

September 15, 2004

MEMORANDUM TO: Joseph G. Giitter, Chief  
Special Projects Branch  
Division of Fuel Cycle Safety  
and Safeguards

THRU: Brian W. Smith, Chief /RA/  
Gas Centrifuge Facility Licensing Section  
Special Projects Branch, FCSS

FROM: Timothy C. Johnson /RA/  
Senior Mechanical Systems Engineer  
Gas Centrifuge Facility Licensing Section  
Special Projects Branch, FCSS

SUBJECT: SEPTEMBER 9, 2004, IN-OFFICE REVIEW SUMMARY: LOUISIANA  
ENERGY SERVICES SAFE-BY-DESIGN APPROACH

On September 9, 2004, U.S. Nuclear Regulatory Commission (NRC) staff conducted an in-office review at the Louisiana Energy Services' (LES') offices in Washington, DC, of documents describing a proposed approach for documenting in the Integrated Safety Analysis (ISA) and summarizing in the ISA Summary the criticality safe-by-design aspects of components applicable to the LES gas centrifuge uranium enrichment plant. I am attaching the in-office review summary for your use. This summary contains no proprietary or classified information.

Docket: 70-3103

Attachment: Louisiana Energy Services In-Office  
Review Summary

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

MEMORANDUM TO: Joseph G. Giitter, Chief  
 Special Projects Branch  
 Division of Fuel Cycle Safety  
 and Safeguards

THRU: Brian W. Smith, Chief /RA/  
 Gas Centrifuge Facility Licensing Section  
 Special Projects Branch, FCSS

FROM: Timothy C. Johnson  
 Senior Mechanical Systems Engineer /RA/  
 Gas Centrifuge Facility Licensing Section  
 Special Projects Branch, FCSS

SUBJECT: SEPTEMBER 9, 2004, IN-OFFICE REVIEW SUMMARY: LOUISIANA  
 ENERGY SERVICES SAFE-BY-DESIGN APPROACH

On September 9, 2004, U.S. Nuclear Regulatory Commission (NRC) staff conducted an in-office review at the Louisiana Energy Services' (LES') offices in Washington, DC, of documents describing a proposed approach for documenting in the Integrated Safety Analysis (ISA) and summarizing in the ISA Summary the criticality safe-by-design aspects of components applicable to the LES gas centrifuge uranium enrichment plant. I am attaching the in-office review summary for your use. This summary contains no proprietary or classified information.

Docket: 70-3103

Attachment: Louisiana Energy Services In-Office  
 Review Summary

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

**DISTRIBUTION:** Docket: 70-3103

NMSS r/f	FCSS r/f	SPB r/f	RPierson
JHolonich	JGiitter	YFaraz	HFelsher
WTroskoski	LClark/OGC	ACoggins/OGC	MGalloway
JDavis/DWM	ABradford/DWM	JPark/DWM	SFlanders/DWM
KEverly/NSIR	SGagner/OPA	DMcIntyre/OPA	RVirgilio/OSTP
TCombs/OCA	DAyres/Reg II	DSeymour/RegII	JHenson/RegII
RHannah/RegII	KClark/RegII	VMitlyng/RegIII	DHartland/Reg II
WMaier/RegIV	RTrojanowski/RegII	Hearing file	

**ML042590644**

<b>OFC</b>	GCFLS		GCFLS		TSG		GCFLS	
<b>NAME</b>	TCJohnson:os		LMarshall		HFelsher		BSmith	
<b>DATE</b>	09/14/04		09/14/04		09/15/04		09/15/04	

**C = COVER                      E = COVER & ENCLOSURE                      N = NO COPY**  
**OFFICIAL RECORD COPY**

Summary of  
Louisiana Energy Services In-Office Review on Criticality Safe-By-Design Approach

Dates: September 9, 2004

Place: Louisiana Energy Services (LES) offices  
Washington, DC

Attendees:

H. Felsher/NRC	W. Troskoski/NRC
T.C. Johnson/NRC	R. Krich/LES
D. Green/Excel	B. Hubbard/Areva
D. Pepe/Areva	

Purpose:

The purpose of this in-office review was to discuss LES' approach for documenting in its Integrated Safety Analysis (ISA) and summarizing in the ISA Summary the criticality safe-by-design aspects of components and review related proprietary documents.

Discussion:

After introductions, D. Green explained the hazard evaluation process for analyzing criticality safe-by-design components. Components that were already evaluated were the product piping and the product cold trap. These components were presented as examples for full evaluation of the remaining criticality safe-by-design components. These evaluations were performed to show that safe-by-design components would not fail and an inadvertent criticality would be highly unlikely. These analyses used the same hazard evaluation process used in the ISA. The detailed hazard evaluation results would be fully documented in the ISA and summarized in the ISA Summary.

U.S. Nuclear Regulatory Commission (NRC) staff asked how the safety margins would be documented for detailed review by NRC staff to evaluate whether LES' definition of highly unlikely is met. Because this information involves classified information, LES agreed to determine how this information could be best presented to NRC staff.

NRC staff asked how the criticality safe-by-design components will be available and reliable to prevent an inadvertent criticality. LES staff explained that criticality safe-by-design components would be Quality Level I components in the Quality Assurance System, because these components would be items affecting items relied on for safety.

LES staff also agreed to provide justification for frequency index numbers that are more negative than -1 and based on operating experience in the Urenco plants. This justification would be provided in the ISA documentation package.

NRC staff agreed that the general approach for demonstrating that criticality safe-by-design components would not fail such that an inadvertent criticality will be highly unlikely appeared to be acceptable. LES will provide a letter with the criticality safe-by-design information by the end of September 2004 and the license application page changes at a later date. LES will also provide a separate ISA Summary by the end of September 2004.