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2007-2008**

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The American Society  **of Mechanical Engineers**
SETTING THE STANDARD
1880 ————— 2005

Canton Alliance Massillon Section News 

Editor: Kevin T. Reynolds

December 2007

PLEASE KEEP YOUR E-MAIL ADDRESS CURRENT

Newsletters are sent by e-mail in PDF format to all members with an e-mail address on file. Paper copies are no longer sent by US mail. For those members without an e-mail address on file, you can access the Newsletter On-Line on our CAM Website as noted above. Please take a moment to verify your e-mail address and keep it current at the "Members Only" tab at <http://www.asme.org>. You will need your member ID for access.

2007-2008 CAM Executive Committee

UPCOMING DINNER MEETING

January 24, 2008, Topic

The CAM Section will have a Dinner Program on **January 24, 2008**, in North Canton, OH. SEE DETAILS NEXT PAGE.

PROGRAM TOPIC:

“Generation III Nuclear Plant Update”

By Michael T. Childerson, B&W Nuclear Operations Group, Inc.
(details page 2)

PLEASE JOIN US; YOUR PARTICIPATION IS GREATLY APPRECIATED!
See our Webpage for Future Upcoming Dinner Programs.

CAM Section Board Meeting

Thursday, January 10, 2008
6:00 pm, NC Consulting, Inc.
Alliance, OH

Chairman's Corner:

I hope everyone has had a great Holiday Season and looking forward to the New Year. The board would like to invite you to several dinner meetings planned for the coming year. See our website for coming topics.

Your attendance is greatly appreciated and we look forward to seeing you at the dinner meetings. Reminder, all members are invited to attend board meetings.

Thank you for your support over the years,

Kevin T. Reynolds, 2007-2008 Chairman.

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“Generation III Nuclear Plant Update”

Presented by Michael T. Childerson
B&W Nuclear Operations Group, Inc., Barberton, Ohio

Speaker Biographical Information

Michael T. Childerson, Manager, Performance Engineering, B&W Nuclear Operations Group, Barberton, Ohio.

Michael T. Childerson is Manager of B&W NOG’s Performance Engineering Unit which is responsible for the thermal-hydraulic design of nuclear reactor plant components. The Unit designs multi-phase heat exchangers and develops compact steam/water separation equipment, through the use of traditional and advanced analytical techniques and small and large-scale steam testing at B&W facilities.



B&W Nuclear Operations Group in Barberton has a 100-year plus legacy that began with Babcock & Wilcox, a fabricator of boilers, commercial nuclear power plants, and other power generation related equipment. Group capabilities include full integration of the design and fabrication of some of the world’s largest ASME Code thick-walled pressure vessels.

Much of Mr. Childerson’s 25-year career was spent at the Babcock & Wilcox Research and Development Division (later McDermott Technology, Inc.) in Alliance, Ohio. He was involved with nuclear thermal-hydraulic research and development programs associated with the power generation industry. These programs included small break loss-of-coolant accident testing of scaled models of the Babcock & Wilcox nuclear steam supply system, and development of the Department of Energy’s heavy water, new production reactor. He has authored nine technical papers.

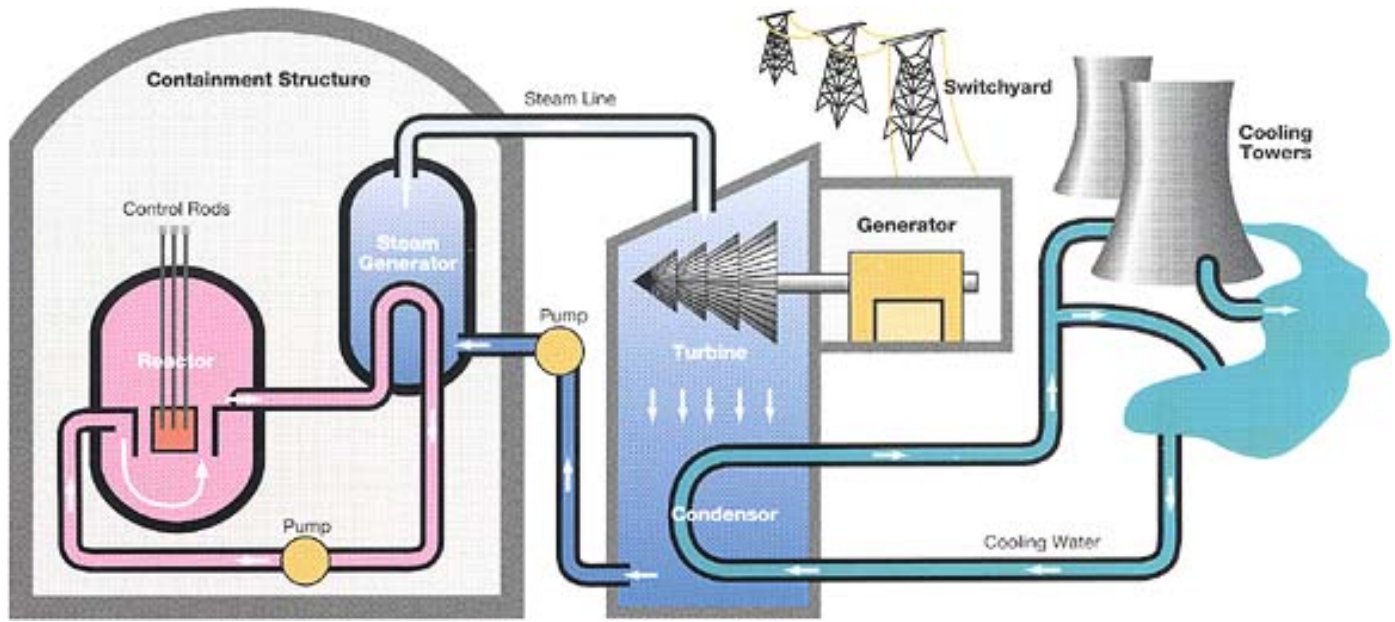
He earned a Master’s Degree in Nuclear Engineering at the University of Illinois in 1981, and is a member of the American Nuclear Society and the American Society of Mechanical Engineers. He is a Registered Professional Engineer with the State of Ohio.

Presentation Abstract

The United States is entering a new era in nuclear power generation and advanced research. The increased desire for emissions-free sources of energy, economic shifts in the energy sector, and the 2005 Energy Policy Act are coming together to underscore the need for nuclear power as part of a balanced U.S. energy portfolio. Many believe the time is right to build new nuclear power plants in America. New partnerships, such as UniStar Nuclear, NuStart Development LLC and other ventures, are preparing to build the first new U.S. nuclear plants in nearly three decades. Several Utilities have recently applied to the U.S. Nuclear Regulatory Commission for construction and operating licenses for new plants, to be on-line as early as 2014.

The next generation of nuclear power plants, referred to as Generation III nuclear plants, will benefit from the world-wide nuclear industry’s advancements in technologies and operations from past decades. So called “passively” safe designs, which reduce the reliance on human intervention, have improved confidence in the ability to operate the nuclear plants safely.

Many believe the new generation of power plants can be built faster and cheaper. Standardized designs will lead to greater efficiencies in all aspects of nuclear plant operations. Technological advances offer designs that are simpler and more compact, which leads to reduced construction time and costs. Improvements in the regulatory processes reduce uncertainties in licensing and construction, which lowers the costs of capital needed to finance new plants.



This talk will provide an update on the state of the US nuclear industry, which many consider to be in a “renaissance”. The talk builds on the March, 2006 presentation to the Canton-Alliance-Massillon Section. It will include a brief overview of nuclear power in the U.S., including a description of the leading types of reactors for the next nuclear plant. The leading boiling water reactor and pressurized water reactor designs for the new U.S. construction will be overviewed. The recent developments in the U.S. will be discussed, including the developing partnerships and plans for new plant construction.

C.A.M. SECTION WEBSITE: <http://sections.asme.org/cam>

Meeting Location: Holiday Inn, North Canton, OH, Dressler Rd. near Belden Village.

Schedule: *January 24, 2008*, Social period starts at 5:30 pm, Dinner at 6:30 pm and Presentation at 7:30 pm.

Dinner reservations: Please make reservations by contacting Kevin Reynolds (see info. below) at reynoldsk1@asme.org or fill out the form below and send or fax to Kevin Reynolds. Please make reservations by 5:00 pm. on January 18, 2008.

Dinner selection: Choice of Chicken Marsala or Orange Roughy; main meal comes with vegetable medley, house salad, oven roasted redskin potatoes.

Dinner prices: Members; Nonmembers and Guests: \$15.00 (Cash Bar); Students \$10.00.

Please provide your name, company affiliation and dinner selection when making reservation.

RESERVATIONS -- complete the following information and submit as indicated below.

Member Name: _____

Society/Section: _____

Company (if applicable): _____

Contact information (phone, fax, email) for rapid notification of plans update.

Guests Names (spouse, friend, coworker), if applicable:

1 _____ Dinner Selection: _____

2 _____ Dinner Selection: _____

3 _____ Dinner Selection: _____

You can pay by check or cash at the meeting.
Return RSVP by email, mail or fax before January 18, 2008 to:

Kevin T. Reynolds
JAN 2008 CAM Dinner Program
1207 W. State St., Suite B
Alliance, OH 44601

FAX: 330-829-9934, email reynoldsk1@asme.org, please put "RE:JAN 2008 CAM Dinner Program" in the subject title for e-mails.

Contact/Phone: Kevin Reynolds/330.829.9933 x103 (for questions or additional information).

ASME MEMBERS SUBMIT QUESTIONS TO THE CNN-YOUTUBE PRESIDENTIAL DEBATE

At an ASME Government Relations sponsored booth at the Early Career Fair during the International Mechanical Engineering Congress and Exposition (IMECE) in Seattle, Washington, staff assisted ASME members with formulating questions for the CNN-YouTube Republican Presidential debate, which was held on Nov. 28.

ASME Past President Harry Armen and current ASME Board of Governor Marc Goldsmith were among several members who recorded videos during the Early Career Fair. Questions ranged from lawmakers' thoughts on increasing fuel efficiency standards, to maintaining American competitiveness and furthering innovation. This idea initially came to fruition after 2007 ASME WISE intern Chris Deal submitted a question regarding climate change for the debate this summer. The questions submitted will help foster a sustained dialogue on issues that are pertinent not only to our nation but to mechanical engineers and other engineering disciplines during the race to elect the next President of the United States.

To view these videos, please visit the ASME Government Relations web site at:
<http://www.asme.org/NewsPublicPolicy/GovRelations/>

The ASME Volunteer Opportunities Bulletin Board

(VOBB) is a tool designed to help volunteer leaders promote local Section and Society-wide volunteer positions. It is also used to help link volunteers with opportunities for involvement in all areas of the society. Opportunities for involvement include standards development, pre-college outreach and educational activities, government relations, and the development of new products, programs and more.

Volunteer leaders are encouraged to use the VOBB as a recruitment tool. If your ASME group is looking for a few good volunteers to share their passion and make meaningful contributions, contact Deidra Hackley at hackleyd@asme.org or visit http://volunteer.asme.org/vobb/Post_Volunteer_Opportunity.cfm. For more information on posting or applying for a position on the VOBB visit <http://volunteer.asme.org/> or e-mail bookert@asme.org.

Thomas M. Barlow Becomes ASME's President-Elect



During proceeding of the 2007 Congress in Seattle, Thomas M. Barlow was announced as president-elect of ASME. Mr. Barlow will become the 127th president of ASME when he begins his one-year term in June 2008.

A longtime member of ASME, Mr. Barlow has participated on numerous technical, regional and Society-wide committees and boards and has demonstrated a strong record of support and leadership in student outreach, membership development, technology and engineering diversity. He is a Fellow of ASME and former member of the ASME Board of Governors, serving from 2003 to 2006. Mr. Barlow enjoyed a 40-year career at Lawrence Livermore National Laboratory, serving in a number of management and leadership positions before retiring in 2000. His professional interests include instrumentation, energy storage systems and machine tool technology, as well as project and program management. Mr. Barlow has been a member of the Society of Manufacturing Engineers, American Society for Engineering Management, and has served on the Engineering and Computer Science Research Advisory Council at the California State University at Fresno. He is currently a member of the External Advisory Board of the Mechanical and Materials Engineering Department at Washington State University, a member of the Tau Beta Pi, Sigma Tau and Phi Eta Sigma honor societies, and is the recipient of the ASME Dedicated Service Award and the Society's Membership Development Award. Mr. Barlow attended Washington State University and received a B.S. degree in mechanical engineering. He received his M.B.A. degree from Golden Gate University.

ASME ACCEPTING APPLICATIONS FOR 2008-09 FEDERAL GOVERNMENT FELLOWSHIPS

ASME is currently accepting applications for the following Federal Government Fellowship positions:

Congressional Fellowships

ASME is accepting applications from qualified candidates interested in serving as a 2008-09 Congressional Fellow. The Federal Fellows program enables selected ASME members to spend one year in Washington, D.C. working with the staff of a congressional committee, U.S. senator or U.S. Representative. Federal Government Fellowships provide a valuable public service to the nation while providing engineers with a unique opportunity to participate directly in the policy making process. Congressional Fellows may serve from September 2008 through August 2009 - or January 2009 through December 2009 - at their option. The deadline to submit an application for the Congressional Fellowship is April 1, 2008.

Department of Commerce Fellowship

ASME is also accepting applications from qualified candidates interested in serving a year at the U.S. Department of Commerce in the Manufacturing and Services (MAS) Office of Standards Liaison (OSL). The Fellow will work with U.S. stakeholders involved in the standardization process, including individual companies, industry associations, standards developing organizations, and the American National Standards Institute on trade-related standards issues affecting U.S. competitiveness, innovation and growth. OSL works on issues involving all sectors and in all overseas markets, although there is a greater focus on emerging and technology-related sectors and critical markets such as Europe and China. Applicants for this position must have strong technical, interpersonal, organizational, and oral and written communication skills, as well as substantive knowledge or experience in an industry sector and the standardization process. The start date for the DOC fellowship is flexible.

A stipend of \$55,000 will be awarded to each Fellow for the year. All Fellowship applicants must be a U.S. citizen and an ASME member at the time of application. The following credentials are encouraged: At least five years of professional experience, an advanced engineering degree, professional engineer registration, and some public policy experience. An online application is available at <https://secure.asme.org/fedgovfellows/appform.cfm>

For additional information about the Federal Fellows program, visit [http://www.asme.org/NewsPublicPolicy/GovRelations/Programs/Federal Government.cfm](http://www.asme.org/NewsPublicPolicy/GovRelations/Programs/Federal_Government.cfm) or contact Kathryn

Leadership Training Conference 2008: Call for Early Career Delegates

Early Career Engineers interested in volunteering for the engineering profession will be selected as a Delegate to attend the 2008 Leadership Training Conference in Atlanta Ga., March 6-8, 2008. Visit www.asme.org/Communities/EarlyCareer/Leadership_Training.cfm for complete details.

The Engineering Income & Salary Survey

For the first time, ASME will be offering a comprehensive online salary survey, updated daily, as a new feature of our career center. The survey will cover all compensation, including bonuses and benefits. It is administered by enetrix, in Madison, Wis. and is produced in partnership with ASME, the American Society of Civil Engineers (ASCE), and the National Society of Professional Engineers (NSPE).

In order to get more data to launch this new benefit for mechanical engineers, we are asking you to participate by taking the survey. As a thank you for participating, you can download a brief complimentary salary report from the survey right away. And you may check back for free updates on that report as we get more data from other members. Members will also receive special discounts on more detailed live custom reports when those are available. Custom reports are searchable by length of experience, level of education and professional responsibility, major branch of engineering, industry, zip and more. For more information and to take the survey, please go to https://asme.enetrix.com/pls/flexp/survey_frontend.homepage.

SUMMER OPPORTUNITIES IN WASHINGTON, D.C. FOR FACULTY, STUDENTS



An outstanding individual capable of teaching and mentoring engineering students on the interaction between engineering, technology, and public policy is sought to serve as the Faculty Member-in-Residence (FMR) for the 2008 Washington Internships for Students of Engineering (WISE) Program.

And where would the FMR be without students? The WISE program offers a unique opportunity to 3rd and 4th year engineering students to spend nine weeks during the summer of 2008 in Washington, D.C. Recent graduates, who are beginning their studies in an engineering policy-related Master's program, will also be considered. During their time in Washington, WISE interns will learn how government officials make decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions.

The deadline for 2008 ASME WISE intern applications is **Dec. 31, 2007**, while the FMR applications will be accepted until **March 1, 2008**. The ASME WISE intern will receive a stipend and housing for the summer, while the FMR receives an ample stipend.

For more information on either of these opportunities, please visit the WISE Program web site at: <http://www.wise-intern.org/application/index.html>, or you may contact Melissa Carl, ASME Government

Early Career Grant Funding Available

Submit an application **today** to receive additional funding for your district held Early Career Technical Conference and/or Early Career Forum for your units or sectors. Complete details for both grants can be found at <http://www.asme.org/Communities/EarlyCareer/>. The deadline for applications is **April 15, 2008**. Contact: Cheryl Hasan hasanc@asme.org for more information.

Accepting Nominations for the 2008 Old Guard Early Career Engineer Award

Recognize an outstanding early career engineer who is actively involved in the engineering profession, their communities, and the work of ASME. Submit Nominations Today! Visit <http://files.asme.org/asmeorg/Communities/EarlyCareer/8026.pdf> for more details. **Apply by the Feb. 1, 2008 deadline.**

Early Career Engineer Essay Competition

The Old Guard Committee of ASME invites you to participate in an Early Career Engineer Essay Competition. For more information, visit: http://www.asme.org/Communities/EarlyCareer/Old_Guard_Early_Career.cfm

ASME IGTI to hold 2007 Gas Turbine Users Symposium in New Orleans

The International Gas Turbine Institute of ASME will conduct the 2007 GTUS, Dec. 11-13, at the Ernest N. Morial Convention Center in New Orleans. The symposium provides a forum for end-users to exchange ideas and share best practices regarding the operation and maintenance of industrial gas turbines and aero-engines. GTUS will co-locate with the 2007 Power-Gen International conference at the Ernest N. Morial Convention Center. GTUS registrants will receive access to all sessions in the 3-day symposium, as well as admission to Power-Gen and a complimentary copy of the conference proceedings on compact disk. GTUS will deliver practical information and provide an opportunity for engineers and other technical professionals to learn about solutions to problems shared in the global gas turbine industry. For more information or to register visit the web site at <http://www.asmeconferences.org/gtus07/>



Made a Difference in Engineering Education?

Do you know an individual or entity (e.g. company, organization, institution, etc.) that has contributed to engineering education in a significant way? If so, consider nominating them for one of the following society awards:

The **Frank von Flue Award**, established in 2002, recognizes significant contributions by an individual or a group to the promotion of lifelong learning for mechanical engineers. Lifelong learning is defined as the continued process of education and/or professional development, following a post-secondary education degree, to maintain the competence and flexibility of mechanical engineers throughout their career. Contributions may include assessment, development, distribution or promotion of materials for lifelong learning via appropriate mechanisms, such as professional development or university extension courses and programmed or self-paced learning.

The **Ben C. Sparks Medal**, established in 1990, is presented annually to a mechanical engineer for recognition of eminent service to mechanical engineering technology education through contributions toward ASME; towards higher education professional service; and towards the teaching and/or research faculty roles in mechanical engineering and mechanical engineering technology. Candidates must have a record of outstanding performance in all of three areas: a broad range of contributions to ASME; dedicated efforts and a record of achievements in the advancement of engineering education and engineering technology education; and contributions, over an extended period of time, to the positive support, recognition, or interaction of mechanical engineering technology and mechanical engineering programs, their faculties, or students.

The deadline for submitting nominations is Jan. 1, 2008. For more information and a nomination package, please visit: <http://www.asme.org/Governance/Honors/SocietyAwards/>

Joint Akron ASME / Akron ASM Meeting: Materials Challenges for the Advanced Ultra-Supercritical Boiler

Date: Wednesday, January 16, 2008

Time: 5:30 PM Social hour, 6:30 PM Dinner, 7:30 PM Program

Where: New Era Restaurant, 10 Massillon Road, Akron, OH 44312

Menu: It will be a buffet, including Chicken Paprikash with dumplings, Swiss Steak, Tossed Salad, Vegetable, and Dessert. Coffee, tea, and soda are included. Vegetarian selection: Meatless Lasagna (MUST BE SPECIFIED AT TIME RESERVATION IS MADE). Cash bar.

Cost: \$20 adults, \$15 students and retirees, payable at the door.

Reservations: Deadline: Wednesday, January 9, 2008. Reservations can be made at either akronasme@mail.com or 330/864-7555, stating names of all attendees, "VEGETARIAN" IF NEEDED, and contact info to let us get back to you to confirm.

Speaker: Mr. James Tanzosh, Manager of Materials and Manufacturing Technology for the Babcock & Wilcox Power Generation Group, Inc., headquartered in Barberton, Ohio.

Abstract:

Coal remains the low-cost fuel for the generation of electricity in the US, and is a plentiful natural resource that presently supplies well over 50% of the nation's electricity needs and that reduces dependency on foreign oil and natural gas supply. The need to address global climate change, especially the mitigation of CO₂, warrants the development of advanced coal-fired boiler designs that will decrease the amount of greenhouse gases, and ultimately allow for the capture and geologic sequestration of the CO₂. Nuclear, wind, solar, and conservation, as well as other options, exist for supply of a portion of the nation's power needs, but coal must realistically remain as a primary source of our power.

A new generation of coal-fired boilers is needed that will reduce greenhouse gas emissions and ultimately develop into a source of energy that releases no gases into the environment. This will entail design and construction of boilers that must safely operate at steam temperatures and pressures as high as 1400 F and 5000 psi, which is several hundred degrees and about 20% higher pressure than existing designs. These plants will operate at higher thermal efficiency, which means they will release significantly less CO₂ per pound of coal burned. Ultimately, the capture and sequestration of the gases of combustion can lead to an emissions-free energy source.

The biggest challenge facing the boiler designers is selection of materials that can withstand the severe oxidation, corrosion, and elevated temperature stresses that will occur. Extensive research has been and is being conducted, and has resulted in a number of high strength alloys for piping and tubing needed in boiler construction. These alloys, examples of which are Haynes 230, Inconel 617, and a new alloy Inconel 740, are new to the boiler industry, and in all cases had never been manufactured, fabricated, or welded in the thicknesses required of boiler components. B&W has been involved in a five-year materials research program funded by the Department of Energy (DOE) and the State of Ohio, as well as separately-funded research. Work has included extensive material property testing, oxidation and fireside corrosion tests, both in the laboratory and in operating boilers, weldability and general fabricability development, as well as coating development and testing.

This presentation will address the materials being considered and the research being conducted in the US and worldwide, and particularly at Babcock & Wilcox, related to these advanced power plants.