

September 1, 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: AUGUST 12 AND 18, 2004, TELEPHONE SUMMARIES: LOUISIANA  
ENERGY SERVICES REQUESTS FOR ADDITIONAL INFORMATION

On August 12 and 18, 2004, the U.S. Nuclear Regulatory Commission (NRC) staff held telephone conference calls with staff from Louisiana Energy Services (LES) and the Center for Nuclear Waste Regulatory Analyses (CNWRA) to discuss clarification of issues related to external events (high winds, propane and natural gas line explosions, and aircraft hazards) and seismology. I am attaching the telephone summaries for your use. The summaries contain 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	William Floyd/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
	Clay Clarke/NMED	Patricia Madrid/NMAG	Glenn Smith/NMAG
	Lindsay Lovejoy/NIRS		

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<b>OFC</b>	GCFLS		GCFLS		MOFLS		GCFLS	
<b>NAME</b>	TCJohnson/os		LMarshall		WTroskoski		BSmith	
<b>DATE</b>	08/30 /04		08/30/04		09/01/04		09/01/04	

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## Telephone Conference Call Summary

### External Events

Date and Time: 3:00 PM; August 12, 2004

Call Participants: B. Smith/NRC  
H. Graves/NRC  
S. Hsiung/CNWRA  
R. Krich/LES  
G. Harper/Framatome  
S. Thompson/Framatome  
D. Brown/NRC  
T.C. Johnson/NRC  
P. Cox/CNWRA  
D. Green/Excel  
J. Snooks/Framatome

On August 12, 2004, the U.S. Nuclear Regulatory Commission (NRC) staff and staff from the Center for Nuclear Waste Regulatory Analyses (CNWRA) held a conference call with staff from Louisiana Energy Services (LES) to discuss the external hazards review of the LES Safety Analysis Report. The issues and a brief summary of the responses are provided as follows:

#### **Tornado-Generated Missiles**

How were the impact velocities with the tornado-generated missiles determined? The document, "Assessment of Tornado, Tornado Missiles and High Wind Loads at NEF for ISA and Design Basis," does not provide this information.

LES pointed out the calculation to determine the impact velocities for the tornado-generated missiles will be provided.

**Text removed under 10 CFR 2.390.**

#### **Aircraft Crash Hazards**

Why are the random holding patterns at Eunice and Lea County/Jal Airports excluded from further consideration as a potential hazard? The justification provided in the Aircraft Hazard Risk Determination report stated because both airports meet the first proximity criterion (distance and number of operations of the airports) outlined in NUREG-0800, the issue of holding patterns should not be relevant to either airport. This justification does not appear to be adequate. The proximity criteria have three aspects and the third proximity criterion deals specifically with holding patterns. We believe all three proximity criteria need to be satisfied to avoid further analysis of aircraft crash hazards. Satisfying one criterion is not a sufficient justification to dismiss other criteria.

LES staff indicated that there are no specific holding patterns for the Eunice and Lea County/Jal Airports and that any random holds would be short. Therefore, there are no patterns that would significantly increase the time fraction of flights over the site. LES staff agreed to provide further justification or additional assessments to demonstrate the random holding patterns at Eunice and Lea County/Jal Airports are not going to affect the safety-significant structures.

**Text removed under 10 CFR 2.390.**

## Telephone Conference Call Summary

### Seismology

Date and Time: 4:00 PM; August 18, 2004

Call Participants: B. Smith/NRC  
T.C. Johnson/NRC  
A. Chowdhury/CNWRA  
S. Hsiung/CNWRA  
G. Harper/Framatome  
D. Brown/NRC  
W. Troskoski/NRC  
S. Gonzalez/CNWRA  
R. Krich/LES  
G. Klimkeiwitz/Western Geophysical

On August 18, 2004, U.S. Nuclear Regulatory Commission (NRC) staff and staff from the Center for Nuclear Waste Regulatory Analyses (CNWRA) held a conference call with staff from Louisiana Energy Services (LES) to discuss technical issues related to site seismology in supporting the review of the LES Safety Analysis Report (SAR). The issues and a brief summary of the responses are provided as follows:

Confirm that the faulting recently discovered at Waste Control Specialist (WCS) site is not active.

LES staff stated the Cook-Joyce report has recently been finalized. The report concludes that faulting discovered at the WCS site occurred between 140 to 200 million years ago. LES will provide this report to the NRC.

The Peak Ground Acceleration (PGA) estimated at the facility site from the 1992 magnitude 5.0 earthquake appears to be more than the PGA estimated from the seismic hazard calculations (refer to Figure 3.2-27). In addition, why were other existing applicable attenuation models, which may result in higher ground motion estimations at the site, not considered in the seismic hazard calculation (e.g., Campbell, 2003)?

LES staff responded that the calculation of PGA at the site from this earthquake using attenuation equations (e.g., in Figure 3.2-27) is not applicable because the earthquake intensity in the area was low. LES staff also stated that other attenuation equations, such as Campbell, 2003, were not used in the hazard calculations because they are applicable to "hard rock" sites while the Nuttli (1973) and Toro (1997) equations are for "firm rock" sites. A formal response to this question will be provided to the NRC. This response will include a justification for the selection of the Nuttli (1973) and Toro (1997) equations, rather than other applicable attenuation equations.

Section 3.2.6.4.1 states that the Nuttli, 1973 (Waste Isolation Pilot Plant attenuation model), Nuttli, 1986, and Toro, 1997 attenuation equations are used in the seismic hazard calculations. Results are only shown for the Toro, 1997 and Nuttli, 1973 attenuation models (refer to Table 3.2-29). Why aren't any results shown for the Nuttli, 1986, attenuation model (which is the most conservative model)?

LES staff stated that only the Toro, 1997 and Nuttli, 1973 attenuation equations were used. The Nuttli 1986 model was not used because it would overcompensate for soil effects. LES staff also briefly described the weights assigned to these attenuation equations for the hazard calculation. A formal response to this issue will be provided to the NRC including justification for not using the Nuttli, 1986 equation, and the

development of the relative weights assigned to the attenuation equations used in the hazard calculation.

Was a background seismicity model used in the hazard calculations?

LES staff stated that they did not use a background seismicity model in the hazard calculations. They only considered magnitudes above 5.0, because they expected no damage contribution from smaller magnitude earthquakes. A formal response to this issue will be provided to the NRC including a justification for not including a background seismicity model in the seismic hazard calculations.

Do the individual curves in Figure 3.2-29 represent the total hazard (i.e., the sum of both local and distant source zones for the particular combination of seismic source zones, attenuation models, b-values, and upper bound magnitudes)?

LES staff replied that this is correct. No formal response is required.

Figure 3.2-29 shows an additional curve for the Rio Grande Rift Source zone. Was this curve considered in the development of the weighted average hazard result?

LES staff replied that this is correct. No formal response is required.

What weighting scheme was used to obtain the hazard result? How was the weighting scheme determined? Why isn't the most conservative hazard curve used instead (refer to Figure 3.2-29)? The most conservative hazard curve appears to correspond to a maximum magnitude of 6.5 (M<sub>x</sub> 6.5) for the 1931 Valentine earthquake. The maximum magnitude estimated for the 1931 Valentine earthquake is between 6.0 and 6.4.

LES staff briefly described the weights used to develop the weighted hazard curve. A formal response to this issue will also be provided to NRC justifying the development of this weighting scheme.

Is the shape of the uniform hazard spectra in Figures 3.2-21 and 3.2-32 a simplified version of the original uniform hazard spectra? Does it envelope the original uniform hazard spectra?

LES staff stated that the design response spectra shown in Figures 3.2-31 and 3.2-32 of the SAR were based on a standard response spectral shape developed by Newmark and Hall (1978). A written description explaining how the design response spectra were developed will be provided to the NRC.