

Operations and Power Division

FALL 2005



You are invited to the...

November 13-17, 2005 • Washington, D.C. • Omni Shoreham Hotel to be part of:

“Talk About Nuclear Differently: A Good Story Untold”

**OPD Program Committee
Sunday, November 13, 2005
1:00 – 3:00 PM, Hampton Ballroom**

**OPD Executive Committee
Sunday, November 13, 2005
3:30 – 6:00 PM, Hampton Ballroom**

**Honors and Awards Luncheon
Tuesday, November 15, 2005
11:30 – 1:00 PM, Blue Room**

**New Construction Working Group
Tuesday, November 15, 2005
4:00 – 6:00 PM, Parlor #373**

**See Our Website at ...
OPD.ANS.ORG**

June 4 - 8, 2006, Annual Meeting, Reno, NV:

**“A Brilliant Future: Nexus of Public Support in
Nuclear Technology”**

August 6 – 9, 2006, Utility Working Conference, Amelia Island, FL:

From Your Chair Mark Reinhart



Are we prepared for success?

Most definitely the excitement is high. We have Early Site Permits (ESP), Certified Designs, and we anticipate Combined Operating Licensees (COL). Interestingly, the nuclear community buzzed in the 1960 and 70's too, but that excitement didn't accomplish what we had hoped.

Today we need to proceed with a clear view of where we are going. We need to lay down a track from our current position to the correct destination. Most importantly we need a clear picture of what the “correct destination” is. Thereby, we can anticipate challenges and have plans in place to negotiate those challenges.

We need to fully understand the fundamental aspects of what ESPs and Certified Designs provide, and more importantly, what they do NOT provide for potential licensees, constructors, architect-engineers, and the regulator. As leaders in our field, we must be able to define how COL licensees and other stakeholders will make up or accommodate the differences. Also, we must share our varied perspectives to take the lead to achieve an alignment with what COL licensees anticipate that the regulator needs and what the regulator anticipates that it needs, each step of the way!

Today's fresh opportunities mandate that we apply the broader lessons from the last thirty years. Our responsibility as nuclear professionals extends beyond our colleagues to a much larger audience. Our expanded considerations must include understanding what the public anticipates: The vocal public as well as the “silent majority.” We absolutely must communicate to them the information they need. We DO NEED TO DO BETTER than was done in the '60s and '70s! We need to formulate an approach by and for the full spectrum of stakeholders.

An older man once counseled, “Life is filled with ‘ups’ and ‘downs.’ The ‘ups’ take care of themselves. It's how we handle the ‘downs’ that counts.

Excitement? Absolutely! These are the “ups.” Challenges? Certainly! These are the “downs.” So, my fellow ANS members, we need to be ready to handle the “downs.” Who in ANS has the lead? For new nuclear power plants, OPD is the obvious answer.

Please come to the ANS Winter Meeting this November with your thoughts toward OPD’s leading success!

Mark Reinhart

Program Committee

By Don Eggett

One of the most difficult and most essential jobs for OPD is putting together quality technical programs of interest to our members. With planning starting about a year in advance of each national meeting, good timing is paramount in the selection of a topic. The perfect topic must balance fresh ideas with meaningful experience.



2005 Winter Meeting, November 13-17, Washington, D.C.

Topics (and organizer(s)) for OPD sessions include:

- Nuclear Energy: Quantifying and Communicating the Benefits (**Ann Bisconti/Ted Quinn**, Consultants)
- Equipment Reliability, A Driving Force in Nuclear Asset Performance (**Ken Ferguson**, Consultant)
- Management Perspectives on the Use of Risk Information In Operational Plant Management (**Mark Reinhart**, NRC)
- Bringing Value to the American Nuclear Society: The Employer’s and Young Professional’s Perspective (**David Pointer**, ANL)
- Small Liquid-Metal-Cooled Fast Reactors (**Neil Brown**, LLNL)
- Planning a Country’s 1st Power Reactor - Trials and Tribulations (**Steve Stamm**, Shaw Group)
- Digital Upgrade Issues in an Evolving Technical and Regulatory Environment (**Ray Torok**, EPRI)

2006 Annual Meeting, June 4-8, Reno, NV

The Track 2 theme for the meeting is Technology, Management, Operations, and New Construction of Nuclear

Systems. The proposed topics specifically for OPD sessions include:

- 2a. Reactor Research Technology
- 2b. Control Room Integrity Program (Jointly with NISD)
- 2c. New Plant Construction
- 2d. Automated Technologies for License Renewal and Beyond
- 2e. Issues Related to Manufacturing and General Procurement Including Printed Circuit Boards
- 2f. Alternative Source Term Lessons Learned

International Congress on Advances in Nuclear Power Plants (ICAPP), June 4-8, 2006 (Held in Conjunction with the Annual Meeting in Reno, NV)

Abstracts are due November 15, 2005

International Meetings

- 2006 International Conference on Water Chemistry of Nuclear Reactor System - Jeju Island, Korea (Oct 23-26, 2006)
- 5th International Topical Meeting on Nuclear Plant Instrumentation, Control and Human Machine Scottsdale, AZ, Spring, 2007 (OPD Co-sponsorship and co-located with IEEE Human Factors Meeting)

2006 Utility Working Conference

By Sophie Gutner

The Utility Working Conference (UWC) is held annually at the Amelia Island Resort, Florida. The conference provides a unique opportunity for industry leaders from diverse disciplines and organizations to share lessons learned and best practices across a wide array of topics.

The 2006 UWC will be held from Sunday evening, August 6th, through Wednesday afternoon, August 9th. The upcoming year promises to be a pivotal one for the nuclear industry. While, operating plants continue to improve performance, extend licenses, uprate powers, and refurbish plants for the future, several organizations are pursuing plans for future plants.

As in previous years, the 2006 conference will focus on the pursuit of excellence at operating plants. However, the 2006 conference will also begin exploring the challenges associated with the expansion of the fleet and the convergence or divergence of processes and technologies between current and future plants. For example, this year, two general sessions will be held at the conference. The plenary, to be held on Monday morning, will address operating excellence at current plants. The second session, to be held on Tuesday afternoon, will address the expansion of the fleet.

Meeting preparations have already begun. The 2006 UWC will be chaired by **Brew Barron**, the Chief Nuclear Officer of Duke Energy. Tracks and track leaders include: Operations-**Chris Mudrick**, Station Manager at Exelon Nuclear, Limerick Generating Station; Work Management- **Dan Breig**, Station Manager at Southern California Edison, San Onofre Nuclear Generating Station; Engineering- **George Attarian**, Chief Engineer at Progress Energy; Regulatory Relations-**Jim Dyer**, Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission; Performance Improvement-**Mark Reinhart**, Section Chief, Operations Support & Licensing Section, Probabilistic Safety Assessment Branch, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission; and Probabilistic Risk Assessment, **Duncan Brewer**, Manager of Nuclear Safety Assessment for Duke Energy. Additional tracks and track leaders will be forthcoming.

2005 Utility Working Conference

By Sophie Gutner

The UWC continues its 12-year tradition of being the best ANS conference for sharing utility innovations. This year's conference, August 7-10, was another record-breaker in attendance, number of sessions and tracks, vendors exhibiting, and profits! We hope you were amongst the lucky attendants! You could feel the excitement in the air, just walking in the hallways – the President finally signed the long-awaited Energy Bill during the conference.

As General Chair for UWC 2005, **Gary Taylor**, Chief Executive Officer, Entergy Nuclear, chose the very timely theme, "THE REACTOR IS CRITICAL – EXCELLENCE TODAY, SUSTAINING GROWTH TOMORROW." Joining him in the opening plenary to communicate this message, were **Commissioner Jeffrey Merrifield**, NRC; **David Lochbaum**, Union of Concerned Scientists; **Dr. Edgar Schein**, MIT; and **Caren Byrd**, Morgan Stanley. It was a very well balanced Plenary Session, with strong opposing views, as you can well image when listening to one of the NRC Commissioners followed by an environmentalist, skeptical of nuclear power and its regulator (to say it mildly).

Commissioner Jeffrey Merrifield shared what he believes are some significant challenges that lie ahead for the U. S. as we enter this new phase in our nation's energy history. He discussed how the NRC and future applicants for operating licenses will handle the many challenges we may face in the coming years. He explained the NRC's licensing and budgeting process and how they will play a critical role in the development of new reactor projects. Another concern is the anticipated turnover in the upper levels of utility management and how it could impact the future safe operation of the industry the NRC oversees.

According to **David Lochbaum**, there is not enough focus on "Problem Identification and Resolution" in the NRC's Reactor Oversight Process. There is a need to evaluate examples of corrective action programs to come up with valuable insights. "It is important to learn what to do, as much as what not to do." In Lochbaum's opinion, deadlines for resolving long-standing safety issues (PWR containment sump, thermal-lag, Hemyc, spent fuel security) are "set in sand", not set in stone like the deadlines for ESP and license renewal. Better management and oversight leads to lower O&M costs.

Dr. Edgar Schein talked about culture and subcultures. You cannot announce or impose a new "culture." You can announce new values and impose new behavior, but only if that new behavior works better will the group learn to use it and internalize it as a cultural element. Complex organizations contain subcultures that have different assumptions that can work against each other; for example, the operator, hourly (union) worker, engineer, and the executive subcultures. It is important to be aware that there are multiple subcultures present and that they each look at a problem from a different perspective (neither perspective is necessarily wrong or correct, just different). Subculture alignment is achieved by accepting the reality of subcultures and their differences, creating processes to increase mutual understanding and acceptance, building total plant team work through non-punitive reviews and learning exercises, and encouraging and rewarding cross-cultural team work. Schein is not in favor of benchmarking; success is dependent on culture and that cannot be transferred easily to a different culture and expect the same success. The people who control safety are the employees, not the executives. Employees need to take part in developing rewards for safety culture.

Caren Byrd described the nuclear energy industry as viewed from Wall Street. Can this sector sustain historically high valuation levels? Credit quality remains a key focus. Mergers and acquisitions activity will increase. Since January 2000, nuclear utilities (107% increase in stock price) have performed better than non-nuclear utilities (43% increase). Investors see nuclear generation as attractive due to competitive economics,

fuel diversity (compared to dramatic increases in gas and coal prices), environmental advantages. Focus on safe, efficient performance is important to investors. A key to economic viability is the industry focus on materials management, \$1 Bn invested in nuclear plant security since 9/11/01, and needed progress on used fuel management issues. Nuclear generation has operated well under both competition and regulation. With regards to new nuclear plants, “investors are open but need to be convinced.” There is significant support already: emerging need for new base load capacity, chronic volatility in natural gas prices for electric generation, environmental constraints on fossil-generating capacity, fuel and technology diversity essential to US energy security, and broad-based political support from the President and Congress. Challenges include public perception, untested regulatory requirements, spent fuel storage, competitive market position, and financing issues.

The Plenary Session set the stage for some really well-organized sessions in various tracks. Following is a summary:

- Revision and use of industry standards and performance indicators (AP-929, ANSI/NIRMA CM 1.0-2000, NEI Standard Nuclear Performance Model)
- Inventory optimization for critical spares
- Work management tune-up tool box
- Operations issues: tracking and resolution
- Self-assessment, the road to continuous improvement
- Risk-informed technical specifications
- Business drivers within the environmental and regulatory landscape in the next 5-10 years
- Operational margin management – what can we learn from past performance?
- Long-range planning
- Is supply chain outsourcing right for your company?
- Corrective action program, the foundation of performance improvement
- Implementation of risk-informed fire protection standards
- Public perception – how do you create a positive image?
- Engineering programs and the work of the INPO sponsored engineering programs working group
- Equipment reliability index industry guidance
- Strategic sourcing
- Operational decision making and operational focus integration with the work management process

- Organizational learning
- New reactors: early site permits, design certifications, and combined licenses
- Nuclear assets – people, parts, and skills
- Capturing the key elements of design margin management
- Equipment reliability best practices
- Oversight of supplemental personnel
- Applying risk management and business techniques to regulatory issues
- Organizational effectiveness

Again this year, the technology exhibit highlighted innovative products and services from some of the leading vendors in the industry. A record number of vendors were present and their continued support is invaluable to the success of this conference

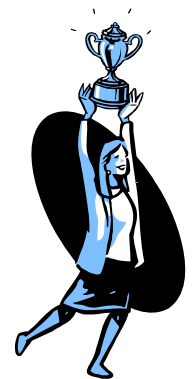
Finally, a workshop on Root Cause Analysis for Safety Culture and Human Performance Improvement was organized and led by **Dr. Bill Corcoran**, President, Nuclear Safety Review Concepts. Several other industry group meetings were also held on the sidelines.

My sincere thanks go to all the people who have helped organized this conference; they are too many to list here individually, but they know who they are! My hat to you all! The torch has been handed over to **Jeff Robertson**, Technical Program Chair, for the 2006 UWC edition. **Plan to be there!**

Honors & Awards By Harold Stiles

Get those Zinn nominations in now!

June 6, 2006, the date for the next OPD Honors & Awards Luncheon, may seem far away, but now is the time to prepared nominations for the highest recognition given by OPD, the Walter Zinn Award. Named in honor of Walter H. Zinn, the Society's first president, the Zinn award recognizes outstanding contributions to the advancement of nuclear power. The contribution may be technical, leadership, or other notable service to the industry. Every member is invited to submit a nomination; the deadline for submittal of the nomination is January 22nd. A nomination



form is available at <http://www.ans.org/honors/sd/zinn-form.pdf>.

OPD proposes greater visibility of Utility Working Conference awards.

For more than a decade, OPD has been recognizing outstanding plant performance and utility leadership with awards at the Utility Working Conferences. Recently the OPD Executive Committee voted to propose the Utility Leadership Award and the Utility Achievement Award to the ANS Honors and Awards for promotion to Society awards. This will ensure that recipients receive even wider recognition for their efforts. For a list of previous recipients see <http://opd.ans.org/uwcLeadership.html> and <http://opd.ans.org/uwcAchievement.html>.

Who is ready for a challenge?

Twice a year, ANS bestows the honor of Fellow, the highest grade of membership, on a very select group of senior members who have compiled a professional record of experience marked by significant contribution to the advancement of one or more of the various disciplines served by the Society. OPD is blessed with many members who may qualify for this honor, but it is very difficult to attain. Successful nominations typically require a level of document of professional contributions that is difficult to provide. But it can be done, even for someone who profession does not require the frequent publication of technical articles. If there is any OPD member who knows someone that might meet the qualifications for Fellow, please contact me and I'll help you see that our members get the recognition they deserve.

OPD's Webpage

Comments and suggestions ? Please feel free to contact our Webmaster (**Veronica Klein**, nuclearsaurus@aol.com).

OPD Officers

Mark Reinhart, Chairman
Fmr@nrc.gov & parsec248@adelphia.net

Harold Stiles, Vice Chair
Harold.Stiles@pgnmail.com

Greg Gibson, 2nd Vice Chair
Gibsongt@songs.sce.com

C. Thomas Snow, Secretary
Tom_snow@dom.com

D. Sean O'Kelly, Treasurer
sokelly@mail.utexas.edu

Loyd Wright, Past Chair
Wrightla@songs.sce.com

OPD Executive Committee

Jeffrey A. Benjamin,
jeffrey.benjamin@exeloncorp.com

Bill Corcoran, firebird.one@alum.mit.edu

Kenneth Hughey, whughey@entergy.com

Rodney Krich, rod.krich@exeloncorp.com

Buzz Savage, buzz.savage@hq.doe.gov

Andrew Klein, kleina@engr.orst.edu

Steve Stamm, steve.stamm@shawgrp.com

Joseph Naser, jnaser@epri.com

Robert Twilley, rtwilley@framatech.com

Sandra Sloan, sandra.sloan@framatome.com

Harold A. Stiles, harold.stiles@pgnmail.com

Ernest J. Harkness, ejharkness@comcast.com

Brian P. Reilly, breilly@bechtel.com

John Stanford, jack.standord@att.net

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