

ADDITIONAL AUGUST PROGRAM INFORMATION



Phillip Starr is an engineer with Halliburton Energy Services, Duncan, Oklahoma, in the Service Tools, Research and Development department. He has 18 publications at the U.S. Patent Office, with 13 U.S. Patents granted relating to down-hole service tools and the wellhead isolation area. Starr's publications include SPE-112377 "Method to Pump Bridge/Frac Plugs at Reduced Fluid Rate" presented in February 2008. Phillip also has other publications in the down-hole service tools and wellhead isolation area.

Phillip holds a Bachelor of Science in Mechanical Engineering from the University of Oklahoma. He is past-treasurer of the ASME Central Oklahoma Section and holds memberships in the Society of Petroleum Engineers and the National Society of Professional Engineers. He enjoys computers and is an avid fan of Linux desktop and server systems.



The Halliburton Screw-Driven WIT is shown at left. Drive hub to lower hub is 154-in. plus an 86-in. long screw drive. The tool is of fixed length such that the crane need not follow the tool into the wellhead during installation. The tower is detachable, producing a low profile wellhead at treating and servicing time.

The unit weights approximately 3980 lbs depending on dress out. It is equipped with dual valves (manual & remote controlled). The drive screw is connected directly to a load sensor with read-out at the crane control panel. It is rated for Zone-1 service.

The tool inserts into the wellhead under pressure up to 10,000 psi, treats at pressures up to 15,000 psi, and flow at rates around 125-ft/sec.

The assembly consists of approximately 523 parts comprising 5 major sub-assemblies. The tower section is among the largest/thickest laser cut tab and lock patterns in the Halliburton plant. The tools can interchange four different mandrel and hub sets to accommodate a wide range of commonly used casing sizes.

RECENT NEWS BRIEFS OF INTEREST

Oil Companies Refocusing on Continental U.S.

(courtesy NSPE's *Daily Designs* publication July 18, 2008)

The [Wall Street Journal](#) (7/18, B3, Casselman, Gold) reports, "Oil giant BP PLC will pay \$1.75 billion for natural-gas assets in Oklahoma, placing a big bet on North America's booming unconventional gas fields." The BP "deal with Oklahoma City-based Chesapeake Energy Corp. is the latest sign of a major shift in Big Oil's strategy," which "ha[s] ignored the continental U.S. in favor of huge oilfields overseas and offshore." But, because of "declining production, shrinking reserves, and increasing political challenges," these "companies are coming back." During recent years, there were "smaller independent companies including Chesapeake" that "have learned how to produce gas from unconventional reservoirs -- tightly packed sands, coal beds, or dense rocks called shales." For a long time, they were "considered too difficult or too expensive to produce." This phenomenon has "led to a drilling boom in Texas, Colorado, Pennsylvania, and elsewhere, spurred in part by soaring energy prices."

Quality Concerns Force Some Manufacturers to Move Operations Back to U.S.

(courtesy NSPE's *Daily Designs* publication July 18, 2008)

IndustryWeek (8/1, Katz) reports that Claude Hayes, president of Desa's retail heating division, admits that "product quality has improved since his company moved some manufacturing operations back to the United States from China." Even though product quality in China "has certainly improved over the last five or six years," back in the U.S. "there [is] a noticeable quality difference." But, "Desa isn't the only manufacturer noticing that products made in China don't meet internal quality standards." According to a recent AMR Research survey of 113 executives, 24 percent "cited quality as the greatest sourcing risk they face in China, topping raw materials costs as the top concern." Kevin O'Marah, chief strategist for AMR noted, "The quality factor could push more production capacity back to the United States."

EDITOR'S NOTE: Price is important, but so is Quality. Engineers must maintain diligence to ensure quality is improved, or maintained at minimum, while cost reduction efforts garner management attention.

More Cities Planning Streetcar Lines.

(courtesy NSPE's *Daily Designs* publication August 14, 2008)

The New York Times (8/14, A17, Driehaus) reports that "[a]t least 40" cities have plans similar to Cincinnati, Ohio to revive "the humble streetcar line." The cities are "exploring streetcar plans to spur economic development, ease traffic congestion, and draw young professionals and empty-nest baby boomers back from the suburbs, according to the Community Streetcar Coalition, which includes city officials, transit authorities, and engineers who advocate streetcar construction." About a dozen cities have streetcars, "including New Orleans," while "Denver, Houston, Salt Lake City, and Charlotte, N.C., have introduced or are planning to introduce streetcars." The Times adds that most "streetcar advocates point to Portland, Ore., which built the first major modern streetcar system in the United States in 2001, and has since added new lines interlaced with a growing light rail system." The type of system that Cincinnati plans to build will include "[m]odern streetcars" that "cost about \$3 million each, run on overhead electrical wire, and carry up to 130 passengers per car on rails that are flush with the pavement."

EDITOR'S NOTE: Many believe that the time is right for the Oklahoma City metro area to develop a clean, efficient, and fast mass-transit system. Are street cars a good alternative? Would high-speed rails be better? Something else entirely? Bottom line: engineers will play a major role in development of such a transit system.



On April 16, 2008 ASME-COS member Doug Brown attended ASME's Global Summit on the Future of Mechanical Engineering. Present were more than 120 engineering and science leaders from 19 countries representing industry, academia and government in Washington, DC to imagine what mechanical engineering will become between now and 2028. They identified the elements of a shared vision that mechanical engineering will collaborate as a global profession over the next 20 years, seeking to foster engineering solutions for a cleaner, healthier, safer and more sustainable world. The entire report is available at <http://www.asmeconferences.org/asmeglobalsummit/index.cfm>. Below are some excerpts.

Mr. Sam Zamrick, 2007-2008 ASME President, offered the following remarks:

We look forward with great expectation to how the global mechanical engineering community will rally around the challenges and goals identified at the Global Summit on the Future of Mechanical Engineering 2028. Our distinguished speakers and guests from 19 countries became a “think tank” that will help our profession create a roadmap to assist us in fulfilling the vision of our profession over the next 20 years.

Mechanical engineers must provide solutions to the drivers of change we learned about during this summit. We are inspired by a vision that calls us to:

- Develop sustainability through new technologies and techniques, and respond to the global environmental pressures brought about by economic growth;
- Be at the forefront of implementing a system design approach across large and small-scale systems;
- Engage in international collaboration around our critical knowledge and competencies;
- Work in the emerging Bio-Nano technologies to provide solutions in such diverse fields as healthcare, energy, water management, the environment and agriculture management, and
- Create engineering solutions for the other 90 percent that live on less than two dollars a day.

The vision and scope of this summit is broad but not unreachable if we draw upon our collective talents, thoughts, ideas, resources and the collaboration and contributions of our global profession. Mechanical engineers must be able to adapt and change in order to produce globally competitive engineers that will contribute to the growing needs of our profession over the next two decades. We should continue this dialogue and begin to formulate answers and solutions to achieve this vision together. We can meet these grand challenges by building new networks of engineering communities at home and abroad.

I want to thank all the Summit Steering Committee, our speakers, facilitators, participants and ASME staff for their participation and for helping us to better articulate a global vision for the future of mechanical engineering. ASME thanks the Institute for Alternative Futures for summarizing our learning and decisions in this report. I look forward to thanking each of you for the great contributions you will make to our future as you join us in this global vision.

Below is dialog related to “CRITICAL CHOICES ON THE PATH TO THE 2028 VISION”

Achieving this 2028 vision for mechanical engineering will require professional organizations and leaders to make a number of critical choices. As one summit participant commented on an expanding list of critical choices in his discussion group, “these are not really choices, but things mechanical engineering must do.” They should be viewed as part of a critical path the profession must follow to create the engineering solutions expressed in the 2028 vision. Included are:

Increase Public Awareness. Engineering organizations are obliged to provide clearly-stated, objective, scientifically-based, and technologically sound information that clearly defines risk versus reward and benefits versus consequences of new technologies as they affect all people across the globe. It is also incumbent on these organizations to explain the potential of the engineering profession, more than any other established profession, to improve the quality of life for all people.

Update Lifelong Learning. Because of the accelerating rate of change in the development of new scientific discoveries and technological breakthroughs, the current practices of universities and professional societies are not adequate to prepare globally competent engineers and engineering leaders. How can these institutions, as currently structured, prepare students for jobs that don’t yet exist and use technologies that have not yet been invented, in order to solve problems that have yet to be defined? What should be the core knowledge of the discipline to meet future requirements? What learning strategies will be most effective in engaging young people in learning basic technical knowledge and in acquiring higher order thinking skills to innovatively solve problems? What will be the processes for lifelong education to help all mechanical engineers stay current with technological advances and increasingly complex systems? There is an urgent need to address these questions in a collaborative way that strengthens a global engineering workforce.

Take Leadership Seriously. Mechanical engineers must accept a new imperative to take a leadership role in political, social, industrial, professional and cultural arenas to bring the engineer’s perspective to larger social issues. Diverse pathways are needed for engineering leaders that encourage diversity in the profession and attract and retain the best and brightest people. Recruiting this talented engineering workforce is becoming a challenge in most countries.

Advocate for Informed Public Policy Decisions. Many global priorities will compete for public attention over the next 20 years. Mechanical engineering leaders and the organizations with whom they are affiliated must advocate for informed decisions and serious investment related to science, engineering and technology or else

watch while the global capacity to solve the grand challenges is compromised. Mechanical engineering leaders must equip themselves to educate decision makers and influence the critical choices (e.g., risk versus reward, benefits versus consequences) society must make in the areas of innovation and sustainability.

Lead in Multidisciplinary and Systems Engineering Approaches. No one country, sector or profession will be able to address the grand challenges alone. The complexity of advanced technologies and the multiple scales (dimensions of size and time) at which systems now interact require engineers, scientists, social scientists, economists and many other professions to collaborate in developing multidisciplinary solutions. Mechanical engineering must be at the forefront of implementing systems engineering approaches across multi-scale systems.

Develop Partnerships and Collaborations. A global spirit of collaboration and partnership is essential to achieving the 2028 vision. Mechanical engineering will need to embrace partnerships among industry, government and academia to support and expand research and development and recruit and educate the next generation of mechanical engineers. Events like the Global Summit on the Future of Mechanical Engineering and other initiatives to convene key stakeholders within the global community will help create the camaraderie and consensus to rally behind a shared vision.

EDITOR'S NOTE: These are but a few of the Mechanical Engineering profession's challenges in years ahead. Many of these goals have been ongoing within our Section, Oklahoma, and the United States with good success, and continued focus and effort needed. Where and how best may our Central Oklahoma Section contribute to the vitality of our profession? It will for sure be a steady, collaborative effort – will you join in?

'Job Postings' or 'Situations Wanted' Listings in this Newsletter?

As many of you know, engineers throughout Oklahoma are in great demand in a number of industries. I've received inquiries from folks needing qualified engineering talent. Unfortunately I don't have many names or references to call upon. It got me thinking, however, if our *ASME-COS Newsletter* could/should be used to convey job postings or situations wanted.

Should we include 'Job Postings' and/or 'Situations Wanted' postings in this newsletter? These would be limited to simple (≈3 lines maximum) descriptions that convey all relevant job/situation and contact information. No accompanying ads, logos, etc permitted. What do you think? Please send me your opinion at: Ph: (W) 405-619-5013 or (H) 405-285-6643 or e-mail vickeryc1@asme.org.

This subject is of great interest to me. Thanks very much for helping here.

Curtis M. Vickery, Chair



Fundamentals of Engineering (FE) and Principals of Engineering (PE) Exams

Full-Time Students Note: You May Still Register for the October 25 FE Exam!

The Oklahoma State Board of Registration for Professional Engineers and Land Surveyors will administer the PE exam on Friday, October 24 and the FE exam on Saturday, October 25. The PE exam registration deadline has passed but full-time students still have until September 5 to register for the FE exam. See below for Oklahoma's FE/PE registration deadlines for upcoming exam periods (from [FormC-PE-EXAM-08.pdf](#) via http://www.pels.state.ok.us/forms/apps_PE.html).

Note the Dec. 1 deadline to register for April 2009 FE/PE exams. Begin planning now so you'll be ready!

Examinations:Examination Dates

October 24, 2008 PE, PS & OLS
October 25, 2008 FE & FS

April 24, 2009 PE, PS & OLS

April 25, 2009 FE & FS

October 23, 2009 PE, PS & OLS
October 24, 2009 FE & FS

April 16, 2010 PE, PS & OLS

April 17, 2010 FE & FS

Application Cutoff Dates

June 1, 2008 PE & LS
June 1, 2008 FE & FS (non full-time students)
September 5, 2008 FE & FS (full-time students)

Dec 1, 2008 PE & LS (*Dec. Grads who need the additional month of experience to qualify may apply by January 3, 2009*)
January 3, 2009 FE & FS (non full-time students)
February 5, 2009 FE & FS (full-time students)

June 1, 2009 PE & LS
June 1, 2009 FE & FS (non full-time students)
September 5, 2009 FE & FS (full-time students)

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Chair's Corner**Dear ASME-Central Oklahoma Section Members:**

Welcome to our 2008-2009 ASME Central Oklahoma Section program year! Summer is nearly over, school is starting, and it's time to re-focus on the upcoming year. I hope that you've all had a pleasant, enjoyable summer.

Our Executive Committee has been busy throughout the summer finishing up 2007-2008 Section business and planning our 2008-2009 Section programs. Special thanks go to Stan Wells, our Past-Chair, for doing such a great job last year and for preparing our 2007-2008 year-end program summary, to John McCachern, our Treasurer, for finalizing our 2007-2008 finances and preparing our 2008-2009 Section budget, to Albert Janco, our Program Chair, for diligently working on our upcoming program slate, and to our other Executive Committee members who have contributed greatly this past year. A listing of upcoming Central Oklahoma Section programs is provided on page 7. It's not entirely complete but we have really good programs already in the works.

I'd like to describe a recent five day stretch (08/14 – 08/18) of my life at Cameron-AJAX. It concerns engineers stepping up and working alongside production personnel to meet critical job demands.

Our customer required heat tracing and insulation of an AJAX 2804 compressor, our biggest model. In addition this unit had to be completed by August 18 in order to be trucked to the Gulf for placement on a ship. If you miss the boat (late delivery), then significant penalties can pile up before another boat becomes available.

We'd never done heat tracing before and were breaking in a new contractor to do this part of the project. My responsibility was the associated electrical design including multiple AC power circuits and safeguarding DC alarms. Oh yeah, the design and all components were to be for Class 1 Division 1 service (explosion-proof, etc).

It was approaching time for our contractor to arrive and our (few in number) conduit fabricators/electrical wiring technicians were scattered among various units in the shop. So I decide to get busy getting conduit made and assembled. As a veteran engineer you think you have a pretty good idea what will work and what won't. Problem is that you don't always think of the "little stuff" that can get in the way. So your design changes on the fly, you scramble to find and secure parts, get cussed out by everyone, and say a quick prayer for continued strength and determination.

We did OK and had the unit ready to paint August 14; our contractor would begin the following morning. Nobody told Mother Nature, however. Cameron's power went out that evening until AM Friday, August 15, so we lost an entire day. Management then asked the contractor to squeeze the 3-day job into Saturday and Sunday. So I spent 12-hours Saturday and 14-hours Sunday cutting/threading/assembling conduit, cutting/pulling wires, making all electrical connections, etc while the heat trace & insulation contractor did their work.

Bottom line is we had the AJAX 2804 unit ready to go early afternoon on August 18, our deadline. My contractor commented that he's never seen an engineer out doing work like I was doing. I told him it didn't used to be that way. The moral of the story is that engineers should not hesitate to jump in doing manual labor, cutting/drilling/threading parts, assembling, etc when special job challenges/circumstances arise. Don't be afraid to ask questions of shop personnel/technicians about how they do their job and what could be done different/better. Benefits are: (a) you'll learn how to do various manufacturing/production jobs, (b) you'll learn about various design versus fabrication trade-offs that can affect job execution and quality, and (c) your level of respect and stature will increase in the eyes of your shop personnel/technicians.

Again, thank you all for continued membership in ASME. It's a great time to be an engineer in Oklahoma with our dynamic multi-faceted economy and range of challenges. Participation in ASME Central Oklahoma Section activities is "icing on the cake", helping us reaffirm our professional identities and commitments while adding to our personal development. I certainly hope you will join us this year in our continuing quest.

Curtis M. Vickery, Chair

Future ASME-Central Oklahoma Section Events

Date	Location	Program Topic and Speaker
Thursday Aug. 28, 2008	Oklahoma Engr. Center 201 NE 27 th St., OKC	August Section Meeting: Speaker: Phillip Starr, Engr., Halliburton Energy Services Program: <i>Innovative New Screw-Driven Wellhead Isolation Tool</i>
Thursday Sept. 25, 2008	U.S. Postal Center West Reno Ave., OKC	September Section Meeting: TOUR of the new U.S. Postal Distribution Facility, OKC (CONFIRMED)
Thursday Oct. 23, 2008	Oklahoma Engr. Center 201 NE 27 th St., OKC	October Section Meeting: Special Program featuring ASME President Thomas Barlow (TENTATIVE)
Thursday Nov. 23, 2008	Oklahoma State Univ. Stillwater, OK	November-December Section Meeting: Joint meeting with OSU-MAE and OSU-MET Student Sections (TENTATIVE) Topic/Speaker: TBD
Thursday Jan. 22, 2009	Oklahoma Engr. Center 201 NE 27 th St., OKC	January Section Meeting: Joint meeting with the Oklahoma AIAA Section. Speaker: Tom Betzen, Engr., Michelin North America Program: Michelin's new "Tweel" airless tire. (CONFIRMED)
Thursday Feb. 15 - 21, 2009	MULTIPLE LOCATIONS	National Engineers Week: Activities include Engineering Fair & Joint Engineering Societies Banquet (JESB). Our February Section meeting will coincide with the JESB.
March 26, 2009	Location TBD	March Section Meeting: Ethics Topic. Speaker TBD
April 23, 2009	Okla. Engr. Center	April Honors & Awards Meeting: Speaker TBD
May 28, 2009	Location TBD	May Section Meeting: Plant Tour TBD