

November 24, 2006 (7:50am)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSIONOFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

## BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of	)	
	)	
SYSTEM ENERGY RESOURCES, INC.	)	Docket No. 52-009-ESP
	)	
(Early Site Permit for Grand Gulf ESP Site)	)	ASLBP No. 04-823-03-ESP

**PRE-FILED TESTIMONY OF WILLIAM R. LETTIS AND JEFFREY L. BACHHUBER**  
**ON BEHALF OF APPLICANT CONCERNING HEARING ISSUE C**  
**(SEISMIC IMPACTS)**

**Q1.** Please state your name, current position, and by whom you are employed.

**A1.** My name is William R. Lettis ("WRL"). I am employed as the President and Principal Geologist of William Lettis & Associates, Inc.

**A1.** My name is Jeffrey L. Bachhuber ("JLB"). I am employed as the Vice President, Senior Principal Engineering Geologist of William Lettis & Associates, Inc.

**Q2.** On whose behalf are you testifying in this proceeding?

**A2.** (WRL, JLB) We are providing testimony on behalf of the applicant in this early site permit ("ESP") proceeding, System Energy Resources, Inc. ("SERI" or the "Applicant").

**Q3.** Please describe your professional qualifications.

**A3.** (WRL) I hold a Ph.D. and an M.S degree in Geology from the University of California, Berkeley, and a B.S. degree in Geology and a B.S. degree in Forestry from Humboldt State University. I have over 20 years of experience performing regional and site investigations to assess geologic and seismic hazards for large engineered facilities, including bridges, dams, nuclear and fossil fuel plants, pipelines, and Liquid Natural Gas ("LNG") terminals. A full statement of my professional qualifications is contained in SERI Exhibit 1.

**A3.** (JLB) I hold an M.S. and B.A. degrees in Geology from San Jose State University. I am a Certified Engineering Geologist in California with over 20 years of professional experience performing geologic/geotechnical studies for nuclear and other critical facilities throughout the United States, Peru, Dominican Republic, Puerto Rico, Korea, Indonesia, Japan, and Turkey. I have performed detailed site investigations in a variety of geologic settings, in addition to regional hazard mapping and facility siting and routing studies. These projects involved assessment of earthquake hazard and sources, fault rupture and ground failure analysis, slope stability analysis and mitigation design, karst and void identification and treatment, foundation characterization with borings and geophysical techniques, laboratory testing, failure mode assessment, and development of foundation criteria for detailed static and dynamic stability and site response analyses (including soil-structure interaction) A full statement of my professional qualifications is contained in SERI Exhibit 1.

**Q4.** Please describe your professional responsibilities with regard to the Grand Gulf Nuclear Station ("GGNS") ESP application, including the basis for your familiarity with that application.

**A4.** (WRL) As Project Manager for the seismic and geotechnical work in support of the GGNS ESP, my responsibilities included preparation of Sections of 2.5.1 through 2.5.6 of the Site Safety Analysis Report ("SSAR"), including seismic source characterization and probabilistic seismic hazard analysis used to develop the Safe Shutdown Earthquake ("SSE") design ground motion in compliance with Regulatory Guide 1.165, and geotechnical characterization of the site in partial compliance with Regulatory Guides 1.138 and 1.132.

**A4.** (JLB) I was responsible for developing detailed site geotechnical characterization for the Grand Gulf ESP site. My work regarding the Grand Gulf ESP included

developing Quality Assurance/Quality Control (“QA/QC”) technical procedures and workplans to guide all field and laboratory activities, directing field investigations consisting of geologic mapping, deep mud rotary borings, cone penetrometer test (“CPT”) soundings, borehole compression wave/shear wave (“P-S”) velocity surveys, and spectral analysis of surface waves (“SASW”) surface surveys. I also prepared Sections 2.5.4 to 2.5.6 for the Safety Analysis Report (“SAR”), responded to Nuclear Regulatory Commission (“NRC”) requests for additional information (“RAIs”), and presented the project to the Advisory Committee on Reactor Safeguards (“ACRS”) in a formal meeting.

**Q5.** In an Order (Requesting Specific Summary Exhibits and Supplemental Briefs; Identifying Hearing Issues and Requesting Evidentiary Presentations on Specific Issues) of November 6, 2006, the Atomic Safety and Licensing Board (“Board”) identified a series of hearing issues on which the Board has required testimony and presentations from the NRC Staff. The Staff submitted its pre-filed testimony on November 20, 2006. *See* NRC Staff Pre-Filed Testimony Concerning Hearing Issue C: “Seismic Impacts” (Nov. 20, 2006). Have you reviewed the Staff’s testimony on Hearing Issue C?

**A5.** (WRL, JLB) Yes.

**Q6.** During the October 31, 2006, pre-hearing conference, the Board expressly authorized the Applicant, as appropriate, to submit supplemental pre-filed testimony for the limited purpose of clarifying and/or providing additional factual information that may inform the Board’s mandatory hearing review and decision-making process. *See* Transcript of October 31, 2006, Pre-hearing Conference at 8. Do you wish to provide any such supplemental testimony at this time?

**A6.** (WRL, JLB) No. We are prepared, however, to respond orally to any questions germane to Hearing Issue C that the Board may ask of us during the evidentiary hearing.

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**CERTIFICATE OF SERVICE**

I hereby certify that copies of System Energy Resources Inc. Prefiled Testimony Concerning Hearing Issue [A Through I], with associated exhibits, in the above captioned proceeding have been served as shown below by deposit in the United States Mail, first class, this 22nd day of November, 2006. Additional service has also been made this same day by electronic mail as shown below.

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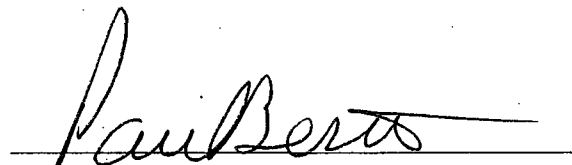
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