

November 19, 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, Project Manager /RA/  
Gas Centrifuge Facility Licensing Section  
Special Projects Branch, FCSS

SUBJECT: NOVEMBER 12, 2004, TELEPHONE SUMMARY: LOUISIANA  
ENERGY SERVICES DISCUSSIONS ON SEISMIC HAZARDS

On November 12, 2004, the U.S. Nuclear Regulatory Commission (NRC) staff held a telephone conference call with staff from Louisiana Energy Services (LES) to discuss seismic hazards related to the LES uranium enrichment plant proposed to be built in Eunice, New Mexico. I am attaching the telephone summary for your use. The summary contains no proprietary or classified information.

Docket: 70-3103

Attachment: Louisiana Energy Services  
Telephone 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	Dennis Holmberg/Lea Cty	John Parker/NMED
	James Brown/Eunice	Richard Ratliff/Texas	M. Marriotte/NIRS
	Jerry Clift/Hartsville	CO'Claire/Ohio	Lee Cheney/CNIC
	Derrith Watchman-Moore/NMED	Joseph Malherek/PC	Ron Curry/NMED
	Tannis Fox/NMED	Patricia Madrid/NMAG	Glenn Smith/NMAG
	Lindsay Lovejoy/NIRS		

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OFC	GCFLS		GCFLS		GCFLS	
<b>NAME</b>	TJohnson/os		LMarshall		BSmith	
<b>DATE</b>	11/18/04		11/19/04		11/19/04	

OFFICIAL RECORD COPY

## Telephone Conference Call Summary

### Seismic Hazards

Date and Time: 11:00 PM; November 12, 2004

Call Participants:	W. Troskoski/NRC	B. Smith/NRC
	S. Steele/NRC	J. Stamatakis/CNWRA
	S. Hsiung/CNWRA	A. Chowdhury/CNWRA
	R. Krich/LES	D. Green/Excel
	G. Harper/Areva	G. Klemicewicz/Areva

On November 12, 2004, a conference call between U.S. Nuclear Regulatory Commission (NRC), Center for Nuclear Waste Regulatory Analyses (CNWRA) and Louisiana Energy Services (LES) staffs was held to discuss seismic hazards related to LES' application for a uranium enrichment facility proposed to be located in Eunice, New Mexico. This conference call was a follow-up discussion to the conference call held on November 2, 2004, on the same subject.

#### Discussion:

NRC and CNWRA staff discussed the results of the probabilistic seismic hazard assessment (PSHA) conducted for the proposed enrichment facility in Eunice, New Mexico. CNWRA staff asked for additional information from LES with regard to noted differences between the LES PSHA results and those derived from the U.S. Geological Survey (USGS) National Earthquake Hazard Mapping Program. USGS results predict peak ground accelerations with an annual exceedence probability of  $1E-4$  that is nearly three times larger than that predicted by the LES hazard study. Staff requested the additional information (RAI) because in a previous response to NRC request for additional information, LES indicated that their PSHA "produces a conservative ground motion estimate when compared to more recent models." (RAI Response #3 in Enclosure #1 of August 31, 2004, letter from R. M. Krich to the NRC.)

The LES seismic technical expert provided a detailed summary of the USGS approach and results and concluded that the USGS model contains some inconsistencies that may explain the noted difference in hazard estimates. These include the incorporation of earthquakes with maximum magnitudes as large as Magnitude 7.0 into the USGS background source zone. LES concluded that earthquakes up to a maximum of Magnitude 6.5 could occur as background earthquakes. LES also noted that they would have to triple the activity rate of their background earthquakes to generate peak ground acceleration values similar to those predicted by the USGS results. LES concluded that tripling the earthquake activity was not realistic because at that activity rate, Magnitude 5.0 earthquakes would reoccur about every 12 years in the vicinity around the facility site. The historical earthquake record for southern New Mexico does not support this rate of earthquake activity.

The LES seismic expert suggested that a more likely explanation was that the USGS hazard was an artifact of the way in which the USGS overlapped their hazard estimates from the central and eastern United States with those from the western United States. USGS documentation does not provide a complete description of how they overlapped their hazard results from these two regions, but suggested that in the overlap regions, the hazards were

simply added together. This suggested to the LES seismic expert that the USGS was “double counting” the hazard in the overlap zone.

CNWRA staff requested that LES document their review of the USGS approach and results as additional support for the LES site-specific hazard results. LES agreed and indicated that their summary would be provided to the NRC in early December 2004. CNWRA staff agreed to seek additional clarification from the USGS in order to better understand the USGS method used to combine the hazards from the eastern and western United States in the overlap zone and to report any significant findings back to LES.