Louisiana Energy Services Criticality Safety Meeting
Date: July 8, 2004

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JOSEPH MALHEREK	PUBLIC CITIZEN		

Attachment 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 1, 2004

MEETING NOTICE

Applicant:	Louisiana Energy Services Suite 610 2600 Virginia Avenue, NW Washington, DC 20037
Docket:	70-3103
Date and Time:	July 8, 2004; 1:30 P.M.
Location:	U.S. Nuclear Regulatory Commission Two White Flint North, Room T8E8 11545 Rockville Pike Rockville, Maryland 20852
Purpose:	To discuss criticality safety issues related to its application for a gas centrifuge uranium enrichment facility proposed to be constructed in Eunice, New Mexico.
NRC Attendees:	R. Pierson, J. Giitter, B. Smith, T. Johnson, H. Felsher, M. Galloway, L. Clark, and project staff
Other Attendees:	R. Krich/LES and LES project staff
Contact:	T. Johnson; 301-415-7299; tcj@nrc.gov
Category:	Category 1 Meeting: The public is invited to observe this meeting and will have one or more opportunities to communicate with the NRC after the business portion, but before the meeting is adjourned.

NOTE: NRC Meetings are open for interested members of the public to attend pursuant to the "Enhanced Public Participation in NRC Meetings; Policy Statement," 67 *Federal Register* 36920, May 28, 2002.

Attachment: Meeting agenda

cc:

James Curtiss/W&S	James Ferland/LES	Rod Krich/LES
Peter Miner/USEC	William Szymanski/DOE	James Brown/Eunice
Dennis Holmberg/Lea County	Claydean Clairborne/Jal	Troy Harris/Lovington
Betty Rickman/Tatum	Monty Newman/Hobbs	Glen Hackler/Andrews
William Floyd/NM	Richard Ratliff/Texas	Carol O'Claire/Ohio
Derrith Watchman-Moore/NM	Michael Marriotte/NIRS	Lee Cheney/CNIC
Jerry Clift/Hartsville	Joseph Malherek/PC	Ron Curry/MNED
Clay Clark/NMED	Patricia Madrid/NMAG	Glen Smith/NMAG
Lindsay Lovejoy/NIRS		

Attachment 2

Louisiana Energy Services Criticality Safety Meeting Agenda
July 8, 2004

___ Purpose/Introductions

___ LES Criticality Issues Approach

___ Discussion

___ Questions and Answers

Attachment

LES Proposed Gas Centrifuge Uranium Enrichment Facility
License Application Issues

July 8, 2004

I. Separation of ISA Summary from License Application

Regulatory Requirements

§70.65(a) - Baseline design criteria.

§70.65(b) - The ISA Summary must be submitted with the license application but shall not be incorporated into the license. However, changes to the ISA Summary shall meet the conditions of §70.72.

§70.72(b) - Any change to site, structures, processes, systems, equipment, components, computer programs, and activities of personnel must be evaluated by the licensee before the change is implemented. The evaluation must determine, before the change is implemented, if an amendment to the license is required.

§70.72(c) - The licensee may make changes to site, structures, processes, systems, equipment, components, computer programs, and activities of personnel, without prior Commission approval if the change (1) does not: (i) create new types of accident sequences..., (ii) use new processes or technology...; (2) does not remove an IROFS without equivalent protection; (3) does not alter a sole IROFS; or (4) is not otherwise prohibited by license condition or order.

LES RAI Response - ISA-1

ISA Summary content will be addressed in Chapter 3 of the application.

LES has not segregated the portions of Chapter 3 required for §70.65(a) or portions that may not be required for the minimum content of either §70.65(a) or (b).

Other License Conditions incorporated the "statements, representations and conditions" in various application documents. License Conditions may not be changed under the §70.72 process.

Staff Concerns

The regulations are written in such a way as to prohibit the NRC from incorporating the ISA Summary into the license.

II Geometrically Favorable Components

Regulatory Requirements

§70.61(e) - each engineered or administrative control or control system necessary to comply with the performance requirements, shall be designated as IROFS. The safety program, established and maintained pursuant to §70.62 shall ensure that each IROFS will be available and reliable in context of the performance requirements.

§70.62(a), Safety Program: (1) shall establish and maintain a safety program that demonstrates compliance with the performance requirements; the program may be graded such that management measures applied are graded commensurate with the reduction to risk attributed to that item. Three elements of the safety program are PSI, ISA and management measures.

§70.62(c), ISA, requires an ISA that identifies (vi) each IROFS, the characteristics of its preventive, mitigative, or other safety function, and the assumptions and conditions under which the item is relied on to support compliance with the performance requirements.

§70.62(d), Management Measures, requires the establishment and maintenance of management measures to ensure compliance with the performance requirements. The measures applied to a particular engineered or administrative control or control system may be graded commensurate with the reduction of risk... and shall assure that the engineered or administrative control or control system are identified as IROFS.

§70.64(a), Baseline Design Criteria, requires licensees to maintain the application of these criteria unless the analysis performed pursuant to §70.62(c) demonstrates that a given item is not relied on for safety or does not require adherence to the specified criteria.

§70.65(b)(6) requires a list of each IROFS; (8) requires a list of sole IROFS.

LES RAI Response - ISA-45

Designs that inherently preclude "credible" events of consequence would not be identified as IROFS.

For certain designs of favorable geometry, any postulated event may be of "negligible likelihood" allowing failure of the design to be deemed a "not credible" event.

Staff Concerns

Any feature dependent upon the design, installation and maintenance by humans is subject to human error, and human error is credible.

Louisiana Energy Services - NRC Meeting

Clarification to Responses

July 8, 2004

Rockville, MD

Attachment 4

LES

Agenda

- Introduction
- "Safe-by-geometry" components as IROFS
- Treatment of ISA Summary
- Change process as applied to the Licensing Basis / License Condition
- Summary

“Safe-by-geometry” components as IROFS

- **Present the LES proposal on the characterization of “safe-by-geometry” components as IROFS**

"Safe-by-geometry" components as IROFS

IROFS Boundary Process

- **Defining the IROFS Boundary will result in significant numbers of systems, subsystems, and components that will be considered as part of the IROFS itself**
- **Administrative IROFS will have the same rigor applied to identify "boundary" supporting systems, subsystems, and components that are required to ensure the completion of the safety function**

"Safe-by-geometry" components as IROFS

IROFS Boundary Process Examples

- **Active Engineered Control** (ex: Heater Trip)
  - Sensor
  - Trip Unit
  - Heater circuit breaker
  - Wiring / cabling
  - Relays

- **Administrative Control** (ex: Cylinder Weight)
  - Sensor (weight scale)
  - Output display
  - Wiring / cabling

"Safe-by-geometry" components as IROFS

Regulatory Requirements Applicable to IROFS Boundary Components

- **Quality Level 1, Management Measures, and Baseline Design Criteria apply to all IROFS boundary components**
- **Records, Reporting, and Enforcement requirements of 10 CFR 70 apply to IROFS boundary components**
- **Configuration Management requirements of 10 CFR 70.72 apply to IROFS boundary components**

"Safe-by-geometry" components as IROFS

- **Regulatory Requirements will be applied to the following IROFS boundary component examples:**

- Product piping	**- Product pumps**	**- Traps**
- Cylinders	**- Centrifuges**	**- Flex Hoses**
- Sample Bottles	**- Storage Arrays**	**- Sample Vials**
- Waste Pots (6L)	**- Waste Pots (12L)**	**- Tanks (small)**
- Vacuum Cleaners		

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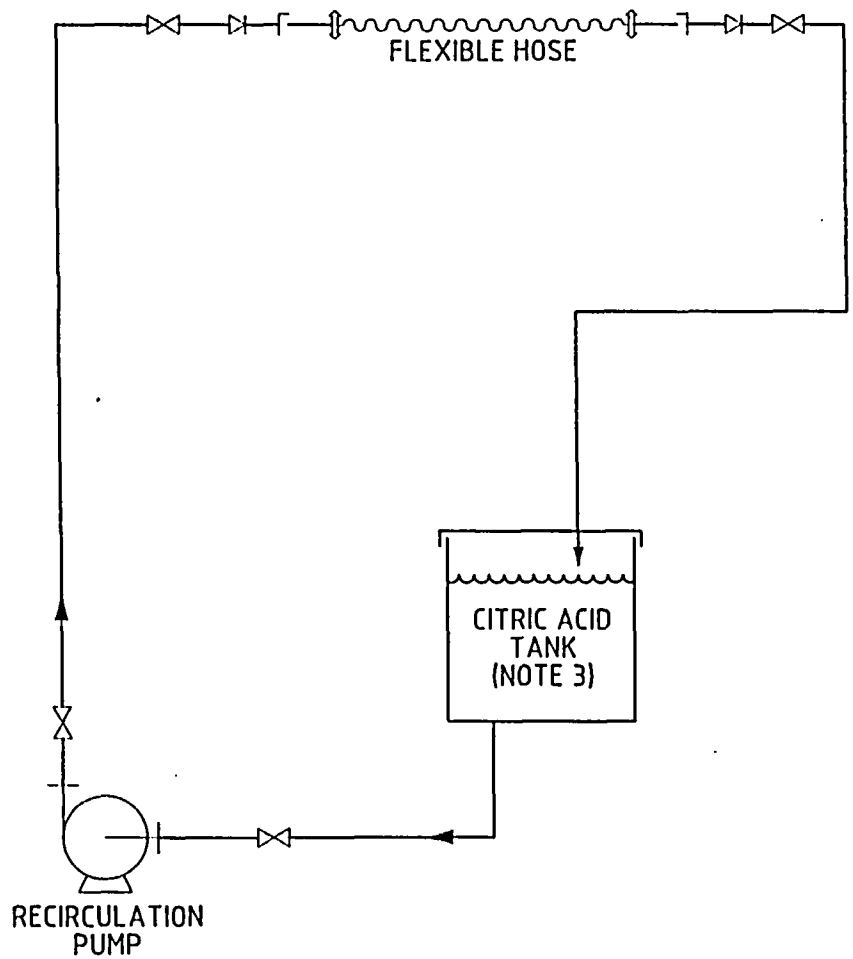
IROFS Boundary Include "Safe-By-Geometry"

Presentation in ISA Summary

- **Not all "safe-by-geometry" IROFS boundary components are explicitly identified in the ISA Summary**
- **"Safe-by-geometry" IROFS boundary components will be identified in the ISA documentation as a result of applying the IROFS Boundary Definition procedure**

NOTES

3. CITRIC ACID TANK SAFE BY SHAPE.



PARTIAL VIEW OF FIGURE 3.5-41

REFERENCE NUMBER 1500-R-1110	FIGURE 3.5-41 PROCESS FLOW DIAGRAM DECONTAMINATION SYSTEM FOR FLEXIBLE HOSES REVISION DATE: DECEMBER 2003

Treatment of ISA Summary

<u>Regulatory Requirement</u>

- Paragraph (b) of 10 CFR 70.65, "Additional content of application," states in part "the integrated safety analysis summary must be submitted with the license...application...but shall not be incorporated in the license. ..."
- ISA Summary was included in the National Enrichment Facility (NEF) license application
- LES did not consider that the entire license application would be made a condition of the license and therefore 10 CFR 70.65(b) would be satisfied
- Extracting the ISA Summary from the application at this point is problematic

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Change process as applied to the Licensing Basis / License Condition

- **10 CFR 70.65(a) requires the license application to include "a description" of the Safety Program established under 10 CFR 70.62**
- **10 CFR 70.65(b) requires that the ISA Summary contain "description of" and "information that demonstrates" many of the same features that are required by 10 CFR 70.62, Safety program**
- **Information will be duplicated between the ISA Summary and the license application**

Change process as applied to the Licensing Basis / License Condition

LES Understanding

- **Any change to a license condition requires a license amendment (prior NRC review and approval)**
- **10 CFR 70.72, "Facility changes and change process," allows licensee to make changes to facility description in licensing basis (i.e., license application) without prior NRC approval**
- **10 CFR 70.32, "Conditions of licenses," allows licensee make other changes without prior NRC approval**
- **Benefits afforded by 10 CFR 70.72 and 70.32 are obviated by maintaining the license application as a License Condition**

Change process as applied to the Licensing Basis / License Condition

- **10 CFR 70.72(c): The licensee may make changes...if the change ... (4) is not otherwise prohibited by this section, license condition, or order.**
- **Materials license makes the license application (licensing basis) a License Condition**
- **A desired change (e.g., 10 CFR 70.72) that produces the need to revise the licensing basis means that the change can not be made by the licensee (i.e., requires a license amendment)**

Change process as applied to the Licensing Basis / License Condition

<u>Enforcement if License Application is not a License Condition</u>

- **Compliance with the License inherently includes compliance with change control provisions in 10 CFR 70.32 as well as 10 CFR 70.72**
- **Non-adherence to "statements, representations, and conditions" in the license application (as amended under licensee control or NRC amendment) can be cited against the License or as a "change" in violation of 10 CFR 70.72**

LES

Change process as applied to the Licensing Basis / License Condition

- **Regulations contain adequate controls and provide adequate framework for enforceability**

- **10 CFR 70.72 reporting of changes (summaries and/or ISA Summary changed pages) keeps the NRC informed and the basis documents updated**

Summary