

January 18, 2005

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD January 18, 2005 (1:19 pm)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of

Docket No. 70-3103

Louisiana Energy Services, L.P.
National Enrichment Facility

ASLBP No. 04-826-01-ML

**RESPONSE ON BEHALF OF
NUCLEAR INFORMATION AND RESOURCE SERVICE AND PUBLIC CITIZEN TO
LES MOTION TO EXCLUDE PREFILED DIRECT TESTIMONY OF GEORGE RICE**

Preliminary statement

This Memorandum is submitted on behalf of Intervenors Nuclear Information and Resource Service and Public Citizen ("NIRS/PC") in opposition to the Motion of Applicant, Louisiana Energy Services, L.P. ("LES") to Exclude Prefiled Testimony of George Rice for Lack of Requisite Expert Qualifications and Reliability, filed on January 12, 2005.

Factual background

George Rice, a professional groundwater hydrologist, has offered testimony in support of NIRS/PC contention EC-1 and EC-2. LES does not by this motion attack Mr. Rice's testimony in support of contention EC-1. Contention EC-2 reads as follows:

NIRS/PC EC-2 -- IMPACT UPON WATER SUPPLIES

CONTENTION: Petitioners contend that the Environmental Report (ER) contained in the application does not contain a complete or adequate assessment of the potential environmental impacts of the proposed project upon water supplies in the area of the project, contrary to 10 C.F.R. 51.45.

To introduce a new industrial facility with significant water needs in an area with a projected water shortage runs counter to the federal responsibility to act "as a trustee of the environment for succeeding generations," according to the National Environmental Policy Act § 101(b)(1) and 55 U.S.C. § 4331(b)(1). To present a full statement of the costs and benefits of the proposed facility the ER should set forth the impacts of the National Enrichment Facility on groundwater supplies.

The DEIS does compare the water use of the proposed facility to the amount of water stored in the Ogallala Aquifer in the entire State of New Mexico (DEIS at 4-15). However, NRC has not shown in the DEIS how this pumpage would affect water levels and the long-term productivity of the Hobbs well field or the Lea County Underground Water Basin.

The contention, in brief, addresses the sufficiency of the DEIS disclosure of the prospective impact of the proposed National Enrichment Facility ("NEF") on water supplies. The Board has already stated that evidence admissible under contention EC-2 includes the following:

NIRS/PC EC-2 — IMPACTS UPON WATER SUPPLIES

Adequacy of ER assessment of project impacts upon area water supplies.

Adequacy of DEIS analysis of

- Impact of proposed NEF on Lea County underground Water Basin and Ogallala Aquifer
- Daily and annual water supply capacities
- Impact of the proposed NEF on other water users

(Order, Dec. 15, 2004, at 3).

Mr. Rice has stated his conclusions succinctly as follows:

"Regarding water supply, I conclude that LES and the NRC Staff have not determined how pumpage for the proposed facility would affect water levels and the long-term productivity of the Hobbs well field or the Lea County Underground Water Basin." (G. Rice prefiled direct testimony at 3).

"Q: Have LES/NRC determined how groundwater pumpage for the proposed facility would affect the long-term productivity of the Hobbs well field or the Lea County Underground Water Basin?"

A. No. The water used at the proposed facility would be pumped from the Hobbs well field (Lea County Underground Water Basin, Ogallala Aquifer)¹. Groundwater in the Lea County Underground Water Basin is being pumped at a rate faster than it is being recharged².

In the DEIS, NRC compares the water use of the proposed facility to the amount of water stored in the Ogallala Aquifer in the entire State of New Mexico³. This comparison is not relevant or useful. The effects of the NEF's water use would be confined to the portion of the Ogallala Aquifer near the Hobbs well field, not the Ogallala in the entire state. LES and NRC have not determined how pumpage for the proposed facility would affect water levels and the long-term productivity of the Hobbs well field or the Lea County Underground Water Basin.

The long-term effects of water use by the NEF could be estimated by simulating pumpage from the Hobbs well field both with, and without, the additional pumpage required for the proposed NEF." (id. 24-25).

Argument

Mr. Rice's testimony corresponds to evidence already identified by the Board as relevant and admissible under contention EC-2. LES, however, has moved to exclude all such evidence. LES's grounds are insubstantial:

a. Sufficiency of Mr. Rice's experience.

LES asserts that Mr. Rice does not have sufficient experience in water resources and water supply investigations. (LES Mot. 4-8). However, the applicable requirement allows an expert to be qualified on alternative bases: Under Rule 702, Fed. R. Evidence, one may testify as an expert witness in the following circumstances:

"If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case."

¹ Louisiana Energy Services, 2004a, page 4.4-5; and Leedshill-Herkenhoff, 2000, page 1 of Executive Summary and page 7-2.

² Leedshill-Herkenhoff, 2000, page 1 of Executive Summary and page 5-4.

³ NRC, 2004a, page 4-15.

Thus, qualification as an expert arises from “knowledge, skill, experience, training, or education.”

Mr. Rice’s training includes a B.S. degree in hydrology from the University of Arizona in 1979 and a M.S. degree in hydrology from the University of Arizona in 1991. Prima facie, he is qualified to testify as an expert in issues involving hydrology. An expert may be qualified on any of the alternative bases stated in Rule 702. “Under Rule 702, an expert must have either knowledge, skill, experience, training, or education. These are disjunctive; an expert can qualify to testify on any one of the grounds.” *Cooper v. Laboratory Corp. of America Holdings, Inc.*, 150 F.3d 376, 380 (4th Cir. 1998). Thus, an expert may be qualified on the basis of education alone. In *Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Unit 1)*, ALAB-921, 30 NRC 177, 183 n. 24 (Sept. 20, 1989), the Board stated, as to a proffered expert, that “Dr. Singh holds a doctorate in mechanical engineering and has had educational course work in organic and analytical chemistry. There can be no real question as to his qualifications to testify on the matters at hand.” Here, there can be no question of Mr. Rice’s qualifications on the basis of education alone.

In addition, Mr. Rice’s experience includes the assessment of effects of pumpage, which is the subject of his testimony on contention EC-2. His declaration (attached) states that he has conducted aquifer tests and analyzed the results to estimate the hydraulic properties of an aquifer, such as transmissivity and storage coefficient, that determine how an aquifer responds to pumpage. He has helped to teach a field course on aquifer tests and their analysis. He has evaluated assessments of the sustainable yield of aquifers and has used the MODFLOW computer model to predict drawdown expected from extraction wells

and from pumping a well field. These matters involve the type of analysis that Mr. Rice states, in connection with EC-2, should be carried out.

b. Reliability and helpfulness of testimony on contention EC-2.

LES asserts that the testimony that Mr. Rice offers is not reliable and useful. Mr. Rice's statement is straightforward: He states that the analysis in the ER and the DEIS of the impact of the proposed NEF on its source of water supply is inadequate. He points out that the comparisons in the DEIS between the planned water use of the NEF and the volume of water stored in the Ogallala Aquifer within the political borders of New Mexico is not a relevant and useful comparison. He explains that the impact of the NEF withdrawals would not be felt in the area chosen by Commission Staff—the area described by the borders of New Mexico—but “would be confined to the portion of the Ogallala Aquifer near the Hobbs well field.” (Rice prefiled direct testimony at 25). And he points out the inadequacy of the analysis by LES and Commission Staff: “LES and NRC have not determined how pumpage for the proposed facility would affect water levels and the long-term productivity of the Hobbs well field or the Lea County Underground Water Basin. The long-term effects of water use by the NEF could be estimated by simulating pumpage from the Hobbs well field both with, and without, the additional pumpage required for the proposed NEF.” (Rice prefiled direct testimony at 25).

Thus, Mr. Rice's testimony describes an inadequacy in the draft environmental analysis. Such evidence is exactly the matter that the Board stated would be appropriate to present, viz: “Adequacy of ER assessment of project impacts upon area water supplies” and “[a]dequacy of DEIS analysis of [i]mpact of proposed NEF on Lea County underground Water Basin and Ogallala Aquifer.” (Order, Dec. 15, 2004, at 3). The Board

invited evidence on the adequacy of the ER and DES analyses, and Mr. Rice has said that the analyses are inadequate, because the area analyzed does not correspond to the area of expected impact. Mr. Rice's statement is brief, because the analyses in the ER and DEIS are brief and contain basic errors. This is exactly the evidence that the Board has ruled may be heard.

Conclusion

The testimony offered by Mr. Rice on contention EC-2 goes directly to the issue of the impact of the proposed NEF on water supplies. This question has been recognized as relevant by the Board. Mr. Rice is clearly qualified both by training and experience to assist the Board with testimony on this issue. His testimony is simple and straightforward and points out a basic defect in the environmental analysis conducted by LES and Commission Staff. Such important information should not be kept from the record in this case on the baseless reasoning offered by LES. The motion should be denied.

Respectfully submitted,



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January 18, 2005

CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on January 18, 2005, the foregoing Response on behalf of Nuclear Information and Resource Service and Public Citizen to LES Motion to Exclude Prefiled Direct Testimony of George Rice was served by electronic mail and by first class mail upon the following:

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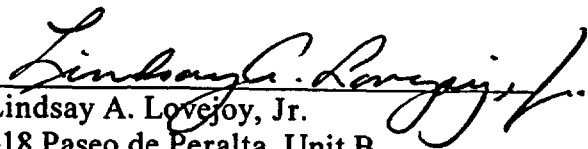
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. 70-3103

Louisiana Energy Services, L.P.
National Enrichment Facility

ASLBP No. 04-826-01-ML

AFFIDAVIT OF GEORGE RICE

State of Texas)
 :
County of Bexar)

George Rice, being duly sworn, deposes and says:

1. I am a professional hydrologist and have been retained on behalf of Nuclear Information and Resource Service and Public Citizen (NIRS/PC) to investigate and present testimony about certain issues in this case. Specifically, I have undertaken to investigate issues involving the impact of the proposed National Enrichment Facility ("NEF") upon ground water and supplies of ground water in the area of the NEF.
2. I understand that Louisiana Energy Services, L.P. ("LES") has challenged my qualifications to testify on contention EC-2 in this case. The matters raised in contention EC-2 concern fundamental principles of groundwater hydrology. Such matters were addressed in my education as a hydrologist at the University of Arizona, where I received a B.S. in hydrology in 1979 and an M.S. in hydrology in 1991.
3. The questions raised in contention EC-2 involve how the Ogallala Aquifer (Hobbs well field, Lea County Underground Water Basin) would respond to the increased pumpage required for the NEF. How much drawdown (decrease of water levels) would occur in

the vicinity of the Hobbs well field? How would the drawdown affect the productivity of the well field?

4. I have experience in assessing the effects of pumpage:

- a. I have conducted aquifer tests and analyzed the results to estimate the hydraulic properties of aquifers (transmissivity, storage coefficient). These properties determine the response of an aquifer to pumpage. That is, they determine the magnitude and extent of drawdown. Locations where I have conducted such tests and analyses include Tuba City, Arizona; Gunnison Colorado; and Wind River, Wyoming.
- b. As a student, I helped teach portions of a field course that included the performance of aquifer tests and the analysis of test results (University of Arizona).
- c. I have evaluated assessments of the sustainable yields of aquifers, that is, the amount of water that could be pumped without adversely affecting the long-term productivity of the aquifers. I did such evaluation in Uvalde County, Texas.
- d. I have used the computer model, MODFLOW, to predict the magnitude and extent of drawdowns caused by the pumpage of contaminant extraction wells (Kelly AFB, Texas), and to evaluate predictions of drawdowns resulting from pumping a well field. The evaluation pertained to Lee, Bastrop, and Milam Counties, Texas.

Signed: _____

Subscribed and sworn to (or affirmed) before
me this 17th day of Jul, 2005.

Irene A. Peche
Notary Public

