

MAR 29 2010

LES-10-00060-NRC

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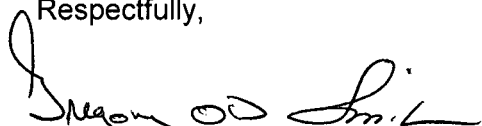
Louisiana Energy Services, LLC  
NRC Docket No. 70-3103

Subject: Annual Radiological Environmental Monitoring Program (REMP) Report

Louisiana Energy Services (LES) is submitting as enclosures the sections of the subject REMP Report previously agreed upon with the NRC staff. These sections include the cover letter, the Table of Contents, and the Executive Summary of the monitoring events on and in the immediate area of the National Enrichment Facility (NEF). This background monitoring data has been gathered from January 2009 through December 2009.

The other sections listed in the table of contents not included in this package are available by request. If you have any questions regarding this package, please call Gary Sanford, Director of Quality and Regulatory Affairs at 575.394.5407.

Respectfully,



Gregory OD Smith  
Chief Operating Officer and Chief Nuclear Officer

Enclosures: Annual Radiological Environmental Monitoring Program Report from January 2009 through December 2009: Table of Contents and Executive Summary

NMSSDI

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# National Enrichment Facility

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Annual Radiological Environmental Monitoring  
Program Report

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January 1, 2009 through December 31, 2009





National Enrichment Facility

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Radiological Environmental Monitoring Program Report

January 1, 2009 through December 31, 2009

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## **EXECUTIVE SUMMARY**

National Enrichment Facility  
Radiological Environmental Monitoring Program Report  
January 1, 2009 through December 31, 2009

### **INTRODUCTION**

This report summarizes the results of the National Enrichment Facility Radiological Environmental Monitoring Program (REMP) conducted in the vicinity of National Enrichment Facility (NEF) during the period from January 1, 2009 to December 31, 2009. This document has been prepared in accordance with the requirements of the NEF Environmental Report section 6.1.2 (Reference 8). The REMP has been established to monitor the radiation and radioactivity released to the environment as a result of the NEF's operation. This program, initiated in September 2006, includes the collection, analysis, and evaluation of radiological data in order to assess the impact of the NEF operations on the environment and general public.

### **SAMPLING AND ANALYSIS**

The environmental sampling media collected in the vicinity of NEF and at distant locations include air particulate filters, vegetation, soils, groundwater, domestic wastewater effluent, and onsite basin surface water and sediment. In addition, exposure measurements were obtained using environmental thermoluminescent dosimeters (TLDs) at 16 locations around the NEF site.

A full description of any discrepancies encountered with the environmental monitoring program is presented in Appendix B of this report.

### **LAND USE CENSUS**

The NEF did not conduct a land use census in the vicinity of the NEF since operations have not yet commenced. There was less than 50kg of Uranium Hexafluoride material located on-site within the Centrifuge Assembly Building for use in centrifuge and centrifuge rig testing. Additionally some sealed sources were present during this reporting period. The latest land use census data is contained within the NEF Environmental Report (Reference 8).

### **RADIOLOGICAL IMPACT TO THE ENVIRONMENT**

During the report period, samples collected as part of the REMP at the NEF contain detectable amounts of naturally occurring uranium. Uranium isotopes are the only radionuclides analyzed as they are the only radionuclides that could be emitted from enrichment operations. A comparison of 2009 REMP samples to baseline samples indicates that no detectable radioactivity was attributable to the NEF. Offsite ambient radiation measurements using environmental TLDs beyond the site boundary ranged between 82 and 92 millirem/year on an annualized basis. The range of ambient radiation levels observed with the TLDs is consistent

with natural background radiation levels for New Mexico as determined by the Environmental Protection Agency (EPA) and others (References 23 & 24).

### **RADIOLOGICAL IMPACT TO THE GENERAL PUBLIC**

During the report period, there were no radiation doses to the general public as a result of the NEF's operation. There was no calculated total body dose to a maximally exposed member of the general public from radioactive effluents and ambient radiation resulting from the NEF operations for the report period since there were no detectable radioactive effluents or ambient radiation from NEF operations observed in the environment.

### **CONCLUSIONS**

The reporting period for the Radiological Environmental Monitoring Program for the NEF resulted in the collection and analysis of hundreds of environmental samples and measurements. The data obtained was compared to the baseline radiological data to determine if NEF operations resulted in increased isotopic uranium activity in the environment.

An evaluation of direct radiation measurements and environmental sample analyses served to establish radiological data for comparison to background information for the NEF. Furthermore, radiation levels observed in 2009 were determined to be indicative of those that are normally present due to natural and man-made background radiation.