



matters, and the identity of each person expected to be called as a witness at the hearing, including the subject matter and subject of the witness' testimony. As required by 10 C.F.R. § 2.705(e), supplements to Intervenor's response must be seasonably submitted, and in no case less than 30 days prior to the scheduled hearing date.

The term "documents" shall include information contained in any tangible medium of expression, including but not limited to, articles, letters, memoranda, notes, graphs, charts, calculations, photographs, electronic communications (including e-mails), data stored on magnetic and optical digital and analog data storage devices, and any other writing of whatever description.

Intervenor is requested to address in its answers Applicant's clarifications of and modifications, changes, and amendments to the License Application, Environmental Report, Safety Analysis Report and other relevant reports which were available to Intervenor prior to these interrogatories. With respect to each interrogatory. Intervenor is further requested to:

1. State the full name, address, occupation, resume and present employer of each person(s) answering the following interrogatories and requests, and designate the interrogatory or the part thereof that such person(s) answered.
2. If the answer to any interrogatory below, or any contention or basis for a contention listed below relies upon one or more calculations:
  - a. Describe each calculation and identify any documents setting forth such calculation;
  - b. Provide the name and location of each person who performed the calculation and the date the calculation was made;

- c. Describe each assumption made in each calculation, to include the value of and basis for each assumption.
  - d. Describe each constant and variable in each calculation, to include the value and basis for each constant and the source of the data applied to each variable.
  - e. Provide the results of each calculation.
  - f. Explain in detail how each calculation provides a basis for the contention.
3. If the answer to any interrogatory or request below relies upon conversations, consultations, correspondence or any other type of communications with one or more individuals:
- a. Identify by name and address each such individual;
  - b. State the educational and professional background of each such individual, including occupation and institutional affiliations;
  - c. Describe the nature of each communication with such individual, when it occurred, and identify all other individuals involved;
  - d. Describe the information received from such individuals and explain how it provides a basis for the contention; and
  - e. Identify each letter, memorandum, tape, note or other record related to each conversation, consultation, correspondence, or other communication with such individuals.
4. In the answer to each interrogatory or request below, identify fully any documents used as the basis for the answer to the interrogatory or related to the subject of the interrogatory, upon which Intervenor intends to rely in establishing the contention or the basis for the contention.

## SPECIFIC INTERROGATORIES

### **Contention TC-3/EC-4 -- Radiation Protection Program**

“The application does not comply with the requirements of 10 C.F.R. § 20.1101 because it fails to provide sufficient information to demonstrate the establishment of an adequate radiation protection program. Specifically, the Application is deficient in providing the technical bases for monitoring and assessing effluent discharge, and in estimating occupational and public radiation doses. *See e.g.*, Application, §§ 4.6, Safety Analysis Report, vol. 4; 4.12, Environmental Report, vol. 2; 6.0, Safety Analysis Report, vol. 4; see 10 C.F.R. § 20.1101(b); Nuclear Regulatory Guidance Document 4.14 (setting forth the need for discharge and dosage information prior to and during operations of the uranium processing facility). The radiation dose quantities are provided, but are not supported by calculation protocols, formulae, or variables (e.g., occupancy factors, seasonal variations, diffusion coefficients). This information must be provided to verify the information in the Application.”

1. Provide the name, address, profession, employer, and area of professional expertise of each person whom NMED expects to call as a witness, including any expert witness at the hearing.
2. Provide the educational and scientific expertise of each witness.
3. Provide the subject matter on which each of the witnesses is expected to testify.
4. Provide the substance of the facts and opinions to which each witness is expected to testify and a summary of the grounds for each opinion, including the documents and all pertinent pages or parts thereof upon which each witness will rely or will otherwise for his testimony.

5. Explain the relevance of Nuclear Regulatory Guidance Document 4.14, "Radiological Effluent and Environmental Monitoring at Uranium Mills", to the adequacy of a radiation protection program for a uranium enrichment facility.
6. Explain the relevance of Chapter 6.0 of the Safety Analysis Report, "Chemical Process Safety", to the adequacy of a radiation protection program for a uranium enrichment facility.
7. Identify the specific deficiencies in the Application relative to the technical bases for monitoring and assessing effluent discharge.
8. Identify the specific technical bases for monitoring and assessing effluent discharge that you believe are required to be included in the application, including the applicable reference to the provision(s) in the NRC's regulations, as well as the provision(s) in NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility" (March 2002) and NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" (August 2003), that require the inclusion of such information.
9. Identify the specific deficiencies in the Application relative to estimating occupational and public radiation doses.
10. Identify the specific information that you believe is required to be included in the Application with regard to estimating occupational and public radiation doses, including the applicable reference to the provision(s) in the NRC's regulations, as well as the provision(s) in NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility" (March 2002), NUREG-1748, and "Environmental

Review Guidance for Licensing Actions Associated with NMSS Programs" (August 2003), that require the inclusion of such information.

11. At the time that Contention TC-3/EC-4 was proffered as a contention, or subsequently, has NMED or any of its advisors, representatives, or consultants reviewed any of the following guidance documents?

- Regulatory Guide 1.109, Revision 1 – Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purposes of Evaluating Compliance with 10 CFR Part 50, Appendix 1
- Regulatory Guide 4.15, Revision 1 – Quality Assurance for Radiological Monitoring Programs (Normal Operations) – Effluent Streams and the Environment
- Regulatory Guide 4.16, Revision 1 – Monitoring and Reporting Radioactivity in Releases of Radioactive Materials in Liquid and Gaseous Effluents from Nuclear Fuel Processing and Fabrication Plants and Uranium Hexafluoride Production Plants
- Regulatory Guide 8.2 – Guide or Administrative Practice in Radiation Monitoring
- Regulatory Guide 8.4 – Direct-Reading and Indirect-Reading Pocket Dosimeters
- Regulatory Guide 8.7 – Instructions for Recording and Reporting Occupational Radiation Exposure Data
- Regulatory Guide 8.9 – Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program
- Regulatory Guide 8.10, Rev. 1-R – Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As is Reasonably Achievable
- Regulatory Guide 8.13 – Instruction Concerning Prenatal Radiation Exposure
- Regulatory Guide 8.15 – Acceptable Programs for Respiratory Protection


- Regulatory Guide 8.24 – Health Physics Surveys During Enriched Uranium – 235 Processing and Fuel Fabrication
- Regulatory Guide 8.25 – Air Sampling in the Workplace
- Regulatory Guide 8.29 – Instructions Concerning Risks from Occupational Radiation Exposure
- Regulatory Guide 8.34 – Monitoring Criteria and Methods To Calculate Occupational Radiation Doses
- Regulatory Guide 8.37 -- ALARA Levels for Effluents from Materials facilities
- NUREG-1302 – Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors
- NUREG-1400 – Air Sampling in the Workplace
- NRC 1993b – License Condition for Leak-Testing Sealed Byproduct Materials Sources
- NRC 1993c – License Condition for Leak-Testing Sealed Sources Which Contain Alpha and/or Beta-Gamma Emitters
- NRC 1993d – License Condition for Leak-Testing Sealed Uranium Sources
- NRC 1993e – Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct Source or Special Nuclear Material
- EPA-520/1-88-020, Federal Guidance Report No. 11 – Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion
- EPA-402-R-93-081, Federal Guidance Report No. 12 – External exposure to Radionuclides in Air, Water, and Soil, K. F. Eckerman and J.C. Ryman

- ANSI N13.1-1969 (R1993) – Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities
- ANSI N323-1978 – Radiation Protection Instrumentation Test and Calibration
- ANSI N13.11-1983 – Dosimetry-Personnel Dosimetry Performance-Criteria for Testing
- ANSI N13.15-1985 – Radiation Detectors-Personnel Thermoluminescence Dosimetry Systems-Performance
- ANSI/HPS N13.22-1995 – Bioassay Program for Uranium
- ANSI N13.27-1981 – Performance Requirements for Pocket-Sized Alarm Dosimeters and Alarm Ratemeters
- ANSI/HPS N13.30-1996 – Performance Criteria for Radiobioassay
- ANSI N13.6-1966 – Practice for Occupational Radiation Exposure Records Systems
- ANSI N510-1980 – Testing of Nuclear Air Cleaning Systems
- ANSI Z88.2-1992 – Practices for Respiratory Protection
- ASTM C986-89-1989 – Developing Training Programs in the Nuclear Fuel Cycle
- ASTM E1168-95-1995 – Radiological Protection Training for Nuclear Facility Workers
- CGA Publication G-7.1, 1997 – Commodity Specification for Air
- ERDA 76-21, 1976 – Nuclear Air Cleaning Handbook
- NCRP Report No. 59, 1978 – Operational Radiation Safety Program



12. In the event that LES complies with the guidance documents identified in 5, above (as reflected in the license application), identify what issues, if any, remain with regard to the adequacy of the calculation protocols, formulae, or variables used in establishing LES's radiation protection program.

Respectfully submitted,

  
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Dated at Washington, District of Columbia  
this 9th day of September 2004

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	Docket No. 70-3103-ML
	)	
Louisiana Energy Services, L.P.	)	ASLBP No. 04-826-01-ML
	)	
(National Enrichment Facility)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the "Applicant's Interrogatories to the New Mexico Environment Department" in the captioned proceeding have been served on the following by e-mail service, designated by \*\*, on September 9, 2004 as shown below. Additional service has been made by deposit in the United States mail, first class, this 9th day of September 2004.

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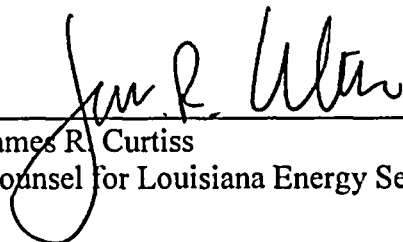
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