NATIONAL ENRICHMENT FACILITY

10 CFR 30.6
10 CFR 40.5
10 CFR 70.5

October 6, 2004

NEF#04-043

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 Regarding Response to NRC Request for Additional Information ISA-61

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 dated April 19, 2004, from T. C. Johnson (NRC) to R. Krich (Louisiana Energy Services) regarding "Request for Additional Information on Louisiana Energy Services Project License Application"

4. Letter NEF#04-018 dated May 19, 2004, from R. M. Krich (Louisiana Energy Services, L. P.) to Director, Office of Nuclear Material Safety and Safeguards (NRC) regarding "Response to NRC Request for Additional Information Regarding National Enrichment Facility Safety Analysis Report and Emergency Plan"

NMSS01

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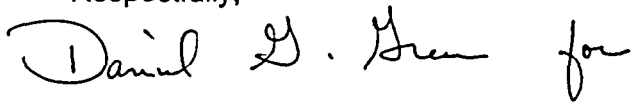
By letter dated December 12, 2003 (Reference 1), E. J. Ferland of Louisiana Energy Services (LES), L. P., submitted to the NRC applications for the licenses necessary to authorize construction and operation of a gas centrifuge uranium enrichment facility. Revision 1 to these applications was submitted to the NRC by letter dated February 27, 2004 (Reference 2). By letter dated April 19, 2004 (Reference 3), the NRC provided the initial technical review of the license application and requested additional information and clarifications be provided.

The Reference 3 letter includes NRC Request for Additional Information (RAI) ISA-61, which requested, in part, that a discussion of the basis be provided for concluding that the electrical system is not an Item Relied on For Safety for the Technical Services Building (TSB) Gaseous Effluent Vent System (GEVS). The LES response to NRC RAI ISA-61 was provided in the Reference 4 letter. In a September 21, 2004, conference call between LES and NRC representatives, the NRC requested that the response to NRC RAI ISA-61 be clarified to address the impact of a loss of offsite power on the associated Integrated Safety Analysis accident sequence involving the TSB GEVS. This information is included, in the form of a revised response to NRC RAI ISA-61, in the Enclosure, "Clarifying Information Regarding Response to NRC Request for Additional Information ISA-61."

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

Respectfully,



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

Enclosure:
Clarifying Information Regarding Response to NRC Request for Additional Information ISA-61

cc: T.C. Johnson, NRC Project Manager

ENCLOSURE

Clarifying Information Regarding Response to NRC Request for Additional Information ISA-61

Clarifying Information Regarding Response to NRC Request for Additional Information ISA-61

ISA-61 Table 3.8-1, pp. 6, 7, and 11

Discuss the basis for concluding that the electrical system is not an IROFS for the GEVS, the fire detection and alarm system, and the cold trap high temperature interlock for the Cold Trap No. 2 Valve.

The regulations, 10 CFR 70.22(a)(7), require that the applicant provide a description of equipment and facilities that will be used to protect health and minimize danger to life and property. The regulations, 10 CFR 70.61(e) requires the applicant to designate each engineered or administrative control or control system necessary to meet the performance requirements of 10 CFR 70.61 as an IROFS. Also 10 CFR 70.62(d) requires the applicant to establish management measures to ensure compliance with the performance requirements of 10 CFR 70.61.

In Table 3.8-1, IROFS 24 is identified as an administrative control for the Technical Services Building (TSB) Gaseous Effluent Vent System (GEVS). Through the use of procedures and training, (1) the TSB GEVS is required to be connected to the assembly used to remove airborne sodium fluoride fines and operating during the handling of chemical dump trap material containing uranic material, and the (2) the TSB GEVS is to be connected to Chemical Lab Hood when UF_6 Sub-sampling Unit is operated. Because this discussion appears to imply that the TSB GEVS is needed for the performance of the safety function, is the TSB GEVS an IROFS? If so, should not electrical power be an IROFS also since it would be needed for the TSB GEVS to perform its safety function? Discuss what management measures are applied to electrical system if the electrical system is an IROFS.

In Table 3.8-1, IROFS 37 is identified as the fire detection and alarm system with ventilation shutoff interlock. Because this discussion appears to imply that electrical power is required for the fire detection and alarm system to perform its safety function, explain why electrical power is not an IROFS. Also, discuss what management measures are applied to electrical system if the electrical system is an IROFS.

In Table 3.8-1, IROFS 20 is identified as a cold trap high temperature interlock for the Cold Trap No. 2 Valve. Because this discussion appears to imply that electrical power is required for this interlock to perform its safety function (close this valve), explain why electrical power is not an IROFS.

LES Response

IROFS24 is required to ensure that in the event of a release of material during handling of chemical dump trap material containing uranic material or during UF_6 Sub-sampling Unit operation, the dose to the worker is maintained within required limits through removal of airborne material from the associated area. IROFS24 is not required to filter the release since no credit was taken for TSB GEVS filtration in the consequence analysis for the public. The safety function of IROFS24 is for existence of the condition to maintain a negative pressure with respect to the surrounding room of: (a) the assembly used to remove sodium fluoride fines during the handling of chemical dump

trap material that contains uranic material; and (b) the Chemical Lab Hood during UF_6 Sub-sampling Unit operation. As such, only those portions of the TSB GEVS necessary to support this safety function of IROFS24 (i.e., provide air flow away from the worker during performance of the task) are considered to be within the boundary of the IROFS.

IROFS24 is identified as being implemented through the use of procedures and training. These procedures will require the condition to be established by ensuring TSB GEVS to be operating and connected to the assembly used to remove airborne sodium fluoride fines during the handling of chemical dump trap material that contains uranic material. Procedures will also require the TSB GEVS to be operating and connected to Chemical Lab hood when the UF_6 Sub-sampling Unit is operated. These activities are only conducted as batch operations. If GEVS were not available (e.g., if electrical power were not available), the operation would not commence. As such, the safety function of IROFS24 would only be required during the performance of these activities. With the associated activities suspended, no potential for a release during these activities is possible.

While electrical power is required for the TSB GEVS to be placed and maintained in operation, that supporting function is not required to be of any specific quality or reliability. In the event of loss of electrical power after the activity has commenced, the IROFS24 associated training and procedures will require that the activity be immediately suspended. This eliminates the potential release and, as such, the need for the safety function of IROFS24.

The associated accident sequence's (i.e., Accident Sequence VR2-3) preventive measures for an event of release of material during handling of chemical trap material containing uranic material are (1) administrative use of personnel respiratory protection to ensure that inhalation of uranic material consequence is low (IROFS23b) and (2) administrative establishment of airflow away from the worker to ensure inhalation of uranic material consequences are low (IROFS24a). The risk index of this accident sequence causing a consequence to the worker was estimated to be (-6).

The risk index for an accident sequence involving release of uranic material during handling of chemical trap material, assuming concurrent loss of normal facility power (causing loss of TSB GEVS) and the failure to use personnel respiratory protection, would be in the range of (-5). This risk index considered a typical/conservative loss of normal power frequency. It is anticipated that this loss of power frequency bounds the NEF overall electrical supply and distribution system because of the reliability requirement of plant equipment for investment protection. The risk index of (-5) would be reduced further (in the range of (-6) or less) when considering the frequency of the batch change-out of the chemical trap contents, anticipated to be less than once per year, with each batch operation taking only a few hours to perform.

Both accident sequences are "highly unlikely" resulting in acceptable risk per 10CFR70.61 "Performance requirements" without additional preventive measures (e.g., emergency electrical power).

Therefore, electrical power is not required to be an IROFS. LES procedure DP-ISA-1.1, "IROFS Boundary Definition," will be utilized to ensure that the required procedures, training, specific management measures, and any support equipment needed for IROFS24 are implemented.

The safety function of IROFS37 fire detection and alarm system is that, upon detection of fire in the Ventilated Room, the ventilation system supply to the room is shut off to reduce the release of uranic material from the room. As described in SAR Section 3.8.1, IROFS systems will be designed to be fail-safe. Therefore, on a loss of electrical power, the systems associated with IROFS37 will be designed such that the ventilation system supply to the Ventilated Room is shut off, thus reducing the release to the public and satisfying the safety function of IROFS37. Therefore, electrical power is not required to be an IROFS. LES procedure DP-ISA-1.1, "IROFS Boundary Definition," will be utilized to ensure that the required components (including those needed to ensure the IROFS is fail-safe), procedures, training, specific management measures, and any support equipment needed for IROFS37 are implemented.

The safety function of IROFS20 is that, upon detection of high temperature in the cold trap of Sub-sampling System in the Chemical Lab, the No. 2 valve of the cold trap is closed to prevent UF_6 (product) discharge to the TSB GEVS. As described in SAR Section 3.8.1, IROFS systems will be designed to be fail-safe. Therefore, on a loss of electrical power, the systems associated with IROFS20 will be designed such that the No. 2 valve of the cold trap fails closed, thus eliminating the potential release of UF_6 (product) to the TSB GEVS and satisfying the safety function of IROFS20. Therefore, electrical power is not required to be an IROFS. LES procedure DP-ISA-1.1, "IROFS Boundary Definition," will be utilized to ensure that the required components (including those needed to ensure the IROFS is fail-safe), procedures, training, specific management measures, and any support equipment needed for IROFS20 are implemented.