

American Nuclear Society
Nuclear Criticality Safety Division Newsletter

Winter 2012



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Message from the Chair, [Larry Wetzel](#)

In spite of government travel restrictions, NCS D had a very successful meeting in San Diego. We had sessions starting Monday afternoon, and continuing every day through Thursday afternoon. We also had our annual awards banquet, which was held at Donovan's Prime Seafood this year. We had approximately 60 people in attendance at the dinner. We presented the best paper awards for the last two meetings. Our technical excellence award this year went to the Stephen D. Clement, for outstanding leadership of the NCERC team the completed first critical experiments of the DAF. The distinguished service award went to the Robert L. Frost, for outstanding leadership in division governance support and development of meeting programs and promotion of the NCS D Pioneer scholarship. Unfortunately neither Steve nor Rob were able to be present to accept their awards. On behalf of the Division, I would like to thank both of these gentlemen for their efforts in the betterment of criticality safety.

For the last couple years, we have placed an emphasis at Awards dinner on raising fund our Pioneer Scholarship. Along with donation, any money left over from the dinner has gone to the scholarship fund. While the final number is not in, I suspect we have approximately \$1000 left over due to generous sponsors. We still have quite a ways to go to raise the \$60,000 we need to fully endow the scholarship. I encourage each of you to donate even if it's only a small amount to the scholarship fund. Even better would be if you could make an annual contribution. All contributions and donations are tax-deductible.

This coming year we will have our two national meetings, the summer one in Atlanta and the winter one in Washington, along with our topical which is set for the end of September in Wilmington, North Carolina. The major sources of our division's revenue come through participation in the topical meetings; however, don't forget it is also important to continue to support the two ANS national meetings. We are also well into the planning for ICNC 2015. The divisions planning team is headed by Sandi Larson. ANS headquarters is also supporting this effort. Both of these meetings will be a Class I topical.

Over the last several meetings, the Executive Committee Chair and the Program Committee Chair have been pushing ANS headquarters to modernize many of their policies. We have been successful in some these endeavors including increasing the length of papers from 900 words to 4 pages and getting approval to keep presentations on our [website](#) for more than six months. Currently, we have presentations going back to the winter meeting in 2008. With the help of other divisions, we have also pushed for electronic room auctions. This may not seem like a significant issue, but the current system involves sending a representative to Chicago twice a year to claim rooms in person for our division technical presentations during the ANS meetings. With the added restrictions on travel facing most professionals, this a significant cost savings and may remove hindrances to members running for Program Committee Chair since the travel has been cut in half.

For the last several years, the ANS President has held a meeting with the division chairs on Sunday morning. At the San Diego meeting, I took the opportunity to challenge Mike Corradini, the current ANS President, to look at ANS policies and procedures in light of how business is done today and improve practices that bring benefit to the membership and eliminate "administratium" that has no value. This year was also our division's turn to show our strengths to the ANS Board of Directors by formally presenting on the status of our division. The status presentation, which is been uploaded to our website, shows that NCS D is an active, vibrant, and growing division. Even over time periods when overall ANS membership was declining, our division was still growing. I also used this opportunity to push my point about some of the antiquated systems within ANS. In addition to pushing for electronic room selection, I pointed out the antiquated methodology for assigning rooms for division technical sessions at ANS

meetings. I even showed pictures illustrating how crowded our sessions are, and pointed out that at the Chicago meeting we had to turn people away from our sessions because we were exceeding the capacity of the room. I made the point several times about the antiquated policies and procedures within ANS, that at one point a board member stated “we get the point.”

About a week after the meeting, I received comments from the past ANS President, Eric Loewen, commending our division on its efforts. The strength of our division is our membership. We are involved; we are motivated; we don't settle for just adequate. I know this will continue because I know the people who make up the NCSD.

Larry Wetzel
llwetzel@babcock.com
Chair, Nuclear Criticality Safety Division

NCS D Pioneers Scholarship

Chair: [Ron Knief](#)

Each year, our division supports students pursuing college education with an emphasis in a criticality safety related subject. This scholarship was first proposed following the passing of Libby Johnson, and is awarded today to honor the contributions of the early criticality safety "pioneers" such as Ms. Johnson, and NCS mentors and colleagues. It is hoped that NCS D can raise the funds to create an endowed scholarship that will be awarded every year.

The past recipients of the scholarship were:

- 2012 - Hsingtzu Wu
- 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 NCS D website. The requirements for applying can be found on the ANS scholarship [website](#).

Endowed Scholarship Donors



Chair: [Ron Knief](#)

NCS D is making slow progress towards raising \$60,000 to create an endowed scholarship that will be awarded every year. With over 800 members in the division, if everyone would donate just \$75, the goal would be met. Contributing is easy, and can be done online from the [ANS donation page](#). Please consider donating to the scholarship fund. There is an option to make your contribution in honor or memory of someone who inspired or mentored you. And of course, the donations are tax deductible. The current donor list is available on the website.

Honors and Awards Banquet

Larry Wetzel presented two Best Paper awards, covering presentations from the 2012 Annual Meeting and the Winter Meeting. The Best Paper awardees were Shean Monahan et al and John Mattingly et al.

In recognition of his leadership in the Division, Dr. Robert Frost is recognized as the recipient of the 2012 Nuclear Criticality Safety Division Distinguished Service Award, for distinguished service to the Division in governance and scholarship support. Mr. Frost has been an active member of the NCS D for over 10

years. In that time, he has not only been active in ANS/NCSD meetings and topicals by serving often as session organizer/chair, authoring papers and supporting others to attend, but has also been an active leader in the division. Mr. Frost has served as the NCSD Program Committee Chair and Division Treasurer, Vice Chair and Chair, during which time the division has increased membership and gained recognition within the Society. In addition, he was instrumental in establishing the funding mechanism for fully endowing the Pioneers Scholarship and has worked tirelessly to promote it.

In recognition of his technical work and leadership in the this startup, Mr. Steve Clement is recognized as the recipient of the 2012 Nuclear Criticality Safety Division Technical Excellence Award, for technical achievements benefiting criticality safety. Mr. Clement was the National Criticality Experiments Research Center (NCERC) Operations Team Lead during startup. Mr. Clement is recognized for outstanding support to the Project; continued performance of safe and secure nuclear operations during the Project; and for successful completion of the first critical experiment in the Device Assembly Facility at the Nevada National Security Site in June 2011. These are very important steps in reestablishing a viable criticality experiments capability for the Department of Energy. His dedication and hard work in getting this job done are indicative of the attention to detail and high quality performance that is required in the conduct of nuclear operations.

Thanks to all of our sponsors who helped make the Awards Banquet possible. If you are interested in helping to sponsor the banquet next year, contact [Allison Miller](#).

2012 NCSD Banquet Sponsors		
<i>Platinum Level</i>	<i>Gold Level</i>	<i>Silver Level</i>
<i>Babcock and Wilcox Co, NFS CS Engineering Nuclear Safety Associates Paschal Solutions Richard Taylor</i>	<i>Canberra Industries Robert Busch Jerry McKamy Calvin Hopper UNLV Nuclear Safety Engineering Program Jerry Hicks</i>	<i>Chris Prefetti Thomas McLaughlin</i>

Executive Committee

Chair: [Larry Wetzel](#)

The Executive Committee Chair, Larry Wetzel, convened the meeting at approximately 3pm. All of the Division Officers except the Treasurer/Finance Chair were present. The serving Division Officers are as follows:

Position	Name	Phone	E-mail Address
Chair	Larry Wetzel	(434)522-6580	llwetzel@babcock.com
Vice Chair/ Chair Elect	Sandi Larson	(865)483-8247	sandi.larson@nuclearassociates.com
Treasurer/ Finance Chair	Robert Maurer	(423)735-5583	rsmaurer@nuclearfuelservices.com
Secretary	Deborah Hill	+44 (1772)-764359	deborah.a.hill@nnl.co.uk
Past Chair (ex officio)	Doug Bowen	(865)576-0315	bowendg@ornl.gov

A total of six out of nine members of the Executive Committee were present. The serving Executive Committee members are as follows, with those not able to participate indicated with an asterisk (*):

Term Ending June of (Year)	Name	Phone	E-mail Address
2013	Nick Brown	(423)753-5519	NWBrown@nuclearfuelservices.com
2013	Adolf Garcia	(208)526-4420	garciaas@id.doe.gov
2013	Chris Robinson	(865)574-8509	robinsonrc@y12.doe.gov
2014	Michael Corum*	(803)873-9591	michael.corum@nuclearassociates.com
2014	Chris Haught*	(865)576-5522	haughtcf@y12.doe.gov
2014	Allison Miller	(505)301-7426	admille@sandia.gov
2015	John Bess	208-526-4375	john.bess@inl.gov
2015	Brian Kiedrowski	505-665-0110	bckiedro@lanl.gov
2015	Thomas Miller*	865-574-9909	tmmiller77@aol.com

Approximately 24 additional NCSD members were present providing broad nuclear industry representation.

Chair's Report: [Larry Wetzel](#)

The Chair provided an update on the Division Chairs meeting with the ANS President. Some of the key discussion points were as follows:

- a. There is now no requirement for an NCS D representative to attend ANS HQ twice a year to secure the room allocations for the meetings, as both that duty and the paper reviews will now be conducted electronically.
- b. The criteria for paper summaries have been relaxed to a maximum length of four pages (including references, tables and figures).
- c. More information can now be included on the ANS websites (and hence past presentations are now available on the NCS D website).
- d. From an educational viewpoint, ANS would like to increase the electronic availability of technical information.

Vice Chair's Report: [Sandi Larsen](#)

The Vice Chair provided an update on general ANS National Organization News. Some of the key discussion points were as follows:

- a. A new Executive Director, Robert (Bob) Fine has recently been appointed. One of his immediate priorities is the overall IT strategy, which will be submitted in June 2013. Transactions are already available on the ANS website; the Strategic Plan will be made available in due course.
- b. Concerns had been raised about the withdrawal of DoE travel funding for the ANS Winter Meeting and hence the impact upon attendance; a letter had been written to the government on behalf of all Divisions to object against this.
- c. The Public Information "Centre for Nuclear Science and Technology Information" was progressing well, with the associated website scheduled to launch on May 1st, 2013. This Centre has been formed to take a proactive position in bringing scientific and technological facts to four targeted audiences: (i) the general public, (ii) the media, (iii) policy makers, and (iv) K-12 classrooms. For example, a training series was being targeted at congressional staff. NCS D members were encouraged to stop at the related ANS booth during the week.

Treasurer's Report: [Bob Maurer](#)

In the absence of the Treasurer, the Chair noted that the NCS D Division was in good financial shape with an "Excess Over Budget Funds" figure of \$26,333. The Chair noted that this was down in part to relatively little spending by the Division. The main expenses recorded so far this year are \$1250 for student travel and \$2206 for the Pioneer Scholarship Fund. One disbursement of \$2250.00 has been requested in November for the NCS D dinner deposit that has not been recorded. The proposed budget for 2013 can be viewed on the NCS D website.

Program Committee's Report: [Allison Miller](#)

Allison noted that the Program Committee had convened immediately prior to the Executive Meeting. Detailed minutes are available on request. A full technical program was planned for the San Diego meeting. Additionally, there had been some discussion relating to the proposed Sessions at the 2013 Summer Meeting (in Atlanta, GA) and the 2013 Winter Meeting (in Washington, DC).

The point was made that effort should be made to ensure that scheduled DoE Criticality Safety Support

Group (CSSG) meetings and NCS D activities at the ANS Meetings do not compete with each other for attendees.

Endowed Scholarship Special Committee: Robert Frost

The Scholarship Fund is currently at approximately 20% of the \$60,000 Goal Figure.

Scholarship Committee's Report: Julie Ezold

Students nominated for the Scholarship should be academically focused on areas of real tangible benefit to the criticality community. In the current scholarship system, there is a heavy reliance on professors to continue this focus. Some attendees felt that better communication of the associated Scholarship timescales might help with this process.

Katherine Goluoglu also mentioned that the Education Committee had recently approved a motion (without objection) to include the Scholarship Recipient as a member of the Education Committee for the duration of their award (given that they are ultimately one of the key intended customers of the outputs from the Education Committee). It was recognized that this input might need to be via telecom, in light of the current DoE travel restrictions.

Education Committee's Report: [Katherine Goluoglu](#)

Katherine noted that the Education Committee had convened immediately prior to the Executive Meeting. Detailed minutes are available on request. Some of the key discussion points were as follows:

- a. The "Integrating Nuclear Criticality Safety into Design" White Paper would be forwarded onto the NCS D Executive Committee for final approval.
- b. Work had been deliberately stopped on the "Realism" White Paper.
- c. A Tutorial on the "Basics of Separation Chemistry" was being planned for the 2013 Winter Meeting (in Washington, DC).
- d. Plans to potentially archive both the presentations and video materials associated with the Tutorials / Workshops (e.g. on the NCS D Website) are being discussed with ANS HQ.

Membership Committee: Megan Pritchard

A current list of all NCS D members has been generated and Megan is managing the membership list.

Publications/Newsletter/Web Site Report: [Larry Wetzel](#)

The goal is to publish the NCS D Newsletter within a month of each national meeting. All recent Newsletters are available on the NCS D Website.

The NCS D website has been steadily used with typically 40 to 50 visitors per day. Most of the visitors are looking at (i) the presentations from past Meetings, (ii) the Newsletters, and (iii) the White Papers. About 90% of the visits come from within the US, but visits also came from 40 other countries.

Honors and Awards Committee's Report: Andy Prichard

The 2012 NCS D Awards Banquet was held during the 2012 ANS winter meeting. A motion was made and then approved (without objection) for Andy Prichard to take on the Honors and Awards Committee Chair position.

Other Reports:

Lon Paulson announced that the next NCS D Topical Meeting on “Nuclear Criticality Safety in the Modern Era: Raising the Bar” is scheduled to be held in Wilmington, NC from September 29th – October 3rd, 2013. Full details are available on the dedicated NCS D 2013 [website](#). In response to a question from Brian Kiedrowski about the absence of an “Experiments” Track, Lon referred to a sentence on the flyer which noted that “*Summaries outside subject of tracks listed will also be considered*”. Lon also indicated that he would like to request approximately \$2,500 for student travel and living expenses.

Representatives from the ANS 2013 Student Conference Organizing Committee announced that the next conference on the “Public Image of the Nuclear Engineer” is scheduled to be held in Boston, MA from April 4th – April 6th, 2013. Full details are available on the dedicated [website](#). Financial support was being requested.

A representative from the ANS Public Information Committee (PIC) gave a detailed presentation to the Executive Committee on the outreach efforts of the PIC. The following were highlighted as potential ways that NCS D members could get involved:

- a. Grassroots Events – Send updates to PICalias@ans.org and let ANS know about your own public outreach. The PIC will promote it through the blog and other means.
- b. Grassroots Slide Sharing – You can also help your colleagues and gain new audience for your work by contributing to our presentation library. Check the ANS website for details.
- c. ANS Nuclear Café – Read, help, distribute or write for our [blog](#).
- d. Speakers Bureau – Volunteer to respond to requests for information that come through our outreach department from media, students and community groups by emailing [Laura Scheele](#).
- e. Internal Coordination – Assign a liaison from this Division to the PIC by sending a note to the committee chair. That way we can work together to make sure we have the best information about specialty and identify future communication opportunities.

Old Business

The Proposed Budget for 2013 was approved without objection, subject to the following two minor amendments: (i) all excess profits from the NCS D Dinner would be transferred to the Pioneer Scholarship fund, and (ii) \$2,500 would be assigned to the 2013 NCS D Topical Meeting in the “Student / Young Member Support” section, as requested by Lon Paulson.

The Chair announced he would be looking for volunteers to support the various NCS D committees.

A motion was made and approved (without objection) to remove the Realism Committee from the NCS D Bylaws.

New Business

Andy Prichard reported that he was the new Chair of the EFCOG (Energy Facility Contractors Group) subcommittee on “Criticality Safety”, which had been set-up to facilitate interaction between nuclear safety and criticality safety. He was currently looking at ways of increasing the level of participation in the group, given that the prime aim was to improve the sharing of information. To facilitate this, he was intending to run monthly telecom meetings, issue minutes, send relevant emails etc. Andy was also keen to raise the profile of the upcoming EFCOG Safety Analysis Conference in May 2013, where some of the

highlights include (i) a panel session on how the new 3009 will impact upon the CCR, (ii) a session on good practices, (iii) a session on lessons learnt from 1189 implementation, (iv) a management tutorial class, and (v) the scheduling at Lawrence Livermore National Laboratory (LLNL) of a 5 day hands-on training course either immediately before or immediately after the conference. The Nuclear Criticality Safety Program (NCSP) has also asked that the subcommittee looks at individual site issues that they could help with (e.g. training). In closing, Andy was keen to emphasize that the criticality safety challenges between DoE and NRC-regulated sites are generally the same, and that sharing information may help to resolve issues in each other's areas. Lon Paulson noted that combined efforts on an ANSI standard relating to Natural Phenomena Hazards (NPH) may be useful.

Adolf Garcia stated that he felt it had become extremely important that the criticality technical community that uses and depends so greatly upon the ICSBEP and IRPhEP benchmark data ensured that their Program Managers (both contractors and DoE management) were made equally well aware of their importance, simply because he was concerned that support for them would otherwise disappear. In particular, he believed there was now an urgent need for support to the legacy data side.

Program Committee

Chair: [Allison Miller](#)

The Program Committee is looking for a Vice-Chair to learn the ropes and take over as Chair one day. The only commitment that is required is to attend the meetings. ANS Headquarters is working towards no longer requiring the visits to Chicago two times per year for the paper auction meetings. Please email [Allison Miller](#) if you are interested in the position.

Highlights of the San Diego Meeting

NCSD had a very full schedule with sessions at the recent winter meeting with two Data, Analysis and Nuclear Criticality Safety Sessions, A full day tutorial on Validation and the Nuclear Criticality Safety Program Highlights from FY2011. Despite the increased travel restrictions attendees had to contend with, the NCSD had a very successful meeting. All seven sessions were well attended. This meeting had a nice mix of subjects, and most of the presentations are available on the [website](#). If they are not up yet, they hopefully will be soon.



Executive Committee Meeting



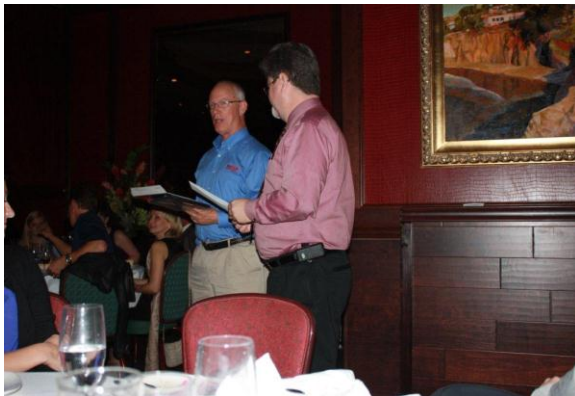
Socializing at the dinner



Socializing at the dinner



Socializing at the dinner



Jerry McKamy Accepting the Technical Excellence Award for Steve Clement.



Sandi Larson accepting the Service Award on behalf of Rob Frost

Sessions for Annual Meeting in Atlanta

Fire Protection and Nuclear Criticality Safety, Achieving Both

Session Organizer: Lon Paulson

With today's emphasis on integrated safety, one of the most high consequence events for both on and off site impact is fire. It can result in significant damage to the facility, injury to personnel, release of radioactive material off-site, and could be an initiating event that leads to criticality. The most common firefighting agent is water, but for operations with high quantities of SMM, moderation must be controlled. The objective of this session is to explore approaches used to integrate fire safety and criticality safety in order to minimize risk to workers and the public.

Data, Analysis and Operations for Nuclear Criticality Safety

Session Organizer: Allison Miller

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.

ANS 8 Standards Forum

Session Organizer: Tom McLaughlin

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

Title: Recent Nuclear Criticality Safety Program Technical Accomplishments

Session Organizer: Nichole Ellis

Session Type: Contributed

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 was held at Oak Ridge National Laboratory on March 1-2, 2011. The goal of this seminar was to have each NCSP Task Manager present their technical results from FY2010. 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 led 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 Winter Meeting of the American Nuclear Society.

Upcoming Meetings (at a glance)

Dates and locations of upcoming meetings are listed below.

Dates	Meeting	Location
Sept 30 - Oct 3, 2013	NCS D Topical	Wilmington, NC
Nov. 10-14, 2013	ANS Winter Meeting	Washington, DC
June 15-19, 2014	ANS Annual Meeting	Reno, NV
November 9-13, 2014	ANS Winter Meeting	Anaheim, CA
June 7-11, 2015	ANS Annual Meeting	San Antonio, TX
September 13-17 (tentative)	ICNC 2015*	Charlotte, NC
November 8-12, 2015	ANS Winter Meeting	Washington, DC

* ICNC 2015 will be hosted by NCS D and ANS. For more information on the ICNC 2015 Planning Committee, contact [Sandi Larsen](#).

NCSD 2013

Organizer: Lon Paulson

Calling ALL nuclear criticality safety professionals - your technical contributions will determine the success of our next Stand Alone Class I Topical! The Nuclear Criticality Safety Division (NCSD) of the American Nuclear Society (ANS) and the Wilmington Area Local Section of the ANS (WALS) are proud to host the 2013 Topical Meeting on Nuclear Criticality Safety. NCSD 2013 continues the long history of successful quadrennial criticality safety topical meetings, and this year celebrates those individuals who, through insight and individual dedication, have promoted development of nuclear criticality safety expertise through sharing of ideas, and providing opportunities that offer technical growth and recognition.

INPO/NRC Nuclear Safety Culture principle(s) both acknowledge that “Nuclear Safety Undergoes Constant Examination.” As such, NCSD 2013 will focus on key program/technical improvement areas involving state-of-the-art methods, analysis, procedures, training, risk assessment operating experience and lessons learned, and post-Fukushima impacts on nuclear criticality safety (NCS) programs for existing / planned new facilities. The call for papers is available on the [meeting website](#). Submissions are due by the beginning of April. The proposed sessions tracks are:

Methods: The goal of this track is to provide a forum for reporting on the development and use of state-of-the-art analytical tools, methods and nuclear data capabilities needed to support the nuclear criticality safety (NCS) practitioner in accordance with the ANSI/ANS-8 national consensus standards. Papers are requested for the following topics: advances in Monte Carlo methods, nuclear data, uncertainty analysis, geometry package, visualization tools, verification and validation, etc.

Analysis: Regulated facilities must document the nuclear criticality safety bases of fissile material process operations. DOE Orders, standards, guides, NRC SNM Licenses, and ANSI/ANS-8 national consensus standards, and internal procedures provide additional implementation guidance and requirements. The analyst must put all the pieces together in a succinct document and be of sufficient detail to permit independent assessment of the results. The goal of this track is to share practical examples of documented nuclear criticality safety evaluations and demonstrations of how the double contingency principle is met. Unit analyses or interaction analyses subjects are welcome.

Procedures: The emphasis of this track is on best-practices for procedures and processes used to establish configuration control of criticality safety evaluations, assessments, annual reviews, flow down of controls, and response to deviations from operating procedures as required by Section 7 of ANSI/ANS-8.19. Papers are solicited on procedures, processes, databases, interactive systems, etc. that enable programs to effectively manage the dynamic criticality safety evaluation and control environment for fissionable material processes.

Training: This track is expected to address the following questions: What has been the impact of ANS-8.26 on training programs? With the retirement of many “old timers” from NCS, is mentoring still a viable option for training CSEs? With today’s simulation capabilities, is hands-on training for CSEs considered necessary? How has the expansion of computer-based training impacted NCS training for both CSE and operations personnel? What is the best way to balance on-the-floor training with production demands for operations staff? What is the best way to integrate CSEs into the training organization for NCS training and certification of operations personnel?

Risk Assessment (OE/LL): With the maturing of the integrated process hazards analysis (PHA) under 10CFR70 and 10CFR830, a great deal of experience and lessons learned (some good, some bad, and some ugly) have emerged. The goal of this track is to share these experiences with the NCS community. Facility experience related to improvement in safety margin, applications of qualitative/quantitative risk methods, identification of previously unidentified NCS hazards, including large fire scenarios, are encouraged and will benefit all facilities.

Post-Fukushima Impact: This session will focus on natural phenomena hazards (NPH) impacts on existing or planned future nuclear facilities as a result of DOE/NRC regulatory changes. Of interest is current status of proposed rulemaking on spent nuclear fuel (SNF) pools, reactivity behavior during postulated mitigating strategies for flooding or seismic events, and NPH impact on documented ISA/DSAs.

Education Committee

Chair: [Katherine Goluoglu](#)

The Education Committee will be organizing an all-day tutorial for the winter meeting on uranium and plutonium chemistry titled Fundamentals of Uranium and Plutonium Chemistry Tutorial.

This tutorial will focus on uranium and plutonium chemistry, in order to better understand and correctly model systems with solutions or slurry mixtures. It will cover the basic materials and reactions that are encountered in fuel fabrication or proposed reprocessing facilities, as well as some of those that may be seen when dealing with unique legacy materials. The information covered will include methods for calculation of atomic number densities from solution information, and understanding what factors affect the settling or collection of material from a solution.

This tutorial is tentatively scheduled for Wednesday to avoid other meeting conflicts.

Additional News

ANSI/ANS-8 Volunteers Needed

The NCS division supports work for several ANSI/ANS-8 standards committees. All of the ANSI/ANS-8 standards can be purchased through ANS at the [ANS store](#). A few Work Group chairs have indicated they could use additional volunteers to support standards revision or maintenance work. To become a member of an ANS-8 Work Group, the Work Group Chair must agree to your participation. If you are interested in supporting one or more of the ANS-8 Work Groups listed below, please contact the listed Work Group Chair or Vice-Chair. Volunteers should have endorsement for participation 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.

The committees still in need of volunteers are:

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](#)

Bob Busch made a presentation on the standards process which is posted on the same web page as the presentations. It covers not only what we see from the ANS8 level but the full process. N16 is still working on a permanent chair for ANS8 after the retirement of Davis Reed. Tom McLaughlin, who was chair prior to Davis, has agreed to be temporary chair. Bob reported on an effort by the Standards Board to move ANS8 under another consensus committee and disband N16. Bob, Calvin and Tom were successful in fighting this effort. The Standards Board is now looking at creating more consensus committees.

International Standards for Nuclear Criticality Safety

Conveners (Chairs): [Calvin Hopper](#) or [Lon E. Paulson](#)

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 US Overall Advisor of the ANSI Nuclear Technical Advisory Group for ISO Technical Committee 85 (TC85), Nuclear energy, nuclear technologies, and radiological protection, Subcommittee 5 (SC5), Nuclear fuel cycle, coordination has changed from Mr. Calvin M. Hopper (Oak Ridge National Laboratory, retired) to Mr. Lon E. Paulson (GE Hitachi Nuclear Energy, Global Laser Enrichment). Mr. Hopper will continue as the US ANSI Convener (Chairman) of ISO TC85/SC5/WG8 and he will continue the coordination of the ISO TC85/SC5 2013 meeting in the US. Mr. Paulson has begun the coordination of US ANSI/NTAG proposals, reviews, comments, comment reviews, and approvals of ISO standards for the following ISO TC85/SC5 working group (WG) subjects:

- WG1 Analytical methodology in the nuclear fuel cycle
- WG4 Transportation of radioactive material
- WG5 Waste characterization
- WG8 Nuclear criticality safety
- WG13 Decommissioning

Mr. Paulson will rely on the expertise of various US standards development organization (SDO) representatives from such professional societies and SDOs such as:

- Institute of Nuclear Materials Managements (INMM) Consensus Committee N15, responsible for the preparation of standards for protection, control and accounting of special nuclear materials in all phases of the nuclear-fuel cycle, including analytical procedures where necessary and special to this purpose, except that physical protection of special nuclear material within a nuclear power plant is not included.

- Institute of Nuclear Materials Managements (INMM) Consensus Committee N14, responsible for the preparation of standards for the packaging and transportation of fissile and radioactive materials and non-nuclear hazardous materials including waste and mixed materials, but not including movement or handling during processing and manufacturing operations.
- American Nuclear Society (ANS) Consensus Committee N16, responsible for the preparation of standards providing guidance in the prevention of nuclear chain reactions in all procedures for handling, storing, transporting, processing, and treating fissionable nuclides.
- Private and government organizations (e.g., Nuclear Energy Institute, Energy Facility Contractors Group) for guidance and input regarding waste characterization and decommissioning.

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").

ANS Mentorship Program

Did you know the American Nuclear Society offers a mentorship program? The program matches students or young, early career ANS members with established nuclear professionals. Participating in this program as a mentor is a great way to encourage young people to consider pursuing a career in nuclear criticality safety, and to invite the next stars of the nuclear industry to participate with the division. The NCS division has some of the best participation in the society; help keep this momentum for the division's next generation by reaching out to the division's future leaders. If you are a student or young member, this is a great program to network with leaders of the industry. Take advantage of this program for your own career excellence! For information on how to participate as either a mentor or protégé, check out the ANS mentorship [webpage](#).