

Operations and Power Division

SPRING 2012



From Your Chair Sandra Sloan

(smsloan@babcock.com)



Dear Colleagues and Friends,

Graduation season is upon us! You likely have a family member who is graduating, know someone who is graduating or who has children graduating, or perhaps you are completing an educational milestone yourself. I encourage you to take time to pause and reflect on the effort and commitment to reach this point, and to recognize and enjoy the feeling of satisfaction in our own accomplishments and those of others. I also suggest that it is equally important to remind ourselves, and those we live with and work with, that life is a continuous journey of learning and achievement.

As nuclear professionals, this is the perfect time to reinforce the learning culture, which is a hallmark and cornerstone of our industry. You need only look back at the past year for examples. At the forefront of our thoughts is the incident at the Fukushima Daiichi plant. Since that time, the U.S. nuclear industry, the U.S. Nuclear Regulatory Commission, national laboratories, and universities have acted quickly to collect, analyze, and evaluate information for lessons learned. Further, these lessons have been translated into actionable items—via NRC Orders and guidance, as well as industry guidelines. The implementation of lessons learned from Fukushima is still a work-in-progress, but the level of focus and commitment demonstrated to identify and address those lessons promptly is something of which we can all be proud.

We can also celebrate some industry “graduation” milestones as the combined licenses (COL) issued earlier this year for new plants at the Vogtle site in Georgia and the V. C. Summer site in South Carolina, each represent a graduation of sorts for the U.S. nuclear industry - into a new generation of nuclear plants. I can’t help but see the parallel between the COL and a diploma, and the “commencement” of construction as a parallel to the journey that a graduate embarks upon when leaving school. Issuance of the COL signals the transition (graduation, if you will) from the design and licensing phase into the construction and operations phase, to realize the full potential of technology which has been so carefully developed and reviewed.

In closing, but in keeping with the theme of continuous learning, I encourage you to take advantage of the

You are invited to attend...

2012 ANS Annual Meeting

"Nuclear Science and Technology: Managing the Global Impact of Economic and Natural Events"

Embedded Topical Meetings:

- *Decommissioning, Decontamination and Reutilization*
- *Nuclear Fuels & Structural Materials for the Next Generation Nuclear Reactors*
- *International Congress on Advances in Nuclear Power Plants*

Professional Development Workshop:

- *Preparing for the Nuclear Engineering Professional Engineering Exam*

June 24-28, 2012

Chicago, IL

Hyatt Regency Chicago

OPD Scheduled Meetings

OPD Nuclear Construction Working Group
Sunday, June 24, 2012

OPD Program Committee
Sunday, June 24, 2012

OPD Executive Committee
Sunday, June 24, 2012

These meetings are open to all OPD members, and everyone is encouraged to attend or participate via teleconference.

See Our Website at . . .

opd.ans.org

Don't forget the 2012 ANS Winter Meeting and Nuclear Technology Expo:

"Future Nuclear Technologies: Resilience and Flexibility"

November 11-15, 2012

San Diego, CA

Town and Country Hotel & Resort

opportunity for continued professional growth by participating in the 2012 Utility Working Conference, August 5-8, at the Westin Diplomat Resort and Spa in Hollywood, Florida. The Technical Program Chair, L.E. (T-Bow) Thibault, and his program team have worked tirelessly over the past year to put together an outstanding program on a wide range of timely topics, from cyber security and digital I&C to performance improvement, new reactors, maintenance, equipment innovation and supply, operations, among others. For more information and to register, visit the web site at http://www.new.ans.org/meetings/m_141.

Executive Committee Welcomes New Members

At the end of the June Meeting, we welcome new executive committee members Benjamin Holtzman, Caroline McAndrews, Thomas Newton and Michel Debes as member of the Operations and Power Division Executive Committee. Congratulations to all.

Don Eggett (outgoing chair) and Jeremiah Gill will be leaving the committee as their terms have expired. Thanks to both for their service.

2012 Utility Working Conference

NUCLEAR!

STILL THE ONE!

THE RIGHT BUSINESS

THE RIGHT RESULTS

THE RIGHT WAY FORWARD

2012 Utility Working Conference

August 5-8, 2012

Westin Diplomat, Hollywood, FL

Program Chair – L.E. (T-Bow) Thibault

Sixty-Five

Sixty-five is one of our goals for the 2012 Utility Working Conference, which is sponsored by the Operations & Power Division and the Tennessee Valley Authority's Nuclear Power Group. That is, we want a representative from each U.S. nuclear site at the UWC. We have had great support from industry at past conferences with over 175 utility personnel attending the 2011 UWC. And yet, not every site was represented - and they lose out from an excellent benchmarking opportunity.

I challenged our track leaders and organizers to deliver information and good ideas at the 2012 UWC that cannot be obtained from other conferences or the information will be delivered for the first time at the UWC. Go to the ANS website and look at the preliminary program, and you will see that the track leaders and organizers have made good on my challenge. They have lined up an impressive slate of speakers, facilitators, and panelists from across the industry. For example, the Equipment Innovation and Supply track is completely new, and many of the presentations are first-time presentations. Similarly, the Performance Improvement track covers all aspects of Finding, Understanding, and Fixing performance problems, and the Regulatory Relations track fully explores implementation of the post-Fukushima regulations. I believe the attendees at this year's UWC will have a difficult time figuring out which sessions to attend - they are that good.

All of the sessions are complemented by an outstanding Vendor Technology Exposition. The Expo gives you the opportunity to talk directly to vendors and suppliers about how they can help us get the right results. Together, we are in the right business, and together, we are the right way forward.

See you there.

L. E. (T-Bow) Thibault
2012 Utility Working Conference Technical Program
Chair
TVA

Congratulations to the Award Recipients from the Winter Meeting

At the Operations and Power Division Luncheon on Tuesday of the Annual Meeting, Gregg W. Clarkson and Steven L. Stamm will receive awards for their contribution to making the 2011 Winter Meeting a success. Clarkson will receive the OPD Best Paper/Presentation award for his paper and talk entitled *RPS/ESFAS Solutions* which was presented in the Licensing and Digital Upgrade session. Stamm will receive the OPD Best Session award for organizing the session *Fukushima – Evaluation and Impacts*. The award recipients were selected based on attendee voting.

Embedded Topical: Advances in Nuclear Power Plants ANS Annual Meeting 2012 June 25-28, 2011

The 2012 Annual meeting in June features The International Congress on Advanced Nuclear Power Plants (ICAPP) which includes an exhibit hall featuring the latest offerings in nuclear technologies open to all meeting attendees. Dr. Todd Allen, Associate Professor, University of Wisconsin-Madison and Dr. Lance Snead of Oak Ridge National Laboratory are serving as the General Chairs for the topical. The meeting brings together industry leaders from reactor vendors, nuclear utilities and research organizations.

The three general sessions include: “*Economic Realities of New Nuclear Plants*,” “*Progress of New Reactors Design, Licensing and Deployment*,” “*Global Perspectives – Why Nuclear Makes Sense?*” and “*Evidence of DNA Repair Mechanisms and New Take on Impacts of Low Dose Radiation.*”

The Topical includes ten tracks from which the attendee can choose including: *Water Cooled Reactor Programs and Issues*; *Advanced Reactors*; *Operation, Performance & Reliability Management*; *Plant Safety Assessment and Regulatory Issues*; and *Reactor Physics and Analysis*. The track organizers have put together over 75 individual sessions with hundreds industry and research professionals. This event promises to be insightful to a wide range of topics for all of us in the nuclear power industry.

More information can be found at http://www.new.ans.org/meetings/c_1.

Program Committee

Program Chair – Sasan Etemadi
(Sasan.Etemadi@sce.com)



The OPD Program Committee is responsible for coordinating the technical sessions that OPD sponsors at the various ANS meetings. They started their work on the 2012 ANS Summer meeting one year ago and have put together full agendas of sessions for both the Annual Meeting in Chicago and the Winter Meeting in San Diego.

One opportunity for OPD members to participate in ANS is by coming up with an idea for a session and organizing it. As a session organizer, you are

responsible for making sure the session happens by convincing others to submit papers or serve as panel members.

Another opportunity to participate is by serving as a speaker for a panel session. Speakers generally are either individual who are deeply knowledgeable about the session topic, or are strongly impacted by the topic. In a typical presentation, each speaker gets around 25 minutes to give their presentation (usually using a presentation program like Power Point) and answer questions from the audience.

If you are more interested in developing a paper, the requirement for a national meeting is only a 450-900 word summary of the topic. Each paper author gets around 25 minutes to present their paper, with most authors similarly using a program like Power Point to display the pertinent points from their paper.

As you can see from the preceding two paragraphs, the only real difference between a panel speaker and paper author is that the author took the time to summarize their Power Point presentation into a brief paper. By taking the time to do this, the author gets to have their words and ideas immortalized in the ANS Transaction book/CD-ROM that is prepared for the meeting and given to each attendee. A speaker's words and presentation are captured only in the memories of those people in the room at the time.

Quality technical programs of interest to our members are of utmost importance. With planning starting a year in advance of each national meeting, timing is paramount in the selection of a topic. These topics must reflect current interests in the nuclear industry and provide a balance between research, planning, and day-to-day operations. The perfect topic must balance fresh ideas with meaningful experience.

Annual Meeting, June 24-28, 2012, Chicago, IL

The following OPD sessions will be offered at the ANS Annual Meeting at the Hyatt Regency Chicago.

MONDAY, June 25, 2012, 2:45 PM

Solving the Spent Fuel Dilemma – Panel

The Disposition of spent fuel is both a commercial and political issue. Currently, we continue to expand temporary dry fuel storage at plant sites in addition to making payments to the federal government for an ultimate solution. This session will explore the current U.S. Government directions with respect to long-term storage and processing, the related public opinion issues, and other potential solutions including alternate fuel cycles. Speakers include professionals from nuclear

utilities, the Department of Energy, research organizations and vendors.

TUESDAY, June 26, 2012, 9:50 AM

New Nuclear Construction Around the World Status Report –Panel

This session will provide an overview of progress and planning for new reactor construction in the United States and around the world. Key issues include the ability of the regulatory framework to address all aspects of licensing including siting, design certification and reference, and subsequent combined operating license (COL) issue. Speakers will be from the NRC, energy companies, and industry consortiums that are supporting the growth of nuclear energy in the United States and around the world.

TUESDAY, June 26, 2012, 1:00 PM

Fukushima: Evaluation and Impacts – Panel

Speakers from nuclear utilities, the Nuclear Regulatory Commission and the International Atomic Energy Agency who have worked with the aftermath of the Fukushima event will serve as panelists. Numerous regulatory bodies and plant owners are evaluating the events at Fukushima and assessing changes in regulatory requirements and features needed for beyond design basis events due to the events at Fukushima. The U.S. Nuclear Regulatory Commission (NRC) report is due in the early fall of this year. The U.K. evaluation report was issued in late 2011. The EU Plant Owners are evaluating plant susceptibilities using a stress test process. This session will explore the results from these and other evaluations.

WEDNESDAY, JUNE 27, 2012, 8:30 AM

Operations and Power: General

Researchers and regulators will present the latest on the following topics:

- A Three-Component Model on Gas Transport in a Defective Fuel Rod
- Statistic Trend Analysis of Incidents and Failures Focused on Commissioning Stage of KSNP
- The Application and Interpretation of the Control Room Standard, ISO 11064 in the Nuclear Industry

- The Advanced Test Reactor national Scientific User Facility
- Licensing and Design of Mixed Cores for US Light Water Cooled Reactors
- IRWST Elevation Design for Passive ECCS and IVR Strategy
- Initial Split-Flow Operations of a Supercritical-CO₂ Recompression Brayton Cycle
- Analysis of Supercritical CO₂ Brayton Cycles for Pertinent Compressor Inlet conditions

WEDNESDAY, JUNE 27, 2012, 1:30 PM

Update on Emergency Preparedness and Planning Post-Fukushima – Panel

The role of emergency preparedness and planning as an integral part of safety requirements is likely to evolve rapidly post-Fukushima. The new focus is likely to be on beyond-design-basis accidents and on defense-in-depth. There is also likely to be significant differences between what may be acceptable for existing plants versus designs under review and combined license applications. As more information becomes available from Japan, there is a need to have representatives from major stakeholder organizations speak about technical aspects of the changes and how they are affected.

WEDNESDAY, JUNE 27, 2012, 2:30 PM

Small Modular Reactor (SMR): Progression and Status

This session will provide an overview of the following:

- The Business Case for Islanded SMRs
- Progress on Privately Funded Energy Multiplier Module (EM2) Program,
- Westinghouse SMR Programs Progress Status
- Simulator Assisted Design for a Multi-Module SMR Plant

Thursday, JUNE 28, 2012, 8:30 AM

Advanced Reactors

Multiple top researchers from leading universities will provide updates and findings for research into both the

development of advanced reactor designs and advancements in evaluation methods of evaluation methods. This session will contain the following:

- High Sensitive and Reliable FFDL Technique for Monju Using Laser Resonance Ionization Mass Spectrometry
- In-Situ Performance of Optical Fibers Heated to 600°C During Gamma Irradiation
- In-Situ Performance of Silica Optical Fibers Heated to 1000°C
- PARFUME Modeling Status Update
- ADS Windowless Spallation Target Design: An Experimental and Computational Approach
- 3D In-Core Monitoring in Advanced Reactor Environments
- Simulations of Dynamics and Control of Advanced Reactor Systems Using Artificial Neural Networks
- Full-Core Coupled Neutronic/Thermal-Hydraulic Model of Innovative Lead-Cooled Fast Reactors
- The Conceptual Design of Integrated Passive Safety System

Topical on Advances in Nuclear Power Plants. The winter meeting offers much in the area of new construction. We hope to see you there.

Wanted: OPD Members for Division and National Committees

Several national committees and OPD committees are looking for willing volunteers. A complete listing of the committees, with descriptions and requirements, is available on the ANS and OPD website:

<http://www.ans.org/about/committees/>

Interested OPD members may volunteer directly through the website, or may contact the OPD Chair for a recommendation from the Division. If you can help, please let us know.

Honors and Awards Committee

OPD Vice-Chair/Honors and Awards Committee Chair – Stephanie Banker

sbanker@gmail.com

The OPD Honors and Awards Committee is actively seeking nominations for the following awards, to be presented in 2012.

Walter H. Zinn Award

This award was established in 1976 to recognize outstanding contributions to the advancement of nuclear power. It honors Walter H. Zinn, the Society's first president.

This award is granted to an individual for a notable and sustained contribution to the nuclear power industry that has not been widely recognized. It may be a technical contribution, one of leadership, or other notable service to the industry.

Zinn Award recipients are selected by the Operations and Power Division Honors and Awards Committee. Nominations (candidate names and supporting information) for the Zinn Award can be submitted throughout the year by Operations and Power Division members. Nominees need not be ANS members. Nominations are due **January 22** and should be sent to Stephanie P. Banker, OPD Vice Chair and OPD Honors and Awards Committee Chair, at sbanker@gmail.com. Plans are being made to present the 2012 Zinn Award at the Operations and Power Division Luncheon at the ANS Annual Meeting in June 2012.

OPD Nuclear Construction Working Group, 2011 – 2012

Co-Chair – Kyle Turner

kyleturn@worldnet.att.net

Co-Chair – Ted Quinn

tedquinn@cox.net



The ANS Operations and Power Division (OPD) Committee on New Construction (CNC) has been operating since the early 1990's to provide forums for discussion and information exchange relative to new reactor deployment in the U.S. and around the world.

During the upcoming ANS Annual Meeting, in Chicago, we are sponsoring multiple sessions including the "New Nuclear Construction Around the World Status Report," and a panel discussion Sunday in the West Tower of the Hotel.

There are other sessions related to this important subject in the Annual meeting including the ICAPP

Information about this award, including the nomination form, can be found at the following link:

<http://www.new.ans.org/honors/va-zinn>.

Meritorious Performance in Operations Award

This award was established in 1984 to recognize and honor outstanding achievement in the field of nuclear reactor operations.

The recipient may be a team or an individual. The award is intended for licensed and unlicensed personnel who comprise an active part of the operation of a nuclear facility and who have performed these duties in an exemplary manner. Following are several activities that may qualify the candidate for outstanding performance in the operation of nuclear facilities:

- Long term, superior performance in the discharge of normal operations,
- New or novel effective solutions to problems pertaining to nuclear operations,
- Outstanding and/or innovative applications of nuclear facilities to contribute to enhanced education, research, development or training programs,
- Long-term, safe operation with a high availability factor,
- Development and implementation of novel operating, maintenance or surveillance techniques and procedures,
- Development of a new or novel application of the nuclear facility or its by-products, or
- Any significant action worthy of national attention.

Meritorious Performance in Operations Award recipients are selected by the Operations and Power Division Honors and Awards Committee. Nominations can be submitted throughout the year by Operations and Power Division members. Nominees need not be ANS members. Nominations are due **March 1** and should be sent to Stephanie P. Banker, OPD Vice Chair and OPD Honors and Awards Committee Chair, at spbanker@gmail.com. Plans are being made to present the 2011 Meritorious Performance in Operations Award at the Operations and Power Division Luncheon at the ANS Annual Meeting in June 2012.

Information about this award, including the nomination form, can be found at the following link:

<http://www.new.ans.org/honors/va-mpops>.

Utility Leadership Award – Utility Working Conference

This award was established in 1994 by the Operations and Power Division to recognize an individual who has demonstrated outstanding leadership and has

contributed greatly to the success of the nuclear power industry. In 2005 it officially became a national award. Since the award criteria are non-specific, the nomination package must provide supporting details and sufficient facts for the selection committee to make an informed decision.

The award consists of an engraved plaque that is presented in August each year in conjunction with the ANS Utility Working Conference (UWC). Nominations may be submitted at any time during the year, but should be submitted by **April 30** to be considered for the current year.

Information about this award, including the nomination form, can be found at the following link:

<http://www.new.ans.org/honors/va-utilleader>.

Utility Achievement Award – Utility Working Conference

This award was established in 1994 by the Operations and Power Division to recognize the commercial nuclear power plant(s) that demonstrate outstanding achievements in performance. In 2005 the award officially became part of the national award program. The award criteria are non-specific but the achievement may be either sustained outstanding performance or outstanding improvement in performance. The nomination must provide supporting details and sufficient facts for the selection committee to make an informed decision.

The award consists of an engraved plaque that is presented in August each year in conjunction with the ANS Utility Working Conference (UWC). Nominations may be submitted at any time during the year, but should be submitted by **April 30** to be considered for the current year.

Information about this award, including the nomination form, can be found at the following link:

<http://www.new.ans.org/honors/va-utilachieve>.

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