

American Nuclear Society

Nuclear Criticality Safety Division Newsletter



Fall 2007
<http://ncsd.ans.org>

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Message from the Chair

I'd like to start with a warm welcome to the Fall NCSD Newsletter to all those out in NCSD. It's truly a pleasure to serve as Chair of the best little division in ANS. Thanks to the efforts of many NCSD volunteers, we've had a great year, and are looking forward to an even better year to come.

I think you'll see focus on several areas within NCSD over the next year or so – these will include attraction and retention of young members to NCSD (as you'll see later we've made great strides in this direction already); a focus on corporate sponsorships and support for the NCSD scholarship; and a push to educate employers on the benefits of ANS and NCSD.

At the June meeting we discussed the division metrics from ANS - NCSD was one of the highest ranked divisions in the society – which is a lot to say for a division that is considered to have a “small” membership (currently about 793 members). As was mentioned previously, we had the money available to award a NCS Pioneers Scholarship in 2007, but did not get any applicants that met the criteria for the award – we'll carry the money forward into 2008 and step up our notification of schools with Nuclear Programs to try to increase the candidate pool – for more information on the scholarship go to the ANS website, honors & awards, scholarships, NCS Pioneers).

I mentioned our emphasis on getting younger members involved and interested. Based, I believe, on the efforts started under Christa, Steve and Kevin's able leadership, I'm proud to announce that NCSD will be receiving the 2007 ANS Young Members Advancement Award at the 2007 ANS Winter meeting awards luncheon in DC. In the last couple of weeks, I have received notes of thanks from two different student sections thanking the Division for the student support we provided to help them attend the June ANS meeting.

With the tireless help of Bonnie Rumble, we have once again put together what is sure to be a fabulous NCSD Dinner that will be held Tuesday night (November 13) at Maggiano's in DC. For those that have attended, this is a great time to recognize those that have made contributions to the Division, to catch up with old friends, and to meet new ones. Thanks to the support of our fine sponsors, this dinner has traditionally been one of the best deals in DC – they also help support students attending the dinner as a way of introducing them to the Division.

I'd also like to announce our new leadership team members – with David Hayes taking over as Vice Chair/Chair Elect, Brad Rearden as our Secretary and Rob Frost continuing as our treasurer. Please also welcome our new Executive Board members Peter Angelo, Darby Kimball, and Donna D'Aquila whose terms started in June.

I look forward to seeing everyone in DC and to the start of what I hope will be a banner year for NCSD as the industry begins its revival and the need and emphasis on our profession continues to grow.

Fitz

Nuclear Criticality Safety Division Executive Committee

The people who run our division:

2007-2008 Officers (Term Ending June, 2008):

Chair

Fitz Trumble, (803) 502-9615
Washington Safety Management Solutions
Fitz.trumble@wsms.com

Treasurer/Finance Officer

Robert Frost, (423) 610-0249,
Nuclear Safety Associates,
robert.frost@nuclearassociates.com

Vice Chair/Chair Elect

David Hayes, (505) 667-4523,
Los Alamos Nuclear Security,
dkhayes@lanl.gov

Secretary

Brad Rearden, (865) 574-6085,
Oak Ridge National Lab,
reardenb@ornl.gov

Committee Members:

Term Ending June, 2008

Lawrence J. Berg, (301) 903-0125,
Department of Energy-EM,
larry.berg@em.doe.gov

Term Ending June, 2009

Sedat Goluoglu, (865) 574-5255,
Oak Ridge National Lab,
goluoglus@ornl.gov

Thomas D. Burns, Jr., (703) 863-5807,
Defense Nuclear Facility Safety Board,
tomb@dnfsb.com

John Miller, (505) 665-2815,
Los Alamos National Lab,
jamiller@lanl.gov

Charles D. Harmon, II, (505) 667-5940,
Los Alamos National Lab,
charmon@lanl.gov

Sandra Larson, (865) 574-3401,
Nuclear Safety Associates,
sandi.larson@nuclearassociates.com

New Members (Term Ending June, 2010)

Donna D'Aquila (740) 897-4076
United States Enrichment Corporation
daquiladm@ports.usec.com

Darby Kimball (415) 768-5360
Bechtel National,
dskimball@gmail.com

Peter Angelo (865) 241-4559
Y-12 National Security Complex
angelopl@y12.doe.gov

NCS D Website

Check out the Division's website at: <http://ncsd.ans.org/>. Updates are in progress.

Upcoming Meetings (at a glance)

Dates and locations of upcoming ANS meetings are listed below:

Dates	Location
Nov. 11-15, 2007	Omni Shoreham Hotel, Washington, DC (ANS/ENS International Meeting); http://www.ans.org/meetings/docs/2007/wm2007-cfp.pdf
June 8-12, 2008	Disneyland Resort, Anaheim, CA (ANS Annual Meeting)
Nov. 9-13, 2008	Grand Sierra Resort, Reno, NV (ANS Winter Meeting)
June 14-18, 2009	Atlanta, GA (ANS Annual Meeting)
TBD	2009 NCS Topical Meeting TBD
Nov. 15-19, 2009	Washington, D.C. (ANS Winter Meeting)
June 13-17, 2010	San Diego, CA (ANS Annual Meeting)
Nov. 14-18, 2010	New Orleans, LA (ANS Winter Meeting)

ANS Meeting Program Details

Lane S. Paschal, Program Chair

lpaschal@comcast.net

(270) 217-0548

November 11-15, 2007 (Washington, DC)

The **2007 ANS Annual Meeting** will be held November 11-15, 2007 at the Omni Shoreham Hotel in Washington, DC. There will be a total of four (4) sessions for the meeting. The sessions are shown below. Program information can be found at:

<http://www.ans.org/meetings/docs/2007/wm2007-prelim.pdf>.

- Data, Analysis, and Operations for Nuclear Criticality Safety – I, Tuesday, a.m.
- Data, Analysis, and Operations for Nuclear Criticality Safety – II, Tuesday, p.m.
- Nuclear Fuel Recycling Data Needs – Wednesday, a.m.
- Nuclear Criticality Safety Standards – Forum, Thursday a.m.

The following NCS-related committee meetings will also take place:

- NCS Education Committee – Sunday, 1:00-1:30 p.m.
- NCS Program Committee – Sunday, 1:30-2:30 p.m.
- NCS Executive Committee – Sunday, 2:30-4:00 p.m.
- N16 Committee – Monday, 1:00-5:00 p.m.
- ANS-8.1 Committee – Tuesday, 7:00-8:30 a.m.
- ANS-8.12 Committee – Tuesday, 4:00-6:00 p.m.
- ANS-8.20 Committee – Sunday, 9:00-12:00 a.m.
- ANS-8.21 Committee – Tuesday, 7:00-8:30 a.m.

ANS Annual Meeting and Call for Papers

Lane S. Paschal, Program Chair

lpaschal@comcast.net

(270) 217-0548

June 8 - 12, 2008 (Anaheim, CA)

The **2008 ANS Annual Meeting** will be held June 8th – 12th at the Disneyland Hotel in Anaheim, CA.

The deadline for summary submission is January 11, and the Call for Papers for the meeting is available on the Internet at:

<http://www.ans.org/meetings/docs/2008/am2008-cfp.pdf>

A total of seven (7) sessions have been proposed for the meeting. Summaries describing the sessions are shown below.

1. Data, Analysis, and Operations for Nuclear Criticality Safety

The purpose of this session is to provide a forum for timely presentation of general issues in the area of nuclear criticality safety that are not covered in other special session topics. **Session Organizer:** Lane Paschal, Paschal Solutions, Inc., (270) 217-0548, lpaschal@comcast.net.

2. Nuclear Criticality Safety Standards Forum – Panel

Subcommittee ANS-8, Operations with Fissile Material Outside Reactors, meets to discuss various technical and administrative aspects of the approximately 20 national consensus standards under its purview. In addition to status and progress updates by representatives of individual working groups, formal presentations on the technical bases of numerical values such as subcritical limits and experiences with applications of particular standards are solicited. Agenda topics such as new and expanded standards are also encouraged. **Session Organizer:** Tom McLaughlin, LANL-retired, (505) 667-7628, tpm@lanl.gov.

3. Advances in Fixed Neutron Absorber Applications – Contributed

This session will present recent advances and experiences in the use of fixed neutron absorbers. Fixed neutron absorbers, as fixed engineered controls, have a distinct advantage over administrative or active engineered controls. It is important that criticality control practitioners consider passive engineered controls in the design of new facilities such as: enrichment plants, MOX fuel manufacturing, fuel and material storage, new fabrication facilities, reprocessing and transportation. The papers will cover successful application of fixed absorbers in storage vaults, shipping and storage casks, spent fuel storage, selection of suitable absorber materials, applications in reactor fuel and changes to ANSI/ANS 8.21 Standard. **Session Organizer:** Hans Toffer, Kevin Carroll.

4. Criticality Safety & Nuclear Packaging – Contributed

Criticality safety analysis in nuclear packaging has been evolved over the years due to changes in the regulatory requirements, modeling improvements of the computational tools, and the availability of the new version of nuclear data libraries. Nuclear packages are designed to ship internally or externally fissile materials, nuclear components, new fuels, spent fuels, radioactive wastes, etc. This session will address the criticality aspects of packaging, which include a) regulatory requirements, b) computational advances, c) new package design, and d) issues and challenges to criticality safety evaluations. **Session Organizers:** Pran Paul, (865) 241-5164.

5. In situ NDA Tutorial for Nuclear Criticality Safety - Contributed

Applied criticality safety occasionally relies on in situ NDA measurements to confirm compliance with limits and to provide information for analysis. This 2-session, full-day, tutorial will be presented by non-destructive analysis experts with a focus on the technology and uncertainties of historic and current measurement and analytical methods as they apply to nuclear criticality safety concerns – both normal and abnormal conditions of measurements. It will include worldwide perspectives and approaches to characterizing nuclear materials held up in processes and equipment and the policies used to report quantities detected. The tutorial will include topics such as the major problems with holdup measurements, what makes the problems worse, identification of “best practices,” identification of alternative NDA methods, and the needs for better solutions. **Session Organizer:** Valerie Putman and Calvin Hopper,

6. Realistic Double Contingency Implementation Practices – Contributed

The purpose of this technical session is to provide practical examples of technical solutions to operational implementation of the double contingency principle. NRC/DOE facilities are encourage to provide summary descriptions of fissile material operations and how adequate double contingency defense-in-depth concepts are established through selection of controlled parameter(s), realistic assumptions used to derivate subcritical limits, discussion of associated margin of safety, what controls are used to implement said limits, their functionality, and management measures applied to maintain identified controls robust and reliable. For DOE facilities technical papers may also include compliance examples of DOE Order 420.1b (or 10CFR830); for NRC facilities compliance examples with 10CFR70 might also be addressed.

Session Organizers: Lon Paulson, GE-Hitachi Nuclear Energy, (910) 675-5460, lon.paulson@ge.com and Larry Berg, DOE, (301) 903-0125, larry.berg@hq.doe.gov

7. ANSI/ANS Standard for Criticality Safety Engineer Training and Qualification - Panel

The American Nuclear Society has recently issued a standard that defines the elements of a training and qualification program for nuclear criticality safety engineers. This standard, ANSI/ANS-8.26, *Criticality Safety Engineer Training and Qualification Program*, provides guidance for the content of training programs for those responsible for developing the analyses, controls and safety documentation for the safe handling of fissile materials. This session will begin with several presentations that explain the target audience for this standard, the

qualification levels defined in the standard, and the content elements of the training and qualification program. The presentations will be followed by a panel discussion during which members of the standard working group and the audience will exchange ideas on the implementation of the standard and how it relates to other criticality safety training requirements defined by regulatory bodies. **Session Organizers:** Sedat Goluoglu, ORNL, (865) 574-5255, goluoglu@ornl.gov and James Morman, (ANL), jamorman@anl.gov.

NCSD Awards Dinner

Bonnie Rumble

brumble@nisyscorp.com

859-319-3200

The NCSD Awards Dinner is planned on Tuesday, November 13 at Maggianos, with cash bar and cheese platter at 6:00 and dinner at 7:00. It is family style with appetizers, salads, entrees, pastas, desserts, coffee/tea, and breads. **The cost is \$35 per person if you send a check in advance (Please send check by November 5 at the latest.)** or \$40 per person if paid at the Conference. Please purchase your tickets from me no later than Sunday, November 11 at the Conference so that we can commit to a final number of attendees.

We have several sponsors committed already but can always use more. We welcome additional sponsors at \$100, \$200, and \$300 levels, and those sponsoring at \$100 or \$200 will receive a complimentary ticket to the Dinner and those sponsoring at \$300 will receive 2 complimentary tickets. Please send a check or money order to the address below, made out to "ANS". Also indicate "NCSD Dinner Sponsor" in the memo line. Those planning on attending, please respond to **Bonnie Rumble, 341 N. College St., Harrodsburg, KY, 40330** by sending me a check or money order made out to "ANS" with "NCSD Dinner" in the memo line. Again, please ensure that your check is sent by November 5 to ensure that I receive it before heading to Washington, D.C. on November 10. If you need to contact me, either e-mail me at brumble@nisyscorp.com or call my cell phone at 859-319-3200.

Thank you and I am looking forward to seeing you all in Washington D.C.

- Bonnie Rumble

Newsletter Submissions

We want to thank Randy Shackelford for providing newsletter coordination during his tenure on the EC. If you have any submissions for future newsletters, please email Peter Angelo at angelopl@y12.doe.gov.