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**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

**OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF**

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

**MOTION TO COMPEL
RESPONSES TO INTERROGATORIES
BY APPLICANT
LOUISIANA ENERGY SERVICES, L.P.
ON BEHALF OF
PETITIONERS
NUCLEAR INFORMATION AND RESOURCE SERVICE
AND PUBLIC CITIZEN**

Preliminary statement

This Motion is filed on behalf of Petitioners Nuclear Information and Resource Service and Public Citizen ("NIRS/PC") pursuant to the Order of the Atomic Safety and Licensing Board (the "Board"), authorizing the filing of motions related to the discovery obligations of the parties within seven business days after an issue arises (Memorandum and Order, Aug. 16, 2004, at 5 note 3).

The Board authorized NIRS/PC to present eight contentions with regard to the proposed National Enrichment Facility ("NEF") (Order, July 19, 2004). The Board also authorized NIRS/PC to serve up to 130 interrogatories in support of such contentions. (Memorandum and Order, Aug. 16, 2004, at 5). On September 9, 2004, NIRS/PC served 65 interrogatories, with subparts, on Applicant ("LES"). On September 23, 2004 LES served its Objections and Responses to Interrogatories from Nuclear Information and Resource Service and Public Citizen

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(“LES Objections and Responses”), objecting in whole or in part to all but nine of the interrogatories.

The parties have conferred in an attempt to resolve LES’s Objections. LES has not agreed to respond further to any of the NIRS/PC interrogatories. Therefore, Petitioners are constrained to file this Motion.

Argument

A. Interrogatories concerning the need for, costs of, and benefits of the proposed National Enrichment Facility should be answered.

One of the NIRS/PC contentions questions the sufficiency of the National Environmental Policy Act, 42 USC Sec. 4321 et seq. (“NEPA”), analysis of the need for the facility—i.e., the “environmental, social, and economic impacts and costs” of opening the NEF. NIRS/PC phrased the contention as follows in their Petition:

“5. Need for the facility; impact on national security

5.1 Contention: Petitioners contend that the Environmental Report (“ER”) does not adequately describe or weigh the environmental, social, and economic impacts and costs of operating the National Enrichment Facility (“NEF”) (See ER 1.1.1 et seq.).

The ER contains LES’s statement of the asserted purpose and need pursuant to 10 CFR 51.45, but the supposed benefit-cost analysis fails to demonstrate that there is a need for the facility. “To assist the NEPA cost-benefit analysis, the NRC ordinarily examines the need a facility will meet and the benefits it will create.” In re Louisiana Energy Services, CLI-98-3, 47 NRC 77, 89 (1998).

A. Basis: LES’s presentation erroneously assumes that there is a shortage of enrichment capacity. Thus, LES takes a backward approach, projecting the consequence of not building the three million SWU per year capacity of the proposed LES plant, and asking how the supposed “shortfall” could be made up, without first determining that *not* building the LES plant would create an enrichment services shortfall. (ER 1.1). And when LES argues that the existing U.S.-Russia agreement to downblend HEU from Russian nuclear weapons must somehow “compensate for the 3 million SWU per year of enrichment services that would have been provided by LES...” (ER Section 1.1.2.4.6), it simply assumes that those three million SWU would be needed from a U.S. source.

B. Basis: LES’s statements of “need” for the LES plant (ER 1.1) depend primarily upon global projections of need rather than projections of need for enrichment services in the U.S. There is no indication that needs of U.S. nuclear utilities cannot be met without construction and operation of the LES facility.

* * *

F. Basis: . . . LES has not provided the Commission with any information regarding the current costs of SWUs to present and expected market participants; the cost of the proposed NEF SWU production—including all costs related to construction, operation, decommissioning and UF₆ waste disposal—nor market projections; and thus has not demonstrated how construction of the proposed facility would satisfy any alleged need. . . .” (NIRS/PC Pet. at 39-41) (Apr. 6, 2004).

At the admissibility stage, LES opposed this contention, asserting that a “NEPA analysis does not encompass issues of market strategy and economic viability.” (LES Ans. 90, May 3, 2004). NRC Staff, however, did not oppose admission of the contention, supported by bases A, B, and F. (NRC Staff Ans. 16-18). In reply, NIRS/PC pointed out that in the Claiborne Enrichment Center (“CEC”) proceeding the Board had closely examined the impact of the proposed facility upon existing competition and the enrichment market in the United States. Notably, in the CEC proceeding the Board received extensive expert testimony about the excess supply of enrichment capacity and concerning LES’s intention to succeed in the enrichment market based upon price competition:

“The fundamental case for the CEC is that it can and will compete on economic grounds, allowing U.S. electric utilities a competitive source of supply so that they can in turn achieve the lowest cost reliable supply of electricity to their rate payers.” In re *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBR-96-25, 44 NRC 331, 350 (Dec. 3, 1996).

After full presentation on the supply and demand for enrichment services and the projected costs and prices of enrichment suppliers, the Board in the CEC case found that the CEC was not likely to contribute a competitive benefit:

“Specifically, we find that contrary to the conclusion of the ER and the FEIS, the CEC merely will be a fifth producer whose total costs of producing SWUs are comparable to the other market competitors in an already very highly competitive market where the current and future supply of SWUs far exceeds current and future demand. Consequently, rather than bringing the benefit of significant price competition to the enrichment services market as an additional domestic supplier, the evidence before us clearly shows that, when quantified, the CEC will have little, if any, effect on price competition in the enrichment services market.” (id. 369).

On review, the full Commission ruled that the cost-benefit inquiry under NEPA ranges even more broadly than the Board's examination and expressly stated that it did "not disturb the Board's core factual finding that the CEC is unlikely to have a major beneficial price effect." In *re Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 90 (Apr. 3, 1998). The Commission stated that the benefits to be considered also included the advent of a new enrichment technology and an additional domestic market participant (at 95). The Commission's conclusion supported the Board's inquiry into the price effects of the proposed new facility and added other factors to the investigation:

"In sum, we hold that the Board had sufficient reason to examine the likely competitive price effects of the CEC, that the Board's price-effects finding should be added to the environmental record of decision, and that the Board, in performing its ultimate cost-benefit balancing under NEPA, must consider, in addition to price effects, the other benefits of the CEC." (id. 97).

In its hearing order directing this proceeding the Commission specifically stated that this decision "resolves[s] a number of issues concerning uranium enrichment licensing and may be relied upon as precedent." (69 Fed. Reg. 5873, 5877)(Feb. 6, 2004).

Based on that precedent, NIRS/PC urged the admission of contention NIRS/PC EC-7, pointing out that it is important, under NEPA, to explore the production costs of the present producers and of the proposed plant, so that the impact of the NEF on the entire market can be known:

"Before seeking a license, LES presumably studied the costs of other suppliers and the responsiveness of customers to price and other factors, to satisfy itself that utilities would buy SWUs from the NEF. The NEPA analysis underlies NRC's decision whether to license this plant. If NRC is to make an informed decision, it must know the benefits of this project, viz: whether the project will produce SWUs better, faster, or cheaper—with the benefits quantified—than others can do. There is no benefit to another domestic enrichment plant if it cannot compete." (NIRS/PC Reply 20, May 10, 2004).

After considering this showing, the Board ruled that the NIRS/PC contention should be admitted—minus the request for a business plan of the NEF:

“RULING: Admitted, as supported by Bases A, B, and F that are sufficient to establish a genuine material dispute adequate to warrant further inquiry, except to the extent that Basis F suggests that the applicant is under an obligation to present a “business plan.” Bases D, E, and G, are insufficient to support the admission of this contention in that they fail to establish with specificity any genuine material dispute; and/or fall outside the scope of this proceeding in that the applicant is under no obligation to present either a “business case” or to demonstrate the profitability of the proposed facility. See section II.B.1.b, d above. Basis C was withdrawn. See NIRS/PC Supplement at 3.” Order, July 19, 2004, at 32

Thus, the Board specifically allowed NIRS/PC to pursue whether the Environmental Report “adequately describe[s] or weigh[s] the environmental, social, and economic impacts and costs of operating the” NEF, including “how LES would effectively enter this market in the face of existing and anticipated competitors and contribute some public benefit.” (NIRS/PC contention EC-7).

Following the Board’s Order admitting the contention, NIRS/PC have pursued economic evidence which should be incorporated in the environmental documents, so that the Board can assess the pluses and minuses of licensing the facility. Such are the data that the Commission specifically approved as part of the inquiry in the CEC proceeding. (See, e.g., 47 NRC at 93). With the help of economic experts, NIRS/PC propounded interrogatories to LES to obtain LES’s knowledge, as a market participant, of the relevant factors. However, LES has resisted answering the pertinent questions. Thus, NRS/PC are forced to return to the Board for an order to enforce the discovery requests.

The interrogatories in issue are as follows:

Interrogatory 30. Eight scenarios are outlined in the “Market Analysis” in Section 1.1.2.4 of the Environmental Report. For each such scenario, please:

- a. State your best estimate of the average (for either the U.S. or the World) cost per SWU (either annual or “lifetime” averages) associated with such scenario,

- b. Explain the derivation of such cost figures, and
- c. Describe any documents relating or referring to such estimates.

LES objects to this question on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, (3) it is broad and burdensome, (4) it is a compound question, (5) the information is available elsewhere, and (6) research is required to answer it.

This question refers to the eight alternative scenarios that LES has hypothesized in its ER as different ways to supply the world's approximately 42 million SWU per year requirements in the period 2002 through 2020 (ER 1.1-13 through -17). The question asks, simply, what the average cost of SWU would be under the alternative scenarios, and seeks the derivation of such cost figures. Clearly, the average cost under different scenarios will tend to affect the price requested by producers and paid by buyers and, ultimately, by consumers. In addition, where price falls below a producer's cost of production, such producer cannot long remain a market participant; thus, the cost data will tend to show whether the number of producers will shrink. Further, LES's consultant, Energy Resources International, Inc. ("ERI") maintains a data base with production cost data which were presented in the CEC proceeding. Michael Schwartz of ERI testified at that time:

"The individual enrichment supply centers are broken into production capacity increments, where appropriate. Production-cost-based prices for each of the individual increments of commercial enrichment supply are estimated in separate discounted cash flow ("DCF") analyses that account for all production costs and assume a return on capital investment. . . .

"The DCF analyses results in the production costs employed in the production-cost-based clearing price model for the enrichment facilities of the USEC, Eurodif, Urenco and the proposed new facility of LES in the U.S." (Testimony of Michael H. Schwartz, Feb. 24, 1995, at 30-31).

Schwartz testified that the data are used to match uncommitted demand and supply at clearing prices, to project prevailing prices. (id. 30-31). The CEC Board examined such data in reaching its conclusions about the benefits offered by the proposed facility. (44 NRC at 352, 362). Thus,

the data are available with respect to the scenarios proposed by LES, to compare the alternatives.

LES should be required to answer the interrogatory.

Interrogatory 26. At page 1.1-9 of the Environmental Report, it is said that “the annual nameplate capability [of the Paducah gaseous diffusion plant] of 11.3 million [SWU] is not physically attainable without capital upgrades to the plant, which are not expected.” As to the capital upgrades, please state:

- a. A brief description of each upgrade.
- b. The projected capital and operating cost of such upgrade.
- c. The contribution such upgrade would make to the capacity of the plant.
- d. The capacity of the Paducah plant without such upgrade.
- e. An explanation why such upgrade is not expected, and
- f. Please describe all documents relating or referring to such possible upgrades.

Interrogatory 31. At page 1.1-19 of the Environmental Report you refer to the “negative financial impact of operating [the] Paducah [gaseous diffusion plant] at low production levels” (less than 3 million SWU per year). Please:

- a. Quantify this negative impact,
- b. Explain the derivation of such figure, and
- c. Describe any documents referring or relating to such calculations.

LES objects to interrogatory 26 on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, (3), it is broad and burdensome, (4) the information is available elsewhere, (5) it seeks proprietary information, and (6) research is required to answer it. LES objects to interrogatory 31 on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, (3), it seeks proprietary information, and (4) research is required to answer it.

Again, by these questions LES is asked to furnish the support for its statements about the capacity and costs of production from the Paducah gaseous diffusion plant, the only operating commercial enrichment plant in the United States. LES claims to know the effective capability of the Paducah plant and the production level at which “negative financial impact” sets in; LES should be required to provide the information underlying its statements.

Interrogatory 32. Table 1.1-5 of the Environmental Report states the capacity of Urenco’s centrifuge enrichment facility in Europe as 6.0 million SWU per year in 2002, increasing to 6.5 million by the end of 2003 and to 8.0 million during or before 2016. Please state:

- a. The total enrichment services (in SWU per year) that this Urenco facility provided to U.S. reactor customers in each of the five most recent years for which data are available, and
- b. Your latest projections of the total enrichment services (in SWU per year) that this Urenco facility is expected to provide to U.S. reactor customers in each of the ten years immediately following those five years, and
- c. Please describe all documents relating or referring to such services or projections.

LES objects to this question on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, (3), it seeks proprietary information, (4) the information is available elsewhere, and (5) research is required to answer it.

Again, NIRS/PC requests LES's historical U.S. sales information and U.S. market projections for its own constituent partner, Urenco. Such data would clearly assist in assessment of the impact of the entry of a new participant, NEF, as a seller to U.S. utilities. Further, projections of Urenco's performance would shed light upon Urenco's intentions with regard to the NEF—e.g., whether NEF would enter the U.S. market at reduced prices to obtain a particular market share and whether the European Urenco facilities would refrain from competing with it. Such information should be made available.

Interrogatory 33. On page 1.1-21 of the Environmental Report you state that "Urenco perceives building new centrifuge capability in the U.S. as a more attractive option [than] expanding its centrifuge enrichment capability in Europe." Please state the estimated total cost per SWU, on a straight cost basis, of new centrifuge enrichment capability (a) in Europe and (b) at the NEF facility in New Mexico. Please provide all supporting assumptions and calculations, and describe all documents relating or referring to such estimates.

LES objects to this question on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, and (3) research is required to answer it.

This question asks for the cost of construction of new centrifuge enrichment facilities in Europe and in the U.S. Such information would allow an economist to project the cost of production from the different locations and to infer the price and the market impact. Cost

information of this sort was used in the CEC proceeding in attempting to judge the public benefit of a new market participant. However, in this case, LES has refused to furnish the data. An order should require such disclosure.

Interrogatory 34. Page 1.2-1 of the Environmental Report gives the estimated construction cost of the NEF as approximately \$1.2 billion in 2002 dollars (excluding escalation, contingency, interest, tails disposition, decommissioning and equipment replacement). Please:

- a. Indicate how this estimate is broken down by calendar year (i.e., please provide your complete cash-flow projection consistent with this estimate),
- b. Provide estimates of the costs associated with escalation, contingency, interest and equipment replacement (giving separate estimates for each item), either on a dollar basis or a percentage basis, as appropriate,
- c. Break down the total cost estimate among major expenditure categories such as (but not limited to) technology license fees, design, architect-engineer costs, construction management, plant equipment, construction equipment, construction materials, land, buildings, skilled labor, manual labor, and supplies,
- d. Include complete descriptions of how costs were estimated for each of these categories, and
- e. Describe all documents referring or relating to such calculations.

LES objects to this question on the grounds that (1) it is irrelevant, (2) it is outside the scope of the contentions, (3) the information is available elsewhere, and (4) research is required to answer it.

Detailed construction cost information for the NEF will enable NIRS/PC to verify the cost estimates provided by LES as to the cost of production from the planned NEF. Since NEF is the only facility as to which LES has direct knowledge of costs, this level of disclosure is appropriate. There should be no difficulty assembling the information, since it should already exist for planning purposes.

B. Interrogatories concerning LES's strategies for conversion and disposal of depleted UF₆ should be answered.

The Commission's order authorizing this proceeding refers to LES's obligation to present a "plausible strategy" for disposition of the depleted uranium ("DU") generated by an

enrichment plant. (69 Fed. Reg. 5873, 5877) (Feb. 6, 2004). LES's application describes two strategies that LES considers "plausible," viz:

1. LES claims that its preferred strategy is to have the DUF_6 converted to DU_3O_8 and disposed of in a western United States exhausted uranium mine (ER 4.13-8).
2. LES states that its alternative strategy is to tender the DUF_6 to the U.S. Department of Energy ("DOE") for "dispositioning" pursuant to Sec. 3113 of the USEC Privatization Act, which obligates DOE to accept depleted uranium if it is determined to be low-level radioactive waste (ER 4.13-8).

As to such strategies, NIRS/PC has made several contentions:

- a. Contention NIRS/PC EC-3/TC-1 states that LES does not have a "plausible strategy" for conversion and disposal of DUF_6 .
- b. Contention NIRS/PC EC-4 states that the Environmental Report fails to discuss the environmental impacts of construction and operation of a conversion plant.
- c. Contention NIRS/PC EC-5/TC-2 states that LES's estimates of the cost of decommissioning are insufficient on several grounds.
- d. Contention NIRS/PC EC-6/TC-3 states that LES has seriously underestimated the costs and feasibility of managing and disposing of DUF_6 on several grounds.

The Board admitted these contentions in its Memorandum and Order dated July 19, 2004.

Based on these admitted contentions, NIRS/PC posed several interrogatories to obtain relevant information about LES's plans to dispose of depleted uranium—plainly a contested issue and one on which LES has the burden to establish a "plausible strategy." However, LES has refused such discovery. NIRS/PC respectfully request an order from the Board to obtain discovery pursuant to the following questions:

Interrogatory 38. When (as to month and year), in LES's estimation, will the planned DOE conversion facilities at Portsmouth, OH and Paducah, KY be ready to receive depleted UF₆ from the NEF? Please provide the assumptions and reasoning underlying this estimate.

LES objects to this interrogatory on the grounds that (1) it is irrelevant and (2) it goes beyond the scope of any admitted contention.

This question should be answered. LES is now claiming before the full Commission that it may urge as a "plausible strategy" the tender of DU to the U.S. Department of Energy ("DOE") for conversion and disposal pursuant to Sec. 3113 of the USEC Privatization Act (Response of LES to the Question Certified to the Commission, Sept. 8, 2004, at 7-8), but in proceedings before this Board LES refuses to state when the DOE facilities can accept such tender. If the DOE conversion facilities cannot receive DUF₆ from LES, then the strategy may not be "plausible," and the material would need to be stored, raising the further question whether the costs of storage have been accounted for by LES in the decommissioning costs. NIRS has made contentions as to the lack of "plausible strategy" and as to the inadequacy of decommissioning and funding plans (EC-3/TC-1; EC-5/TC-2). With regard to either such contention, the question is relevant and should be answered.

Interrogatory 39. Table 10.1-14 of the Safety Analysis Report estimates the cost (in January 2002 dollars) to decommission the NEF as \$837.5 million, of which \$731.2 million is the cost of tails disposition, and \$106.3 million is the cost of the separation modules and other buildings. Please identify at least three other decommissioned facilities that qualify as templates to estimate the cost to decommission the NEF, and as to each please:

- a. Give the costs (in constant dollars referenced to an appropriate year) actually expended to decommission each facility,
- b. Indicate the source(s) of each of the cost figures, and
- c. Explain how the historical cost figures do (or do not) support the cost estimate of \$106.3 million to decommission the NEF (exclusive of tails disposition).

LES objects to this question on the grounds that (1) it is vague and ambiguous, (2) it is irrelevant, (3) it is broad and burdensome, (4) the information is available elsewhere, and (5) research is required to answer it.

LES has been questioned in this proceeding as to the sufficiency of its decommissioning funding, and specifically the contingency allowance included therein, and has responded with claims that the experience in Europe of its constituent partner, Urenco, enables it to estimate such costs with precision. (See, e.g., Response to NRC Staff Request for Additional Information, May 19, 2004, at 107-08). By this question, NIRS/PC simply ask LES to cite the cost experience at decommissioned facilities that serve as examples to estimate the costs at NEF and to explain how—or whether—the historical figures support LES's estimate as to the NEF. Since the allowance for decommissioning is plainly in issue (NIRS/PC contention EC-5/TC-2), the question should be answered.

Interrogatory 43. Please state your best estimate of the rate (in dollars per year) at which LES will provide financial assurance for decommissioning for (a) accumulated enrichment tails and (b) the NEF equipment and buildings. The answer should be in the form of two annual schedules of cumulative financial assurance (for the tails and the equipment, respectively).

LES objects to this interrogatory on the grounds that it is (1) irrelevant and (2) seeks information beyond the scope of an admitted contention.

This interrogatory asks LES to state the annual amounts it proposes to make available for decommissioning of (a) DUF₆ tails and (b) equipment and buildings. LES appears to state that it will set aside funds to pay for conversion and disposal of DUF₆ on an annual basis, responding to the quantity of tails produced and stored on site. (Safety Analysis Report at 10.3.1). If that is its plan, LES should have projections of the funding it will set aside in each year of operations, and it should provide the information, since the sufficiency of decommissioning funding is in

dispute. (NIRS/PC contention EC-5/TC-2). Similarly, if annual amounts are set aside for decommissioning of equipment and buildings, those should be stated. The matter is in contention and should be answered.

Interrogatory 45. Please state whether you, LES, take the position that depleted uranium hexafluoride (DUF6) or any derivative thereof, generated as a byproduct of enrichment operations at the NEF, would or would not constitute waste, and explain the basis for your position.

LES objects that this interrogatory is (1) vague and ambiguous and (2) seeks information that is available from other sources.

This question simply asks LES whether the DU from the NEF will constitute waste. The Commission stated in its hearing order, “unless LES demonstrates a use for the uranium in the depleted tails as a potential resource, the depleted tails may be considered waste.” (69 Fed. Reg. 5873, 5877) (Feb. 6, 2004). NRC staff itself raised the same question with LES, and LES has stated that it would respond (ER 4.13.3.1.3; LES Response to NRC Staff Request for Additional Information, May 20, 2004, at 13), but LES has not responded. If LES maintains that the DU is not waste, presumably LES will find some way to remove it from the site, other than for disposal, and if the material is waste, LES must find a path for disposal. Since the time is now to resolve issues as to whether LES has a strategy to account for the depleted uranium and can finance that strategy, LES should be required to state whether it considers the material to be waste, so that there is no further doubt as to the need for a “plausible strategy.”

Interrogatory 46. Please identify each occasion on which it has been “ultimately determined” that depleted uranium is low-level radioactive waste, in the sense in which that term is used in Sec. 3113 of the U.S. Enrichment Corporation Privatization Act.

LES objects that this interrogatory is (1) vague and ambiguous and (2) seeks information that is available from other sources.

LES maintains that one “plausible strategy” is to tender the DU to DOE under Sec. 3113 of the USEC Privatization Act. That statute, however, applies only if depleted uranium were “ultimately determined” to be low-level radioactive waste. Officials of DOE and this Commission have stated expressly that no such determination has been made. (DOE letter, Magwood to Virgilio, July 25, 2002; NRC Staff letter, Pierson to Krich, March 24, 2003). NIRS/PC wish to know whether LES maintains, nevertheless, that such a determination has been made, and, if so, when it happened. Since such a “determination” is a statutory precondition to LES’s supposed “plausible strategy,” it seems clear that LES should state its position on this issue.

Interrogatory 47. Please describe each document relating or referring to whether depleted uranium constitutes low-level radioactive waste, or to a determination whether depleted uranium constitutes low-level radioactive waste.

LES objects that this interrogatory is (1) vague and ambiguous and (2) broad and burdensome and (3) seeks information that is available from other sources.

This interrogatory simply asks LES to identify documents concerning whether DU constitutes low-level radioactive waste or to any determination in that regard. These issues are, of course, relevant to this proceeding based on the language of the Commission itself in its hearing order. (69 Fed. Reg. 5873, 5877). Further, NIRS/PC would have expected any documents relevant to these issues to have been produced under Rule 2.704(a) discovery by LES. However, acting cautiously, NIRS/PC asked for a description of any such materials as preface for obtaining their production—and LES objected. Hence, NIRS/PC must assume that some materials are being withheld. Thus, disclosure should be required of these clearly relevant materials.

Interrogatory 48. Please describe each environmental analysis, pursuant to the National Environmental Policy Act, of the possible disposal of depleted uranium (a) in accordance

with one or another proposed or final provision of 10 CFR Part 61 or (b) in accordance with orders, rules, or regulations other than 10 CFR Part 61, including but not limited to orders, rules or regulations governing disposal by the U.S. Department of Energy.

LES objects to this question on the grounds that (1) it is vague and ambiguous, (2) it is broad and burdensome, (3) it seeks irrelevant information, (4) the information is available elsewhere, and (5) research is required to answer it.

A determination that DU constitutes low-level radioactive waste would seem to be a major federal action having an impact on the environment and, therefore, to require environmental analysis under NEPA before it may validly take effect. This question asks whether any such environmental analysis has been performed, as to disposal either under the Commission's Part 61 regulations or under DOE standards. Since LES believes that disposal under Sec. 3113 of the USEC Privatization Act is a "plausible strategy," it certainly must have considered the issue of NEPA coverage for such determination and should identify the analysis that applies.

Interrogatory 49. Please fully describe the form of depleted uranium waste (if any) to be generated by the NEF when it is prepared for disposal, including but not limited to the chemical form, radionuclides present, and the radioactivity of the waste form in nanocuries per gram.

LES objects to this question on the grounds that it is (1) an improper compound question and (2) vague and broad and burdensome, and (3) NIRS/PC should obtain the information from other sources.

The interrogatory specifically asks for a description of the NEF's waste form "when it is prepared for disposal," so that it can be determined whether any environmental analysis exists of the disposal of such waste (if it be admitted to be waste)—a clear requirement for a "plausible strategy." It would plainly narrow the issues and speed this proceeding if LES would provide the necessary information as to the waste form planned for disposal.

Interrogatory 50. Please fully describe the form of depleted uranium waste (if any) currently generated, or planned to be generated, by other United States enrichment plants located, or planned to be located, at Paducah, KY, or Piketon, OH, when prepared for disposal, including but not limited to the chemical form, radionuclides present, and the radioactivity of the waste form in nanocuries per gram.

LES objects to this question on the grounds that (1) it is an improper compound question, (2) it is vague, ambiguous, broad, and burdensome, (3) the information is available elsewhere, (4) it is irrelevant, (5) it is outside the scope of the contentions, and (6) research is required to answer it.

Since LES hopes to deliver its DU to DOE for dispositioning under Sec. 3113 of the USEC Privatization Act, LES must present the environmental consequences of such conversion and disposal, or there is no “plausible strategy.” In *In re Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403 (Dec. 6, 2001), the applicant planned to deliver certain wastes to DOE and claimed to be relieved of responsibility for any environmental analysis. The Board disagreed:

“The fact that the waste ultimately will be turned over to DOE, and therefore is not within the jurisdiction of either DCS or NRC once the waste leaves the MFFF, does not relieve DCS of its obligation, in the absence of any DOE analysis of the high-alpha waste, to analyze and address in the ER the environmental impacts of the wastes it generates.” (at 30).

Similarly, if the Sec. 3113 option is to constitute a “plausible strategy,” there must be environmental analysis of its disposition, beginning of course with the identification of the waste form. It may be noted that the EISs issued with respect to the Paducah and Piketon conversion plants do not include any analysis of disposal of the product of those plants. (See EISs, DOE-EIS-0359, at S-25 through -26; DOE-EIS-0360, at S-27 through -28).

Interrogatory 51. Please identify the regulatory standards that would apply to disposal of depleted uranium waste to be generated by the NEF, if it were disposed of at:

- a. Waste Control Specialists in Andrews County, TX.
- b. Barnwell, South Carolina.
- c. Hanford, WA.
- d. Envirocare, in Clive, UT.

e. Nevada Test Site, NV.

Interrogatory 52. Please identify the regulatory standards that would apply to disposal of depleted uranium waste after conversion at plants proposed to be built by the U.S. Department of Energy at Paducah, KY, or Piketon, OH.

LES objects to these questions on the grounds that (1) the information is available elsewhere, (2) regulatory standards speak for themselves, (3) they are irrelevant, and (4) research is required to answer them.

LES, the license applicant, must assure the Commission that waste from the proposed facility will be correctly managed—but cannot bring itself to identify the regulatory regime that will govern waste disposal at candidate sites. The sites include both DOE facilities and private facilities. Studies of disposal of depleted uranium in shallow land burial sites have shown that such disposal would probably violate the release limits of 10 CFR Part 61 (CEC Final Environmental Impact Statement, NUREG-1484, at 4-67). The Commission could scarcely deem such disposal a “plausible strategy.” NIRS/PC inquires here as to the regulations that would protect the likely disposal sites, so that plausibility may be assessed.

Interrogatory 53. Please describe any document containing or referring to an analysis of the possible land disposal of depleted uranium having a radioactivity in excess of 100 nanocuries per gram (a) in accordance with 10 CFR Part 61 provisions applicable to Class A low level waste or (b) in accordance with any other orders, rules, or principles.

LES objects to this question on the grounds that (1) it is vague and ambiguous, (2) it is broad and burdensome, (3) it is irrelevant, (4) the information is available elsewhere, and (5) research is required to answer it.

LES has asked the Commission to determine that DU may be disposed of in accordance with 10 CFR Part 61, and NIRS/PC have contended that such is not a “plausible strategy” (NIRS/PC contention EC-3/TC-1). NIRS/PC request, by this interrogatory, the identification of documents concerning analyses of land disposal of DU in accordance with Part 61, or in

accordance with other rules. It would seem apparent that such documents are relevant to a disputed issue and should be identified. An answer should be required.

Interrogatory 54. Please state whether you concur that the mortality factor for U-238 in drinking water, according to the EPA Regulatory Guide, is $1.13E-9$ per Becquerel, and that such factor is less than a factor of two less than the mortality factor for Americium-241, a principal transuranic radionuclide. If so, please state whether there is any health-based reason not to dispose of U-238 contaminated waste, of radioactivity in excess of 100 nanocuries per gram, with the same level of security as transuranic waste of similar radioactivity, and state the reasons.

LES objects to this question on the grounds that (1) it is vague and ambiguous, (2) it is an improper compound question, (3) it is irrelevant, (4) the Regulatory Guide speaks for itself, (5) the information is available elsewhere, and (6) research is required to answer it.

One of the disputed issues in this case is whether DU should be considered low-level waste, suited for disposal pursuant to 10 CFR Part 61. NIRS/PC contend that DU presents risks similar to transuranic waste and that, if the Commission were requested to authorize disposal of DU under Part 61, the Commission would have to investigate the nature of the risk and impose additional safeguards, beyond those contained in Part 61. Further, the Commission would need to make a full analysis of the environmental impacts of such disposal. This interrogatory seeks LES's position as to the risks presented by U-235 contaminated waste, to narrow the issues between the parties with regard to the risks and the environmental impact of disposal of DU and, therefore, should be answered.

Interrogatory 55. If LES seeks to defend the safety of shallow land burial, in accordance with 10 CFR Part 61, as a method to dispose of depleted uranium having a radioactivity in excess of 100 nanocuries per gram and a half life in excess of four billion years, please state your defense of that practice.

LES objects to this interrogatory on the ground that (1) it is vague and ambiguous and (2) the information should be obtained from another source.

Again, there is a dispute between LES and NIRS/PC as to the disposal methods required for DU. This interrogatory requests that LES state the disposal method that LES contends would be lawful and safe. It is, after all, LES's burden to present to the Commission a "plausible strategy" for disposal of the waste to be generated by the NEF. NIRS/PC simply request that LES describe that disposal strategy.

Interrogatory 56. Please describe your site selection process for a possible underground mine disposal site for depleted uranium and describe any documents concerning such process.

LES objects to this interrogatory on the ground that (1) it is vague and ambiguous and (2) goes beyond any admitted contention and (3) lacks a proper legal or regulatory foundation.

LES, in its ER, has stated that one plausible strategy for disposal of DU waste would be to emplace the waste in an underground mine. (ER 4.13-8). LES acknowledges, as to the impact of land disposal, that "the post-closure impacts would depend greatly on the specific disposal facility design and site-specific characteristics." (ER 4.13-12). Therefore, NIRS/PC ask in this question what process would be followed in selecting a mine disposal site. This question should be answered in order to narrow the issues as to the performance of the disposal site.

Interrogatory 57. Please identify each abandoned or disused underground mine that would be available for use as a disposal facility for depleted uranium during the time required to serve the NEF, and as to each:

- a. State the exact location of the mine,
- b. State the identity of the owner,
- c. Describe the status of any discussions concerning the possible use of such mine for disposal of depleted uranium, and
- d. Describe any documents relating or referring to the possible use of such mine for disposal of depleted uranium.

LES objects to this interrogatory on the ground that (1) it is vague and ambiguous and (2) goes beyond any admitted contention and (3) lacks a proper legal or regulatory foundation.

LES has asserted that DU might be disposed of in an exhausted uranium mine. (ER 4.13-8). NIRS/PC have contended that LES's idea does not amount to a "plausible strategy" (contention EC-3/TC-1), and the Board has admitted that contention. Here, NIRS/PC ask LES to identify any abandoned or disused mine that might be used for disposal of DU and to disclose any discussions about such use. Such a request clearly seeks material information. If LES knows of no such mines, it need only say so.

Interrogatory 60. Concerning possible disposal of depleted uranium in an underground mine, please state whether the possible chemical changes occurring to depleted uranium in the form of DU_3O_8 have been analyzed, state what changes have been identified, identify the effect of such changes on waste containment (*e.g.*, enhanced solubility), and describe any documents concerning such analyses.

LES objects to this interrogatory on the grounds that (1) it is vague and ambiguous, (2) it is an improper compound question, (3) it is irrelevant, (4) it would require research to respond to it.

There is clearly a dispute in this case about how to dispose of DU. LES proposes disposal of DU in an underground mine (ER 4-13-8); NIRS/PC contend that such waste must be disposed in a geologic repository (contention EC-3/TC-1). Given that dispute, NIRS/PC inquire here about analyses of chemical changes in depleted U_3O_8 in a mine and the effect of such changes on waste containment. Such analyses are directly relevant to a disputed issue, and the question should be answered.

Interrogatory 61. Please state whether, in most circumstances, uranium is more mobile in soil and rock than (a) plutonium, (b) neptunium, or (c) americium.

LES objects to this interrogatory on the grounds that (1) it is vague and ambiguous, (2) it is an improper compound question, (3) it is irrelevant, (4) it would require research to respond to it.

This question seeks to narrow another issue concerning disposal of DU in an underground mine versus a geologic repository, viz: the question of the mobility of uranium

compared with certain transuranic elements. For the same reason that a response is required to interrogatory 60, this question should be answered also.

Interrogatory 62. Please identify each person or firm that, to your knowledge, has within the past 20 years considered the possible construction of a plant to convert the depleted uranium hexafluoride produced by a uranium enrichment plant, and as to each, describe any documents relating or referring to such consideration, and state the current state of such person's planning or other consideration.

LES objects to this interrogatory on the grounds that (1) it is broad and burdensome, (2) the information should be obtained from another source, (3) it would require research to respond to it.

LES here refuses to identify companies that considered the construction of a DUF_6 conversion plant and to describe the status of planning. LES has stated that private conversion and disposal is its preferred "plausible strategy" (ER 4.13-8). NIRS/PC have challenged that strategy (contention EC-3/TC-1). It is clearly relevant to identify any possible conversion plant, if it exists, and the state of planning for such plant. This question goes to a matter on which LES clearly has the burden of proof, and it should be answered.

Interrogatory 63. Please identify the exact process of conversion of DUF_6 to another form of uranium that LES intends to apply (or have applied) to depleted uranium generated by the NEF,

- a. Identify any byproducts or waste products of that conversion process,
- b. State whether, and to what extent, such byproducts or waste products are expected to contain or include radioactive constituents and if so to what extent,
- c. Identify the disposition process for such byproducts or waste products and the cost or revenue (annually and for the project) to be generated by such byproducts or waste products, and
- d. State the basis for your conclusion, if any, that any such product could be sold commercially.

LES objects to this interrogatory on the grounds that (1) it would require research to respond to it and (2) the information should be obtained from another source.

LES has told the Board that it has identified a specific DUF_6 conversion process for waste from the NEF facility; indeed, it has claimed that NIRS/PC err in inquiring about any other conversion processes. (See LES Answer to Petitions of New Mexico Attorney General and NIRS/PC (May 3, 2004), at 72). Therefore, to narrow the disputes over “plausible strategy” and as to NEPA analysis, NIRS/PC here ask LES to identify the specific conversion process, the byproducts or waste products of such process, and the methods for their disposition. It would clearly speed this proceeding if LES would specify the exact process it has selected and the byproducts or waste products whose disposition must be considered.

Interrogatory 64. With regard to the cost data derived from the Lawrence Livermore National Laboratory report referred to in Tables 4.13-2 through 4.13-4 and 4.13-7 of your Environmental Report, please state whether any adjustment is appropriate to account for the difference in throughput and total volume of depleted uranium considered in the LLNL Report, as compared to the proposed NEF. Please explain what adjustment is appropriate and set forth your reasoning and calculations.

LES objects to this interrogatory on the grounds that (1) it seeks irrelevant information, (2) it falls outside any admitted contention, and (3) it would require research to respond to it.

LES has used cost data derived from the LLNL Report in projecting cost of conversion and disposal of DU (See ER 4.13-14 through 4.13-20; ER Table 4.13-7). The LLNL Report, however, examined conversion and disposal of approximately 28,000 metric tons per year (LLNL Report, at 2), whereas the NEF is expected to produce approximately 7,000 metric tons per year (ER 4.13-19). The LLNL Report showed that a reduction in throughput from the 28,000 metric tons per year required by DOE to 7,000 metric tons per year barely reduces total deconversion costs (Table 6.4) or disposal costs (Table 6.11). Therefore, this interrogatory asks LES to concur that the cost data from the LLNL report, which LES relies upon, need to be adjusted to reflect the much lower throughput of the LES facility. The question should be answered.

Conclusion

Discovery under the Commission's rules encompasses "any matter, not privileged, that is relevant to the subject matter involved in the proceeding." 10 CFR 2.705(b)(1). Further, "methods of discovery may be used in any sequence." 10 CFR 2.705(d). The questions that NIRS/PC have propounded here are clearly relevant to matters in issue and should be answered.

Further, since there is an outstanding deadline for the completion of discovery, NIRS/PC request that LES be directed to answer the interrogatories listed herein by October 15, 2004.

Respectfully submitted,



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October 4, 2004

CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305 the undersigned attorney of record certifies that on October 4, 2004, the foregoing Motion to Compel on behalf of Petitioners Nuclear Information and Resource Service and Public Citizen was served by electronic mail and by first class mail upon the following:

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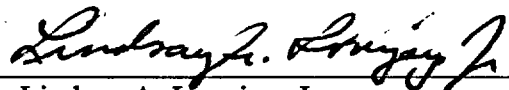
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