# Table of Contents

*Message from the Chair* .................................................................................................................. 2  
*NCSD Pioneers Scholarship 2012 Recipient* .................................................................................. 3  
*Endowed Scholarship Donors* ...................................................................................................... 3  
*Executive Committee* .................................................................................................................. 5  
*Program Committee* .................................................................................................................... 8  
  - *Highlights of the Chicago Meeting* ......................................................................................... 8  
  - *Sessions for Winter Meeting in San Diego* .............................................................................. 9  
  - *Upcoming Meetings (at a glance)* ............................................................................................ 10  
*Education Committee* .................................................................................................................. 10  
*ANSI/ANS-8 Volunteers Needed* .................................................................................................... 11  
*International Standards for Nuclear Criticality Safety* ............................................................... 11

Editor: Mackenzie L. Gorham  
Website: [http://ncsd.ans.org](http://ncsd.ans.org)
Message from the Chair

As I take over the chair of NCSD, I want to thank Doug Bowen for his efforts this past year as chair. Doug has turned over to me a division that continues to grow. The number of members continues to increase and we have strong technical sessions at national meetings. We are also preparing for our stand-alone topical which be held in Wilmington in September of 2013.

NCSD has transitioned from a small to large division which is a significant accomplishment. Our efforts are examples for the other divisions in ANS. We have a very active membership with people who are willing to offer their time and talent both on the local and national levels. I want to thank you for all your efforts and encourage you to continue.

At the Chicago meeting, outgoing president Eric Loewen challenged each of the divisions and technical groups to come up with posters that promote their divisions. His idea was to be able to use these posters as a revenue source for ANS. Posters from some of the divisions would be ones that science teachers might by hanging their classroom, and for other divisions it may be aimed at professionals. We might want to consider both ways, one poster with key parameters effecting criticality which would be of interest to professionals and another one with information on selected critical experiments with pictures, short little write ups and other bits of trivia that may be of interest to both professionals and science teachers. This is something I encourage all of you to think about. If you have thoughts on this or ideas for others posters, please let me or any other members of the Executive Committee know.

Something I did shortly after becoming the division chair was sit down and read the division bylaws (better late than never). Drawing from the bylaws, I’ve expanded the governance webpage to list the committees we have and where we have openings. I was also very surprised to learn as division chair how many committees I served on (most of them that is), but this is not a one person show by any means nor do I want to be. The volunteer members make these committees successful. We’re looking for some committee chairs and some committee members. The time commitment is not large so please consider volunteering. If you are interested in working on one of these committees, contact the chair of the committee or contact me.

It is also time for me to encourage donations to our scholarship fund. Our goal is to raise $60,000 to endow a scholarship will be given each year by NCSD. We have made progress but we still have quite a ways to go. I ask everyone to donate even a small amount because with as many members as we have it should not be difficult to fund this endowment. We did have a flurry of donations as a result of our dinner last year in Washington DC. Additionally all the money that was left over from the dinner is being added to the scholarship fund. Please visit our scholarship page and make a donation today.

I look forward to being the chair of NCSD for the next year and with your support NCSD will continue to grow in ways will benefit all of our members.

Larry Wetzel
llwetzel@babcock.com
Chair, Nuclear Criticality Safety Division
**NCSD Pioneers Scholarship 2012 Recipient**

This year’s recipient is Hsingtzu Wu!

Ms. Wu says the scholarship will help her focus on Ph.D. research in developing a new tightly coupled technique for neutronics and thermal-hydraulics. Nuclear criticality safety analysis will benefit greatly by this research. For example, during a nuclear accident, when the fuel meltdown in the core becomes a possibility, a criticality computation needs to consider both neutronics and thermal-hydraulics. Coupling neutronics and thermal-hydraulics can provide more accurate predictions than those that consider only neutronics or thermal-hydraulics. A tightly coupled method is better than a loosely coupled method in terms of numerical stabilities and convergence. In addition, a tightly coupled method is superior in addressing inter-related multi-physics problem, such as neutronics and thermal-hydraulics inside a nuclear reactor.

The past recipients of the scholarship were:

- 2011 - Christopher (C.J.) Hurt
- 2010 - Jesse Holmes
- 2009 - Not awarded due to lack of funds
- 2008 - Allison Barber

You can read about the recipients on the [Scholarship page](#) of the NCSD website.

**Endowed Scholarship Donors**

**Chair: Ron Knief**

NCSD continues to make progress towards raising $60,000 to create an endowed scholarship that will be awarded every year. A video shown at the 2011 NCSD Awards Dinner highlights the goals and purpose of the fund. You can view the video here.

The number of donors is growing, and as of the publication of the newsletter, the total amount contributed is $12,100, but we still need more donations. With over 800
members in the division, if everyone would donate just $75, the goal would be met. Please consider
donating to the scholarship fund. Contributing is easy, and can be done online. There is a link on the
NCSD main page that connects you to the ANS donation page. Select the Nuclear Criticality Safety
Pioneers Scholarship. You can make it in honor or memory of someone if you want. The donations are
tax deductible.

The donors so far are:

<table>
<thead>
<tr>
<th>Supporter ($25-$99)</th>
<th>DeLorean Donor ($100-$499)</th>
<th>Professor ($500 - $999)</th>
<th>Time Traveler ($1,000+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Calvin Hopper</td>
<td>ANS 8.19 Working Group</td>
<td>Mr. Joe Thomas</td>
<td>Mr. George Bidinger</td>
</tr>
<tr>
<td>General Donation</td>
<td>In honor of - Mrs. Betty</td>
<td>General Donation</td>
<td>In honor of - Clarence</td>
</tr>
<tr>
<td></td>
<td>Davenport</td>
<td></td>
<td>L. Schuske</td>
</tr>
<tr>
<td>Mr. Kevin Kimball</td>
<td>Mr. Harry Felsher</td>
<td>Ms. Elizabeth</td>
<td>Dr. E. Charles Crume, Jr.</td>
</tr>
<tr>
<td>General Donation</td>
<td>General Donation</td>
<td>In honor of - Hugh</td>
<td>In honor of - Dr. A.</td>
</tr>
<tr>
<td>Mr. Mark Jensen</td>
<td>Ms. Sandra Larson</td>
<td>Paxton</td>
<td>Dixon Callihan</td>
</tr>
<tr>
<td>General Donation</td>
<td>General Donation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. William Newmyer</td>
<td>Mr. Brian Matthews</td>
<td>Dr. Robert Frost</td>
<td>Dr. Ronald Knief</td>
</tr>
<tr>
<td>General Donation</td>
<td>General Donation</td>
<td>In honor of - Dr.</td>
<td>In honor of Dr. Raymond</td>
</tr>
<tr>
<td>Mr. Lewis Kotredes</td>
<td>Mr. Dennis Mennerdahl</td>
<td>Hugh Clark</td>
<td>L. Murray, Elizabeth</td>
</tr>
<tr>
<td>General Donation</td>
<td>General Donation</td>
<td></td>
<td>(Libby) B. Johnson,</td>
</tr>
<tr>
<td>Ms. Beverly Lomax</td>
<td>Mr. J. Chris Dean</td>
<td>Mr. Michael J. Vehec</td>
<td>David R. Smith, Dr.</td>
</tr>
<tr>
<td>In honor of Robert</td>
<td>General Donation</td>
<td>In honor of - Mr.</td>
<td>Hugh C. Paxton, Dr. A.</td>
</tr>
<tr>
<td>(Bob) H. Lewis</td>
<td></td>
<td>Norman Pruvost</td>
<td>Dixon Callihan</td>
</tr>
<tr>
<td>Mr. David Lindenschmidt</td>
<td>Mr. Andrew Prichard</td>
<td>Mr. David &amp; Mrs.</td>
<td>Dr. Sedat &amp; Mrs.</td>
</tr>
<tr>
<td>In honor of Norm</td>
<td>In honor of Mr. Richard</td>
<td>Carol Cise</td>
<td>Katherin Goluoglu</td>
</tr>
<tr>
<td>Provost</td>
<td>Libby</td>
<td>General Donation</td>
<td>General Donation</td>
</tr>
<tr>
<td>Ms. Mackenzie Gorham</td>
<td>Mr. Larry Wetzel</td>
<td>Mr. Michael Corum</td>
<td>Mr. Jerry Hicks</td>
</tr>
<tr>
<td>General Donation</td>
<td>In honor of Mr. Francis</td>
<td>General Donation</td>
<td>In honor of David R.</td>
</tr>
<tr>
<td></td>
<td>Alcorn</td>
<td></td>
<td>Smith</td>
</tr>
<tr>
<td></td>
<td>Ms. Barbara Krogfuss</td>
<td>Dr. Robert D. Busch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Donation</td>
<td>General Donation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr. Chris Haught</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Donation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dr. Deb Hill</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Donation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr. R. Chris Robinson</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In honor of G. R. Handley,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Richard G. Taylor, and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gary D. Ellis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Supporter ($25-$99) | DeLorean Donor ($100-$499) | Professor ($500 - $999) | Time Traveler ($1,000+)
---|---|---|---
Mr. Randy Shackelford  
In honor of Norman Pruvost  
Dr. Douglas Croucher  
General Donation  
Mr. Adolf Garcia  
In honor of Elizabeth (Libby) B. Johnson and David R. Smith  
Mr. Harry W. Webb  
In honor of Norman Provost  
Dr. James A. Morman  
General Donation  
Mr. John H. Gertsen  
General Donation  
Mr. Scott Finfrock  
General Donation  
Mr. Dominic (Fred) Winstanley  
General Donation

**Executive Committee**

**Chair: Doug Bowen**

Doug Bowen convened the Executive Committee meeting at approximately 3:00 pm. All of the Nuclear Criticality Safety Division (NCSD) officers except the past chair were present. The division officers are as follows:

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone</th>
<th>E-mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>Doug Bowen</td>
<td>(505) 667-5939</td>
<td><a href="mailto:dgbowen@lanl.gov">dgbowen@lanl.gov</a></td>
</tr>
<tr>
<td>Vice Chair/Chair Elect</td>
<td>Larry Wetzel</td>
<td>(434) 522-6580</td>
<td><a href="mailto:lwetzel@babcock.com">lwetzel@babcock.com</a></td>
</tr>
<tr>
<td>Treasurer/Finance</td>
<td>Robert Maurer</td>
<td>(423) 735-5583</td>
<td><a href="mailto:rsmaurer@nuclearfuelservices.com">rsmaurer@nuclearfuelservices.com</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Sandi Larson</td>
<td>(865) 483-8247</td>
<td><a href="mailto:sandi.larson@nuclearassociates.com">sandi.larson@nuclearassociates.com</a></td>
</tr>
<tr>
<td>Past Chair (ex officio)</td>
<td>Brad Rearden</td>
<td>(865) 574-6085</td>
<td><a href="mailto:reardenb@ornl.gov">reardenb@ornl.gov</a></td>
</tr>
</tbody>
</table>
A total of five out of nine members of the Executive Committee were present. The Executive Committee members are as follows and those not able to participate are indicated with an asterisk (*):

<table>
<thead>
<tr>
<th>Term Ending June of (Year)</th>
<th>Name</th>
<th>Phone</th>
<th>E-mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Jerry Hicks</td>
<td>(505) 845-6287</td>
<td><a href="mailto:jhicks@nnsa.doe.gov">jhicks@nnsa.doe.gov</a></td>
</tr>
<tr>
<td></td>
<td>Deborah Hill*</td>
<td>(+44)1772 764359</td>
<td><a href="mailto:deborah.a.hill@nnl.co.uk">deborah.a.hill@nnl.co.uk</a></td>
</tr>
<tr>
<td></td>
<td>Ronald Pevey*</td>
<td>(865) 974-7573</td>
<td><a href="mailto:rpevey@utk.edu">rpevey@utk.edu</a></td>
</tr>
<tr>
<td>2013</td>
<td>Chris Robinson</td>
<td>(865) 574-8509</td>
<td><a href="mailto:robinsonrc@y12.doe.gov">robinsonrc@y12.doe.gov</a></td>
</tr>
<tr>
<td></td>
<td>Adolf Garcia</td>
<td>(208) 526-4420</td>
<td><a href="mailto:garciaas@id.doe.gov">garciaas@id.doe.gov</a></td>
</tr>
<tr>
<td></td>
<td>Nick Brown</td>
<td>(423) 735-5519</td>
<td><a href="mailto:NWBrown@nuclearfuelservices.com">NWBrown@nuclearfuelservices.com</a></td>
</tr>
<tr>
<td>2014</td>
<td>Michael Corum</td>
<td>(803) 603-2349</td>
<td><a href="mailto:michael.corum@nuclearassociates.com">michael.corum@nuclearassociates.com</a></td>
</tr>
<tr>
<td></td>
<td>Chris Haught*</td>
<td>(865) 576-5522</td>
<td><a href="mailto:h7c@y12.doe.gov">h7c@y12.doe.gov</a></td>
</tr>
<tr>
<td></td>
<td>Allison Miller</td>
<td>(505) 845-3684</td>
<td><a href="mailto:admille@sandia.gov">admille@sandia.gov</a></td>
</tr>
</tbody>
</table>

Approximately 26 additional NCSD members were present providing broad nuclear industry representation.

Chair’s Report

NCS division has had a 3.6% increase in membership, to 931 members. Overall trends for ANS in 2011 include a general decrease in ANS National Meeting participation, a decrease in non-meeting publications, and an overall 2% decrease in ANS membership in 2011 following a 4% increase in previous years.

The Endowed Scholarship fund is at $12,100, approximately twice where we were at after the Winter meeting. Donor list is on NCSD website. Goal remains at $65,000.

Election results for 2012-2013 for Division Officers are Chair Larry Wetzel, Vice Chair Sandi Larson, Treasurer Robert Maurer, and Secretary Deborah Hill. New board members are Thomas Miller, Brian Kiedrowski, and John Bess.

Professional Divisions Committee (PDC) website has a lot of useful information including responsibilities and requirements for Division Officers, Bylaws of NCSD Division, and PDC Manual.

Vice Chair’s Report

The new ANS Outreach Director is Bonnifer Ballard. She is the point of contact for all NCSD correspondence including meeting minutes, Treasurer’s report, etc and activities. Her email address is bballard@ans.org.

As a non-profit, we don’t have any financial requirements but we need to show a positive impact for our members. ANS National Chair Eric Loewen challenged each of the divisions to make posters for safety conscious work environment that can be used in the classroom or community. For NCSD, ideas were a poster on what an NCS Engineer needs to know or a poster with pictures of critical experiment assemblies. It was suggested that we allow Young Members Group (YMG) to comment on what would
be useful to high school and college students. He complimented NCS on sending out certificates of participation and suggested we share that practice with other divisions.

Treasurer's Report
NCSD has an excess over-budget of funds of $26,459. Last year’s Awards dinner netted $2206. It was moved, seconded and passed to give this profit to the NCSD Pioneer’s Scholarship Fund.

Program Committee: Allison Miller
NCSD had five sessions at the Chicago meeting. Session chairs for the Winter meeting in San Diego were assigned and topics for Summer 2013 meeting in Atlanta discussed at the Program Committee meeting.

Scholarship Committee: Ron Knief
Andy Prichard presented for Ron Knief. Three applications were received and one candidate was selected to receive the scholarship. None of the candidates were focused on NCS but instead on general nuclear engineering methods, etc. Methods to advertise the scholarship to change this were discussed.

This could be another idea for ANS posters. Andy will take an action to work with Ron on other avenues to advertise the scholarship.

Education Committee: Katherin Goluo glu
Education Committee requested Executive Committee approval to post “Integrating NCS into Design” to the NCSD website for a 60 day comment. Motion was made, seconded and passed to post the paper for comment. Education continues to work on Realism paper.

Publications/Newsletter/Web Site: Larry Wetzel
NCSD web site gets 40-45 hits per day from many countries. ANS National has changed policy to allow meeting presentations to be put on the web site with a signed agreement from presenter. ANS has agreed that we can leave them up indefinitely so Larry will load up all those that he has. Goal remains to get newsletter out within a month of the national meeting and Larry would love to have a volunteer to help.

Honors and Awards Committee: Maria LeTellier
Sandi Larson reported for Maria. Maria has been chair for about 4 years and is ready to step down. She also noted that the committee membership of past award recipients should be reconsidered.

Realism Committee: Donna D’Aquila
No one present from this committee. Reintegrating this committee into the Education Committee was discussed.
ANS Student Conference Presentation - UNLV

UNLV student organizers of the 2012 ANS Student Conference gave a summary. They had 516 attendees: 382 students from 40 colleges, 26 international students from 16 countries, and 134 in presentations or posters. Next year’s 2013 conference will be hosted at MIT in Boston MA. They are interested in increasing international participation, both students and professionals, and using social media. Best paper awards and maybe a publication of the best papers are also being considered.

Old Business

As discussed at the last meeting under item 7, the ICNC conference to be hosted by the US in 2015. It will be a Class I Topical. The special committee that was approved to be formed will be formed by the new Chair, Larry Wetzel.

New Business

Adolph Garcia suggests NCSD Chair re-establishes or appoints an Industrial Relations Chair to the dormant Industrial Relations Committee with a minimum of a Chair, one DOE and one NRC regulated end-user. This is requested to provide the DOE NCS Program with NCS community input to keep the NCS tools needed by the practitioners ready, because input from end-users group has decreased. However, there could be other uses, such as providing Program ideas for sessions or tutorials. Doug and Larry to take action to look up the charter for this committee and lead further discussions by email. Larry presented Doug with a plaque thanking him for his service as NCSD Chair.

Program Committee

Chair: Allison Miller

Highlights of the Chicago Meeting

The sessions were well attended with over 100 people in attendance at most, overfilling the meeting room. The papers are listed below and some of the presentations will be available on the NCSD website.

Advancing Criticality Safety Capabilities in a Growing Nuclear World: The sharing of knowledge and experience between developers and nuclear criticality practitioners provides benefits to the overall community. Papers within this session are expected to focus on recent, state-of-the-art developments in production-level radiation transport simulation software (e.g., SCALE, MCNP) and nuclear data sets (e.g., ENDF, JENDL) that are relevant to the criticality safety practitioner. Also, papers relating the experience of practitioners on using new capabilities or those focusing on unaddressed current needs are strongly encouraged.

Session Organizer: Brian C. Kiedrowski
**Benchmarking Experiments for Criticality Safety and Reactor Physics Applications:** The International Criticality Safety Benchmark Evaluation Project (ICSBEP) and the International Reactor Physics Experiment Evaluation Project (IRPhEP) were established to identify and evaluate a comprehensive set of criticality safety and reactor physics related experimental data and preserve the data in a form that will be easily accessible to users. The projects provide a basis for recording, developing, and validating computational and analytical methods. This tutorial will outline and discuss the benchmark process for the ICSBEP and IRPhEP. Topics consist of the importance of quality experimental measurements, benchmark model development, uncertainty quantification, and utilization of these benchmarks in real-world applications.

**Session Organizer:** John Bess

**Data, Analysis and Operations in 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.

---

**Sessions for Winter Meeting in San Diego:**

**Validation Tutorial:**

This tutorial session will discuss the requirements and techniques for a successful validation effort. The tutorial will touch on several topics important to validating a code system. These topics include an overview of the requirements of ANS 8.24. The tutorial will discuss the use of a global validation versus process specific validations and the importance of defining an appropriate area of applicability for the validated code system. Statistical methods for determining a subcritical limit will be reviewed, as well as how much added margin is appropriate for a particular application. Appropriate sources of benchmarks will be discussed, and when it is appropriate to develop benchmark cases not currently available. The NRC/DOE expectations for a code validation will be discussed.

**Session Organizer:** Katherine L. Goluoglu

**FY2011 Nuclear Criticality Safety Program Technical Accomplishments** The Nuclear Criticality Safety Program (NCSP) has been doing lots of good, interesting, technical work supporting the DOE criticality safety enterprise, as well as benefiting the nuclear community as a whole. There are few opportunities to learn about these efforts since they cannot all be presented at an ANS meeting. However, an NCSP
Technical Seminar is held annually in the spring at Oak Ridge National Laboratory. The goal of this seminar is to have each NCSP Task Manager present their technical results from the fiscal year. Specifically, the presentations provided a summary of: the work that was done; why the work was done; and who benefited from the work or could potentially benefit across the DOE as well as the nuclear complex.

This annual meeting leads to an opportunity for the NCSP to showcase outstanding NCSP technical accomplishments and as a result, the best technical results that will have the most benefit to the nuclear community as a whole have been compiled and those presenters will provide these technical results at the 2012 Winter American Nuclear Society Meeting.

Session Organizer: A. Nichole Ellis

Data, Analysis and Operations in 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.

Upcoming Meetings (at a glance)

Dates and locations of upcoming meetings are listed below:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 11-15, 2012</td>
<td>San Diego, CA (ANS Winter Meeting)</td>
</tr>
<tr>
<td>June 16-20, 2013</td>
<td>Atlanta, GA (ANS Annual Meeting)</td>
</tr>
<tr>
<td>Sept 30 - Oct 3, 2013</td>
<td>NCSD Topical (Wilmington, NC)</td>
</tr>
<tr>
<td>Nov. 10-14, 2013</td>
<td>Washington, DC (ANS Winter Meeting)</td>
</tr>
<tr>
<td>June 15-19, 2014</td>
<td>Reno, NV (ANS Annual Meeting)</td>
</tr>
<tr>
<td>November 9-13, 2014</td>
<td>Anaheim, CA (ANS Winter Meeting)</td>
</tr>
<tr>
<td>June 7-11, 2015</td>
<td>San Antonio, TX (ANS Annual Meeting)</td>
</tr>
<tr>
<td></td>
<td>ICNC (TBD)</td>
</tr>
<tr>
<td>November 8-12, 2015</td>
<td>Washington, DC (ANS Winter Meeting)</td>
</tr>
</tbody>
</table>

Education Committee

Chair: Katherin Goluoglu

The Education White Paper on “Integrating Nuclear Criticality Safety into Design” is out for comment until September 11, 2012. Please send comments to Katherin Goluoglu at klgoluoglu@hotmail.com.
ANSI/ANS-8 Volunteers Needed

Several ANSI/ANS-8 Work Group chairs have indicated they could use additional volunteers to support standards revision or maintenance work. If you are interested in supporting one or more of the ANSI-8 Work Groups listed below, please contact the listed Work Group Chair or Vice-Chair.

Please note that to become a member of an ANSI-8 Work Group, the Work Group Chair must agree to your participation. Volunteers should have the endorsement by their management, since effective standards participation involves travel, labor effort, and potential use of company resources. ANS standard volunteers must also register with ANS.

ANSI/ANS-8.12 - Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors
Chair: Debdas Biswas

ANSI/ANS-8.28 NDA Measurements (proposed new standard)
Vice-chair: Larry Berg

All of the ANSI/ANS-8 standards can be purchased through ANS at the ANS store.

International Standards for Nuclear Criticality Safety

In addition to the ANSI/ANS standards in the US, there are international standards. The US has representation on these standards. These standards are not used by the US Regulators, but it is good for the practitioners to be familiar with them.

The following International Standards Organization (ISO) standards apply to nuclear criticality safety:


The following standards have been approved since the June 2011 meeting in London:

- ISO 11311:2011-06-14, Nuclear criticality safety – Critical values for homogeneous plutonium–uranium oxide fuel mixtures outside of reactors

The current work in progress involves several standards in different stages of development:

– ISO/CD 16117: Estimation of the number of fissions of a postulated criticality accident (Matthieu DULUC – FR) currently in ballot

– Preliminary revisions to ISO 1709 : 1995 are under way (Neil HARRIS – UK)

– ISO Standard on Waste (Duncan ELLIS/Neil HARRIS – UK)

– Revision to ISO 7753 / IEC 860 : 1987, no expectations for immediate revision

– Discussions and reviews about nuclear criticality safety translations between French and English and relevance to ISO TC85/WG1 ISO/NP 12749-3, Terminology, definitions, units, and symbols was examined during a joint meeting with TC85/WG1 and TC85/SC5/WG8.

Resolutions detailing work out to December 2012 were presented at the Standards forum by Calvin M. Hopper. Details on the scope and content of these standards are provided in a paper by Calvin M. Hopper titled "Status and Value of International Standards for Nuclear Criticality Safety," published in proceedings of the International Conference on Nuclear Criticality 2011.

The approved ISO NCS standards may be purchased from http://www.iso.org/iso/iso_catalogue.htm (click on "By TC," "TC 85," then "TC85/SC 5").