RAS 10695

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
Louisiana Energy Services, L.P.	ASLBP No. 04-826-01-ML

MEMORANDUM ON BEHALF OF INTERVENORS NUCLEAR INFORMATION AND RESOURCE SERVICE AND PUBLIC CITIZEN ("NIRS/PC") IN RESPONSE TO APPLICANT'S MOTION IN LIMINE TO EXCLUDE PORTIONS OF THE PREFILED REBUTTAL TESTIMONY OF ARJUN MAKHIJANI AND NRC STAFF MOTION IN LIMINE TO EXCLUDE NIRS/PC REBUTTAL TESTIMONY

Preliminary statement

This memorandum is filed on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen ("NIRS/PC") in response to the Applicant's Motion in Limine to Exclude Portions of the Prefiled Rebuttal Testimony of Arjun Makhijani Concerning Contentions NIRS/PC EC-3/TC-1, EC-5/TC-2 and EC-6/TC-3 and in response to NRC Staff's Motion in Limine to Exclude Nuclear Information and Resource Service and Public Citizen Rebuttal Testimony, both served on October 14, 2005.

Factual background

With hearings scheduled to commence in five days, Applicant ("LES") and Commission Staff have filed additional companion motions in limine, seeking to eliminate adverse evidence from the record. LES and Staff by these motions seek to exclude expert testimony that not only

is clearly relevant to the licensing of the proposed LES enrichment plant but, in some cases, has been held relevant by recent decisions of this Atomic Safety and Licensing Board (the "Board"). The motions should be denied.

Argument

The rebuttal testimony by Dr. Arjun Makhijani is clearly responsive to the direct testimony offered by LES and Commission Staff and comes within the scope of relevant evidence recently described by the Board in its ruling on motions in limine on October 4, 2005. The issues before the Board involve whether LES has presented a plausible strategy for tails dispositioning (including deconversion, transportation, and disposal) and has presented a credible estimate of the cost, on the basis of which decommissioning financial assurance can be determined. The Board on October 4 made clear that certain issues are plainly presented for determination, including, among others:

1. Cost of effectuating LES's proposed strategy for deconversion, transportation, and disposal (Memorandum and Order, Oct. 4, 2005, at 5-6);
2. Cost estimates for a strategy for deconversion, transportation, and disposal that would, in the view of NIRS/PC experts, be plausible (id. 5-6);
3. Elements of decommissioning or disposal costs not included in DOE's cost estimates for the "DOE option" (id. 7-8);
4. Whether near-surface disposal for depleted uranium from the NEF will ultimately be appropriate (Memorandum and Order, Oct. 4, 2005, at 11-12);
5. The need for additional environmental analyses before a disposal option for depleted uranium could be selected (id. 11);
6. The acceptability of shallow-land burial of depleted uranium from the NEF (id. 12);

7. Reasonableness of LES reliance on cost information from WCS and Envirocare (id. 13); and

8. The need for geologic repository disposal (id. 14).

Against the background of these rulings, LES has nine objections, and Commission Staff have three. All lack merit. We deal with them in order.

1. LES (LES Mot. 3) and Commission Staff (NRC Staff Mot. 4) object that Dr. Makhijani has brought forth evidence of the historic difficulties of the U.S. Department of Energy ("DOE") in matters involving waste disposal. Such evidence is highly relevant. The Board has ruled as follows concerning the estimates of the cost of the "DOE option":

> "If, based on the LES and staff prefiled testimony and exhibits, NIRS/PC identifies any element of decommissioning or disposal whose costs have not been included in the estimated costs[1] for the DOE disposal option (except those elements that have been excluded by our prior rulings [2]) it may provide prefiled rebuttal testimony (or cross-examine the appropriate LES or staff witnesses) regarding the failure to include those items." (Memorandum and Order, Oct. 4, 2005, at 7-8).

In support of a cost estimate for the "DOE option," LES has offered the December 2004 report by LMI (LES Ex. 86) and an explanatory submission dated August 12, 2005 (LES Ex. 87). The Board's task is to anticipate the prospect that LES may fail commercially, leaving depleted uranium to be deconverted and disposed of, and to determine the actual cost of implementing the "DOE option" in such circumstances. Thus, the question before the Board is not what the estimated price, or even the contract price, for deconversion and disposal by DOE would be;

---

[1] [note by the Board] These would be cost estimates, if any, associated with the DOE disposal option that were not part of the cost estimate provided by DOE pursuant to section 3113 of the USEC Privatization Act.

[2] [note by the Board] Previously, the Board has indicated that a number of subjects are not appropriate matters for consideration in challenging LES cost deconversion or disposal cost estimates (such as disposal in the form of UO_2 and health effects of uranium) and those matters likewise would not be appropriate subjects of a challenge to costs associated with the DOE option either.

rather, the question involves the actual cost to LES or its successor. This figure is not simply "the appropriate price [for DOE] to charge the firm" (LES Ex. 86 at 1-1) but, rather, the cost that the buyer would incur. Specifically relevant here is the prospect that DOE may fail to perform deconversion and disposal on the schedule required by LES's successor, causing additional expense. For example, LES has committed to the State of New Mexico to adhere to limitations on the volume and duration of DUF6 storage on site, failing which LES must suspend operations, causing expense, and add funds to its decommissioning financial assurance, at additional expense. (See Memorandum and Order, August 12, 2005, Attachment at 2-3). The estimates of costs of the DOE option do not account for such costs. Such estimates employ "baseline" costs (LES Ex. 86 at 2-3 n. 3), i.e., 2004 estimates at baseline levels. (See id. A-1). There is no contingency allowance (August 12, 2005 letter at 9, 13, Table 2).

Dr. Makhijani has offered testimony about the need to allow a significant contingency value, in light of DOE's past performance, to account for costs that LES or its successor is likely to incur. LES tells the Board that evidence of DOE's past mismanagement of waste projects constitutes "direct defiance" of the Board's October 4 order. (LES Mot. 3). However, the Board has invited testimony on omitted matters, and a contingency allowance is plainly omitted. Dr. Makhijani's testimony shows that, in setting aside funds in reliance on DOE's timely performance of waste management and disposal, prudence requires a significant reserve. This is particularly so where LES has *already committed* to suspend operations and add funds to the decommissioning assurance if tails dispositioning is delayed. (Memorandum and Order, August 12, 2005, Attachment at 2-3).

Further, Dr. Makhijani's testimony points to additional problems overlooked in the DOE cost estimate: DOE has publicly undertaken to conduct additional environmental review before

selecting a disposal method for DU3O8. Dr. Makhijani's analysis indicates that near-surface disposal cannot be conducted in compliance with regulations. (Makhijani deconversion rebuttal at 18, 19). The Board has stated that evidence that it is unwise to rely upon the expected costs of disposal at the WCS or Envirocare sites "goes to the heart of the matters at issue." (Memorandum and Order, Oct. 4, 2005, at 13). The evidence offered by Dr. Makhijani shows that the simple form of near-surface disposal at Envirocare assumed by the LMI report (LES Ex. 86 at 2-2, Table 2-1, note 1) is unlikely to suffice, causing delays and expense to LES's successor—a matter requiring an ample contingency allowance.

The assertion that the contingency factor applicable to the DOE cost estimate is not an "element of decommissioning or disposal" (LES Mot. 9) ignores the fact that the contingency allowance builds upon the underlying estimate and is intended to reflect the risk in that estimate. (See LaGuardia dep. 41). LES's failure to present any supportable contingency allowance for the DOE option calls for a response from NIRS/PC, one that should be admitted to the record.

2. Next, LES objects to Dr Makhijani's testimony about the cost of managing the depleted uranium cylinders. LES does not assert that there will be no such cost; LES simply wants the Board to ignore the cost. (LES Mot. 4). The claim is made that this information is new and should not have been advanced in rebuttal. However, in its direct testimony LES detailed the elements of its calculation of deconversion costs. (LES deconversion direct testimony at 18-29, Sept. 15, 2005). Dr. Makhijani's testimony, appropriately responding to LES's testimony, points out that there is a cost element that has been omitted. (Makhijani deconversion rebuttal at 19-21). LES says that the issue of cost of cylinder management is "not germane to LES's dispositioning cost estimate" (LES Mot. 4), but the relevance is clear; even in event of LES's failure, a successor to LES's cleanup obligations would need to manage and

dispose of not only the DUF6 but also the cylinders containing the DUF6. The issue is no surprise to LES; it was explored at length in discovery. (See Deposition of Compton, et al., Sept. 2, 2005, at 41-43, 47-49, 156-60). Moreover, the Board has stated that it will entertain evidence about problems and omissions in LES's tails dispositioning cost estimates:

> "In other words, to the extent NIRS/PC takes issue with the cost estimate information provided by LES since January 7, 2005, having already admitted a contention amendment on this subject, the Board will evaluate any relevant information placed before it on that matter, including material relating to post-January 7, 2005 LES submissions." (Memorandum and Order, June 30, 2005, at 15-16).

Thus, evidence that LES's estimate does not cover the cost of cylinder management is squarely admissible and responsive to LES's presentation.

3. LES also objects to Dr. Makhijani's listing of the items eliminated from his cost estimate based upon the October 4 ruling. (LES Mot. 5, 6) (NIRS/PC deconversion rebuttal A.14; transportation rebuttal A.4; disposal rebuttal A.16; contingency rebuttal A.9). The statement that LES objects to is indisputably accurate. It is necessary to square Dr. Makhijani's present testimony with the testimony filed on September 16, 2005. Since Dr. Makhijani has already testified that a different, and higher, cost will apply, it seems necessary for him to explain that the figure to which he is now testifying omits certain items as a result of decisions limiting his testimony and to identify the changes that have been made. Such accuracy is hardly objectionable.

4. LES would strike Dr. Makhijani's statement, showing that the states of Washington and Utah have placed a maximum concentration of 10 nanocuries per gram for radium-226 in Class A low-level radioactive waste. (LES Mot. 6). The point Dr. Makhijani makes is relevant, since the states' regulatory action was presumably based upon health impacts from waste at a higher radium concentration. (Makhijani, NIRS/PC disposal rebuttal at 9). The rules referred to

have general application, and it is not apparent that considering them will draw the Board into evaluation of specific sites. The testimony should remain.

5. In addition, LES and Commission Staff object to Dr. Makhijani's statement that it is very unlikely that the Envirocare site would be suitable for disposal of the depleted uranium from LES's plant. (LES Mot. 7; NRC Staff Mot. 6). It must be noted that Dr. Makhijani's testimony does not, as LES claims, "contest the viability of the Envirocare facility's license." (LES Mot. 7). To the contrary, Dr. Makhijani has several times relied upon the language of Envirocare's license, which restricts waste receipt to Class A. (See NIRS/PC disposal rebuttal A.11 at 16-17). But LES has consciously injected into this case the suitability of the Envirocare site. In its direct testimony on disposal, LES has expressly urged the Board to accept Envirocare as a suitable disposal site, stating that "[w]e have no reason to doubt the technical feasibility of near-surface disposal of large volumes DU3O8 at a licensed low-level radioactive disposal facility. By way of example, Envirocare of Utah ("Envirocare") has confirmed for LES that the existing licenses and permits for Envirocare's Clive, Utah facility currently allow Envirocare to dispose of DU3O8 . . . " (LES disposal direct testimony at 15). Commission Staff have testified on direct that the "engineered trench" method is "used by one of the disposal facilities identified in the FEIS as a potential disposal site." (NRC Staff disposal direct testimony at 4). Staff continued, pointing out that Envirocare is licensed to receive depleted uranium and can accept such material without limits. (id. 5). It would hardly be fair to allow such testimony without permitting NIRS/PC to respond to it and correct it.

Moreover, since the reasonableness of LES's reliance on cost estimates for disposal at, e.g., Envirocare "goes to the heart of the matters at issue in the upcoming evidentiary hearing" (Memorandum and Order at 13, Oct. 4, 2005), the capability of that site to contain radioactive

waste may be examined; if it is unsuitable, LES's reliance on cost estimates for disposal at such site would surely be imprudent.

6. LES objects to Dr. Makhijani's pointing out, in response to remarks in the LES disposal direct testimony, that the DOE PEIS (LES Ex. 18) fails to support near-surface disposal. (LES Mot. 7). But the Board has specifically ruled that "whether near-surface disposal of depleted uranium from the NEF will ultimately be appropriate" is in issue here. (Memorandum and Order, Oct. 4, 2005, at 11-12). The testimony in issues does not touch upon individual licensing proceedings. In fact, the substance of the testimony that LES complains about appears in LES's own application. (ER sec 4.13 at 4.13-13; NIRS/PC Ex. 133). Neither does Dr. Makhijani's reference to generic screening analyses in the November 2004 report and the July 2005 report (NIRS/PC disposal rebuttal at 19-20) (NIRS/PC Ex. 190, 224) relate to licensing matters. To the contrary, his statements are entirely generic and address the appropriateness of near-surface disposal and the likelihood of the need for disposal in a geologic repository—matters that the Board has deemed admissible. (Memorandum and Order, Oct. 4, 2005, at 11-12).

7. LES would have the Board delete testimony about the program delays in construction of the Portsmouth deconversion plant for DOE. (LES Mot. 8-9). However, the delay in construction of this *specific* plant, when LES has offered the DOE option as a "plausible strategy, must be admissible—not as "performance history" but to show that the particular strategy selected by LES is likely to suffer delays, requiring a contingency allowance.

8. The Applicant also objects to testimony about the difficulty of bringing shallow land burial into operation. (LES Mot. 9). While doubtless some of the difficulties of development of shallow land burial arise in "licensing" and are associated with "delays," many such problems, at

bottom, result from the technical challenges of establishing compliance with disposal regulations and cast light on the appropriateness of shallow land burial. The language from the LLNL report quoted by Dr. Makhijani describes site licensing as a "major compliance issue." (Makhijani contingency rebuttal at 10 A.6). Such problems simply reflect upon the appropriateness of near-surface disposal and the likelihood of the need for geologic disposal—matters squarely before the Board. (Memorandum and Order, Oct. 4, 2005, at 11-12, 14).

9. LES again complains (LES Mot. 10) of evidence in the NIRS/PC exhibits of emerging uranium health risks, but LES has opened the door to such evidence. LES's own witness, Thomas Potter, in LES's direct testimony on disposal, has testified that the dose from uranium is different and less harmful than the dose from transuranic elements. (LES disposal direct testimony at 14-15):

> "However, from the standpoint of radiation dose—the ultimate measure of potential radiation harm—a nanocurie of uranium inhaled or ingested is not necessarily equivalent to a nanocurie of TRU inhaled or ingested. For example, the radiation dose from a nanocurie of plutnium-239, a typical TRU nuclide, dissolved in drinking water is at least 10 times higher than the dose from a nanocurie of uranium dissolved in drinking water. This difference results from different chemical behaviors of uranium and plutonium in the body. Different radionuclides also behave differently in the environment because of chemical differences. That is, quantitatively identical sources of TRU and uranium nuclides can be expected to result in different radionuclide concentrations in environmental media, quantitatively different radionuclide intakes to persons consuming the media, and thus different doses." (LES disposal direct testimony at 15).

The purpose of rebuttal testimony is "to respond to the prefiled direct testimony propounded by the other parties." (Memorandum and Order, Oct. 4, 2005, at 18). Since LES has injected this question of health impacts of uranium into the case, NIRS/PC should be permitted to respond to Mr. Potter's testimony, showing that it is based upon obsolete data and conflicts with the broad current-day scientific consensus. Dr, Makhijani's testimony should be admitted.

10. NRC Staff assert that the quotation from Dr. John Bredehoeft, pointing out the extensive efforts required to license a facility like WIPP or Yucca Mountain, improperly invokes the idea of "licensing delays." (NRC Staff Mot. 7). However, for Staff to label the actual complexities of licensing a facility like WIPP or Yucca Mountain as merely a problem of "licensing delays" willfully avoids the true nature of those facilities. The contingency allowance is intended to reflect the actual difficulty of a project. (LaGuardia dep. 41). The statement by Dr. Bredehoeft points out several technically difficult aspects of the disposal process for depleted uranium, relevant to "the likelihood of the need for disposal in a geologic repository" (Memorandum and Order, Oct. 4, 2005, at 14) and the costs of such disposal. He notes, inter alia:

a. The requirement of a specific site and design to carry out a successful assessment.

b. The extensive preliminary on-site investigations.

c. The complex modeling processes required to qualify a site.

d. Unexpected results occurring in investigations.

e. The detailed scientific work required to attain consensus on compliance.

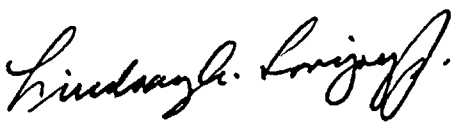
f. The ongoing risk of unfavorable results.

These scientific problems bear directly upon the cost of such disposal. To seek to minimize these real-world problems by calling them "licensing delays" and therefore outside this process risks ignoring major elements of project cost. The evidence should be admitted.

Conclusion

For the reasons set forth herein, the Motions in Limine should be denied and the NIRS/PC rebuttal testimony should be admitted to the record in this case.

Respectfully submitted,



Lindsay A. Lovejoy, Jr.
618 Paseo de Peralta, Unit B
Santa Fe, NM 87501
(505) 983-1800
(505) 983-0036 (facsimile)
E-mail: lindsay@lindsaylovejoy.com

Counsel for Petitioners
Nuclear Information and Resource Service
1424 16th St., N.W. Suite 404
Washington, D.C. 20036
(202) 328-0002

and

Public Citizen
1600 20th St., N.W.
Washington, D.C. 20009
(202) 588-1000

October 19, 2005

CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on October 19, 2005, the foregoing Memorandum on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen in Response to Applicant's Motion in Limine to Exclude Portions of the Prefiled Rebuttal Testimony of Arjun Makhijani and NRC Staff Motion in Limine to Exclude NIRS/PC Rebuttal Testimony was served by electronic mail and first class mail upon the following:

G. Paul Bollwerk, III
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
e-mail: gpb@nrc.gov

Dr. Paul B. Abramson
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
e-mail: pba@nrc.gov

Dr. Charles N. Kelber
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
e-mail: CKelber@att.net

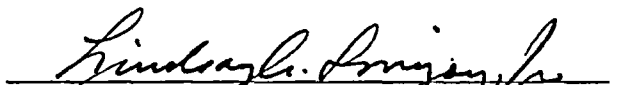
James R. Curtiss, Esq.
David A. Repka, Esq.
Martin J. O'Neill, Esq.
Winston & Strawn
1700 K St., N.W.
Washington, D.C. 20006
e-mail: jcurtiss@winston.com
drepka@winston.com
moneill@winston.com
aroma@winston.com

John W. Lawrence, Esq.
National Enrichment Facility
100 Sun Avenue, N.E.
Albuquerque, NM 87109
e-mail: jlawrence@nefnm.com

Office of the General Counsel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Associate General Counsel for Hearings, Enforcement, and Administration
e-mail: OGCMailCenter@nrc.gov
lbc@nrc.gov
mjb5@nrc.gov;
jth@nrc.gov

Office of Commission Appellate Adjudication
Mail Stop O-16C1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Rulemakings and Adjudications Staff (original and two copies)
e-mail: hearingdocket@nrc.gov



Lindsay A. Lovejoy, Jr.
618 Paseo de Peralta, Unit B
Santa Fe, NM 87501
(505) 983-1800
(505) 983-0036 (facsimile)
e-mail: lindsay@lindsaylovejoy.com