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Krich 0225

NATIONAL ENRICHMENT FACILITY

10 CFR 30.6
10 CFR 40.5
10 CFR 70.5

March 29, 2005

NEF#05-016

ATTN: Document Control Desk
Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Louisiana Energy Services, L. P.
National Enrichment Facility
NRC Docket No. 70-3103

Subject: Clarifying Information Related to Depleted UF_6 Disposition Costs and Request for License Condition.

References:

1. Letter NEF#03-003 dated December 12, 2003, from E. J. Ferland (Louisiana Energy Services, L. P.) to Directors, Office of Nuclear Material Safety and Safeguards and the Division of Facilities and Security (NRC) regarding "Applications for a Material License Under 10 CFR 70, Domestic licensing of special nuclear material, 10 CFR 40, Domestic licensing of source material, and 10 CFR 30, Rules of general applicability to domestic licensing of byproduct material, and for a Facility Clearance Under 10 CFR 95, Facility security clearance and safeguarding of national security information and restricted data"

2. Letter NEF#04-002 dated February 27, 2004, from R. M. Krich (Louisiana Energy Services, L. P.) to Director, Office of Nuclear Material Safety and Safeguards (NRC) regarding "Revision 1 to Applications for a Material License Under 10 CFR 70, "Domestic licensing of special nuclear material," 10 CFR 40, "Domestic licensing of source material," and 10 CFR 30, "Rules of general applicability to domestic licensing of byproduct material"

3. Letter NEF#04-029 dated July 30, 2004, from R. M. Krich (Louisiana Energy Services, L. P.) to Director, Office of Nuclear Material Safety and Safeguards (NRC) regarding "Revision to Applications for a Material License Under 10 CFR 70, "Domestic licensing of special nuclear material," 10 CFR 40, "Domestic licensing of source material," and 10 CFR 30, "Rules of general applicability to domestic licensing of byproduct material"

NMSS01

One Sun Plaza 100 Sun Lane NE, Suite 204 Albuquerque, NM 87109 [P] 505 944 0194 [F] 505 944 0198

If you have any questions or need additional information, please contact me at 630-657-2813.

Respectfully,

Daniel H. Thum for

R. M. Krich
Vice President – Licensing, Safety, and Nuclear Engineering

Enclosure:
Clarifying Information Related to Depleted UF_6 Disposition Costs

cc: T.C. Johnson, NRC Project Manager
M.C. Wong, NRC Environmental Project Manager

Clarifying Information Related to Depleted UF_6 Disposition Costs

The estimated cost of converting the depleted uranium hexafluoride (DUF_6) to depleted triuranium octoxide (DU_3O_8), $2.67/kg depleted (D)U, is based on analyses performed by Louisiana Energy Services (LES), L.P., using information provided by Urenco. The analyses input and detailed results are considered proprietary and will be submitted separately. The cost of neutralizing the hydrogen fluoride byproduct of the conversion process to calcium fluoride (CaF_2) is subsumed in the conversion cost based on it being a step in the process and the conservative nature of the estimate. The estimate of approximately $0.02/kgDU to dispose of the CaF_2 as industrial waste is based on information in a November 19, 2004 paper attached to an e-mail from Rod Krich to James Curtiss, dated November 21, 2004, and information in the November 21, 2004, e-mail. The e-mail and its attachment are attached (Attachment 1) to this enclosure.

The estimated cost for disposing of the depleted U_3O_8, $1.14/kgDU, was derived from calculations based on information provided by Waste Control Specialists. The $1.14/kgDU estimate is approximately the average of the costs per kgDU assuming a U_3O_8 density of 2.7 g/cc and 3.0 g/cc. The input and detailed results of this estimate are considered proprietary and will be submitted separately. Consistent with this estimate, a letter from Al Rafati, Envirocare of Utah, to E. James Ferland, LES, dated February 3, 2005, is attached (Attachment 2). The following conversion factors were used to convert from $kgDUF_6$ and $kgDU_3O_8$ to kgDU.

$$1\ kgDUF_6 = 0.68\ kgDU$$

$$1\ kgDU_3O_8 = 0.85\ kgDU$$

The estimated cost of transporting the DUF_6 and the DU_3O_8, $0.85/kgDU was calculated from the range of costs provided by Transportation Logistics International (TLI), a world-wide shipper of uranium. The $0.85/kgU estimate is approximately the average of the lower figure from the ranges for shipping DUF_6 and DU_3O_8. The specific range of costs is considered to be proprietary and will be submitted separately. The $0.85/kgDU is independent of the distance traveled within the US and an e-mail from Rod Fisk, TLI, to Rod Krich, LES, dated March 23, 2005, providing the basis for this conclusion is attached (Attachment 3).

The overall estimate for dispositioning the DUF_6 is therefore $4.68/kgU. Adding a 25% contingency to this figure brings it to $5.85/kgDU. Consistent with this estimate, the US Department of Energy (DOE) has provided its cost estimate for dispositioning the DUF_6 generated by the National Enrichment Facility in its letter from Paul M. Golan, (DOE), to Rod Krich, LES, dated March 1, 2005 (Attachment 4). The DOE estimate of $3.34/kg DUF_6 equates to $4.91/kgDU, which is in good agreement with the LES estimate.

-----Original Message-----
From: rod.krich@exeloncorp.com [mailto:rod.krich@exeloncorp.com]
Sent: Sunday, November 21, 2004 5:44 PM
To: Curtiss, James
Subject: FW: Calcium Fluoride Disposal Summary

Jim,

Here is information relating to the disposal of CaF2 at the Lea County landfill. Based on the costs given by George, he and I estimate that the cost will be about $0.02/kgU in 2004 dollars.

Rod
-----Original Message-----
From: HARPER George A [mailto:George.Harper@framatome-anp.com]
Sent: Friday, November 19, 2004 3:58 PM
To: 'rod.krich@exeloncorp.com'; 'schwartz@energyresources.com'
Subject: Calcium Fluoride Disposal Summary

Rod / Mike,

Attached summarizes my discussions earlier this week regarding CaF2 disposal at the landfill. Addresses classification of waste, disposal cost and landfill capacity.

George

<<CaF2 Disposal.doc>>

George A. Harper, P.E.
Manager, Regulatory Compliance Programs
Framatome ANP, Inc.
An AREVA and Siemens Company

Based on an assumed disposal cost of \$31/ton for CaF_2 as a bulk powder (density approximately 100 lbs/ft^3), FANP estimates that the disposal cost of the CaF_2 powder would be about \$1.55/ft^3, or \$41.85/yd^3. This does not include any allowance for the container package.

In addition, the cost associated with the weight of the disposal container should be included. Based on a typical package size of a 55-gallon drum, the container weight could add about 10% to the total disposal weight of the CaF_2. Therefore, the total weight of CaF_2 should be increased by 10% when estimating total CaF_2 disposal costs based on weight.

ENVIROCARE OF UTAH, LLC

SAFE AND SECURE

February 3, 2005

By Facsimile (505) 944-0198 and UPS

Mr. B. James Ferland
President and Chief Executive Officer
Louisiana Energy Services, L.P.
One Sun Plaza, 100 Sun Avenue, N.E., Suite 204
Albuquerque, New Mexico 87109

Dear Mr. Ferland:

As a follow-up to our recent discussions, I confirm that the existing licenses and permits for Envirocare's Clive, Utah, disposal facility currently allow Envirocare to dispose of depleted U_3O_8 subject to the material meeting Envirocare's licenses, permits and operational requirements. If Envirocare were to enter into an agreement with LES for the disposal of depleted U_3O_8, we would dispose of this material at our facility using the shallow land burial method in accordance with our regulatory authorizations in a cell with a cap (i.e., a Class A disposal cell). Envirocare has previously received and disposed of depleted U_3O_8 in this manner at our facility in Clive, Utah.

At your request, Envirocare has also reviewed the cost estimate for depleted U_3O_8 disposal contained in the license application filed before the U.S. Nuclear Regulatory Commission by Louisiana Energy Services for the National Enrichment Facility. Based on our review, and considering Envirocare's experience in disposing of depleted U_3O_8, the cost range presented in the current LES license application is a conservative estimate of what it would currently cost at standard depleted U_3O_8 density to dispose of such material at Envirocare's Utah facility. Of course, disposal charges are subject to change in the future based on a variety of factors.

Please let me know if you need additional information.

Sincerely,

Al Rafati
Executive Vice President

Krich, Rod M.

From: Rod Fisk [rfisk@tliusa.com]
Sent: Wednesday, March 23, 2005 2:44 PM
To: rod.krich@exeloncorp.com
Subject: Transportation of Depleted UF6 and U3O8

Good afternoon Rod,

You have requested that I clarify my comments to the effect that variation in the distance that material has to be moved has a minimal effect on the overall transportation costs for transporting depleted uranium hexafluoride in 48X/48Y cylinders and drums of U3O8, in a 20' ISO container. These are the standard industry methods for moving these materials.

Given the fact that overhead costs for transportation of radioactive materials include: material packaging, marking and labeling, communications, vehicle tracking, vehicle maintenance, driver training, security, loading and unloading of cargo, insurance etc. the impact of additional mileage, which affects only time and fuel, amounts to fractions of a cent per kilogram/mile. In a dedicated program where vehicles, manpower and equipment are managed for optimal efficiency, the effect of mileage can probably be reduced even further.

Please do not hesitate to contact me if you need additional information.

Sincerely,

Rod Fisk
Chief Executive Officer
TLI Inc.

The information contained in this message may be commercially sensitive and/or legally privileged. It is intended solely for the person(s) to whom it is addressed. If you are not the named recipient, you are on notice of its status. Please notify the sender immediately by return fax or email and then delete/destroy this message. You must not disclose it to any other person, copy or distribute it for any purpose.

Department of Energy
Washington, DC 20585

March 1, 2005

Mr. Rod Krich
Vice President, Licensing, Safety and Nuclear Engineering
Louisiana Energy Services, LP
2600 Virginia Avenue, N.W. Suite 610
Washington, D.C. 20037

RE: Conversion and Disposal of Depleted Uranium Hexafluoride (DUF6) Generated by Louisiana Energy Services, LP (LES)

Dear Mr. Krich:

The purpose of this letter is to respond to LES' inquiry, as detailed in your letter dated February 28, 2005, as to the anticipated storage, conversion and disposal costs for the DUF6 Source Material product to be generated by LES' proposed commercial uranium enrichment facility, in the event LES were to request that the Secretary accept the DUF6 for disposal.

Should the Department decide to accept, upon request, such DUF6 for conversion and disposal pursuant to authorities granted to the Department under the Atomic Energy Act or other authorities, the Department's acceptance of such material would necessitate the negotiation of an agreement for storage, conversion and disposal services that would include full recovery of the Department's costs, including a pro rata share of any capital costs, and that would include the terms and conditions under which the Department would accept title to and possession of the DUF6.

In response to the initial inquiry made by LES, the Department initiated a cost estimate for providing conversion and disposal services to depleted uranium generators. The cost estimate is based on LES' projection that it would generate approximately 7,800 metric tons of DUF6 annually, expected to begin in 2010.

The Department estimates that the cost of converting and disposing of LES' projected DUF6 inventory would be approximately $3.34 per kilogram of DUF6 in 2004 dollars. This estimated price reflects the following costs: construction (capital costs); storage of the DUF6 pending conversion; DUF6 conversion; transportation of depleted uranium to a disposal site (approximately 1900 miles); disposal of depleted uranium oxide as Low Level Radioactive Waste; and decontamination and decommissioning (D&D) of the conversion facility. For completeness, this cost estimate also includes transportation (but not packaging for transportation) of the LES DUF6 to the conversion site (approximately 1500 miles).

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