established that, "[i]f [p]etitioners are dissatisfied with our generic approach to [a] problem, their remedy lies in the rulemaking process, not in this adjudication." *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999); *see also Connecticut Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-03-7, 58 NRC 1, 7 (2003) (stating that "[i]f our safety regulations are in any way inadequate and need revision, the appropriate vehicle to ask the Commission to set a new standard is a petition for rulemaking under 10 C.F.R. § 2.802"). NIRS/PC, however, have not submitted such a petition.

It also warrants emphasizing that NIRS/PC failed to avail themselves of another procedural avenue that was available to them to raise their concern, an avenue that would have been the appropriate way to bring this concern to the Commission, given that they are effectively

challenging the Commission's treatment of the waste classification issue in the Hearing Order. In Section IV.B. of its hearing order, the Commission provided, in pertinent part, that:

> Persons found by the Commission to have standing and entities participating under 10 CFR 2.315(c) as of the date of the Commission's order on standing may also move the Commission to reconsider any portion of Section IV of this Notice and Commission Order where there is no clear Commission precedent or unambiguously governing statutes or regulations. Any motion to reconsider must be filed within 10 days after the Commission's order on standing. The motion must contain all technical or other arguments to support the motion.[25]

69 Fed. Reg. at 5878 col. 3. The Commission's statements regarding the classification of depleted uranium as low-level waste for purposes of transfer of those tails to DOE for disposal pursuant to Section 3113 of the USEC Privatization Act are found in Section IV of the notice and order. Nonetheless, NIRS/PC failed to seek reconsideration of, or comment on, the guidance provided by the Commission relative to the waste classification and "plausible strategy" issues.

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[25] The Commission issued its order on standing (CLI-04-15) on May 20, 2004. No motions for reconsideration of Section IV of the Hearing Order were filed by any of the parties.

IV. CONCLUSION

For the reasons stated above, depleted uranium is properly classified as Class A waste under 10 C.F.R. Part 61. Basis D of contention NIRS/PC EC-3/TC-1 constitutes a direct challenge to Part 61's clear and unequivocal treatment of depleted uranium. For that reason, Basis D (and the related bases of A, H, and I of contention NIRS/PC EC-6/TC-3) do not raise issues appropriate for litigation in this proceeding and should be dismissed. On this basis, the Commission should conclude, consistent with the explicit terms of its January 30, 2004 Order, that LES has met its obligation to demonstrate that it has a "plausible strategy" for the disposition of the depleted uranium hexafluoride generated by the NEF.

Respectfully submitted,

James R. Curtiss, Esq.
David A. Repka, Esq.
Martin J. O'Neill, Esq.
WINSTON & STRAWN LLP
1400 L Street, N.W.
Washington, DC 20005-3502
(202) 371-5700

John W. Lawrence, Esq.
LOUISIANA ENERGY SERVICES, L.P.
One Sun Plaza
100 Sun Lane NE, Suite 204
Albuquerque, NM 87109
505-944-0194

ATTORNEYS FOR LOUISIANA ENERGY SERVICES, L.P.

Dated in Washington, District of Columbia
This 8th day of September, 2004

September 8, 2004

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	Docket No. 70-3103-ML
Louisiana Energy Services, L.P.	)	
	)	ASLBP No. 04-826-01-ML
(National Enrichment Facility)	)	

AFFIDAVIT OF GEORGE A. HARPER, P.E.

I, George A. Harper, being duly sworn, state as follows:

1. My name is George A. Harper. I am employed by Framatome ANP as Manager of Regulatory Compliance Programs. I am providing this affidavit under a technical assistance contract between Framatome ANP and Louisiana Energy Services, L.P. ("LES").

2. I hold a Bachelor of Science Degree in Civil Engineering and Master of Science Degree in Civil Engineering from the University of Massachusetts. I also am a Registered Professional Engineer. A statement of my professional qualifications and experience is attached hereto and incorporated herein by reference.

3. I am currently assigned to serve as the Framatome ANP Project Manager for the LES project. In this capacity, I have managed the overall Framatome ANP portion of the project, managed preparation of the Environmental Report, prepared portions of the Environmental Report, prepared portions of the Safety Analysis Report, managed and prepared portions of required state permit applications, and participated in the Integrated Safety Analysis

as part of the LES license application to construct and operate the proposed National Enrichment Facility ("NEF").

4. The purpose of this affidavit is to demonstrate that the depleted uranium stream to be generated by the enrichment of uranium at the NEF meets the NRC regulatory definition for Class A waste. I am knowledgeable with respect to this issue by virtue of my education, training, and past and present job responsibilities, including my involvement in preparing and reviewing the NEF license application.

5. As set forth in the NEF license application, the NEF will use the gas centrifuge process to separate natural uranium hexafluoride ("UF_6") feed material containing approximately 0.71 w/o Uranium-235 (^{235}U) into a product stream enriched up to 5.0 w/o ^{235}U and a depleted UF_6 stream containing approximately 0.2 to 0.34 w/o ^{235}U.

6. For purposes of 10 C.F.R. Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," low-level radioactive waste is radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act (i.e., uranium or thorium tailings and waste).

7. Because the depleted uranium generated by the NEF will result from enriching natural UF_6, it does not meet the definitions of high-level radioactive waste, transuranic waste, spent nuclear fuel, or section 11e.(2) byproduct material, as set forth in the Atomic Energy Act and NRC regulations. Therefore, the depleted uranium is low-level waste for purposes of 10 C.F.R. Part 61.

8. 10 C.F.R. § 61.55(a) establishes three classes of low-level waste acceptable for near-surface disposal – Classes A, B, and C – that are based on the concentrations (in curies per cubic meter) of specified "long-lived" and "short-lived" radionuclides in the waste. These

radionuclides and their concentrations are listed in Table 1 (long-lived radionuclides) and Table 2 (short-lived radionuclides) of 10 C.F.R. § 61.55(a)(3). For low-level waste that does not contain any of the specific radionuclides listed in Table 1 or Table 2, Section 61.55(a)(6) provides that the waste is Class A waste.

9. The depleted uranium generated by the NEF is not expected to contain any of the specific radionuclides listed in Table 1 and Table 2 of 10 C.F.R. § 61.55(a)(3). Therefore, the NEF depleted uranium is expected to meet the definition of Class A waste pursuant to 10 C.F.R. § 61.55(a)(6).

10. The information presented above is true and correct to the best of my knowledge and belief.

George A. Harper

Sworn and subscribed to before me this 8th day of September 2004.

Maureen L. Lyons
Notary Public

My Commission expires: Feb. 25, 2011

FRAMATOME ANP

GEORGE A. HARPER, P.E.
FRAMATOME ANP

Title/Position: Manager
Regulatory Compliance Programs

Years of Experience: 25

SUMMARY

Mr. Harper has over 25 years of nuclear industry experience in analyzing environmental, hydrologic, hydraulic, seismic, geotechnical, groundwater, tornado and tornado missile, and probabilistic risk assessment (PRA) issues relating to nuclear power plants. He currently manages over 60 scientists, engineers and technicians in the Regulatory Compliance Programs Department. This department provides services in areas including; environmental, health and safety, environmental engineering, health physics, radiation protection, quality assurance, environmental laboratory and emergency planning.

Mr. Harper has recently participated in development of a license application for a uranium enrichment facility. Responsibilities included overall management of the environmental report, development of portions of the environmental report, integrated safety analysis (ISA) and the portions of the security threat assessment. He was also responsible for the external events portion of the ISA. Mr. Harper has participated in siting evaluations for dry independent spent fuel storage installations (ISFSI) at the Vermont Yankee and Yankee Rowe nuclear plants, which included participating in environmental and geotechnical assessments at both locations. He has recently completed a similar effort for Seabrook Station. These assessments involved addressing environmental, seismic, soil amplification, liquefaction and slope stability issues. He also provided geotechnical and environmental field support during ISFSI construction at Yankee Rowe and also supported preparation of the 10CFR72.212 evaluation. Mr. Harper is experienced at performing TNT blast equivalent evaluations for determining safe separation distances between design basis threats and critical facilities.

Mr. Harper has also performed many environmental studies including; environmental effects of plant power level uprates, heat dissipation in receiving waters, storm water runoff, dilution of plant effluents in receiving waters and NPDES supporting studies. Performs and manages various analyses and safety evaluations in support of nuclear plant engineering, environmental, licensing, design and operations. Mr. Harper participated on a task force at Seabrook Station to determine the root cause and identify corrective actions after tritium was discovered in the groundwater near the spent fuel pool. His areas of responsibility included identifying the extent of groundwater contamination and the likely groundwater travel paths. He developed a recommended groundwater remedial plan which is presently being implemented.

Mr. Harper completed a Federal Energy Regulatory Commission (FERC) research project on flood studies associated with dam safety. Recently, Mr. Harper served on a FERC-approved Board of Consultants overseeing dam safety evaluations for some regulated dams in the State of New York. He previously served on a similar FERC-approved Board of Consultants for two dams in the State of Maine. He was responsible for updating the equipment inventory for

Seabrook Station's decommissioning cost estimate study. In addition, he has managed several design changes at Millstone and Seabrook Station. He also provides routine engineering support to Seabrook on various operational, design and system issues.

Mr. Harper has completed external event design basis reviews on flooding, tornado, seismic and potential effects from nearby facilities at Seabrook Station in support of their response to the Nuclear Regulatory Commission's (NRC) 10CFR50.54(f) request concerning licensee licensing basis compliance. He also completed similar reviews at Millstone Unit 3, and served as the Lead Engineer for Millstone Unit 3's Chapter 2 Updated Final Safety Analysis Report (UFSAR) verification. In addition, he developed and presented a three-day training course to Ukrainian nuclear engineers on methodologies for evaluating nuclear power plant external flooding.

Mr. Harper has completed various tornado venting analyses to support design changes at several plants. He has also performed individual plant examinations of external events (IPEEE) for probable maximum flooding (PMF) at eight nuclear power plants. He has also participated in numerous PMF studies for hydro power dams. Mr. Harper has also been extensively involved in decommissioning activities and waste siting issues. He planned and performed media sampling efforts in support of decommissioning site characterization. He performed various geotechnical and slope stability assessments associated with hauling heavy equipment and components during decommissioning. He also provided engineering support for decommissioning studies and for radiological evaluations, including ingestion pathway, liquid pathway, and on-site and off-site disposal. In addition, Mr. Harper has provided engineering and environmental support for low level radioactive waste (LLRW) siting issues in Vermont and Maine.

EDUCATION/TRAINING

MS, Civil Engineering, University of Massachusetts, 1978
BS, Civil Engineering, University of Massachusetts, 1975
Integrated Safety Analysis Leader Training, Process Safety Institute, 2002
Managing Projects with Microsoft Project2000, 2001
Computer-Aided Hydrology and Hydraulics, American Society of Civil Engineers (ASCE), 1994
MODFLOW for Simulation of Groundwater Flow and Advective Transport, National Groundwater Association, 1992
Calculating Explosion Hazards, American Institute of Chemical Engineers (AIChE), 1990
Soil Dynamics and Foundation Engineering, University of Missouri, 1987
Wind Loads on Buildings and Structures, Texas Tech University, 1984
Seismic Design and Analysis of Earth and Rockfill Dams, University of Missouri, 1982
Analytical Techniques for HEC-1 and DAMBRK, Pennsylvania State University, 1982
Flood Predictions, Estimations and Forecasting, Colorado State University, 1981
Statistical Computer Techniques in Hydrology and Water Resources, Colorado State University, 1980
Flood Plain Hydrology HEC-1, Pennsylvania State University, 1979
Embankment Dams, Design and Construction, Massachusetts Institute of Technology (MIT), 1979
HEC-2 Advanced, Pennsylvania State University, 1978
Flood Flow Frequency Analysis, Pennsylvania State University, 1978

FRAMATOME ANP

PROFESSIONAL AFFILIATIONS/CERTIFICATIONS
Registered Professional Engineer: Massachusetts, New Hampshire, Maine
American Society of Civil Engineers (ASCE), Member

EXPERIENCE

Manager, Regulatory Compliance Programs	1/03-present
General Manager, Environmental Health & Safety Department	10/01-12/02
Manager, Environmental Services Group	10/00-10/01
Consulting Engineer	12/97-10/00

Framatome ANP Inc. / Duke Engineering & Services

Performs and manages various analyses and safety evaluations in support of nuclear plant engineering, environmental, licensing, design and operations. Led the design team performing marine mammal barrier system design work for the submerged offshore intakes of Seabrook Station's circulating water system. This system was successfully installed in 1999 and has successfully eliminated the entrapment of seals.

Provided support to Seabrook Station on thermal impact on ocean cooling water temperature rise for two-pump versus three-pump circulating water system operation. Also, addressed state and Environmental Protection Agency (EPA) issues associated with adequacy of plankton entrainment sampling system for Seabrook's circulating water system. He also participated in a siting study to select a dry fuel storage location at Seabrook Station.

Participated in the siting process for a dry storage ISFSI at the Vermont Yankee Nuclear Power Station, which resulted in the selection of a preferred site. Subsequently, managed the geotechnical assessments that included seismic evaluations of underlying soils at the selected location for amplification and liquefaction potential. Participated in the overall siting process for a dry storage ISFSI at the Yankee Rowe Nuclear Power Plant, which is presently being decommissioned. This process resulted in the selection of a preferred site. Completed soil amplification, liquefaction, slope stability, geotechnical assessments and site flooding evaluations in support of the detailed design. Provided field support during construction of the ISFSI facility.

Recently served on a FERC-approved Board of Consultants overseeing dam safety evaluations on two dams located in New York. Previously completed a similar project in Maine. Performed probable maximum flood (PMF) studies for a New Hampshire dam owned by the State of New Hampshire and a New York dam owned by the New York Power Authority (NYPA). Recently assisted in developing an updated PMF study at a Duke Power dam in South Carolina. Held responsibility for a design change that designed and installed roof scuppers on all safety-related structures at Millstone Unit 2. Also, provides technical support for Seabrook Station's decommissioning cost estimate. In addition, performs safety evaluations in support of design changes and external event issues that could impact plant operations.

FRAMATOME ANP

Principal Engineer 04/79-11/97
Yankee Atomic Electric Company

Performed configuration management reviews at Millstone and Seabrook for external event design bases. Managed and assisted in Millstone Unit 3's Chapter 2 UFSAR verification. Provided ongoing geotechnical and sampling support for decommissioning activities. Performed external flooding evaluations for the individual plant examination of external events (IPEEE) at eight nuclear power plants. Completed a major research program under contract to the Electric Power Research Institute (EPRI) to develop an extreme rainfall probability methodology. Compiled and evaluated site-specific severe weather data in support of blackout evaluations at the Seabrook, Vermont Yankee and Yankee Rowe nuclear power stations. Redesigned and licensed a major modification to Seabrook's flood protection system. Formulated groundwater radiological travel time estimates to surface water bodies at the Yankee Rowe, Vermont Yankee, Maine Yankee and Seabrook nuclear power stations to support licensing requirements and evaluate unplanned liquid radiological releases to the environment. Performed groundwater modeling at the Yankee site using MODFLOW to support decommissioning activities.

Lectured at the Harvard School of Public Health on "Radionuclide Transport Evaluations: Terrestrial and Aquatic." Provided training to Ukrainian nuclear engineers on nuclear plant flooding evaluations. Developed testimony and testified before the Vermont Public Service Board on licensing requirements for siting a low level radioactive waste (LLRW) disposal site. Supported Vermont Yankee and Maine Yankee on site characterization issues for siting a LLRW disposal facility in Vermont and Maine, respectively. Provided engineering support for Vermont Yankee's LLRW storage facility safety evaluation. Projected LLRW disposal costs for New Hampshire in support of a decommissioning study.

Performed explosion hazard evaluations for the on-site storage of various gases, and probabilistic evaluations of tornado missile impacts on safety-related equipment. Developed technical input for plant decommissioning cost estimates and storm drainage system hydraulic modeling. Developed site-specific tornado wind and pressure drop probabilistic hazard curves, and building venting calculations for tornado induced pressure drop evaluations. Produced a major update to Seabrook's decommissioning study.

Supported the Yankee Rowe Nuclear Power Station Systematic Evaluation Program (SEP). Successfully resolved all external flooding and tornado missile issues. Developed tornado and wind hazard descriptions, and determined structure and system wind fragilities as part of the tornado and wind cost/benefit analysis.

Engineer 09/77-03/79
DuBois & King, Inc.

Performed data collection, engineering analysis, computer modeling of rivers, flood forecasting, design of hydraulic structures, and report preparation work. Also, negotiated contracts with local, state and federal agencies.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	Docket No. 70-3103-ML
LOUISIANA ENERGY SERVICES, L.P.	)	
	)	ASLBP No. 04-826-01-ML
(National Enrichment Facility)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the "RESPONSE OF LOUISIANA ENERGY SERVICES, L.P. TO THE QUESTION CERTIFIED TO THE COMMISSION BY MEMORANDUM AND ORDER (RULINGS REGARDING STANDING, CONTENTIONS, AND PROCEDURAL/ ADMINISTRATIVE MATTERS)" in the captioned proceeding have been served on the following by e-mail service, designated by **, on September 8, 2004 as shown below. Additional service has been made by deposit in the United States mail, first class, this 8th day of September 2004.

Chairman Nils J. Diaz
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Commissioner Edward McGaffigan, Jr.
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Commissioner Jeffrey S. Merrifield
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Office of the Secretary**
Attn: Rulemakings and Adjudications Staff
U.S. Nuclear Regulatory Commission
Mail Stop O-16C1
Washington, DC 20555-0001
(original + two copies)
e-mail: HEARINGDOCKET@nrc.gov

Office of Commission Appellate Adjudication
Mail Stop O-16C1
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Office of the General Counsel**
Attn: Associate General Counsel for Hearings, Enforcement and Administration
Lisa B. Clark, Esq.**
Angela B. Coggins, Esq.**
Mail Stop O-15D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
e-mail: OGCMailCenter@nrc.gov
e-mail: lbc@nrc.gov
e-mail: abc1@nrc.gov

Ron Curry, Esq.
Clay Clarke, Esq.**
Tannis L. Fox, Esq.
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, NM 87502-6110
e-mail: clay_clarke@nmenv.state.nm.us

Administrative Judge
G. Paul Bollwerk, III, Chair**
Atomic Safety and Licensing Board Panel
Mail Stop T-3F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
e-mail: gpb@nrc.gov

David M. Pato, Esq.**
Stephen R. Farris, Esq.**
Glenn R. Smith, Esq.**
Office of the New Mexico Attorney General
P.O. Box Drawer 1508
Santa Fe, NM 87504-1508
e-mail: dpato@ago.state.nm.us
e-mail: sfarris@ago.state.nm.us
e-mail: gsmith@ago.state.nm.us

Lisa A. Campagna**
Assistant General Counsel
Westinghouse Electric Co., LLC
P.O. Box 355
Pittsburgh, PA 15230-0355
e-mail: campagla@westinghouse.com

Administrative Judge
Paul B. Abramson**
Atomic Safety and Licensing Board Panel
Mail Stop T-3F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
e-mail: pba@nrc.gov

Administrative Judge
Charles N. Kelber**
Atomic Safety and Licensing Board Panel
Mail Stop T-3F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
e-mail: cnk@nrc.gov

Lindsay A. Lovejoy, Jr.**
618 Pasco de Peralta, Unit B
Santa Fe, NM 87501
e-mail: lindsay@lindsaylovejoy.com

James R. Curtiss
Counsel for Louisiana Energy
Services, L.P.