

September 22, 2005

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF'S MOTION IN LIMINE TO EXCLUDE  
NUCLEAR INFORMATION AND RESOURCE SERVICE  
AND PUBLIC CITIZEN TESTIMONY

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INTRODUCTION

Pursuant to the Atomic Safety and Licensing Board's ("Board") Memorandum and Order, dated September 2, 2004<sup>1</sup>, the Staff of the Nuclear Regulatory Commission ("Staff") hereby requests that the Board issue an Order, *in limine*, to exclude portions of the prefiled testimony of Dr. Arjun Makhijani on behalf of the Nuclear Information and Resource Service and Public Citizen ("NIRS/PC") from the record of this proceeding. For the reasons set forth below, the Staff submits that portions of the testimony of Dr. Makhijani are inadmissible in that they are outside the scope of the admitted contentions

DISCUSSION

Evidence is admissible in an NRC proceeding only if it is relevant, material, and reliable.<sup>2</sup> 10 C.F.R. § 2.337(a). Immaterial, unreliable, or irrelevant evidence should be segregated from admissible evidence and excluded whenever possible. *Id.* Evidence outside

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<sup>1</sup> Memorandum and Order (Regarding LES Motion to Dismiss/Narrow Scope; Schedule for Prefiled Testimony and Related Filings).

the scope of admitted contentions is irrelevant and therefore inadmissible in a Board proceeding on those contentions.<sup>3</sup> The scope of a contention “necessarily hinges upon its terms coupled with its stated bases.”<sup>4</sup> On September 16, 2005, NIRS/PC submitted four sets of direct testimony for the upcoming hearing referred to below as “deconversion testimony,”<sup>5</sup> “transportation testimony,”<sup>6</sup> “disposal testimony,”<sup>7</sup> and “contingency testimony.”<sup>8</sup> As discussed below, portions of NIRS/PC’s prefiled direct testimony of Dr. Arjun Makhijani address matters which were not raised in the admitted contentions and are therefore not relevant to the matters which are before the Board. The Staff therefore requests that those portions of the testimony, as described below, should be excluded from the record of this proceeding.

A. Deconversion Testimony

The admitted contentions in this proceeding concern LES’s strategy for disposition of the depleted uranium generated by the enrichment process that involves deconversion to an oxide by a private deconversion facility before disposal. The admitted contentions relating to deconversion are EC-3/TC-1, EC-5/TC-2 and EC-6/TC-3:

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<sup>3</sup> See Memorandum and Order (Discovery Rulings), October 20, 2004, at 10; *Private Fuel Storage* (Independent Spent Fuel Storage Installation), Memorandum and Order (Ruling on In Limine Motions and Providing Administrative Directives), (unpublished order), 2000 WL 862622 (NRC), June 12, 2000.

<sup>4</sup> *Public Service Corporation of New Hampshire (Seabrook Station, Units 1 & 2)*, ALAB-899, 28 NRC 93, 97 (1988), *aff’d sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991); *see also Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 379 (2002).

<sup>5</sup> “Direct Testimony of Dr. Arjun Makhijani in Support of NIRS/PC Contentions EC-3/TC-1, EC-5/TC-2, and EC-6/TC-3 Concerning LES’s Deconversion Strategy and Cost Estimate.”

<sup>6</sup> “Direct Testimony of Dr. Arjun Makhijani in Support of NIRS/PC Contention EC-5/TC-2 Concerning LES’s Transportation Cost Estimate.”

<sup>7</sup> “Direct Testimony of Dr. Arjun Makhijani in Support of NIRS/PC Contentions EC-3/TC-1, EC-5/TC-2, and EC-6/TC-3 Concerning LES’s Disposal Strategy and Cost Estimate.”

<sup>8</sup> “Direct Testimony of Dr. Arjun Makhijani in Support of NIRS/PC Contentions EC-3/TC-1, EC-5/TC-2, and EC-6/TC-3 Concerning the Contingency Factor Applicable to LES’s Cost Estimate.”

Contention EC-3/TC-1, as relevant, states:

Petitioners contend that Louisiana Energy Services, L.P., ("LES") does not have a sound, reliable, or plausible strategy for private sector disposal of the large amounts of radioactive and hazardous Depleted Uranium Hexafluoride ("DUF<sub>6</sub>") waste that the operation of the plant would produce in that:

- (B) Similarly, the statement that "discussions have recently been held with Cogema concerning a private conversion facility" (ER 4.13-8) is without substance.

Contention EC-5/TC-2, as relevant, states:

Louisiana Energy Services, L.P., (LES) has presented estimates of the costs of decommissioning and funding plan as required by 42 U.S.C. 2243 and 10 C.F.R. 30.35, 40.36, and 70.25 to be included in a license application. See Safety Analysis Report 10.0 through 10.3; ER 4.13.1. Petitioners specifically contest the sufficiency of such presentations as based on . . . (4) the lack of any relevant estimate of the cost of converting and disposing of depleted uranium, given it does not rely upon the three examples - the 1993 CEC estimate, the LLNL report, and the UDS contract - cited in its application.

LES has presented additional estimates for the costs of deconversion. . . of depleted uranium for purposes of the decommissioning and funding plan required by 42 USC 2242 and 10 CFR 30.35, 40.36, and 70.25. See LES Response to RAI dated January 7, 2005. Such presentations are insufficient because they contain no factual bases or documented support for the amounts of the following particular current LES estimates, i.e., \$2.69/kgU for conversion, . . . and cannot be the basis for financial assurance.

Contention EC-6/TC-3 and supporting Basis (E) and (G) state:

Petitioners contend that the Louisiana Energy Services, L.P., ("LES") application seriously underestimates the costs and the feasibility of managing and disposing of the Depleted Uranium Hexafluoride ("DUF<sub>6</sub>") produced in the planned enrichment facility in that:

- (E) A problem arises with respect to disposal of CaF<sub>2</sub>. It is not known whether the CaF<sub>2</sub> will be contaminated with uranium. Such contamination would prevent the resale of the CaF<sub>2</sub> and would require that such material be disposed of as low-level waste.
- (G) LES's "preferred plausible strategy" for the disposition of depleted UF<sub>6</sub> is the possible sale to a "private sector conversion facility" followed by disposal of deconverted U<sub>3</sub>O<sub>8</sub> in a "western U.S. exhausted underground uranium mine." (ER 4.13-8). Such a conversion strategy cannot be accepted as plausible given that no such conversion

facility exists nor is it likely to be built to suit LES's timing and throughput requirements.

The admitted contentions focus on the plausibility and cost of the private deconversion strategy proposed by LES. None of the admitted contentions raise an issue regarding the Final Environmental Impact Statement, NUREG-1790, (FEIS) issued by the Staff regarding LES's application. Indeed, NIRS/PC's attempt to amend its contentions to raise issues regarding the FEIS for consideration during this aspect of the hearing was rejected by this Board as untimely.<sup>9</sup> Notwithstanding this ruling, NIRS/PC has proffered testimony alleging that statements in the FEIS limit the options available to LES for disposal of calcium fluoride ( $\text{CaF}_2$ ) produced by the deconversion process, concluding "there is no legal or technical basis for the NRC to grant a license for the LES plant on the basis of industrial landfill disposal of  $\text{CaF}_2$ . This testimony (beginning with "The disposal of . . ." on page 14 and ending with . . . industrial landfill disposal of  $\text{CaF}_2$ " on page 15), which again attempts to bring issues concerning the FEIS into this proceeding should be rejected on the grounds that these issues are outside the scope of the admitted contentions.

In the proffered testimony Dr. Makhijani also claims that disposal in a geological repository will be necessary and therefore the cost for deconversion to  $\text{DUO}_2$  should be accounted for in the decommissioning funding cost estimate. The contentions admitted for this proceeding, however, do not allege any basis for the claim that deconversion to  $\text{DUO}_2$  is being considered or is necessary. Rather, the only admitted contention relevant to this issue, EC-6/TC-3, claims that the "engineered trench" method of disposal is not likely to be acceptable if  $\text{DUF}_6$  is not considered low level waste. The Commission has, however, determined that

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<sup>9</sup> Memorandum and Order (Ruling on Motion to Admit Late-Filed Amended and Supplemental Contentions), August 4, 2005, (August Board Order) at 10-12.

depleted uranium is low-level waste. *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-5, 61 NRC 22, 34-35 (2005). Thus, there is no basis in the admitted contentions for claiming that disposal in a deep geological repository will be necessary and that the cost of deconversion should be premised upon conversion to  $\text{DUO}_2$ .<sup>10</sup> The testimony which refers to costs based on this assumption (beginning at the top of page 17 and continuing through the end of page 19) should be excluded.

The concluding portion of Dr. Makhijani's testimony challenges the estimated cost of disposing of the depleted uranium provided by the Department of Energy (DOE). However, this is not the subject of the contentions to be considered during the hearing, which relate only to the cost of the private disposal option proposed by LES. June Board Order at 11. NIRS/PC's attempt to raise this issue in a late-filed contention in this proceeding was rejected by this Board on the grounds that the cost established by DOE is outside the scope of the proceeding. August Board Order at 21-22. This portion of the testimony (beginning with A10 on page 20 and continuing to the end) should also be excluded.

B. Transportation Testimony

The admitted contentions in this proceeding raise the issue of whether LES has appropriately considered the cost of transportation in relation to the cost estimate for the purpose of determining the amount of decommissioning funding. Specifically, Contention EC-5/TC-2 states:

Louisiana Energy Services, L.P., (LES) has presented estimates of the costs of decommissioning and funding plan as required by 42 U.S.C. 2243 and 10 C.F.R. 30.35, 40.36, and 70.25 to be included in a license application. See Safety Analysis Report 10.0 through 10.3; ER 4.13.1. Petitioners specifically

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<sup>10</sup> While the Board has stated that challenges to the LES cost estimate relating to near-surface disposal would be litigable to the extent they seek to establish that depleted uranium would require disposal by other, more stringent land disposal methods permitted for low level waste, Memorandum and Order (Ruling on NIRS/PC Late-Filed Contention Amendments), June 30, 2005, (June Board Order) at 12, n. 11, NIRS/PC has not obtained admission of such a contention.

contest the sufficiency of such presentations as based on (1) a contingency factor that is too low; and (4) the lack of any relevant estimate of the cost of converting and disposing of depleted uranium, given it does not rely upon the three examples - the 1993 CEC estimate, the LLNL report, and the UDS contract - cited in its application.

LES has presented additional estimates for the costs of deconversion, transportation, and disposal of depleted uranium for purposes of the decommissioning and funding plan required by 42 USC 2242 and 10 CFR 30.35, 40.36, and 70.25. See LES Response to RAI dated January 7, 2005. Such presentations are insufficient because they contain no factual bases or documented support for the amounts of the following particular current LES estimates, i.e., \$2.69/kgU for conversion, \$1.14/kgU for disposal, \$0.85/kgU for transportation, and a total of \$5.85/kgU including contingency, and cannot be the basis for financial assurance.

Thus, the contention concerns the estimate used by LES for transportation associated with the disposition of the depleted uranium generated by the proposed enrichment facility.

Dr. Makhijani, however, has proffered testimony which goes beyond the scope of the contention. Specifically, he claims that the Staff has improperly accepted the cost estimate without verification, demonstrating a lack of due diligence. This is outside the scope of the contention and an issue which is not within the purview of the Board. It is well settled that the adequacy of the manner in which the Staff conducts its technical review is outside the scope of Commission proceedings. *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-03-11, 58 NRC 47, 66 (2003). This testimony (the paragraph beginning with "This is particularly noteworthy. . ." on page 12) should therefore be excluded.

In addition, he draws general conclusions regarding LES's cost estimate based on matters relating to contingency factor and disposal. As discussed in relation to other issues, this testimony should be excluded because it relates to matters outside the scope of admitted contentions relating to those matters. For the purpose of transportation, this conclusion

(beginning with Q8 at the bottom of page 12 and continuing to the end of the testimony) should be excluded because it does not relate to transportation costs.

C. Disposal Testimony

The admitted contentions relating to disposal relate to LES's strategy to dispose of uranium oxide in the form of  $\text{DU}_3\text{O}_8$  following deconversion by a private entity. The relevant contentions are EC-6/TC-3 and EC-5/TC-2:

EC-6/TC-3, as supported by Basis (I) states:

Petitioners contend that the Louisiana Energy Services, L.P., ("LES") application seriously underestimates the costs and the feasibility of managing and disposing of the Depleted Uranium Hexafluoride (" $\text{DUF}_6$ ") produced in the planned enrichment facility in that:

- (I) The "engineered trench" method of waste disposal proposed by LES is not likely to be acceptable (ER 4.13-11.-19) if  $\text{DUF}_6$  is not considered low-level waste

EC-5/TC-2 states:

Louisiana Energy Services, L.P., (LES) has presented estimates of the costs of decommissioning and funding plan as required by 42 U.S.C.2243 and 10 C.F.R. 30.35, 40.36, and 70.25 to be included in a license application. See Safety Analysis Report 10.0 through 10.3; ER 4.13.1. Petitioners specifically contest the sufficiency of such presentations as based on the lack of any relevant estimate of the cost of converting and disposing of depleted uranium, given it does not rely upon the three examples - the 1993 CEC estimate, the LLNL report, and the UDS contract - cited in its application.

LES has presented additional estimates for the costs of deconversion, transportation, and disposal of depleted uranium for purposes of the decommissioning and funding plan required by 42 USC 2242 and 10 CFR 30.35, 40.36, and 70.25. See LES Response to RAI dated January 7, 2005. Such presentations are insufficient because they contain no factual bases or documented support for the amounts of the following particular current LES estimates, i.e., \$2.69/kgU for conversion, \$1.14/kgU for disposal, \$0.85kg/U for transportation, and a total of \$5.85kg/U including contingency, and cannot be the basis for financial assurance.

The focus of these contentions, and of this hearing, is on LES's strategy for private deconversion and disposal - not transfer to DOE. However, much of Dr. Makhijani's testimony

relates to the question of whether DOE has selected a disposal option for depleted uranium. This testimony (Q6 and A6 beginning on page 10 and continuing to page 15) is not related to the admitted contentions and should be excluded.

In his testimony, Dr. Makhijani also delves into considerations regarding the chemical toxicity of uranium that he believes should be considered with respect to disposal, citing Environmental Protection Agency (EPA) regulations relating to drinking water. Because this testimony (Q8 and A8 beginning on page 17 and continuing to page 19) does not relate to NRC requirements, it is not relevant to the issues before this Board and should be excluded.

Dr. Makhijani devotes much of his testimony to a discussion of whether Waste Control Specialists (WCS) located in Texas would be able to accept depleted uranium for disposal. However, NIRS/PC's attempt to raise this issue as a contention in this proceeding was rejected by the Board. June Board Order at 8-11. As the Board noted, the contention was inexcusably late and also attempted to raise an issue which was not admissible because it concerns an application filed by WCS before a State regulatory authority. *Id.* Therefore, this testimony (Q & A's 10 and 11 on pages 20 to 41 and the sentence on page 47 beginning "Our analysis has shown. . .") should be excluded.

Similarly, Dr. Makhijani presents arguments regarding the likelihood that Envirocare would be able to accept depleted uranium for disposal. However, NIRS/PC's attempt to raise this issue in a contention was also rejected by the Board, for essentially the same reasons. *Id.* Because this issue is not subject to an admitted contention, Dr. Makhijani's testimony on it (Q & A 13 beginning at page 42 and continuing to 45 and the portion of A14 beginning on page 48 with "As I have previously" to the end on page 49) should be excluded.

As in his deconversion testimony, Dr. Makhijani argues that disposal in a geological repository will be necessary, arguing that depleted uranium should be considered Greater than



Class C low level waste, and therefore the cost for disposal should be premised upon that assumption. As discussed above, the contentions admitted for this proceeding, however, do not allege this basis for the claim that disposal in a geologic repository is necessary, but instead allege only that the engineered trench method of disposal is not likely to be acceptable “if  $\text{DUF}_6$  is not considered low-level waste.” As the premise for the admitted contention has now been resolved by the Commission, there is no need to examine further the claim that the engineered trench method of disposal may not be acceptable. NIRS/PC cannot now raise new claims regarding the classification of depleted uranium through testimony. The proper avenue to raise issues is through contentions. Having failed to raise this issue in an admitted contention, NIRS/PC may not raise it through the submission of testimony. Thus, the testimony regarding the alleged need for disposal in a geologic repository and the associated costs (Q & A’s 15, 16, 17 and 18 beginning at page 49 and continuing to page 58) should be excluded. Likewise, Dr. Makhijani’s concluding testimony regarding costs (Q & A 19 beginning at page 58 and continuing to page 59) should be excluded as irrelevant because it is premised upon disposal in a geologic repository.

Finally, Dr. Makhijani again challenges the estimated cost of disposing of the depleted uranium provided by the Department of Energy (DOE). As discussed above, this is not the subject of the contentions to be considered during the hearing, which relate only to the cost of the private disposal option proposed by LES. This portion of the testimony (beginning with Q20 on page 59 and continuing to the end) should also be excluded.

D. Contingency Testimony

In the admitted contentions, LES challenges the sufficiency of the contingency factor added by LES to the cost estimate for decommissioning funding. Contention EC-5/TC-2, as relevant, states:

Louisiana Energy Services, L.P., (LES) has presented estimates of the costs of decommissioning and funding plan as required by 42 U.S.C. 2243 and 10 C.F.R. 30.35, 40.36, and 70.25 to be included in a license application. See Safety Analysis Report 10.0 through 10.3; ER 4.13.1. Petitioners specifically contest the sufficiency of such presentations as based on a contingency factor that is too low .

Dr. Makhijani's testimony, however, delves into numerous issues which fall beyond the scope of this admitted contention and should be excluded. In particular, he proffers testimony regarding the chemical toxicity of uranium and the applicability of EPA regulations (Q & A's 8 and 9 at pages 12 to 16), the likelihood that depleted uranium may be disposed of at the WCS or Envirocare sites (Q & A 10 beginning at page 16 and continuing to page 19), and his view that depleted uranium would require disposal at a deep geologic repository (Q & A's 11 and 12 beginning at page 19 and continuing to page 22). None of these issues are the subject of the basis for this contention as admitted and are not directly relevant to the question of the specific contingency factor which is appropriate for the LES. Indeed, as indicated above, this is merely another attempt to bring new issues into the proceeding through testimony that NIRS/PC has unsuccessfully attempted to raise through contentions.

Dr. Makhijani also repeats testimony regarding his projected costs for decommissioning assuming, among other things, that disposal in a geological repository will be necessary (Q & A 15 beginning at page 28 and continuing to page 29) and his challenges to the cost estimate provided by DOE (Q & A 16 beginning at page 29 to the end). Because this testimony does not relate to the contingency factor, and for the additional reasons outlined above, this testimony should also be excluded.

CONCLUSION

For the reasons stated above, the Staff requests that the Board issue an Order, *in limine*, excluding portions of the testimony of Dr. Arjun Makhijani.

Respectfully submitted,

***/RA/***

Lisa B. Clark  
Counsel for NRC Staff

Dated at Rockville, Maryland  
this 22<sup>nd</sup> day of September, 2005

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

LOUISIANA ENERGY SERVICES, L.P.

(National Enrichment Facility)

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Docket No. 70-3103

ASLBP No. 04-826-01-ML

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S MOTION IN LIMINE TO EXCLUDE NUCLEAR INFORMATION AND RESOURCE SERVICE AND PUBLIC CITIZEN TESTIMONY" in the above-captioned proceedings have been served on the following by deposit in the United States mail; through deposit in the Nuclear Regulatory Commission's internal system as indicated by an asterisk (\*), and by electronic mail as indicated by a double asterisk (\*\*) on this 22<sup>nd</sup> day of September, 2005.

Administrative Judge \* \*\*

G. Paul Bollwerk, III

Atomic Safety and Licensing Board Panel

U.S. Nuclear Regulatory Commission

Mail Stop: T-3F23

Washington, D.C. 20555

E-Mail: [gpb@nrc.gov](mailto:gpb@nrc.gov)

Administrative Judge \* \*\*

Charles Kelber

Atomic Safety and Licensing Board Panel

U.S. Nuclear Regulatory Commission

Mail Stop: T-3F23

Washington, D.C. 20555

E-Mail: [cnkelber@aol.com](mailto:cnkelber@aol.com)

Administrative Judge \* \*\*

Paul Abramson

Atomic Safety and Licensing Board Panel

U.S. Nuclear Regulatory Commission

Mail Stop: T-3F23

Washington, D.C. 20555

E-Mail: [pba@nrc.gov](mailto:pba@nrc.gov)

Office of Commission Appellate Adjudication\*

U.S. Nuclear Regulatory Commission

Mail Stop: O-16C1

Washington, D.C. 20555

Mr. Rod Krich, Vice President

Licensing, Safety and Nuclear Engineering

Louisiana Energy Services

2600 Virginia Avenue NW.

Suite 610

Washington, D.C. 20037

Office of the Secretary \* \*\*

ATTN: Rulemakings and Adjudication Staff

U.S. Nuclear Regulatory Commission

Mail Stop: O-16C1

Washington, D.C. 20555

E-mail: [HEARINGDOCKET@nrc.gov](mailto:HEARINGDOCKET@nrc.gov)

James. R. Curtiss, Esq. \*\*  
Dave Repka, Esq. \*\*  
Martin O'Neill, Esq. \*\*  
Amy C. Roma, Esq.  
Winston & Strawn  
1700 K Street, N.W.  
Washington, D.C. 20006  
E-mail: [jcurtiss@winston.com](mailto:jcurtiss@winston.com)  
[drepka@winston.com](mailto:drepka@winston.com)  
[moneill@winston.com](mailto:moneill@winston.com)  
[aroma@winston.com](mailto:aroma@winston.com)

Lindsay A. Lovejoy, Jr. \*\*  
Nuclear Information and Resource Service  
1424 16<sup>th</sup> Street, NW.  
Suite 404  
Washington, D.C. 20036  
E-mail: [lindsay@lindsaylovejoy.com](mailto:lindsay@lindsaylovejoy.com)  
[llovejoy@cybermesa.com](mailto:llovejoy@cybermesa.com)

**/RA/**

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Lisa B. Clark  
Counsel for NRC Staff