

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED 06/12/06

SERVED 06/12/06

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman  
Dr. Paul B. Abramson  
Dr. Charles N. Kelber

In the Matter of

LOUISIANA ENERGY SERVICES, L.P.

(National Enrichment Facility)

Docket No. 70-3103-ML

ASLBP No. 04-826-01-ML

June 12, 2006

MEMORANDUM

(Providing Cross-Examination Plans for Docketing)

In a May 31, 2006 memorandum and order, the Licensing Board requested that the parties review their respective cross-examination plans submitted in connection with the October 2005 and February 2006 evidentiary hearings on contested safety matters, consult with one another, if necessary, and advise the Board of the presence of any potentially proprietary information that would require redaction before those plans could be included in the public docket of this proceeding pursuant to 10 C.F.R. § 2.711(c)(2). In a joint report dated June 9, 2006, applicant Louisiana Energy Services, L.P., (LES), the NRC staff, and intervenors Nuclear Information and Resource Service and Public Citizen (NIRS/PC) advised the Board that they have reviewed the cross-examination plans and, through consultation with one another, have determined they contain no proprietary or other sensitive information that must be withheld from public disclosure.<sup>1</sup>

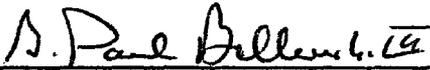
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<sup>1</sup> The parties actually each notified the Board separately on June 6 and 7, 2006, that none of their respective cross-examination plans, to their knowledge, contained any proprietary or otherwise sensitive information that required redaction before those plans could be made

(continued...)

Accordingly, pursuant to 10 C.F.R. § 2.711(c)(2), this memorandum and the accompanying attachments, which are the cross-examination plans submitted to the Board members by LES, the staff, and NIRS/PC on October 18 and 19, 2005, and the cross-examination plans submitted by LES and NIRS/PC on February 6, 2006,<sup>2</sup> can be placed by the Office of the Secretary into the public docket of this proceeding.

FOR THE ATOMIC SAFETY  
AND LICENSING BOARD<sup>3</sup>

  
\_\_\_\_\_  
G. Paul Bollwerk, III  
ADMINISTRATIVE JUDGE

Rockville, Maryland

June 12, 2006

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<sup>1</sup>(...continued)  
publically-available. Because none of those parties notified the Board as to whether they had consulted with one another on the matter, however, in a memorandum and order dated June 7, 2006, the Board requested that the parties consult and notify the Board about the result of that consultation in a June 9 joint report.

<sup>2</sup> By e-mail dated February 6, 2006, the staff informed the Board that the staff did not anticipate any cross-examination of LES or NIRS/PC witnesses during the February 2006 evidentiary hearing.

<sup>3</sup> Copies of this memorandum and the accompanying attachments were sent this date by Internet e-mail transmission to counsel for (1) applicant LES; (2) intervenors NIRS/PC; and (3) the staff.

**ATTACHMENT 1**

October 19, 2005

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

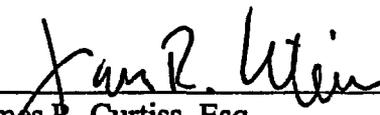
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

CROSS-EXAMINATION PLANS OF LOUISIANA ENERGY SERVICES, L.P.

In accordance with the Board's Memorandum and Order of September 14, 2005, (Regarding Administrative Matters Relative to October 2005 Evidentiary Hearing) attached are the Cross-Examination Plans of Louisiana Energy Services, L.P. ("LES") regarding the four issues to be considered at the upcoming evidentiary hearing.

Respectfully submitted,

  
\_\_\_\_\_  
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Dated at Washington, District of Columbia  
this 19th day of October 2005



## DECONVERSION

**Plausibility of Private Sector Deconversion (the COGEMA option) in the U.S.**

1. Establish that during his July 5, 2005 deposition (Tr. at 46-47, 49-50), Dr. Makhijani explicitly acknowledged the technical plausibility of deploying COGEMA deconversion technology in the United States (Example: "So I would say if LES has a contract with Cogema to do deconversion or a memorandum of understanding that Cogema will do deconversion, I would not raise any technological questions about it." Example: "I've already said that I would accept Cogema for deconversion as a plausible strategy, a deconversion plant.").

2. Explore basis for Dr. Mahijani's statement in his direct testimony that "reliance on COGEMA for the deconversion option would be considered technologically plausible once a siting process for the deconversion facility is specified by the NRC."

a. Ascertain what Dr. Makhijani means by a "siting process."

b. Establish that neither NIRS/PC nor Dr. Makhijani identified the alleged need for a "siting process" until Dr. Makhijani's July 5, 2005 deposition, and only after Dr. Makhijani had already conceded the technical plausibility of the COGEMA deconversion option.

c. Establish that facility "siting" has no relevance to, or bearing on, "technological" plausibility per se.

d. Ask Dr. Makhijani to identify any specific statutes and/or regulations that require LES to establish, and obtain NRC approval of, a "siting process" for a potential future deconversion facility.

e. Establish that such a "siting process" requirement is inconsistent with the Commission's statement in this proceeding that a "plausible strategy" does not mean "a definite or certain strategy."

f. Elicit acknowledgment from Dr. Makhijani that siting considerations would more appropriately be considered at the time an entity actually proposes to license a deconversion facility in the United States under the relevant NRC regulations (10 C.F.R. Part 40) and under NEPA (*i.e.*, as part of the consideration of alternative sites).

**Estimated Cost of Private Sector Deconversion of Depleted Uranium Hexafluoride**

3. In his rebuttal testimony, Dr. Makhijani asserts that it would be more appropriate for LES to rely on the "read-world" contract between Urenco and COGEMA for deconversion services performed at COGEMA's "W" plant in Pierrelatte, France. Explore the basis for Dr.

Makhijani's apparent belief that the Urenco business study upon which LES relies is not "real-world" cost information.

a. Elicit acknowledgment that the Urenco business study incorporated cost estimates provided specifically by COGEMA as part of a bidding process.

b. Elicit acknowledgment that there is a fundamental difference between the price paid for deconversion services performed by a third party and the cost of constructing a deconversion facility.

c. Establish that the purpose of the NRC's financial assurance requirements is to ensure that sufficient funds are set aside to allow an independent third party (*i.e.*, a party other than the licensee) to conduct all required decommissioning activities, if necessary, which could include the licensing, design, and construction of a deconversion facility.

4. Explore the basis for Dr. Makhijani's opinion that LES has not adequately accounted for the costs of neutralization of HF to CaF<sub>2</sub>.

a. Probe the extent of Dr. Makhijani's knowledge/experience with respect to the HF conditioning/storage (for eventual sale of HF) and HF neutralization (for disposal as CaF<sub>2</sub>) options and the relative costs of those two options. Establish that Dr. Makhijani has no particular expertise in this area.

5. Establish that the various references upon which Dr. Makhijani relies do not establish that HF neutralization costs would be higher than HF conditioning/storage costs.

a. As the Staff points out in its rebuttal testimony, when byproduct sales revenues are removed, the costs associated with the anhydrous HF production and HF neutralization options discussed in the 1997 Lawrence Livermore National Laboratory ("LLNL") cost analysis report are nearly identical (HF neutralization costs are less). Confront Dr. Makhijani with this fact.

b. Probe Dr. Makhijani's understanding of the "effective provision" discussion in the Urenco business study.

c. Establish that the Claiborne licensing board decision and the 1996 National Research Council report cited by Dr. Makhijani both ultimately relied on obsolete cost data from a 1991 Martin Marietta report in which HF neutralization/CaF<sub>2</sub> storage costs alone were deemed to be on the order of \$4/kgU.

6. Probe basis for Dr. Makhijani's belief that LES should assume, for cost purposes, that CaF<sub>2</sub> from the neutralization process should be disposed of as low-level radioactive waste.

a. Point out how statements in the LLNL cost analysis report upon which Dr. Makhijani relies actually undermine his position (*e.g.*, COGEMA experience shows uranium

content less than 0.1 ppm; CaF<sub>2</sub> has "small uranium content"; disposal as LLRW is "pessimistic case").

b. Dr. Makhijani relies heavily on DOE's treatment of CaF<sub>2</sub>, as part of its NEPA evaluation, as low-level radioactive waste, noting that DOE refers to the ultimate CaF<sub>2</sub> disposal path as "unknown" at this time. Establish, however, that the DOE Records of Decision for the Portsmouth and Paducah deconversion facility state: "The low level of uranium contamination expected (*i.e.*, less than 1 ppm) suggests that sale or disposal as nonhazardous solid waste would be most likely." See 69 Fed. Reg. 44,649, 44,652 col. 2 (July 27, 2004).

c. Ask Dr. Makhijani to state 1 ppm U in terms of radiation dose (*e.g.*, nanocuries per gram).

d. Establish that stated cost for disposal of CaF<sub>2</sub> as nonhazardous solid waste in LLNL report is only \$2/ft<sup>3</sup>.

7. Elicit acknowledgment from Dr. Makhijani that disposal of material with slight volumetric radiological contamination, including HF and CaF<sub>2</sub> (*see* LES Exhibits 77-78; Staff Exhibits 40-42) can be approved for release for unrestricted use or disposal on a case-specific basis.

**Estimated Time:** 1-2 Hours

**TRANSPORTATION**

1. Question Makhijani about his expertise/experience with regard to transportation of nuclear materials, including cost-estimations for such transport. Any experience working with transporters of nuclear material? Any experience preparing or reviewing cost estimates prepared for transporting nuclear materials? Any experience testifying as an expert, prior to this proceeding, on cost estimates for the transport of nuclear materials?

2. Explore what Makhijani considers "reasonable assumptions" for a transportation cost estimate (*i.e.*, "the estimate is not predicated on documented and reasonable assumptions").

3. Examine Makhijani regarding his criticism of TLI's statement that transportation cost is largely independent of distance. Ascertain whether he disputes the independent conclusion of LLNL that "Total transportation costs are therefore relatively insensitive to distances between facilities" (NIRS/PC Exhibit 52, at 92). Question Makhijani about whether instead he believes that transportation costs are highly sensitive to distances traveled. If so, explore basis for his view.

4. Examine Makhijani regarding his view that LES should have added cost estimates from TLI for  $\text{DUF}_6$  and  $\text{DU}_3\text{O}_8$  transportation. Question him on basis for his position in view of clarification provided by TLI (*see* LES Exhibit 110).

5. Examine Makhijani on basis for transportation cost estimate assumed in NIRS/PC cost estimate (*i.e.*, \$7.10 for "deconversion to  $\text{U}_3\text{O}_8$ , Transportation, and Storage"). What portion of the \$7.10 is attributable to transportation? What is the basis for the portion attributable to transportation? What assumptions did Makhijani make in estimating the cost attributable to transportation? Did he assume that the cost was distance-dependent? If so, how did he arrive at his result? Did he solicit any input from companies involved in the transportation of nuclear materials? If so, who?

**Estimated Time:** 1 Hour

DISPOSAL

1. Explore basis for Makhijani's conclusion that it is inappropriate to treat depleted uranium as Class A waste under 10 CFR Part 61.

- Review previous positions taken by Makhijani in LES-1 proceeding (waiver petition) and in depositions in this proceeding, where he has acknowledged that under the regulations in 10 CFR Part 61, depleted uranium is classified as Class A waste.
- Review previous positions taken by staff and by the conclusion reached by the Board in the LES-1 proceeding that DU is classified as Class A waste under Part 61.
- Establish that in order to treat DU as other than Class A waste, requirements of Part 61 would have to be waived. This is precisely the position that Makhijani supported in the LES-1 proceeding.
- Establish that absent a waiver, Makhijani's argument amounts to an impermissible challenge to the regulations in 10 CFR Part 61. In fact, establish that Makhijani's statement that "if you ignore the nomenclature" of the regulation you could treat DU as GTCC, he is effectively arguing for a classification of DU different that would otherwise be the result if you applied the regulation as it is written.

TRU

2. Explore Basis for Makhijani's Argument that DU should be treated as if it were

- No transuranic elements in depleted uranium
- Remind Makhijani that the DOE expressly rejected this argument when he raised it in a comment on the 1999 DOE PEIS (*see* LES Exhibit 114)

3. Explore Basis for Makhijani's Argument that DU cannot be disposed of in any facility licensed to dispose of Class A waste.

- Examine Makhijani on his view that Envirocare cannot dispose of DU as Class A waste. Review position of regulator (DRC) that there are no volume or concentration limits in Envirocare license regarding disposal of DU. Examine Makhijani on his argument that disposal of DU in Class A facility could not meet regulatory requirements, including Part 61 dose limits. (Makhijani position amounts to a challenge to decision reached by Utah regulator that licensed the Envirocare facility under Part 61, or the

Texas regulator that may license the WCS facility to dispose of low-level radioactive waste.)

- Inquire of Makhijani whether his position is tantamount to challenging the decision of the DRC to allow disposal of DU at Envirocare.

4. Examine Makhijani on his argument that LES's disposal cost estimate of \$1.14/kgU (approximately \$80/ft<sup>3</sup>) is inadequate or unreasonable.

- Explore the basis for Makhijani's notion that WCS must be a licensed and operating disposal facility in order to provide a cost estimate to LES.
- Inquire of Makhijani whether he has solicited or sought to collect information regarding the cost of disposing of DU or other low-level radioactive waste at near-surface disposal facilities.
- Establish that LES's cost estimate for near-surface disposal of DU is conservative when viewed relative to other relevant "data points" (e.g., the DOE/LMI cost estimate for disposal at Envirocare, the cost range presented on the DOE's website, Mr. LaGuardia and the Staff experts' personal knowledge of typical bulk waste disposal prices at Envirocare).
- Establish that the NRC's triennial update process is intended to account for, among other things, changes or variations in waste disposal prices (e.g., if the Texas Compact Commission set a different price for disposal at WCS; if Envirocare increased disposal fees)

**Estimated Time:** 1-2 Hours

**CONTINGENCY FACTOR**

1. Elicit acknowledgment that LES has complied with the literal terms of NUREG-1757 by applying a contingency factor of 25 % to its overall cost estimate.

2. Establish that Dr. Makhijani has no actual experience in preparing decommissioning cost estimates, or in developing or applying contingency factors to such cost estimates. In particular, probe the extent of Dr. Makhijani's knowledge/experience with respect to power reactor decommissioning and cost estimating.

3. Explore the basis for Dr. Makhijani's apparent belief that the 25% contingency factor recommended by the NRC Staff is not based on extensive and relevant historical experience in decommissioning various nuclear facilities (e.g., power reactors, fuel cycle facilities, and non-fuel-cycle facilities). Ascertain whether Dr. Makhijani knows how the NRC Staff arrived at the 25% contingency factor recommendation in NUREG-1757.

4. Elicit from Dr. Makhijani his understanding of the purpose of a contingency factor. In particular, ascertain Dr. Makhijani's understanding of the types of uncertainties that a contingency factor is meant to account for, and the relationship of a contingency factor to the underlying cost estimate to which it is applied. Also ask Dr. Makhijani to explain the relationship between the contingency factor and the triennial update process.

5. Ask Dr. Makhijani to explain the basis for his apparent disagreement with LES's and the NRC Staff's view that the necessary depleted uranium dispositioning activities -- deconversion, transportation, and disposal -- are relatively straightforward. Ask him to identify, if possible, specific "complexities" associated with these activities. Insofar as Dr. Makhijani believes that "deep geologic" or WIPP-type disposal is necessary, pose this question as a hypothetical (*i.e.*, assuming DU will be disposed of in a near-surface facility).

6. Explore the basis for Dr. Makhijani's belief that periodic (triennial) cost adjustments can only be used for "minor" cost adjustments. Contrast Dr. Makhijani's view in this regard with the "Statement of Considerations" accompanying the NRC rulemaking that implemented the triennial update requirement codified in 10 C.F.R. § 70.25(e). See LES Contingency Factor Rebuttal Testimony, Answer 5 at 5-6 ["The proposed 3-year cost updates are intended to capture changes in estimated costs regardless of cause, and to help ensure that the level financial assurance required of each licensee is appropriate." 68 Fed. Reg. 57,327, 57,332 col. 1 (Oct. 3, 2003)].

**Estimated Time:** 1 Hour

**ATTACHMENT 2**

October 18, 2005

G. Paul Bollwerk  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Paul Abramson  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Charles Kelber  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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

Dear Administrative Judges:

Attached please find the Staff's cross-examination plans for NIRS/PC witness Dr. Makhijani regarding the October 2005, LES hearing on contentions relating to deconversion, transportation, disposal, and contingency factor. At this time the Staff does not anticipate any cross-examination of LES witnesses.

Sincerely,

*/RA/*

Lisa B. Clark  
Counsel for NRC Staff

Attachment: As stated

**OVERVIEW OF NRC STAFF'S CROSS-EXAMINATION PLANS  
FOR THE OCTOBER, 2005 LES HEARING**

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**Deconversion**    Estimated Time: 30 minutes

**Potential Disposal Sites:**

- Witness claim that disposal sites are limited by Staff NEPA review is based on the following flawed assumptions:
  - Assumption that NEPA review constitutes Staff determination on how proposed action must be taken
  - Claim that NRC Staff has eliminated WCS from consideration and implication that LES may not use WCS for this reason.
  - Claim that NRC Staff has considered only Hanford and Envirocare as disposal options.
  - Claim that NRC Staff only considered CaF<sub>2</sub> disposal in low level waste facility and that this limits disposal options of LES.

**Plausibility of Deconversion Options:**

- Establish basis for witness claim that a siting process specified by the NRC must be established before a deconversion option is plausible.

**Transportation**

No cross examination currently anticipated

**Disposal**    Estimated Time: 45 minutes

**Potential Disposal Sites:**

- Witness claim that sites available for disposal are limited by the Staff NEPA review is based on the following flawed assumptions:
  - Assumption that NEPA review constitutes Staff determination on how proposed action must be taken
  - Claim that NRC Staff has eliminated WCS from consideration and implication that LES may not use WCS for this reason.
  - Claim that NRC Staff has considered only Hanford and Envirocare as disposal options

**Plausibility of Shallow Land Disposal:**

- Reconcile witness claims that site-specific analysis is necessary to determine whether shallow land disposal is feasible under Part 61 and claim that depleted uranium will necessarily require geological disposal.
- Reconcile witness claim that the only pathway analysis of the Envirocare site (by NIRS/PC) shows disposal of depleted uranium will exceed Part 61 limits with analysis done in connection with licensing of Envirocare.
- Reconcile witness claim that all TRU must be disposed of in WIPP with NRC regulatory requirements.

**Contingency Factor Estimated Time: 30 minutes**

- Establish witnesses understanding of purpose of contingency factor with regard to:
  - Foreseeable circumstances such as scaling considerations.
  - Uncertainty in elements of cost estimates such as disposal and deconversion.
  - Relevance of matters not relied on by LES such as scale of Pierrelatte plant.
- Establish witness understanding of purpose of triennial updates with regard to:
  - Claim that updates are only to account for minor modifications in cost.
  - Role of updates when circumstances change resulting in major modifications.

**ATTACHMENT 3**

October 18, 2005

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

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In the Matter of

Docket No. 70-3103

Louisiana Energy Services, L.P.

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ASLBP No. 04-826-01-ML

**CROSS-EXAMINATION PLANS SUBMITTED ON BEHALF OF INTERVENORS  
NUCLEAR INFORMATION AND RESOURCE SERVICE  
AND PUBLIC CITIZEN (“NIRS/PC”)**

**Preliminary statement**

The following Cross-examination Plans are submitted on behalf of Nuclear Information and Resource Service and Public Citizen, Intervenor herein (“NIRS/PC”), pursuant to the order of the Atomic Safety and Licensing Board (the “Board”) dated September 2, 2005.

**Cross-examination plans:**

**a. Deconversion issues:**

1. LES panel cross-examination (four hours):
  - a. Uncertainties regarding deconversion plant to serve LES enrichment plant.
  - b. Purpose of decommissioning funding estimate.
  - c. Routine operating conditions (deconversion and disposal volume).
  - d. LES’s strategy—preference for private deconversion, disposal.
  - e. Framatome technology not plausible.
  - f. Prior Cogema estimates.

- g. Price under Urenco-Cogema contract.
- h. The Cogema response to a request for quotation.
- i. Resale of HF.
- j. Rules of thumb.
- k. Scale issue—volume of throughput and efficiencies.
- l. Nature of Cogema's commitment.
- m. Cost of HF neutralization.
- n. Cost of CaF<sub>2</sub> disposal.
- o. Cylinder treatment facility.
- p. Cylinder disposal.
- q. Return on investment.
- r. DOE plants—status.

2. Cross-examination of NRC Staff panel (three hours):

- a. DOE plants—availability.
- b. Framatome technology—not available.
- c. AREVA, Cogema—no commitment to a plant.
- d. Deconversion plant open issues.
- e. Purpose of funding estimate.
- f. Cogema cost estimate not based on operating plant.
- g. Routine operating conditions.
- h. Prior Cogema estimates.
- i. Price under Urenco-Cogema contract.
- j. Cogema response to request for quotations.

- k. Rules of thumb.
- l. Scale issue—diseconomies of small size.
- m. Size of deconversion plant.
- n. Nature of Cogema's commitment.
- o. Cost of HF neutralization.
- p. Cost of CaF<sub>2</sub> disposal.
- q. Cylinder treatment facility.
- r. Cylinder disposal.
- s. Return on investment.

**b. Transportation issues:**

1. Cross-examination of LES witness (one hour):

- a. Nature of investigation and determinations.
- b. Shipments to be made: as DUF6 and as DU308.
- c. Estimates independent of distance.
- d. LES decision to average estimates for shipping DUF6, DU308.
- e. LES has no documentation of costs of overhead items.

2. Cross-examination of NRC Staff witnesses (one hour):

- a. Purpose of financial assurance requirement.
- b. Documented assumptions.
- c. Assumptions made by NRC Staff.

**c. Disposal issues:**

1. Cross-examination of LES witnesses (four hours):

- a. Applicant's obligation under plausible strategy standard.

- b. Assumption that depleted uranium is Class A low-level radioactive waste.
- c. LES sought facilities licensed to receive Class A low-level radioactive waste.
- d. Available sites.
- e. Assumption that they are environmentally acceptable.
- f. Dose limitations of 10 CFR Part 61 apply.
- g. Commission position: environmental analysis needed before disposal.
- h. Commission position: depleted uranium not appropriate for near-surface disposal.
- i. Previous analyses show noncompliance in near-surface disposal.
- j. Performance of sites identified by LES.
- k. Comparison with WIPP site.
- l. Nature of 10 CFR Part 61 rulemaking; application to uranium.
- m. Comparison with WIPP inventory.
- n. Uranium dose effects.
- o. Cost estimates as to WCS, Envirocare.

2. Cross-examination of Commission Staff witnesses (three hours):

- a. Assumed that depleted uranium is Class A low-level radioactive waste.
- b. 10 CFR Part 61 rulemaking; application to uranium.
- c. Facilities licensed to receive Class A low-level radioactive waste.
- d. Dose limitations of 10 CFR Part 61.
- e. Performance of sites specified by LES.
- f. Previous environmental analyses show noncompliance.
- g. Commission position: environmental analysis needed before disposal.
- h. Commission position: depleted uranium not appropriate for near-surface disposal.

- i. Cost estimates as to WCS, Envirocare.

**d. Contingency issue:**

**1. Cross-examination of LES witnesses (2 hours):**

- a. LaGuardia's experience in cost estimating.
- b. Methodology: line-item analysis.
- c. Scope of contingency allowance.
- d. Matters outside contingency allowance.
- e. Opinion here; its scope and bounds.
- f. Assumptions.
- g. Unknown factors.
- h. Purposed of triennial revision of estimate.
- i. The regulator's viewpoint.
- j. Possibilities not considered.
- k. Historical disposal costs.

**2. Cross-examination of Commission Staff witnesses (1 hour):**

- a. Methodology.
- b. Scope of contingency allowance.
- c. Matters outside contingency allowance.
- d. Opinion here; its scope and bounds.
- e. Assumptions.
- f. Unknown factors.
- g. Purpose of triennial revision of estimate.
- h. The regulator's viewpoint.

i. Possibilities not considered.

Respectfully submitted,



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and

Public Citizen  
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Washington, D.C. 20009  
(202) 588-1000

October 18, 2005

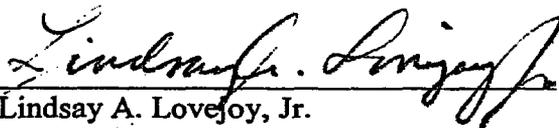
## CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on October 18, 2005, the foregoing Cross-examination Plans submitted on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen was served by electronic mail and first class mail upon the following:

G. Paul Bollwerk, III  
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**ATTACHMENT 4**

February 6, 2006

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

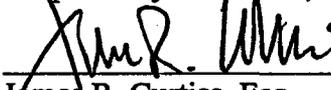
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

CROSS-EXAMINATION PLANS OF LOUISIANA ENERGY SERVICES, L.P.

In accordance with the Board's Memorandum and Order of December 27, 2006, (Regarding Administrative Matters Relative to October 2005 Evidentiary Hearing) attached are the Cross-Examination Plans of Louisiana Energy Services, L.P. ("LES") regarding the two issues to be considered at the upcoming evidentiary hearing. We estimate that the LES cross-examination of witnesses on the cost of capital issue will require no more than 30-45 minutes; the cross-examination of witnesses on the cylinder washing issue will require no more than 15 minutes.

Respectfully submitted,

  
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Dated at Washington, District of Columbia  
this 6th day of February 2006

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

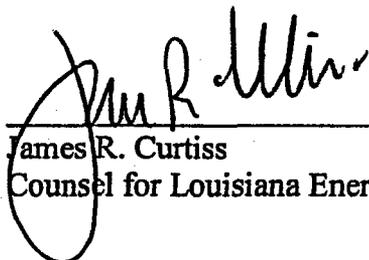
CERTIFICATE OF SERVICE

I hereby certify that copies of the "CROSS-EXAMINATION PLANS OF LOUISIANA ENERGY SERVICES, L.P." in the captioned proceeding has been served on the following by e-mail service, designated by \*\*, on February 6, 2006 as shown below. Additional service has been made by deposit in the United States mail, first class, this 6th day of February 2006.

Administrative Judge  
G. Paul Bollwerk, III, Chair\*\*  
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Administrative Judge  
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\_\_\_\_\_  
James R. Curtiss  
Counsel for Louisiana Energy Services, L.P.

**COST OF CAPITAL**

1. Explore Makhijani's assumptions and speculations underlying the "cost of capital" computations.
  - Establish how Makhijani determined the capital borrowing rate.
  - Establish how Makhijani determined the inflation rate.
  - Establish how Makhijani determined the debt-to-equity ratio.
  - Establish that Makhijani assumed private equity financing.
  - Establish how Makhijani determined the corporate tax deduction.
  - Establish how Makhijani determined the amortization period.
  
2. Examine implicit Makhijani presumption that the deconversion facility needs to be built at a particular point in time.
  - Determine what situations would give rise for a need to account for the cost of borrowing funds, *i.e.*, the cost of capital.
  - Distinguish the business decision of when to build the facility from the financial assurance showing necessary to receive an NRC license.
  - Establish that there is no regulatory basis for Makhijani's belief that the facility must be constructed at a specific point in time.
  
3. Demonstrate the irrelevance of the Settlement Agreement between LES and New Mexico Environment Department and the Attorney General of New Mexico on deconversion.
  - Explore the terms of the Settlement Agreement to establish that it does not contemplate decommissioning at a specific point in time.
  - Explore the terms of the Settlement Agreement to establish that it does not dictate when the deconversion facility will be built.
  - Explore the terms of the Settlement Agreement to establish that its affects are limited to storage costs insomuch that a deconversion facility is not built and LES reaches its maximum limit of 5,016 cylinders for onsite storage of DUF<sub>6</sub>.

**CYLINDER WASHING CROSS-EXAMINATION PLAN**

1. Explore alleged "two problems" with the Urenco Business Study Numbers
  - A. European, not U.S., Standard
    - Establish that NIRS/PC has introduced no evidence that "adjusting" to meet the European standard would increase LES's cost estimate for cylinder washing.
    - Establish that Cameco performs cylinder washing and recertification on services of 48Y cylinders for third party customers, the type of cylinder that LES intends to use.
    - Establish that Cameco, using the ANSI N14.1 standard, charges \$0.29 per kgU.
    - Establish that this price includes not only the cost of cylinder washing and recertification, but also overhead and profit.
    - Establish the LES has also committed to applying the ANSI N14.1 standard.
  - B. Cleaning to Free Release Standards
    - Establish Dr. Makhijani's background in cleaning cylinders.
    - Establish Dr. Makhijani's basis for the cost of cleaning cylinders for free release.
    - Establish that cylinders are a valuable commodity and will be reused.
    - Establish that there is a strong market for cylinders.
    - Establish that Cameco rarely disposes of cylinders and only does so when they are damaged
    - Establish that cleaning to free release only takes about 30 person hours.
    - Establish that LES's cost estimate is further shown to be reasonable based on Cameco's conclusion that \$0.60 would be sufficient to cover the cost of cleaning a cylinder to meet free release standards.

**ATTACHMENT 5**

February 6, 2006

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

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In the Matter of

Docket No. 70-3103

Louisiana Energy Services, L.P.

ASLBP No. 04-826-01-ML

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**CROSS-EXAMINATION PLANS SUBMITTED ON BEHALF OF INTERVENORS  
NUCLEAR INFORMATION AND RESOURCE SERVICE  
AND PUBLIC CITIZEN ("NIRS/PC")  
(COST OF CAPITAL AND CYLINDER MANAGEMENT)**

**Preliminary statement**

The following Cross-examination Plans are submitted on behalf of Nuclear Information and Resource Service and Public Citizen, Intervenors herein ("NIRS/PC"), pursuant to the order of the Atomic Safety and Licensing Board (the "Board") dated December 27, 2005.

**Cross-examination plans:**

1. LES panel cross-examination (two hours):
  - a. Cost of Capital: LES current testimony on decommissioning strategy.
  - b. Cost of Capital: LES previous presentation of "plausible strategy."
  - c. Cost of Capital: State-LES settlement agreement, as affects decommissioning strategy.
  - d. Cost of Capital: LES understanding of "plausible strategy" requirement.
  - e. Cost of Capital: Nature of NUREG-1757 financial assurance requirements.

- f. Cost of Capital: LES application for exemption from financial assurance requirements.
  - g. Cost of Capital: Possible assumption of decommissioning obligations by third party.
  - h. Cost of Capital: LES's abandoned theories: excess operation and maintenance costs.
  - i. Cost of Capital: LES's abandoned theories: revenue escalation.
  - j. Cost of Capital: Site decommissioning requirement to include third party profit.
  - k. Cylinder management: Washing methods.
  - l. Cylinder management: Future market for used cylinders.
  - m. Cylinder management: Free release measures.
  - n. Cylinder management: Cost of disposal.
2. Cross-examination of NRC Staff panel (one hour):
- a. Cost of Capital: NRC Staff previous positions now retracted.
  - b. Cost of Capital: NRC Staff assumption that LES would put in place a deconversion facility during the operating life of the NEF.
  - c. Cost of Capital: NRC Staff spread sheet, Staff Ex. 47: assumptions.
  - d. Cost of Capital: Appropriateness of 10% cost of capital.
  - e. Cylinder management: Washing methods.
  - f. Cylinder management: Future market for used cylinders.
  - g. Cylinder management: Free release measures.
  - h. Cylinder management: Cost of disposal.

Respectfully submitted,



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February 6, 2006

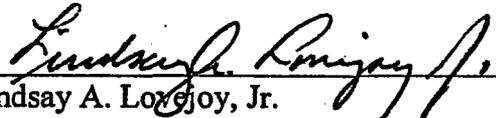
## CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on February 6, 2006, the foregoing Cross-examination Plans submitted on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen (Cost of Capital and Cylinder Management) was served by electronic mail and first class mail upon the following:

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM (PROVIDING CROSS-EXAMINATION PLANS FOR DOCKETING) have been served upon the following persons by deposit in the U.S. mail, first class, or through NRC internal distribution.

Office of Commission Appellate  
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Ron Curry, Secretary  
New Mexico Environment Department  
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Santa Fe, NM 87502-6110

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Docket No. 70-3103-ML  
LB MEMORANDUM (PROVIDING CROSS-EXAMINATION  
PLANS FOR DOCKETING)

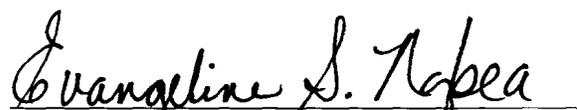
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Office of the Secretary of the Commission

Dated at Rockville, Maryland,  
this 12<sup>th</sup> day of June 2006