

June 29, 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: Herman L. Graves /RA/  
Senior Structural Engineer  
Engineering Research Applications Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

SUBJECT: MAY 27-28, 2004, MEETING SUMMARY: LOUISIANA ENERGY SERVICES' IN-OFFICE REVIEW, HOBBS, NEW MEXICO AND SITE VISIT, EUNICE, NEW MEXICO

On May 27 - 28, 2004, U.S. Nuclear Regulatory Commission (NRC) staff and the Center for Nuclear Waste Regulatory Analyses (CNWRA) staff met in Hobbs, New Mexico, with Framatome, Cook-Joyce Inc., and Exelon staff to discuss the structural, seismic, high wind and tornado safety analysis documentation for the Louisiana Energy Services (LES) gas centrifuge uranium enrichment plant project proposed to be located in Eunice, New Mexico. A visit to the proposed site for the LES project was also made. I am attaching the meeting summary for your use. This summary contains no proprietary or classified information.

Docket: 70-3103

Attachment:

Louisiana Energy Services Meeting Summary

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

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DATE	06/ 23 /04		06/24/04	06/29/04	6/29 /04

Summary of Meeting with  
Louisiana Energy Services on Structural, Seismic, High Winds, and Tornado Safety Analysis

Dates: May 27 - 28, 2004

Place: Louisiana Energy Services (LES) offices Hobbs, NM and LES proposed site in Eunice, NM

Attendees:

H. Graves/NRC	A. Chowdhury/CNWRA
S. Gonzalez/CNWRA	S. Hsiung/CNWRA
D. Green/Excel	G. Harper/Framatome
R. Krich/Excelon	D. Granger*/Cook-Joyce Inc.
G. Grisak*/Intera	S. Cook*/Cook-Joyce Inc.

Note: (\*) participated in site visit only

Purpose:

The purpose of this meeting was to review and discuss the unclassified backup documentation prepared by the Louisiana Energy Services (LES) to support its assessment of seismic, high winds, and tornado hazards and development of design bases for its gas centrifuge uranium enrichment plant to be located in Eunice, New Mexico. Also, staff visited the proposed site and viewed an earthquake fault located at a hazardous waste site operated by Waste Control Specialist LLC (WCS) directly east of the proposed LES site. In addition to the above, the Center for Nuclear Waste Regulatory Analyses (CNWRA) staff reviewed LES calculations for the natural gas pipeline accident analysis.

Discussion:

On May 27, 2004, at the LES Hobbs, NM, office, after introductions, Mr. G. Harper of Framatome, outlined the schedule for the next day and half of meetings. Framatome is the LES contractor responsible for coordinating the unclassified Integrated Safety Assessment (ISA) preparation. It was agreed to by all that a visit to the proposed LES site in Eunice would be made during the morning of May 27 and the actual review of the LES documentation would be conducted in the afternoon of May 27 and the morning of May 28. Mr. Harper explained that all backup documentation requested by NRC had been shipped from the LES office in Marlborough, MA, to the office in Hobbs, NM. Before traveling to the site in Eunice, NM, Mr. Harper gave a brief overview of the documentation that had been shipped and of the proposed LES site and surrounded areas. (See Figure 1.0 for aerial photo provided by Framatome.) As can be seen in Figure 1.0, there are several points of interest in the general area of the proposed LES National Enrichment Facility (NEF) site. Some points of interest are: 1) Waste Control Specialist hazardous waste site, east of LES site; 2) Lea County, Texas, landfill, south of LES site; 3) cement plant quarry site, north of LES site; and 4) gas transmission lines. The gas transmission lines are indicated by the faint diagonal line that appears from the top left to the bottom right in the aerial photograph and the faint horizontal line at the left bottom portion of the aerial photograph. Mr. Doug Granger of Cook-Joyce Inc. provided introductory comments

on the recently discovered earthquake fault located on the property operated by WCS before those in attendance traveled to the LES site in Eunice, NM.

Upon arrival at the LES proposed site in Eunice, NM, D. Granger provided a general orientation of the LES site and the surrounding areas discussed above and shown in Figure 1.0. The group then traveled to the WCS site and spent time viewing the fault excavation pit and discussing the earthquake fault with Gerry Grisak of Intera, and others. Mr. Grisak outlined some possible causes of the earthquake fault and indicated that several leading geologists and other scientists have viewed the site to determine the nature and origin of the earthquake fault. Preliminary findings is that the fault is not active. Last movement on the fault appears to have occurred before the early Cretaceous period (approximately 135 million years ago). Cook-Joyce and Intera will submit a report to Framatome upon completion of the fault mapping and photographs. G. Harper of Framatome stated that the information would be sent to NRC and that the current schedule called for the report to be delivered in the August 2004 time frame. (See Figure 2.0 for pictures taken of the earthquake fault and excavation pit during the site visit.)

Those in attendance then visited the cement plant quarry site located due north of the proposed LES site. At the cement plant quarry location, similar land formations that exist at the the WCS site could be seen. Framatome, CNWRA and NRC staff then traveled back to the LES Hobbs, NM, office.

During the afternoon, NRC and CNWRA staff reviewed detailed documentation and calculations in the following areas:

- Natural gas pipeline hazard risk determination;
- Assessment of winter precipitation loads at the NEF site for design basis;
- Assessment of other external event hazards at NEF for design basis;
- Preliminary subsurface exploration;
- Highway propane explosion hazard risk determination;
- Assessment of seismic loads at NEF for ISA and design basis;
- Hydrometeorological report.

A complete list of documents reviewed and that were requested for further study is provided in Attachment 1.

At the end of the day, a status meeting was held with those in attendance including Mr. Rod Krich of Exelon. During the status meeting, NRC/CNWRA staff indicated that more clarification was needed on ISA 13 and ISA 19 referenced in a letter dated May 19, 2004, from R. Krich to Director, Office of Nuclear Material Safety and Safeguards, "Response to NRC Requests for Additional Information Regarding National Enrichment Facility Safety Analysis Report and Emergency Plan." Specifically, LES was asked to clarify in ISA 13 the statement that "The actual seismic design detailed approach for National Enrichment Facility (NEF) will be based on the Department of Energy (DOE) and/or American Society of Civil Engineers (ASCE) methods and finalized prior to detailed design." It was agreed that one of the methods would be used and not both or a mixture of the methods. In ISA 19, the NRC staff requested that the applicant provide technical justification to support that the allowable bearing pressure for rock at the site is 10,000 psf and it is 3,000 psf for existing and new fills. LES pointed out that as the response read in the May 19, 2004, letter to NRC that all of this information would be verified by an

extensive geotechnical investigation to be performed prior to the beginning of project design. The staff accepted this response.

Rod Krich asked the staff if it was satisfied with the seismic information that had been submitted and if there were any additional questions on the information. The staff indicated that with the exception of the information to be submitted on the earthquake fault located at the WCS site that they were satisfied and had no additional questions.

On Friday morning, May 28, 2004, the discussion focused on the natural gas pipeline hazard risk determination. The staff asked LES to provide responses to the following:

1. Why was the design load for explosion of approximately 1 psi for concrete buildings not discussed or included in the gas pipeline hazard determination?
2. Clarify the statement that the rupture line is only greater than 0.1 ft in length, and that smaller lengths were not considered.
3. Clarify a number of assumptions used for data treatment that have been cited in the document.
4. Why was a 1 m/sec wind speed used in the ALOHA program?
5. Explain/provide the formula for the probability of pipeline explosion.
6. More than ten years of pipeline accident data are available. Clarify why only four years of data were used in the analysis.

After the conclusion of the trip, CNWRA staff identified several additional questions that may be of importance in regards to the natural gas pipeline accident analysis. The questions are: 1) where is the high pressure CO<sub>2</sub> line going to be relocated?; 2) what will be the effect of this relocated pipeline to the facility?; 3) if the relocated CO<sub>2</sub> pipeline is going to be in the same location as the sour gas pipeline, how will the likelihood of explosion be affected?; and 4) will the size of the pipeline have an effect on explosion intensity? These questions have been discussed with the NRC LES project manager and it has been agreed that the question can be pursued via teleconference or other means.

#### Action Items:

As indicated above, LES has committed to provide copies of backup documents to NRC (see the list of documents to be provided in Attachment 1). Also, LES has committed to respond to the questions raised on the natural gas pipeline accident analysis.

#### Attachments:

1. List of documents requested and reviewed

## Attachment 1

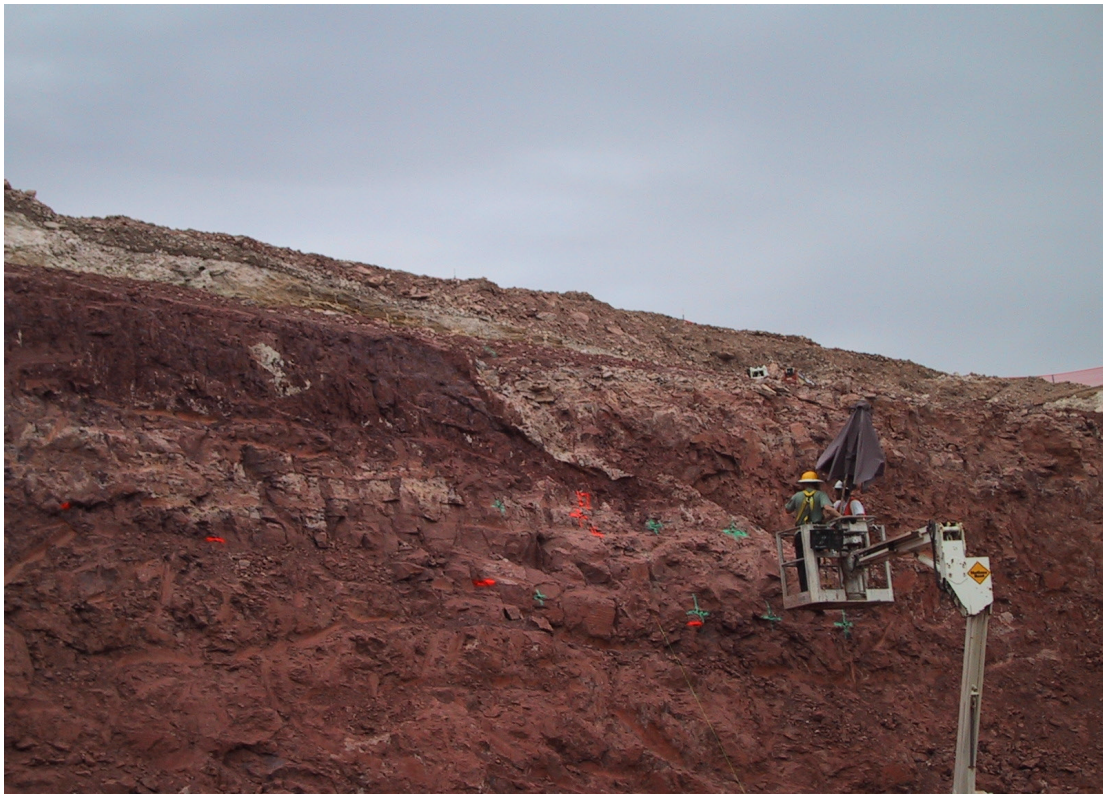
### SITE VISIT - EUNICE, NEW MEXICO (NATIONAL ENRICHMENT FACILITY)

#### **List of Documents requested:**

1. Document Identifier 32-2400569-00  
Title - "Aircraft Hazard Risk Determination," by W. S. Yeung.
2. Document Identifier 32-2400572-00  
Title - "Natural Gas Pipeline Hazard Risk Determination," by J. H. Snooks.
3. Document Identifier 51-2400547-00  
Title - "Assessment of Winter Precipitation Loads at NEF for ISA and Design Basis," (pages 1-5 only).
4. Document Identifier 51-2400548-00  
Title - "Assessment of Tornado and Design Basis," (cover page and attachment 2 only).
5. Document Identifier 51-2400552-00  
Title - "Assessment of Other External Event Hazards at NEF for ISA and Design Basis," by G. A. Harper.
6. Document Identifier 32-2400573-00  
Title - "Highway Propane Explosion Hazard Risk Determination," by J. H. Snooks.

#### **Other Documents Reviewed:**

1. Seismic Hazard Assessment, For the LES Site, Lea County, New Mexico, Final Report, October 27, 2003.
2. Document Identifier 51-2400549-00  
Title - "Assessment of Seismic Loads at NEF for ISA and Design Basis."
3. Hydrometeorological Report No. 33, "Seasonal Variation of the Probable Maximum Precipitation East of the 105h Meridian for Areas From 10 to 1,000 square miles and Durations of 6, 12, 24 and 48 hours., U. S. Department of Commerce , Weather Bureau, Washington, D. C., April 1956.
4. Document Identifier 51-2400551-00  
Title - "Assessment of Local Intense Precipitation at NEF for ISA and Design Basis."
5. Document Identifier 51-2400550-00  
Title - "Assessment of Probable Maximum Flood at NEF for ISA and Design Basis."
6. Report of Preliminary Subsurface Exploration, Proposed National Enrichment Facility LEA county, New Mexico, prepared for: Lockwood Greene; prepared by: MACTEC Engineering and Consulting, Inc., October 17, 2003.



**Figure 2.0** –Waste Control Specialist hazardous waste site excavation, top picture and earthquake fault close-up, bottom picture.



**Figure 1.0** – aerial photograph of proposed LES National Enrichment Facility site, LES site are the two rectangular shape plots that appear left to center. North is considered top of photo. Points of interest are: 1) Waste Control Specialist hazardous waste site, east of LES site; 2) Lea County, Texas, land fill, south of LES site; 3) cement plant quarry site; north of LES site; and 4) gas transmission line, faint diagonal line that appears from top left to bottom right.