March 14, 2008

Mr. Stephen Cowne
Licensing Director
Louisiana Energy Services, L.P.
P.O. Box 1789
Eunice, NM 88231

SUBJECT: REVIEW OF LOUISIANA ENERGY SERVICES' REQUEST TO AMEND LICENSE RELATED TO POSSESSION OF BYPRODUCT MATERIAL, DECOMMISSIONING FINANCIAL ASSURANCE AND LIABILITY INSURANCE, AND AMENDMENT 6 TO LICENSE

Dear Mr. Cowne:

On November 30, 2007, Louisiana Energy Services (LES) transmitted its "Request for Amendment to Materials License, SNM-2010, to Allow Possession of Byproduct Materials and to Revise License Conditions Related to Decommissioning and Insurance," to the U.S. Nuclear Regulatory Commission (NRC), for review and approval. This request addressed the proposed changes related to the use of instrument calibration sources, decommissioning financial assurance, and liability insurance.

We reviewed the submittal and we are enclosing a Safety Evaluation Report of our review. Based on the above review, the proposed revisions are acceptable. We are amending License Conditions 6, 7, 8, 15, 16, 17, and 18 of your license to reflect our approval of your request, and we are attaching a copy of Amendment 6 to the license. We request that, within 30 days, you provide final page changes for the applicable licensing basis documents as you described in the November 30, 2007, request.

An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(10).

If you have any questions regarding this letter, please contact Mr. Timothy C. Johnson of my staff at (301) 492-3121.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael D. Tschiltz, Deputy Director
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-3103
License No.: SNM-2010

Enclosures:
1. Safety Evaluation Report
2. Amendment 6 to LES License

cc:

William Szymanski/DOE	Lorenzo Chacon/Jal	Gregory Smith/LES
Monty Newman/Hobbs	Daniel Stenger/H&H	David Trujillo/Lovington
Cindy Padilla/NMED	Betty Rickman/Tatum	Reinhard Hinterreither/LES
Glen Hackler/Andrews	William Floyd/New Mexico	Matt White/Eunice
Gary Schubert/Lea County	Richard Ratliff/Texas	Lee Cheney/CNIC
Michael Marriotte/NIRS	CO'Claire/Ohio	Roger Mulder/Texas
Derrith Watchman-Moore/NMED	Joseph Malherek/PC	Ron Curry/NMED
Tannis Fox/NMED	Patricia Madrid/NMAG	Glen Smith/NMAG
Lindsay Lovejoy/NIRS	Clint Williamson/LES	John Parker/NMED

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Sincerely,

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Michael D. Tschiltz, Deputy Director
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
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Docket No.: 70-3103
License No.: SNM-2010

Enclosures:
1. Safety Evaluation Report
2. Amendment 5 to LES License

cc:

William Szymanski/DOE	Lorenzo Chacon/Jal	Gregory Smith/LES
Monty Newman/Hobbs	Daniel Stenger/H&H	David Trujillo/Lovington
Cindy Padilla/NMED	Betty Rickman/Tatum	Reinhard Hinterreither/LES
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Lindsay Lovejoy/NIRS	Clint Williamson/LES	John Parker/NMED

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LES website-Yes			

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DOCKET NUMBER: 70-3103

LICENSE NUMBER: SNM-2010

LICENSEE: Louisiana Energy Services
National Enrichment Facility
Lea County, New Mexico

SUBJECT: SAFETY EVALUATION REPORT OF LOUISIANA ENERGY SERVICES AMENDMENT REQUEST TO ALLOW POSSESSION OF BYPRODUCT MATERIAL AND REVISE LICENSE CONDITIONS RELATED TO DECOMMISSIONING FINANCIAL ASSURANCE AND LIABILITY INSURANCE (TAC-L32404)

PROPOSED CHANGES

On November 30, 2007, Louisiana Energy Services (LES) submitted a request for a license amendment that would authorize possession and use of byproduct material and would amend existing license conditions relating to decommissioning financial assurance and liability insurance. The byproduct materials are materials licensed under 10 CFR Part 30 consisting of calibration sources for radiation instruments. The changes to the license conditions related to decommissioning financial assurance would authorize the license to incrementally increase the decommissioning financial assurance amount for remediating the facility based on the licensee's phased approach to constructing the facility. The changes to the license condition related to liability insurance would provide an amount of liability insurance also based on the licensee's phased approach for obtaining licensed material at the facility.

BACKGROUND

Liability Insurance

In Section 1.2.2 of the LES Safety Analysis Report (SAR), LES stated that prior to and throughout operation, it would have and maintain nuclear liability insurance in the amount of up to $300 million to cover liability claims arising from the occurrences described in 10 CFR 140.13b. At the time LES submitted its license application, it provided documentation that it had obtained a $1 milllion standby liability policy, and appropriate construction coverage, for the construction phase of the project.

In License Condition 15 of the LES license, the NRC required LES to provide proof of full liability insurance, as required in 10 CFR 140.13b, at least 30 days prior to the planned date for obtaining licensed material. In addition, the NRC required LES to provide, for review and approval, an evaluation supporting liability insurance coverage at least 120 days prior to obtaining licensed material, if it proposed to provide less than $300 million of liability insurance coverage.

At this time, LES is proposing to provide liability coverage in increments considering the types and amounts of licensed material it proposes to obtain during three phases of the construction. In Phase 1, LES would continue to maintain the $1 million coverage prior to the receipt of byproduct, source, and special nuclear material sources used for instrument calibration. In Phase 2, LES would obtain $5 million of coverage prior to the receipt of less than or equal to 50 kilograms (kg) of natural depleted uranium to be used for testing centrifuges. In Phase 3, LES would obtain $300 million of coverage prior to the receipt of greater than 50 kg of feed material, for plant operations.

Byproduct Material

In Section 1.2.3 of the LES SAR, LES indicated source and byproduct materials will be used for instrument calibration purposes and that LES would revise the SAR when the specific materials needed were determined in the design phase of the project. At this time, LES is submitting its proposed list of source, byproduct, and special nuclear materials needed for instrument calibration.

Decommissioning Financial Assurance

In Sections 1.2.2 and 1.2.5, and Chapter 10 of the LES SAR, LES proposed to provide full funding for remediation of the facility prior to the receipt of licensed material and incremental funding for dispositioning depleted uranium tails on an annual basis to reflect actual tails generation rates. The incremental funding was requested as part of a license exemption and was approved in the issuance of the license. At this time, LES is proposing to modify the incremental funding for the remediation of the facility to reflect the phased construction of cascade building modules.

In License Condition 16 of the LES license, the NRC required LES to submit final copies of its proposed financial assurance instruments for review, at least six months prior to the planned date for obtaining licensed material. Executed copies of the final financial assurance instruments are to be provided prior to the receipt of licensed material. The NRC also required that the decommissioning cost estimate be updated to current year dollars and include any applicable changes to the estimate.

In License Condition 17 of the LES license, the NRC required that the first executed financial instrument provide for full funding, for decontamination and decommissioning of the full-size facility.

REGULATORY REQUIREMENTS

Under 10 CFR 140.13b, a uranium enrichment facility is required to have and maintain liability insurance of the type and amount that the Commission considers appropriate, to cover liability claims arising from any occurrence within the United States that causes, within or outside the United States, bodily injury, sickness, disease, death, loss of or damage to property, or the loss of use of property from of or resulting from the radioactive, toxic, explosive, or other hazardous properties of chemical compounds containing source or special nuclear material.

In 10 CFR 70.22(a)(4), an applicant is required to provide the name, amount, and specification (including the chemical and physical form and, where applicable, isotopic content) of the special nuclear material they propose to use or produce. Similar information is also provided in NRC Form 313 for byproduct and source material, in accordance with 10 CFR 30.32(a) and 40.31(a).

Under 10 CFR 70.25(a)(1), an applicant for a uranium enrichment facility license is required to provide a decommissioning funding plan. A decommissioning funding plan consists of a site-specific cost estimate for decommissioning the facility and an acceptable financial assurance instrument in the amount of the cost estimate.

DISCUSSION

Liability Insurance

LES is proposing to amend License Condition 15 to reflect the licensee's phased approach for obtaining licensed material. Under this proposal, the licensee would maintain its $1 million liability insurance coverage for the possession of byproduct, source, and special nuclear material for instrument calibration. The proposed quantities of byproduct, source, and special nuclear materials for calibration purposes are relatively small quantities of unsealed and sealed form, many of which would be exempt from licensing under 10 CFR 30.71, if possessed separately. The maximum quantity of any specific isotope in unsealed form is 10 microcuries (uCi). The maximum quantity of any specific isotope, in sealed form, is 50 millicuries (mCi). LES is also committing to leak testing sealed sources, in accordance with current NRC guidance. Therefore, the small quantities of materials and the safety provisions being applied, will result in small risks to the public and would be covered under $1 million coverage.

The licensee is proposing to increase the coverage to $5 million before receiving a quantity less than or equal to 50 kg of natural or depleted uranium hexaflouride test materials. These materials would be used in testing a small number of assembled centrifuges for the purposes of qualifying the assembly process.

The NRC staff considered both criticality hazards and public exposures to uranium and hydrogen fluoride when assessing the risks to the public from possessing 50 kg or less of uranium hexafluoride. Centrifuge testing of a small number of centrifuges, with natural or depleted uranium, would not result in criticality hazards because the centrifuges will contain no more that gram quantities of uranium hexafluoride, significantly less than needed to obtain a critical mass. The NRC evaluated releases of uranium hexafluoride from various unmitigated accident scenarios in NUREG-1827, "Safety Evaluation Report for the National Enrichment Facility in Lea County, New Mexico." One of the scenarios was a release of 860 kgs of uranium hexafluoride, in the blending and sampling area following an earthquake. Under these conditions, the maximally exposed individual at the controlled area boundary would receive a dose of 1.7 mrem of uranium, by ingestion and an exposure to hydrogen fluoride at a concentration level of 0.22 mg/m^3. The uranium exposure is substantially less than the NRC's public dose limit of 100 mrem/yr, and the hydrogen fluoride exposure would produce no observable health effects. Based on this evaluation, public exposures to the release of 50 kg or less of uranium hexafluoride would be expected to be substantially less than the evaluated accident scenario. Therefore, $5 million of coverage would be reasonable considering the low risk for public exposure due to a hypothetical release of 50 kg, or less of uranium hexafluoride.

Before taking possession of greater than 50 kg of feed material for the operation of the enrichment plant, LES is proposing to increase the amount of liability insurance coverage to $300 million, the current maximum amount available for commercial nuclear insurers.

Based on the above evaluation, the NRC staff considers the proposed levels of coverage to be reasonable considering the risks to the public, for the quantities and types of licensed materials to be possessed. License Condition 15 will be amended as follows:

15. a. The licensee shall provide proof of $5 million liability insurance, as required under 10 CFR 140.13b, at least 30 days prior to the planned date for obtaining possession of test material (less than or equal to 50 kg) of depleted or natural uranium hexafluoride.

    b. The licensee shall provide proof of full liability insurance, as required under 10 CFR 140.13b, at least 30 days prior to the planned date for obtaining feed material (greater than 50 kg of uranium hexafluoride). If the licensee is proposing to provide less than $300 million of liability insurance coverage, the licensee shall provide, to the NRC for review and approval, an evaluation supporting liability insurance coverage in amounts less than $300 million, at least 120 days prior to the planned date for obtaining feed material.

Byproduct Material

LES is proposing to modify License Conditions 6, 7, and 8 of the license to add sealed and unsealed instrument calibration sources to its possession limits. The request lists the isotopes and associated maximum activities available during operations. The maximum quantity of any specific isotope in unsealed form is 10 µCi and 50 mCi in sealed form. These proposed quantities are small compared to the quantities of licensed material used in overall plant operations, but generally exceed the exempt limits set out in 10 CFR 30.18(a). The sealed sources have been listed by model number in the application, consistent with 10 CFR 30.32(g). LES is also committing to leak testing sealed sources, in accordance with current NRC guidance.

Chapter 4 of the LES SAR describes the licensee's radiation protection program. This program includes: (1) a commitment to maintaining doses to workers and the public, to levels that are as low as is reasonably achievable; (2) using properly qualified and trained personnel; (3) having appropriate radiation survey, monitoring, and contamination control programs; and (4) commitments to leak-testing sealed sources. These programs will ensure that sealed and unsealed sources are properly handled.

Therefore, the licensee has demonstrated that its equipment and facilities are adequate to protect health and minimize danger to life and property. In addition, the licensee is qualified by training and experience, to use the proposed materials in a manner that will protect health and minimize danger to life or property. License Conditions 6, 7, and 8 will be amended as follows:

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form Under this License	8. Maximum Amount that Licensee May Possess at Any One Time
A. Uranium (natural and depleted) and daughter products	A.1 Physical: Solid, Liquid, and Gas	A. 136,120,000 kg
	A.2 Chemical: UF_6, UF_4, UO_2F_2, oxides, and other Compounds	
B. Uranium enriched in Isotope U-235 up to 5 percent by weight and uranium daughters	B.1 Physical: Solid, Liquid, and Gas	B. 545,000 kg
	B.2 Chemical: UF_6, UF_4, UO_2F_2, oxides, metal and other Compounds	
C. Tc-99, transuranic isotopes and other contamination	C. Any	C. Amount that exists as contamination as a consequence of the historical feed of recycled uranium at other facilities
D. Cl-36	D. Unsealed, any form	D. 2.26E-1 µCi
E. Cr-51	E. Sealed per §30.32(g)(1)	E. 1.00E+1 µCi
F. Co-57	F. Sealed per §30.32(g)(1)	F. 1.00E+4 µCi
G. Co-60	G. Sealed per §30.32(g)(1)	G. 1.00E+1 µCi
H. Ni-63	H. Unsealed, any form	H. 1.00E+1 µCi
I. Sr-85	I. Sealed per §30.32(g)(1)	I. 1.00E+1 µCi
J. Y-88	J. Sealed per §30.32(g)(1)	J. 1.00E+1 µCi
K. Sr-90	K. Unsealed, any form	K. 5.00E+0 µCi
L. Y-90	L. Unsealed, any form	L. 5.00E+0 µCi
M. Tc-99	M. Unsealed, any form	M. 1.00E+1 µCi
N. Cd-109	N. Sealed per §30.32(g)(1)	N. 1.00E+3 µCi
O. Sn-113	O. Sealed per §30.32(g)(1)	O. 1.00E+1 µCi
P. Te-123m	P. Sealed per §30.32(g)(1)	P. 1.00E+1 µCi
Q. Cs-137	Q. Sealed per §30.32(g)(1)	Q. 5.00E+4 µCi
R. Eu-152 (13 y)	R. Sealed per §30.32(g)(1)	R. 2.00E+0 µCi

S. Po-210	S. Unsealed, any form	S. 1.00E+1 µCi
T. Th-230	T. Unsealed, any form	T. 1.00E+0 µCu
U. U-232	U. Unsealed, any form	U. 1.00E+0 µCi
V. U-233	V. Sealed per §30.32(g)(1)	V. 1.00E+5 µCi
W. U-234	W. Unsealed, any form	W. 1.00E+0 µCi
X. U-235	X. Unsealed, any form	X. 1.00E+0 µCi
Y. U-236	Y. Sealed per §30.32(g)(1)	Y. 1.00E+5 µCi
Z. U-238	Z. Unsealed, any form	Z. 1.00E+0 µCi
AA. Am-241	AA. Sealed per §30.32(g)(1)	AA. 5.00E+4 µCi
BB. Cf-252	BB. Sealed per §30.32(g)(1)	BB. 5.00E+4 µCi

Decommissioning Financial Assurance

LES is proposing to modify License Conditions 16 and 17 of the license to provide decommissioning funding for the decontamination and decommissioning of operational areas on an incremental basis, as these areas are put into operation. In its license submittal, LES proposed to provide decontamination and decommissioning funding for the entire full-scale facility prior to the receipt of any licensed material. The proposed changes would reflect the following phases of operation:

1. Receipt of licensed material sources for instrument calibration;
2. Receipt of no greater than 50 kg of uranium hexafluoride for testing centrifuges (test material);
3. Receipt of greater than 50 kg of uranium hexafluoride for feed material for initial production operations in Separations Building Module (SBM) 1001;
4. Introduction of feed material for production operations in SBM 1003; and
5. Introduction of feed material for production operations in SBM 1005.

For the receipt of the instrument calibration sources, the staff reviewed the proposed quantities and types of licensed material to be used against the threshold limits for requiring decommissioning financial assurance in 10 CFR 30.35; 10 CFR Part 30, Appendix B; 10 CFR 40.36; and 10 CFR 70.25. The staff found that the quantities and types of calibration sources proposed are below the threshold for requiring decommissioning financial assurance.

For the receipt of test and feed material, LES is proposing to fund the decontamination and decommissioning obligations on a phased approach as new plant areas are put into service. Under these conditions, prior to the receipt of test material, feed material for initial operations, or prior to the introduction of feed into subsequently constructed cascade modules, LES would provide decommissioning funding plan updates and the required financial assurance instruments. Subsequent cost estimate updates, for facility decontamination and decommissioning, would be provided at least every three years.

LES is proposing no changes with respect to providing decommissioning financial assurance for the disposition of depleted uranium tails. For depleted uranium tails disposition, LES will base the disposition costs on its first projected three years of operation, in its first submittal, prior to initial production operations. After the first three-year period, subsequent decommissioning cost updates for depleted uranium tails disposition, will be provided on an annual basis.

Under the above incremental funding approach, the licensee will maintain an appropriate amount of decommissioning financial assurance for all its decommissioning obligations at any point in time. Therefore, the above approach will not endanger life or property. License Conditions 16, 17, and 18 will be amended as follows:

16. a. The licensee shall provide an updated Decommissioning Funding Plan cost estimate update and final copies of the proposed financial assurance instruments to NRC for review at least six months prior to the planned date for obtaining test material (less than or equal to 50 kilograms of uranium hexafluoride), and provide to NRC final executed copies of the reviewed financial assurance instruments at least 21 days prior to the receipt of test material. In this Decommissioning Funding Plan update, the licensee shall provide full funding for decontamination and decommissioning of the Centrifuge Test Facility, the Post Mortem Facility, the Cylinder Receipt and Dispatch Building, and all other plant areas where licensed material is used. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate.

b. The licensee shall provide an updated Decommissioning Funding Plan cost estimate update and final copies of the proposed financial assurance instruments to NRC for review at least six months prior to the planned date for obtaining feed material (greater than 50 kilograms of uranium hexafluoride) for initial production in Separations Building Module (SBM) 1001, and provide to NRC final executed copies of the reviewed financial assurance instruments at least 21 days prior to the receipt of feed material. In this Decommissioning Funding Plan update, the licensee shall provide full funding for decontamination and decommissioning of SBM 1001 and all other plant areas where licensed material is used.

In addition, the licensee shall provide funding for the disposition of depleted uranium tails in an amount needed to disposition the first three years of depleted uranium tails generation. The decommissioning cost estimate shall include an update to the U.S. Department of Energy (DOE) depleted uranium disposition cost estimate. The total amount funded for depleted uranium disposition shall be no less than the updated DOE cost estimate. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate.

c. The licensee shall provide an updated Decommissioning Funding Plan cost estimate update and final copies of the proposed financial assurance instruments to NRC for review at least six months prior to introducing feed material in SBM 1003, and provide to NRC final executed copies of the reviewed financial assurance instruments at least 21 days prior to introducing feed material into SBM 1003. In this Decommissioning Funding Plan update, the licensee shall

provide full funding for decontamination and decommissioning of SBM 1003 and all other plant areas where licensed material is used. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate.

d. The licensee shall provide an updated Decommissioning Funding Plan cost estimate update and final copies of the proposed financial assurance instruments to NRC for review at least six months prior to introducing feed material in SBM 1005, and provide to NRC final executed copies of the reviewed financial assurance instruments at least 21 days prior to introducing feed material into SBM 1005. In this Decommissioning Funding Plan update, the licensee shall provide full funding for decontamination and decommissioning of SBM 1005 and all other plant areas where licensed material is used. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate.

e. Subsequent updated decommissioning funding estimates and revised funding instruments for facility decommissioning shall be provided to NRC for review, at a minimum, every three years. If operation of SBM 1003 or SBM 1005 is delayed, the current decommissioning funding cost estimate shall be updated and provided to NRC for review, at a minimum, every three years.

f. After the first three years of initial plant production, subsequent updated decommissioning cost estimates and revised funding instruments for depleted uranium disposition shall be provided annually on a forward-looking basis to reflect projections of depleted uranium byproduct generation. The depleted uranium disposition cost estimate shall include an update to the DOE depleted uranium disposition cost estimate. The total amount funded for depleted uranium disposition shall be no less than the updated DOE cost estimate.

17. Deleted

18. Deleted

FINDINGS

On the basis of the NRC staff's above review, the licensee has demonstrated: (1) the proposed levels of liability insurance coverage to be reasonable considering the risks to the public for the quantities and types of licensed materials to be possessed; (2) the possession and use of the proposed unsealed and sealed calibration sources will protect health and minimize danger to life or property; and (3) the proposed incremental funding of decommissioning financial assurance is adequate to maintain appropriate and reasonable levels of financial assurance for the operational phases of the project.

ENVIRONMENTAL REVIEW

Issuance of the requested amendment to the LES license is subject to the categorical exclusion provided in 10 CFR 51.22(c)(10)(i), and will not have a significant impact on the human environment. Therefore, in accordance with 10 CFR 51.22(c)(10)(i), neither an environmental assessment nor an environmental impact statement is required for the proposed action.

CONCLUSIONS

Based on its review and evaluation of the information provided by LES, in its license amendment application, dated November 30, 2007, the NRC staff finds that the proposed revisions to the LES license are acceptable, consistent with the requirements of 10 CFR Parts 30, 40, and 70, and should be approved.

PRINCIPAL CONTRIBUTORS

Timothy C. Johnson
Ira Dinitz
Matthew Bartlett
Kenneth Kline