Laurel M. Bauer
Statement of Professional Qualifications

CURRENT POSITION

Geologist/Paleoseismologist
Geoscience and Geotechnical Engineering Branch 2
Division of Site and Environmental Reviews
Office of New Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C.

EDUCATION

M.S. Earth Sciences, University of Memphis, 2006
B.S. Geology, University of Memphis, 1999
B.A. Anthropology, University of Memphis, 1998

PROFESSIONAL AFFILIATIONS

Seismological Society of America
Geological Society of America
Earthquake Engineering Research Institute

QUALIFICATIONS

Ms. Bauer is educated and experienced in a broad range of earth science applications. Her academic training combines the study of geologic hazards and cultural resource management. Her professional area of expertise is paleoseismology with an emphasis on earthquake-induced liquefaction and seismic hazard in the central and eastern United States. Ms. Bauer has extensive field experience coordinating and assisting on paleoliquefaction and post-earthquake reconnaissance studies, near-surface geophysical investigations, and geologic and archeological field studies within the U.S. and abroad. Ms. Bauer is skilled in geologic surveying and mapping, applied geophysics, soil sampling, trenching, field documentation, archeological excavation, and remote sensing and aerial photographic interpretation.

Ms. Bauer joined the NRC in January 2007. Prior to joining the NRC, Ms. Bauer worked as a contract geologist for the U.S. Geological Survey (Memphis, TN) where she was responsible for coordinating and assisting on paleoseismology and earthquake hazard studies in the central United States, and post-earthquake reconnaissance investigations in Western India. Ms. Bauer participated in jointly sponsored projects for the Center for Earthquake Research and Information (Memphis, TN), the Mid-America Earthquake Center (Urbana, IL) and the Active Fault Research Center of Japan. Ms. Bauer was also responsible for providing informational and educational assistance to the public regarding earthquake hazards in the Central United States.

NRC Experience

As a geologist for the Nuclear Regulatory Commission, Ms. Bauer is responsible for reviewing Early Site Permit and Combined License applications in the Office of New Reactors (NRO). Ms. Bauer's responsibilities include reviewing Safety Analysis Reports for these applications and

preparing Safety Evaluation Report (SER) sections related to regional and site geology, surface faulting, and paleoseismology. Ms. Bauer is currently assisting in the geology and seismology portion of the safety review for the Vogtle ESP application as well as performing the geology and paleoseismology reviews for the South Texas, Bellefonte, Callaway, Fermi (Technical Lead), and Lee COL applications. Ms. Bauer is responsible for managing technical assistance contracts for geology and seismology reviews related to new reactor licensing. In addition, Ms. Bauer serves on the NRO working group to develop generic and design-specific COL SER templates for use by NRO technical reviewers.

PRESENTATIONS AND ABSTRACTS

Stirewalt, G., **Bauer, L**., "Role of NRC Geologists in Reviewing Applications for Potential New Nuclear Power Reactors in the Southeastern United States," presented by G. Stirewalt, Geological Society of America, Southeastern Section Meeting, April 2008.

"Digging Up the Past to Forecast the Future in the New Madrid seismic zone," presented by **L. Mayrose (Bauer)** to the Arkansas Governor's Earthquake Advisory Council, June 2002

Mayrose, L., Patterson, G., Schweig, E.S., Haraguchi, T., Satake, K., Takada, K., Shimokawa, K., Atwater, B.F., Okumura, K., Tuttle, M.P., Haynes, M., Payne, C., Diehl, S.F., Hoffman, D., "Geoslicer Sampling of Liquefaction in the New Madrid seismic zone, Central United States," presented by **L. Mayrose,** Seismological Society of America, April 2001, published in Seismological Research Letters, v. 73, p.247.

Mayrose, L., Schweig, E.S., Tuttle, M.P., Haynes, M., Haraguchi, K., Satake, K., Takada, K., Shimokawa, K., and Okumura, K., "Recent Paleoliquefaction Studies in the New Madrid Seismic Zone, Central United States," presented by **L. Mayrose**, Seismological Society of America, April 2001, published in Seismological Research Letters, v. 73, p.247.

PUBLICATIONS

Bauer, L. M., 2006 Studies of Historic and Prehistoric Earthquake-induced Liquefaction Features in the Meizoseismal Area of the 1811-1812 New Madrid Earthquakes, Central United States, Masters Thesis, University of Memphis, Memphis, Tennessee.

Schweig, E., Gomberg, J., Petersen, M., Ellis, M., Bodin, P., **Mayrose, L**., and Rastogi, B.K., 2003, The M 7.7 Bhuj Earthquake: Global Lessons for Earthquake hazard in Intraplate Regions: Journal of the Geological Society of India, v. 61, p. 277-282.

Takada, K., Satake, K., Shimokawa, K., Okumura, K., Schweig, E., Atwater, B., **Mayrose, L**., Tuttle, M., and Haraguchi, T., 2002, Geoslices of Sand Blows and Their Potential Source Beds at the New Madrid Seismic Zone, Central United States, Annual report on Active Fault and Paleoearthquake research No. 2: Geological Survey of Japan, National Institute of Advanced Industrial Science and technology, p. 257-267.

ACADEMIC ACCOMPLISHMENTS:

Summer 2000, Mid-America Earthquake Center, Field Mission Fellowship, southern Greece, to perform post-earthquake field assessment, in coordination with the Imperial College of London, Earthquake Engineering Department.