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The ASME, CSRA Section Presents: 10th Annual Joint Society Spring Picnic

Come join the fun! ASME and AIChE are co-sponsoring a joint society picnic to be held at the O'Dell Weeks Virginia Acres Picnic Area in Aiken, SC on Saturday, May 17th. The picnic will be catered by Wife Saver and will include fried chicken, green beans, macaroni and cheese, rolls, desert, and beverages. The picnic has traditionally provided an enjoyable and relaxing environment for its participants and has promoted fellowship amongst the sponsoring societies. The O'Dell Weeks Park has a basketball court, tennis courts, playground equipment, a Carolina bay, and walking track, all nearby to the Virginia Acres Picnic Area. The picnic is open to all interested, including family members and friends.



- Date:** Saturday, May 17th, 2008
- Time:** 5:00 to 7:00 pm
- Place:** O'Dell Weeks Virginia Acres Picnic Area, Aiken, SC
- Food:** Catered by Wife Saver (fried chicken, green beans, macaroni and cheese, etc...)
- Cost:** Free to ASME members and family members

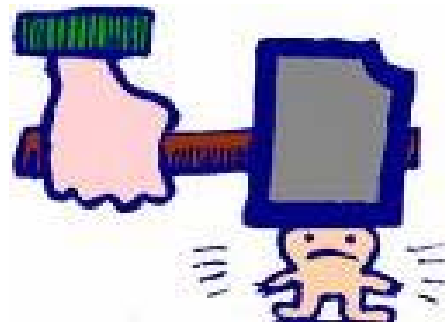
Directions available upon request.

Those interested in participating should contact Kipp Neikirk at (803) 725-5390 or John Blair at (803) 643-2387 by May 12th.

A Saturday Morning Seminar

Topic: *Water Hammer Analysis in Industrial Piping Systems*

- Date:** Saturday, May 24th, 2008
- Time:** 9:00 am – 12:00 pm
- Speaker:** Robert A. Leishear, Ph.D.
Savannah River National Laboratory
- Location:** University of South Carolina-Aiken,
Penland Admin. Bldg., Room 235 (A map of the campus can be found at www.usca.edu.)





The American Society of
Mechanical Engineers

Return Mail to: Central Savannah River Area Section-ASME
425 Cooper Mill Rd
North Augusta, SC 29860

WATER HAMMER CLASS DETAILS

Course Description: At DOE facilities, water hammer events have resulted in fatalities at Hanford and Brookhaven and significant piping damage at the Savannah River Site (SRS). Training has been provided to hundreds of engineers and facility operators at SRS with the goal of preventing water hammer events. This seminar is based on a series of ASME publications that document the development and application of a new theory to analyze dynamic stresses, such as those occurring during water hammer events. Prior to these publications, pipe failures due to water hammer could not be reasonably predicted. This seminar session provides an overview of this theory with respect to piping design and water hammer to enable the attendee to identify basic water hammer mechanisms so as to prevent personnel injuries and facility damage from occurring. The seminar will consist of six topics:

- 1) A review of fluid mechanics, system curves, and pump curves
- 2) Fundamental water hammer equations, basics of water hammer shock waves, and valve characteristics
- 3) Examples of water hammer calculations in closed loop and open loop systems
- 4) Water hammer in steam / condensate systems with a discussion of various water hammer incidents
- 5) Pipe stresses due to water hammer, pipe failure mechanisms, and failure theory
- 6) Comparison of theory to experiment

Instructor Bio: Dr. Leishear completed his engineering education on a part time basis. He earned a mechanical engineering degree from Johns Hopkins University while completing a sheet metal apprenticeship and working as a Journeyman Sheet Metal Worker, welder, and carpenter. After receiving his BSME, Dr. Leishear worked with Westinghouse Defense Radar Systems and with Savannah River Site (SRS). In these positions, he has worked as a design engineer, plant engineer, test engineer, pump engineer, and shift technical process engineer. Parallel to these work assignments, Bob completed his Master's and PhD degrees in Mechanical Engineering at the University of South Carolina in 2001 and 2005, respectively. His accomplishments include more than 30 million dollars in cost savings at SRS, a dozen SRS Vice

Presidents Awards, and nearly 30 peer-reviewed ASME conference and journal publications on various topics including mixing pumps, machinery dynamics, fluid mechanics, structural dynamics, shock waves, vibrations, and mass transfer. Presently, he is working as a Fellow Research Engineer in the SRNL Engineering Development Lab, serves on several ASME committees, and is writing an ASME book titled, "Water Hammer and Piping Design".

Seminar attendees will receive credit for 3 Professional Development Hours (PDH) towards maintaining PE status. Attendees may **register*** for the seminar by forwarding a check in the amount of \$25 for ASME members (\$40 for non-members) to:

Kipp Neikirk (**Please make checks out to the ASME, CSRA Section**)
Chairman, ASME, CSRA Section
425 Cooper Mill Road, North Augusta, SC 29860

Refreshments will be served. For additional information or to sign up for this seminar, contact Kipp Neikirk at (803) 725-5390 or e-mail Kipp at kneikirk@comcast.net.

ASME Announces a New Book Covering the Fundamentals of Mechanical Design

The Elements of Mechanical Design is a new book from ASME Press covering the basic principles, rules, and practices of mechanical design.

The Elements of Mechanical Design is a handy resource that allows the reader to understand the fundamental theories and concepts of the design process. The 104-page book serves as a primer for the young professional or refresher for the experienced designer, covering such fundamental topics as elastic constraints, friction, rotary motion, stiffness, and surface matching.

Written in an easy-to-read format by James G. Skakoon, The Elements of Mechanical Design draws on the author's own experience in engineering design and also features input from other experts in the field. The book contains three parts, including a section in which the author imparts practical advice and tips relating to three-dimensional bracing, self-aligning assembly, and other basic topics.

Skakoon is the co-author of the popular books, The Unwritten Laws of Engineering and The Unwritten Laws of Business.