American Nuclear Society

Standards Board (SB)

November 11, 2014
Sleeping Beauty, Disneyland Resort, Anaheim, California
8:30 a.m. – 5:00 p.m.

Members Present:

George Flanagan, Standards Board Chair & RARCC Chair, *Oak Ridge National Laboratory*
*Steven L. Stamm, Standards Board Vice Chair, *Individual*
Robert J. Budnitz, JCNRM Co-Chair**,** *Lawrence Berkeley National Laboratory*
Robert D. Busch, NCSCC Chair, *University of New Mexico*
Yan Gao, ESCC Vice Chair, *Westinghouse (Alternate for Carl Mazzola)*
Herbert W. Massie, Member at Large, *Defense Nuclear Facilities Safety Board*
N. Prasad Kadambi, RP3C Chair & ISO & ANSI Liaison, *Individual*
James O'Brien, NRNFCC Chair, *U.S. Department of Energy*
*Mathew M. Panicker, Member at Large, *U.S. Nuclear Regulatory Commission*
William Reuland, LLWRCC Chair, *Individual*
R. David Sachs, Member at Large, *Individual*
Andrew Smetana, SRACC Chair, *Savannah River National Laboratory*
Patricia (Pat) A. Schroeder, Standards Board Secretary, *American Nuclear Society*
Donald J. Spellman, IEEE/NPEC Liaison, *Individual*
William M. Turkowski, Member at Large, *Westinghouse*
Edward Wallace, Member at Large, *NuScale Power Inc.*
**Participated by teleconference for at least a portion of the meeting.*

Voting Members Absent:

James K. August, Member at Large, *Southern Nuclear Operating Company*
Donald R. Eggett, FWDCC Chair, *AMES Foster Wheeler, Inc.*
Carl A. Mazzola, ESCC Chair, *CB & I Special Projects Group (Alternate attended)*
Charles (Chuck) H. Moseley, Member at Large, *Individual*

Guests:

Michaele Brady Raap, ANS President, *Pacific Northwest National Laboratory*
Gene Carpenter, *U.S. Nuclear Regulatory Commission*
Maryann Stasko*, Duke Energy*
Larry Wetzel, NCSCC Vice Chair*, Babcock & Wilcox Nuclear Operations Group*

Next meeting: June 9, 2015, during the ANS annual meeting at the Grand Hyatt in San Antonio, Texas

1. Welcome and Introductions

Standards Board (SB) Chair George Flanagan called the meeting to order. Introductions were made.

2. Approval of Agenda

The agenda was approved with one change. The update of the Risk-Informed and Performance-Based (RIPB) Plan was moved under item 16, the Risk-Informed and Performance-Based Principles Policy Committee (RP3C) Report.

3. SB Chair Report

A. Board of Directors Report (BOD) (Attachment 1)
George Flanagan directed members to the BOD report provided in the packet. He gave members the opportunity to comment.

B. Report of President's Special Meeting
Flanagan reported on the President's Special Meeting held the previous Sunday morning. He reiterated that members were asked to send in comments to the Environmental Protection Agency regarding the initiative to eliminate the use of radioisotopes in the United States in an appropriations bill. Members were asked to contact their senator to express concerns regarding this initiative.

Flanagan had a meeting with Eugene Grecheck regarding the reduction of membership. He will be looking at the organizational structure and the lack of utility participation in the Society. There may be issues related to relevance of our standards. William Turkowski suggested that we look at Nuclear Energy Institute (NEI) documents and whether there was a need for any to be voluntary consensus standards. Members agreed and stated that this concept had been previously discussed. It was recognized that there were occasions that guidance was needed in a short time period that could not wait until a voluntary consensus standard was developed. Flanagan stated that Donald Hoffman followed through with speaking with NEI on utility participation in standards. The response was not favorable. He was told that ANS standards in general were not used by utilities. Members recognized that utility participation on standards committees were vital when developing standards for utility use. Flanagan stated that he discussed the letter prepared by Donald Spellman regarding the Utility Engagement Program with Grecheck (copy attached – see Attachment 2). The subject of inspections, tests, analyses, and acceptance criteria (ITAAC) was discussed as the scope of a standard of interest to utilities. Flanagan asked William Reuland to consider initiating a standard ITAAC within the Large Light Water Reactor Consensus Committee (LLWRCC).

ACTION ITEM 11/2014-01: William Reuland to consider developing a new standard on ITAAC within the LLWRCC. (Reassignment of Action Item 6/2014-11). Due Date: February 1, 2015

4. Secretary Report

A. Staff Report/Sales Report (Attachment 3)
Staff and sales reports were included in the meeting materials packet for members' information. Pat Schroeder highlighted significant items in the reports. She informed members that the cover of ANS standards and the design of *Nuclear Standards News* was redesigned to be consistent with the new ANS Branding Guide. A copy of the new look was provided in the staff report. Schroeder questioned members on their thoughts of moving to a one-column format in ANS standards. She explained that a one-column format would be easier for working groups and might be easier for the typesetter resulting in reduced typesetting costs. Members were in favor of moving to a one-column format as they felt it would be easier for those using a tablet. Schroeder stated that she'd direct the typesetter to make this change along with the new cover. Members reviewed the sales report briefly. A request was made for Schroeder to include the cumulative number of e-standards/print copies sold on the sales report in the future.

ACTION ITEM 11/2014-02: Pat Schroeder to add cumulative number of e-standards/print copies sold to the sales reports in the future. Due Date: June 1, 2015 (for next report provided before the June 2015 meeting)

B. ANS Workspace Update

Schroeder provided the members an update on the development and transition of all committees to the ANS Workspace. One hundred thirteen workspaces had been created for the Standards Board, special committees, consensus committees, subcommittees, and working groups. User accounts had been created for 422 members. Several trainings had been held and recorded for future use. Over 60 ballots had been issued by ANS staff through Workspace, and 600 documents had been uploaded to the site this year. Schroeder stated that the new ANS Workspace was a major effort of 2014 and took priority over other projects. She explained that getting many members to complete the setup of their user accounts was an unexpected challenge and ongoing effort. More detail on the ANS Workspace is provided in the staff report (Attachment 3).

C. New Copyright Disclosure Form/Updated Policy (Attachment 4)
Schroeder explained that she recently found material from a third party, copyrighted document in an ANS draft standard. (Third party: not created by the working group or from another ANS publication.) ANS needed to gain permission from the publisher to use of their material in our standard. To address this issue, the Policy on Handling References in Standards was updated and a new Copyright Disclosure Form was created. The policy will require that working group chairs complete the disclosure form prior to the draft standard being issued for ballot so that ANS staff can acquire appropriate permissions. Members quickly reviewed the revised policy and disclosure form. Schroeder was directed to issue the revised policy and disclosure form for approval ballot to the SB after proofing.

ACTION ITEM 11/2014-03: Pat Schroeder to issue the revised reference policy and disclosure form for approval ballot to the SB after proofing.
Due Date: December 31, 2014

5. Volunteer Recognition
Pat Schroeder explained that the initial request for volunteer recognition came from Carl Mazzola and was related to John Stevenson's notice that he would be retiring from all standards work at the end of 2014. Sadly Stevenson was in a fatal car accident the previous month. A card was circulated for all SB members to sign for his widow and a personal letter of condolence was prepared and issued from SB Chair George Flanagan. Donald Spellman informed members that he had previously issued letters of appreciation to subcommittee chairs' management. He suggested that consensus committee chairs consider incorporating this practice for subcommittee chairs. The following motion was made:

> **Motion:** Each consensus committee chair to send letters to managers of subcommittee chairs recognizing subcommittee chair contributions on a regular, undefined basis.
>
> It was confirmed that the motion was a recommendation and that the chair could/should delegate this responsible.

The motion passed unanimously.

ACTION ITEM 11/2014-04: Consensus committee chairs to issue letters of recognition to subcommittee chairs and their managers as appropriate.

6. New Avenues to Solicit Volunteers to Maintain Delinquent Standards
George Flanagan expressed his concern with a significant number of standards that had surpassed the 5 year required maintenance and were considered delinquent by the American National Standards Institute (ANSI). Flanagan informed members that he discussed delinquent standards with the professional division chairs, and they offered their assistance. Members generally welcomed this support. It was suggested that each consensus committee maintenance coordinator should be the point of contact with professional divisions in this effort. With positive feedback, Flanagan stated that he would confirm with Hans Gougar, the professional divisions chair.

ACTION ITEM 11/2014-05: George Flanagan to confirm details with Professional Divisions Chair Hans Gougar to implement professional divisions reviews of delinquent standards to determine appropriate maintenance action. (Flanagan to keep Eugene Grecheck informed of this process.)
Due Date: April 1, 2015

7. Standards Service Award

A. Nomination Deadline Change
Members were reminded of the recent Standards Service Award nomination deadline change from April 1 to March 1. The change was made at the direction of the Honors and Award Committee to be consistent with several other award deadlines. The awarding of the plaque at the ANS winter meeting remained unchanged.

B. Appointment of Standards Service Award Ad Hoc Committee
George Flanagan appointed Donald Spellman as the 2015 Standards Service Award Ad Hoc Committee Chair. Spellman was directed to select two additional members to the ad hoc committee.

ACTION ITEM 11/2014-06: Donald Spellman to serve as the 2015 Standards Service Award Ad Hoc Committee Chair and to select two additional members to help with the selection.
Due Date: March 1, 2015

8. Student Section Associate Membership Report (Attachment 5)
Members were informed of recent broadcast to students with an opportunity to become engaged in ANS standards. Pat Schroeder added that the broadcast was well received. Inquiries of interest were received shortly after the broadcast was issued. Eleven student members followed through with submitting a volunteer form. All were placed on a committee as an associate member. Flanagan added that he spoke informally at a recent local section meeting and discussed standards. He stated that a couple of students in attendance expressed interest in attending the SB meeting and may show up. A recommendation was made to send similar broadcasts to student section members every other year and to prepare a broadcast to the ANS Young Member Group (YMG) and North American Young Generation in Nuclear (NAYGN).

Herbert Massie added that he made a presentation at the Fuel Cycle Information Exchange Meeting in June 2014 and stated that he'd distribute the presentation to the SB for their information.

ACTION ITEM 11/2014-07: Pat Schroeder to send a broadcast to student section members on getting involved in standards every other year – next time to be July 2016.
Due Date: July 31, 2016

ACTION ITEM 11/2014-08: Pat Schroeder to create a similar solicitation broadcast to the YMG and NAYGN.
Due Date: February 28, 2015

ACTION ITEM 11/2014-09: Herbert Massie to distribute the presentation he made at the Fuel Cycle Information Exchange Meeting to the SB.
Due Date: November 30, 2014

9. Advanced Reactor General Design Criteria (GDC) Update

George Flanagan provided an update on advanced reactor GDC. For those not aware, he explained there was a joint effort between the U.S Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC) to put together a framework license document. Efforts had been ongoing for 14-15

months. The DOE provided a set of design criteria to be used as GDC in 10CFR50 for light water reactors (LWR). This was the first joint effort for advanced reactors and was worded technology neutral to be applicable to a variety of reactors. The intent was that design specific standards would be developed. Flanagan stated that the DOE portion was completed and had just been signed off. The NRC would develop a regulatory guidance document, possibly an interim staff guidance document or a regulatory guide. Flanagan explained that the GDC was relevant to the RARCC as they had three standards or active projects for advanced reactors. He had been involved in the creation of the DOE document. Flanagan anticipated that this infrastructure license document will be available through ADAMS – NRC's Agencywide Documents Access and Management System – within a week. He added that this could have an effect on some ANS standards. Flanagan would distribute a copy of the framework license document to the SB for their reference.

ACTION ITEM 11/2014-10: George Flanagan to provide Pat Schroeder the framework license document for distribution to the SB.
Due Date: November 30, 2014

10. White Paper on Addressing Beyond Design Basis Events (BDBE) in ANS Standards [Action Item 6/2014-13] (Attachment 6)

George Flanagan informed members that Steven Stamm put together a draft paper for him addressing BDBE in ANS standards. Because Recommendation 1 of the NRC Near Term Task Force was not implemented, regulations had not changed. Ed Wallace suggested that BDBE would be an area to be addressed by risk informing standards and should be considered. Wallace sees this as a body of work that covers a lot of ground. Although of value, Robert Budnitz did not see it possible to develop a BDBE standard. It was his belief that it would require input from multiple standards development organizations (SDOs) as many issues could not be separated. Donald Spellman felt that the platform of the Nuclear Energy Standards Coordination Collaborative (NESCC) could develop a standard with collaboration of multiple SDOs. Flanagan questioned whether a methodology standard could be developed recognizing that the input would be provided by an alternate body. Spellman suggested to take the same approach in that ANS develop the standard but use NESCC to solicit multiple SDO representation. Stamm suggested to create an ad hoc task group with a chair to look for a small group of people in the industry to develop a recommended approach. Wallace felt that this task was under the RP3C's charter. Budnitz added that the DOE had work in this area that should be recognized. James O'Brien added that the DOE had been focusing on the residual risk and suggested that there could be an opportunity to develop a standard in this area. On a related subject, Andrew Smetana added that he reviewed standards within Safety and Radiological Analyses Consensus Committee (SRACC) and confirmed that BDBE was not applicable to SRACC standards but would make sure that subcommittee chairs would consider BDBE if applicable (Refers to Action Item 6/2014-12) .

Flanagan summarized that there was some interest and possibilities discussed. He suggested that we take Stamm's recommendation and create a task group to explore options within the RP3C.

ACTION ITEM 11/2014-11: Prasad Kadambi and Ed Wallace to create a task group within the RP3C to address the issue of creating a BDBE standard and report back to the SB. The task group should use Steven Stamm's draft white paper (Attachment 6) as reference. This action item replaces Action Item 6/2014-13.
Due Date: May 1, 2015

11. RIPB Plan Update [Action Item 11/2013-12]

Discussion moved to item 16.

12. Glossary Update [Action Item 6/2014-04]

Steven Stamm explained that the review of the glossary was essentially complete except for resolving concerns expressed by Donald Spellman regarding numerous definitions for the same term from

historical standards. Spellman saw no value in including multiple definitions of the same term from standards now several decades old. Concern was expressed with inconsistency in definitions if working groups did not utilizing the ANS glossary. Members recognized that there could be confusion with multiple definitions for the same term but saw benefit in retaining the historical definitions for reference. Stamm made a recommendation to complete the effort and designate a preferred definition that should be used unless there was a reason why not to use; non preferred terms would remain for information. Stamm added that his task group was three-quarters of the way through the glossary in identifying preferred terms.

ACTION ITEM 11/2014-12: Steven Stamm and Donald Spellman to complete the identification of preferred terms and update the foreword in the glossary so that it could be issued for working group use.
Due Date: February 28, 2015

13. Component Classification Task Group Update [Action Item 6/2014-14]
Donald Spellman updated the SB on the status of the component classification task group under the NESCC. He reported that he submitted a task group proposal to the NESCC, but it did not look promising. He added that the National Institute of Standards and Technology (NIST) pulled out of the NESCC and leadership changed. The task group proposal asked for funding through the NESCC for the work. Spellman was informed that the NESCC didn't have funding. Prasad Kadambi added that he thought it was really more of the government agencies defining their role in standards development and setting priorities. Although the NESCC had been around for a few years, it was still defining it role. Spellman confirmed that ANS would continue its plan to initiate a standard on component classification regardless of NESCC support. The proposed new standard was given the designation of ANS-30.2. A title had not yet been given. A PINS was in development.

14. Standards Training Program [Next step to Action Item 6/2014-22]
Steven Stamm provided an update on the status of the training modules. He stated that the next step was to establish a training program. Stamm suggested a matrix to determine who needed what training. Instructors to lead the web trainings were needed. Stamm suggested one primary instructor and one backup instructor for each module.

ACTION ITEM 11/2014-13: Steven Stamm and Pat Schroeder to issue a request to consensus committee chairs to identify which webtraining sessions each of the volunteers under that consensus committee should be invited to attend.
Due Date: March 1, 2015

ACTION ITEM 11/2014-14: Standards Board members let Steven Stamm and Pat Schroeder know if they can serve as primary instructor or backup instructor for webtraining sessions.
Due Date: April 1, 2015

15. Status of Current Action Items/Open Issues (Attachment 7)
The action item report (Attachment 7) was reviewed. Several action items were confirmed that they had been completed. Action items discussed at length are reported below.

- Action Item 6/2014-01: Andrew Smetana to start a dialog with the NRC to effect the rulemaking process to replace the reference to the 1971 decay heat standard (ANS-5.1) in 10CFR50, Appendix K, with a reference to the most current standard. (Note: This should include the discussion of whether the NRC prefers to use the 2005 version or the pending revision.)
  Andrew Smetana reported that he spoke with ANS-5.1 Working Group Chair Ian Gauld and learned that past attempts were made to update the reference to the 1971 decay heat standard in the CFR, but they were not accepted. Gene Carpenter, in attendance, offered his assistance in identifying the appropriate contact at NRC to discuss this issue. Smetana was asked to 1)

work with Gauld to provide a comparison between the 1971 and 2014 versions of ANS-5.1 and 2) to ask Gauld to prepare an article on ANSI/ANS-5.1-2014, "Decay Heat Power in Light Water Reactors," for *Nuclear News*, *ANS News*, *Nuclear Standards News*, etc. This action item remained open and the following additional action items were assigned.

ACTION ITEM 11/2014-15: Andrew Smetana to work with Gene Carpenter to determine the appropriate contact at NRC to discuss the possibility of updating the endorsement of the 1971 decay heat standard (ANS-5.1) in 10CFR50, Appendix K, to the recently approved version – ANSI/ANS-5.1-2014. [Follow up action item to 6/2014-01]
Due Date: April 1, 2015

ACTION ITEM 11/2014-16: Andrew Smetana to provide a comparison between the ANS-5.1 1971 draft and ANSI/ANS-5.1-2014 to the SB.
Due Date: May 1, 2015

ACTION ITEM 11/2014-17: Andrew Smetana to ask ANS-5.1 Working Group Chair Ian Gauld to prepare an article about the new version of ANSI/ANS-5.1-2014 for *Nuclear News* or other suitable ANS publication (Notes & Deadlines, *ANS News, Nuclear Standards News*)
Due Date: April 1, 2015

- Action Item 6/2014-15: Steven Stamm to prepare guidance on what goes into a standard and what goes into an appendix. Guidance may consider the 6 points discussed at the June 17, 2014, SB meeting.

  A guidance document was prepared by Steven Stamm and issued for ballot (see Attachment 8). The section on addressing differences between NRC and DOE was removed as there were objections. Stamm explained that this issue was a problem with ANSI/ANS-58.16-2014, "Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities," recently approved. The product was essentially a guidance document and not a standard. Pat Schroeder questioned whether this issue should be brought to the NESCC. Members discussed elevating this issue to the NESCC but ultimately decided against this option. Members recognized the issue but no solutions were brought forward. The guidance document covering the remaining issues will be issued for you use after acceptance of comment resolutions.

- Action Item 6/2014-18: Prasad Kadambi to put together a status report on the NEI/NRC Risk Informed Steering Committee (RISC) recommendations and provided to Pat Schroeder for distribution to the SB.

  Kadambi reported that the NEI/NRC RISC was still functional and had two active working groups. Kadambi was not able to attend the recent meeting and could not offer a report. This action item was closed.

- Action Item 6/2014-13: George Flanagan (current SB Chair) to develop a white paper on how to address BDBE in ANS standards. (Steven Stamm will develop a draft for Flanagan that indicates RP3C should be included this in its plan.)

  This action item was closed and reissued under the responsibility of the RP3C under agenda Item 10 as Action Item 11/2014-11.

- Action Item 6/2014-20: Donald Spellman (Policy TG Chair) to determine if the Policy TG needed to be reformulated/changed to improve the activity of this group.

  Donald Spellman provided members a revised scope for the Policy TG Group (see Attachment 9) that was included in the meeting materials packet. Members accepted the revised scope as presented. This action item was closed.

- Action Item 6/2014-28, George Flanagan (current SB Chair) to follow up with Donald Hoffman in September (2014) about interactions with Tom Boyce (NRC) to make sure that the NRC thinks of ANS first for nuclear issues and interface.

Flanagan reported that he spoke with Hoffman. He learned that ANS was not as high on the list as we had hoped. This action item was closed.

- Action Item 11/13-03: Pat Schroeder to use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members.
  Schroeder reported that she prepared several write-ups on standards needing volunteers that were posted in the ANS LinkedIn Group. A few examples were included with the meeting materials packet (see Attachment 10). Unfortunately none produced any new volunteer interest. Schroeder stated that the ANS communications manager suggested that a brief article with more technical details be prepared for standards in need of volunteer support. The article should explain the need for maintaining, updating, or initiating the standard that would include benefits to the industry. The basis for this type of article would need to be prepared by someone which technical/industry knowledge such as the subcommittee chair. Members agreed that this could be beneficial and suggested that consensus committee chairs work with their subcommittee chairs to prepare brief articles. The articles could be edited to be appropriately for use in multiple media -- ANS LinkedIn Group, ANS Notes and Deadlines, *ANS News,* or *Nuclear News*.

ACTION ITEM 11/2014-18: Consensus committee chairs to work with subcommittee chairs to prepare a short article about any standard in need of subject matter experts to be maintained or initiated. The article should include details of why the standard needs to be maintained (revision/reaffirmation) or initiated and include its importance and benefit to the industry, expertise needed, etc. Articles to be provided to Pat Schroeder.
Due Date: March 1, 2015

ACTION ITEM 11/2014-19: Pat Schroeder to work with the ANS Publication Information Department, Nuclear News staff, and ANS News staff to disseminate articles on ANS standards needing volunteer support from subcommittee chairs in appropriate ANS media/publications.
Due Date: June 1, 2015

16. RP3C Report

RP3C Chair Prasad Kadambi provided a report from the RP3C meeting held the previous day. He reported that the draft Risk-Informed Performance-Based (RIPB) Plan was posted to the workspace and should be considered a living document. Kadambi would be engaging the consensus committee chairs and would make sure that the technical materials from RP3C's meeting were disseminated in the appropriate way. Kadambi reported that the RP3C discussed the changing environment, existing plants, new reactors, and DOE work on advanced reactors. He added that collectively the ANS Standards Committee needed to be cognizant of these changes and improve and modernized where possible. Customers were looking for ways we can help them reduce costs and increase benefits. Ed Wallace reviewed Pressurized Water Reactor Owners' Group (PWROG) focus areas for the near and long term. Robert Budnitz added that the Boiling Water Reactor Owners' Group's (BWROG) list was essentially the same as the PWROG. Kadambi stated that considerable work was going on in multiple places, and we needed to recognize that there was a role for all of these efforts going forward. Kadambi stated that before we were rewarded with a grant, we needed to show relevant and timely accomplishments. Kadambi asked that the RP3C be provided the opportunity to get comments on the RIPB plan to finalize and work with the consensus committees to start the pilot efforts. Kadambi requested reaffirmation of the charter for the RP3C, integration of the draft text in ANS Workspace, identification and resolution of technical issues that needed clarification, alignment or redirection. He added that they need to identify where new and/or revised standards were needed.

Kadambi expects that a "kickoff" introductory package detailing how to move forward would need to be develop. Donald Spellman confirmed that he accepted an action item at the RP3C meeting to provide them a list of priority standards and the criteria used to determine the priority.

The following motion was made:

Motion: To accept the draft RIPB plan by the committee.

The initial motion was withdrawn.

Amended Motion: The SB agrees with the RP3C course of action to engage in a pilot program with one of the consensus committees to reach the objectives of the RP3C as outlined in the RP3C presentation (Attachment 11).

The amended motion was unanimously approved.

ACTION ITEM 11/2014-20: RP3C to engage in a pilot program with one of the consensus committees to reach the objectives of the RIPB Plan. Due Date: June 1, 2015

Schroeder was asked to add the RP3C Bylaws to the SB and RP3C workspaces.

ACTION ITEM 11/2014-21: Pat Schroeder to add the RP3C Bylaw to the SB and RP3C workspaces. Due Date: November 30, 2014

17. Consensus Committee Chair Reports

A. Large Light Water Reactor Consensus Committee (LLWRCC) (See Attachment 12 for the LLWRCC Report)
LLWRCC Chair William Reuland suggested that members review the provided report of LLWRCC activities. He provided members highlights from the LLWRCC meeting held the previous day. He informed members that a gentlemen by the name of Kenneth Gleehood stopped into the meeting and expressed interest in helping to reinvigorate the historical revision of ANSI/ANS-18.1-1999, "Radioactive Source Term for Normal Operation of Light Water Reactors." The revision of this standard had to be put on hold until updated source term data was acquired. Current data was not publically available. Reuland added that Gene Carpenter offered to help facilitate this effort within NRC (this action is document in an LLWRCC action item). Reuland also reported that containment hydrogen control was discussed as a possible topic for a new standard. Donald Spellman informed members that he was assigned an action item at the LLWRCC meeting to contact the American Society of Mechanical Engineers (ASME) regarding their efforts in the area of containment hydrogen control. William Turkowski suggested to start with ASME's AG-1 committee. Reuland explained that several action items were set to solicit chairs for a few projects and two subcommittees. He requested to elevate a LLWRCC action item for a Standards Committee representative to attend the upcoming ANS Student Conference and make a presentation. The next student conference was scheduled for April 2015 at Texas A&M. The representative would probably need to be someone local or who was planning to attend. Members were asked to let George Flanagan and Pat Schroeder know if they knew anyone that might be in a position to make the presentation. An alternate may be to see if the ANS president was attending and could include information on standards or minimally provide a handout.

ACTION ITEM 11/2014-22: Members to let George Flanagan and Pat Schroeder know if they are aware of any potential candidates (local or planning to attend) that could provide a presentation on standards at the ANS 2015 Student Conference at Texas A&M in April. An alternate may be to see if the ANS president was attending and could include information on standards or minimally provide a handout. Due Date: March 1, 2015

Reuland reported that a succession plan for LLWRCC leadership was in works. He explained that LLWRCC Vice Chair Timothy Meneely's workload had increased significantly and may no longer be in a position to step up and chair the LLWRCC. Donald Spellman confirmed that he offered to take over

as LLWRCC chair if he could get a commitment from Rocky Kreider to assist as LLWRCC vice chair. Kreider needed to check with his management before committing.

Lastly, Reuland informed members that the LLWRCC was considering alternate meeting options that would produce better attendance because the last two LLWRCC meeting did not have a quorum. A survey would be issued shortly to gain members' input. The survey will include an option of holding meetings at ANS headquarters in La Grange Park, Illinois, a western suburb of Chicago. The thought was that traveling to the Chicago area was considerably more convenient than many of the ANS national meeting sites.

B. Research and Advanced Reactors Consensus Committee (RARCC) (See Attachment 13 for the RARCC Report)

RARCC Chair George Flanagan reported that the majority of activities within the RARCC were on the research reactor side. He recognized that a few of the ANS-15 series standards for research reactors were in need of maintenance and confirmed that they had the expertise needed to perform the necessary review. Revisions to several research reactor standards were in development and good progress was being made. Work was progressing on the advanced reactor side as well. Flanagan informed members that the ANS-54.1 Working Group was scheduled to meet the following day and was close to completing the draft of ANS-54.1, "Nuclear Safety Criteria and Design Process for Liquid-Sodium-Cooled Reactor Nuclear Power Plants." He added that the ANS-20.1 Working Group developing ANS-20.1, "Nuclear Safety Criteria and Design Process for Fluoride Salt-Cooled High-Temperature Reactor Nuclear Power Plants," would meet on Thursday during the ANS winter meeting. Lastly, Flanagan informed members that two new standards projects were assigned to the RARCC. They were ANS-30.1, "Risk-Informed and Performance-Based Nuclear Power Plant Design Process," and ANS-30.2 on classification of system, structures and components. A PINS for ANS-30.1 had been prepared and was out for ballot. A PINS was in development for ANS-30.2 (title to be determined).

C. Nonreactor Nuclear Facilities Consensus Committee (NRNFCC) (See Attachment 14 for the NRNFCC Report)

NRNFCC Chair James O'Brien updated the SB on NRNFCC activities. He noted that ANSI/ANS-58.16-2014, "Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities," was approved and would be published shortly. Two additional proposed standards projects were in development – ANS-3.14, "Process for Aging Management and Life Extension of Nonreactor Nuclear Facilities," and ANS-57.11, "Integrated Safety Assessments for Nonreactor Nuclear Facilities." O'Brien added that proposed standards on gloveboxes were under consideration and that work in this area would be coordinated with the American Glovebox Society.

D. Safety and Radiological Analyses Consensus Committee (SRACC) (See Attachment 15 for the SRACC Report)

SRACC Chair Andrew Smetana stated that he was happy to report that the revision to the decay heat standard was just approved – ANSI/ANS-5.1-2014, "Decay Heat Power in Light Water Reactors." He recognized that several of the committee's standards were delinquent, some due to lack of a working group chair and/or working group members. He informed members that the working group chair responsible for the maintenance of ANSI/ANS-10.2-2000 (R2009), "Portability of Scientific and Engineering Software," recommended that the standard be withdrawn. Smetana felt that ANSI/ANS-10.4-2008, "Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry," should be reaffirmed. He added that he expected a revision of ANSI/ANS-10.4-2008 would be initiated once proposed standard ANS-10.8, "Non-Real Time, High-Integrity Software for the Nuclear Industry: User Requirements," was completed.

E. Joint Committee on Nuclear Risk Management (JCNRM) (See Attachment 16 for the JCNRM Report)

JCNRM Co-chair Robert Budnitz reported that the collaboration between ANS and ASME on a technical level was working smoothly even though the business agreement had not been finalized. Addendum B to the flag ship standard – ANSI/ASME/ANS RA-S-2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," – was published at the end of 2013 and a revision was immediately initiated. ASME/ANS RA-S-1.4-2014, "Probabilistic Risk

Assessment Standard for Advanced Non-LWR Nuclear Power Plants," was issued as a trial use standard and was currently being piloted by two organizations. Budnitz explained that the committee learned the hard way that these standards needed to be issued for trial use before seeking ANSI approval. ASME/ANS RA-S-1.2-2014, "Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications," (formerly designated ANS/ASME-58.24) had been approved and would be published shortly. Budnitz reported that the next standard anticipated to be approved should be ANS/ASME-58.22, "Low Power Shutdown PRA Methodology." Budnitz added that ANS/ASME-58.22 had been in development since 1999 and was currently out for a recirculation ballot. Once approved, ANS/ASME-58.22 would be issued for trial use and pilot application with the intent of it being incorporated into a revision of ASME/ANS RA-S. Late comments from the NRC were received on proposed standard ASME/ANS RA-S-1.3, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications," (formerly designated ANS/ASME-58.25). The working group was planning to schedule a meeting to incorporate NRC comments to finalize the draft and issue for ballot anticipated in early 2015. Late comments were also received from the NRC on proposed standard ASME/ANS RA-S-1.5, "Advanced Light Water Reactor PRA Standards," resulting in a delay of issuing.

Budnitz explained that the JCNRM took an initiative to solicit a number of young professionals and place on working groups. They had found this to be of significant benefit. Budnitz added that the JCNRM had great utility participation but had a problem that many of the real experts were consultants without support to physically attend meetings. These individuals were dependent on grant funding to participate in physical meetings.

Budnitz stated that he was considering when the time was right to turn over his co-chairmanship of the JCNRM. He added that Dennis Henneke was the vice chair and was in line to take over. He closed in saying that the committee had been responding to inquiries informally and would be formalizing the process.

F. Nuclear Criticality Safety Consensus Committee (NCSCC) (See Attachment 17 for the NCSCC Report)
NCSCC Chair Robert Busch reported that the NCSCC had a very busy, productive year. Revisions to three standards were approved – 1) ANSI/ANS-8.1-2014, "Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors," 2) ANSI/ANS-8.15-2014, "Nuclear Criticality Control of Special Actinide Elements," and 3) ANSI/ANS-8.19-2014, "Administrative Practices for Nuclear Criticality Safety." Three standards listed as delinquent were in the ballot process – one with the NCSCC the other two with the subcommittee. Busch stated that he expected that all would meet their deadline.

G. Environmental and Siting Consensus Committee (ESCC) (See Attachment 18 for the ESCC Report)
ESCC Vice Chair Yan Gao introduced himself explaining that he was reporting on ESCC activities in the absence of ESCC Chair Carl Mazzola. Gao reported on the progress of the committee. He informed the SB that the committee was considering reinvigorating a significant number of proposed standards projects that were currently inactive. The ESCC was actively developing several new standards as well as a few revisions. A draft of proposed new standard ANS-2.30, "Criteria for Assessing Tectonic Surface Fault Rupture and Deformation at Nuclear Facilities," was issued for ballot, and a response to an inquiry on ANSI/ANS-2.3-2011, "Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites," was drafted, approved, and issued. Gao added that the ESCC was scheduled to meet tomorrow.

H. Fuel, Waste, and Decommissioning Consensus Committee(FWDCC) (See Attachment 19 for the FWDCC Report)
In the absence of FWDCC Chair Donald Eggett, members were directed to review his provided report for an update on the committee's activities.

18. Other Committee Reports

A. Standards Board Task Group (TG) Reports
Due to a lack of time, no task group reports were provided.

B. Liaison Reports
Due to a lack of time, no liaison reports were provided.

19. Other Business
ANS President Michaele Brady Raap reported on her presentation at NESCC. She explained that the sentiments expressed by the NESCC was that ANS was doing a lot but not necessarily something that had value to the regulatory process on a whole. Brady Raap suggested that the value and the market be considered when initiating standards projects. She added that a very positive experience was expressed with the merger of ANS and ASME consensus committees forming the JCNRM. Prasad Kadambi stated that a suggestion was made for ANS representatives to meet with the NRC standards executive on a regular basis similar to ASME practice. Brady Raap suggested that the output from the Priority Task Group be provided to the ANS leadership to present at the upcoming NRC Regulatory Information Conference (RIC).

ACTION ITEM 11/2014-23: Donald Spellman to provide ANS leadership the ANS standards priority list in time for the RIC. Due Date: February 1, 2015

20. Review of action items from this meeting
Due to limited time, action items were not reviewed but would be issued via the SB Workspace.

ACTION ITEM 11/2014-24: Pat Schroeder to post the list of action items assigned during the meeting on the SB Workspace. Due Date: November 30, 2014

21. Next meeting
The nest SB meeting was confirmed for Tuesday, June 9, 2015, at the Grand Hyatt in San Antonio, Texas, during the ANS annual meeting.

22. Adjourn
The meeting was adjourned.

Report of Action Items

Action Item	Description	Responsibility	Status/Comments /Reassignments
11/2014-01	William Reuland to consider developing a new standard on ITAAC within the LLWRCC. (Reassignment of Action Item 6/2014-11). Due Date: February 1, 2015	William Reuland	OPEN
11/2014-02	Pat Schroeder to add cumulative number of e-standards/print copies sold to the sales reports in the future. Due Date: June 1, 2015 (for next report provided before the June 2015 meeting)	Pat Schroeder	OPEN
11/2014-03	Pat Schroeder to issue the revised reference policy and disclosure form for approval ballot to the SB after proofing. Due Date: December 31, 2014	Pat Schroeder	OPEN
11/2014-04	Consensus committee chairs to issue letters of recognition to subcommittee chairs and their managers as appropriate. Due Date: As needed	Consensus committee chairs	On-going
11/2014-05	George Flanagan to confirm details with Professional Divisions Chair Hans Gougar to implement professional divisions reviews of delinquent standards to determine appropriate maintenance action. (Flanagan to keep Glen Grecheck informed of this process.) Due Date: April 1, 2015	George Flanagan	OPEN
11/2014-06	Donald Spellman to serve as the 2015 Standards Service Award Ad Hoc Committee Chair and to select two additional members to help with the selection. Due Date: March 1, 2015	Donald Spellman	OPEN
11/2014-07	Pat Schroeder to send a broadcast to student section members on getting involved in standards every other year – next time to be July 2016. Due Date: July 31, 2016	Pat Schroeder	OPEN
11/2014-08	Pat Schroeder to create a similar solicitation broadcast to the YMG and NAYGN. Due Date: February 28, 2015	Pat Schroeder	OPEN
11/2014-09	Herbert Massie to distribute the presentation he made at the Fuel Cycle Information Exchange Meeting to the SB. Due Date: November 30, 2014	Herbert Massie	OPEN
11/2014-10	George Flanagan to provide Pat Schroeder the framework license document for distribution to the SB. Due Date: November 30, 2014	George Flanagan	OPEN

11/2014-11	Prasad Kadambi and Ed Wallace to create a task group within the RP3C to address the issue of creating a BDBE standard and report back to the SB. The task group should use Steven Stamm's draft white paper (Attachment 6 of 11/2014 Minutes) as reference. This action item replaces Action Item 6/2014-13. Due Date: May 1, 2015	Prasad Kadambi, Ed Wallace	OPEN
11/2014-12	Steven Stamm and Donald Spellman to complete the identification of preferred terms and update the foreword in the glossary so that it could be issued for working group use. Due Date: February 28, 2015	Steven Stamm, Donald Spellman	OPEN
11/2014-13	Steven Stamm and Pat Schroeder to issue a request to consensus committee chairs to identify which webtraining sessions each of the volunteers under that consensus committee should be invited to attend. Due Date: March 1, 2015	Steven Stamm, Pat Schroeder	OPEN
11/2014-14	Standards Board members let Steven Stamm and Pat Schroeder know if they can serve as primary instructor or backup instructor for webtraining sessions. Due Date: April 1, 2015	Standards Board members	OPEN
11/2014-15	Andrew Smetana to work with Gene Carpenter to determine the appropriate contact at NRC to discuss the possibility of updating the endorsement of the 1971 decay heat standard (ANS-5.1) in 10CFR50, Appendix K, to the recently approved version – ANSI/ANS-5.1-2014. [Follow up action item to 6/2014-01] Due Date: April 1, 2015	Andrew Smetena	OPEN
11/2014-16	Andrew Smetana to provide a comparison between the ANS-5.1 1971 draft and ANSI/ANS-5.1-2014 to the SB. Due Date: May 1, 2015	Andrew Smetana	OPEN
11/2014-17	Andrew Smetana to ask ANS-5.1 Working Group Chair Ian Gauld to prepare an article about the new version of ANSI/ANS-5.1-2014 for *Nuclear News* or other suitable ANS publication (Notes & Deadlines, *ANS News, Nuclear Standards News*) Due Date: April 1, 2015	Andrew Smetana	OPEN

11/2014-18	Consensus committee chairs to work with subcommittee chairs to prepare a short article about any standard in need of subject matter experts to be maintained or initiated. The article should include details of why the standard needs to be maintained (revision/reaffirmation) or initiated and include its importance and benefit to the industry, expertise needed, etc. Articles to be provided to Pat Schroeder.	Consensus committee chairs	On-going
11/2014-19	Pat Schroeder to work with the ANS Publication Information Department, Nuclear News staff, and ANS News staff to disseminate articles on ANS standards needing volunteer support from subcommittee chairs in appropriate ANS media/publications. Due Date: June 1, 2015	Pat Schroeder	On-going
11/2014-20	RP3C to engage in a pilot program with one of the consensus committees to reach the objectives of the RIPB Plan. Due Date: June 1, 2015	RP3C	OPEN
11/2014-21	Pat Schroeder to add the RP3C Bylaw to the SB and RP3C workspaces. Due Date: November 30, 2014	Pat Schroeder	OPEN
11/2014-22	Standards Board members to let George Flanagan and Pat Schroeder know if they are aware of any potential candidates (local or planning to attend) that could provide a presentation on standards at the ANS 2015 Student Conference at Texas A&M in April. An alternate may be to see if the ANS president was attending and could include information on standards or minimally provide a handout.	Standards Board members	OPEN
11/2014-23	Donald Spellman to provide ANS leadership the ANS standards priority list in time for the RIC. Due Date: February 1, 2015	Donald Spellman	OPEN
11/2014-24	Pat Schroeder to post the list of action items assigned during the meeting on the SB Workspace. Due Date: November 30, 2014	Donald Spellman	OPEN
6/2014-01	Andrew Smetana to start a dialog with the NRC to effect the rulemaking process to replace the reference to the 1971 decay heat standard (ANS-5.1) in 10CFR50, Appendix K, with a reference to the most current standard. *(Note: This should include the discussion of whether the NRC prefers to use the 2005 version or the pending revision.)* DUE DATE: 5/1/2015	Andrew Smetana	OPEN

6/2014-02	Pat Schroeder to add standards generic letter for volunteer placement to the SB online workspace.	Pat Schroeder	CLOSED Posted 7/9/14 and available on the SB Workspace under documents.
6/2014-03	Each consensus committee (CC) chair to appoint a maintenance coordinator to be responsible for tracking maintenance needs of each CC. DUE DATE: 6/1/2015	CC Chairs	OPEN for FWDCC, NRNFCC, RARCC NCSCC = Larry Wetzel JCNRM = Paul Amico ESCC = Leah Parks LLWRCC = Tim Meneely SRA = Keith Morrell
6/2014-04	Steven Stamm to complete the specification of preferred definitions in the glossary and issue the revised document.	Steven Stamm	CLOSED ACTION ITEM 11/2014-12 assigned to complete work on the glossary.
6/2014-05	Pat Schroeder to check on whether comments entered in our online workspace need to be submitted to be saved and if there is a way for a member to download their comments.	Pat Schroeder	CLOSED Answer emailed to SB & CCs on 6/30/14.
6/2014-06	Pat Schroeder to resend request to Standards Committee chairs to provide a list of projects in need of additional volunteer support for posting in LinkedIn, Nuclear Café/tweets.	Pat Schroeder	CLOSED Info provided and incorporated into a list for the PWROG meeting in August and posted to the ANS website.
6/2014-07	Pat Schroeder to post Donald Eggett's DID white paper for SB member comments with a copy to Mark Linn.	Pat Schroeder	CLOSED Document posted 7/2014 to the SB Workspace under documents for comment.
6/2014-08	Steven Stamm (with Gene Carpenter's support) to review SB comments on Donald Eggett's DID white paper and revise accordingly. DUE DATE: 2/1/2015	Steven Stamm	OPEN
6/2014-09	Pat Schroeder to add standards header /to the foreword of all future ANS standards.	Pat Schroeder	CLOSED Header added to three new standards – ANS-6.1.2, ANS-8.1, and ANS-8.19.
6/2014-10	Pat Schroeder to distribute the IEEE white paper to the SB.	Pat Schroeder	CLOSED Distributed 6/17/14.
6/2014-11	George Flanagan (current RAR chair) to evaluate and/or develop a PINS for a standard on how to prepare an ITAAC to determine if an ANS standard should be developed.	George Flanagan	CLOSED Reassigned to William Reuland and reissued as new Action Item 11/2014-01.
6/2014-12	Andrew Smetana to consider if and how BDBE should be addressed in standards developed by SRA.	Andrew Smetana	CLOSED

6/2014-13	George Flanagan (current SB Chair) to develop a white paper on how to address BDBE in ANS standards. (Steven Stamm will develop a draft for Flanagan that indicates RP3C should be included this in its plan.)	George Flanagan	CLOSED Reassigned to RP3C and new Action Item 11/2014-11 created.
6/2014-14	Donald Spellman to form a working group with representation from multiple SDOs to develop a coordination of related standards activities on component classification. DUE DATE: 2/1/2015	Donald Spellman	OPEN
6/2014-15	Steven Stamm to prepare guidance on what goes into a standard and what goes into an appendix. Guidance may consider the 6 points discussed at the 6/17/14 SB meeting. Due Date: March 31, 2015	Steven Stamm	OPEN
6/2014-16	Pat Schroeder to distribute Mark Linn's presentation regarding redirection of the ANS-50.1 Working Group to preparation of a new general reactor design criteria standard.	Pat Schroeder	CLOSED Presentation posted on the SB Workspace on 7/2/14.
6/2014-17	William Reuland to prepare a paragraph summarizing the position requirements for a replacement of Dennis Newton as Light Water Reactor & Reactor Auxiliary Systems Designs Subcommittee chair on LLWR and provide to Pat Schroeder to distribute to the SB for their help in soliciting a new subcommittee chair.	Pat Schroeder	CLOSED Statement emailed to the SB on 7/17/14.
6/2014-18	Prasad Kadambi to put together a status report on the NEI/NRC RISC committees' recommendations and provided to Pat Schroeder for distribution to the SB.	Prasad Kadambi	CLOSED Provided verbally.
6/2014-19	Mathew Panicker to work with Carol Moyer in acquiring a response to why the NRC was not following Circular No. A-119 on the JCNRM Advanced Light Water Reactor PRA standard.	Mathew Panicker	CLOSED
6/2014-20	Donald Spellman (Policy TG Chair) to determine if the Policy TG needed to be reformulated/changed to improve the activity of this group.	Donald Spellman	CLOSED Revised charter provided and accepted.
6/2014-21	Pat Schroeder to issue the proposed External Communications Task Group charter for comment to George Flanagan, Steven Stamm, and Donald Spellman and forward comments to the TG for resolution.	Pat Schroeder	CLOSED Proposal provided and reviewed

6/2014-22	Internal Communications TG to prepare 5 training presentations and provide for member comments. Presentations include 1) overview of nuclear related standards, plus additional slides that address international aspects, and 2) ANS standards organization and staffing, 3) the standards development process, 4) Standards Committee policies and procedures, and 5) CC policies and procedures DUE DATE: 5/1/2015	Internal Communications TG	OPEN Three presentations completed.
6/2014-23	Robert Busch to prepare a student presentation on ANS standards.	Robert Busch	CLOSED
6/2014-24	Internal Communications TG to review the old NFSC division liaisons list and reinstitute the ANS professional division representative program. (Old NFSC professional division liaison list to be provided to ICTG by Pat Schroeder.) DUE DATE: 5/1/2015	International Communications TG	OPEN
6/2014-25	James August to send his list of priority standards to Pat Schroeder for SB comment.	James August	CLOSED
6/2014-26	Pat Schroeder to change JCNRM to JCNRM/SCoRA and add WENRA on the liaison list.	Pat Schroeder	CLOSED
6/2014-27	Pat Schroeder to check with George Flanagan about the possibility of moving the RAR to Monday morning of the ANS winter (November) meetings.	Pat Schroeder	CLOSED
6/2014-28	George Flanagan (current SB Chair) to follow up with Donald Hoffman in September (2014) about interactions with Tom Boyce (NRC) to make sure that the NRC thinks of ANS first for nuclear issues and interface.	George Flanagan	CLOSED
11/13-03	Schroeder to use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members.	Pat Schroeder	CLOSED Reissued as new Action Item 11/2014-19.
11/13-12	The RP3C to complete the Risk-Informed and Performance-Based Plan and circulate to the SB in advance of the November 2014 meeting for approval at the meeting.	Prasad Kadambi	CLOSED
11/13-14	George Flanagan to solicit additional vendor participation for the RAR.	George Flanagan	CLOSED
11/13-15	James O'Brien to solicit additional membership from industry to the NRNF.	James O'Brien	CLOSED
11/13-16	Andrew Smetana to solicit additional membership from industry on the SRA.	Andrew Smetana	CLOSED

11/13-17	Donald Eggett to solicit additional membership from government on the FWD.	Donald Eggett	CLOSED
11/13-18	All CC chairs to provide Donald Spellman a list of priority standards to be revised and or developed within their CC. DUE: December 31, 2014	ANS CC Chairs	OPEN
11/13-20	Donald Eggett to inform FWD about RP3C and to review any new PINS developed and consider if RIPB insights should be incorporated.	Donald Eggett	CLOSED
11/13-25	Donald Spellman to provide Donald Hoffman a list of consensus committees (and/or areas) that could benefit from more utility participation within two weeks.	Donald Spellman	CLOSED
11/12-04	Donald Spellman to begin development of one or more grants for ANS support. Projects to be considered for a grant proposal include ANS-2.8 (Flood Hazards), ANS-3.13 (Reliability Assurance Program), ANS-57.11 (Fuel Cycle Facilities), and advanced reactors.	Donald Spellman	On Hold (grant proposals not currently being accepted)
11/12-17	Prasad Kadambi to prepare a business case for initiating an ANS conformity assessment program. Due: June 1, 2015	Prasad Kadambi	OPEN
6/12-04	Donald Spellman to review the “Toolkit” for potential improvements as suggested by David Sachs.	Donald Spellman	CLOSED

Attachment 1

2014 Standards Committee Report to the ANS Board of Directors

from Standards Board Chair George F. Flanagan

A significant effort of 2014 has been the implementation of the new Standards Committee Workspace, a web-based collaborative tool for committees developing standards and for managing the balloting and comment resolution process. The Workspace was created in the first two months of 2014 with the first training held in March for Standards Board and consensus committee members; approximately 150 individuals. Well over 100 committee workspaces and 400 user accounts have now been created and are functional. Additional task specific trainings were held in October. It is anticipated that all active Standards Committee members (~800) will be add to Workspace by the end of the year.

The Standards Board certified balance of interest for all eight consensus committees during the June 2014 meeting. All eight consensus committees comply with the requirements of the American National Standards Institute (ANSI) that no single interest category constitutes more than one-third of the membership. Additionally, each consensus committee includes the appropriate regulatory representation.

A broadcast was sent to ANS Student Section members in July of this year with an offer to join the ANS Standards Committee as an associate member. Inquiries were received from 30 students with eleven of the students following through with submitting required documents. Most have already been placed on a committee. The ANS Standards Committee Associate Member Program was initiated to introduce young professionals to standards. Associate members are included in all committee discussions and correspondence, encouraged to participate in teleconferences, and invited to attend physical meetings. Associate members review draft standards or portions thereof, comment on drafts issued for ballot, and review reference documents. Associate member are expected to gain sufficient knowledge within a number of years earning full membership privileges. Young professionals gain significant subject matter knowledge while the ANS Standards Committee looks to these student members to be the future leaders of the ANS standards program.

Steven L. Stamm was selected for the 2014 Standards Service Award in recognition of sustained contributions to ANS standards for four decades that significantly contributed to the overall success of the standards program, initially through leadership of major standards development activities and recently by facilitating major reorganizations of the Standards Committee and leading important working groups to improve the clarity and usage of standards. The award will be presented to Stamm at the Plenary Session on Monday, June 8th at the 2015 ANS Annual Meeting in San Antonio, Texas.

A standards informational pamphlet was completed and a list of nearly 600 emails prepared. Broadcasts of the pamphlet began in early June in groups of 100. The intent of the pamphlet was to increase awareness of ANS standards to the international community and increase sales of ANS standards. The pamphlet has been posted to the ANS website and is publically available.

Five ANS Standards Committee policies were recently updated and incorporated into the Policy Manual for the ANS Standards Committee. The updated policy manual is available on the ANS website. The updated policies include the following:

- Policy on Process for Nominating, Evaluating, Selecting, and Presenting the ANS Standard Service Award;
- Policy on Handling References in Standards;
- Policy on Developing Responses to Inquiries to About Standards Requirements, Recommendations and Permissions (revised);
- Policy on Initiating Maintenance Procedures; and

- Policy on the Implementation of Maintenance.

The ANS Standards Committee issued responses to five inquiries on ANS standards. Responses to inquiries are published in *Nuclear News, Nuclear Standards News,* and are available on the ANS Website. Responses to inquiry were provided on the following standards:

- ANSI/ANS-2.3-2011, "Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites"
- ANSI/ANS-8.3-1997, (R2012), "Criticality Accident Alarm System"
- ANSI/ANS-8.19-2005, "Administrative Practices for Nuclear Criticality Safety"
- ANSI/ANS-8.19-2005, "Administrative Practices for Nuclear Criticality Safety," and ANSI/ANS-8.26-2007:R2012, "Criticality Safety Engineer Training and Qualification Program"
- ANSI/ANS-58.2-1988 (W1998), "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture"

For the sixth year, ANS standards were applied in a University of Pittsburg graduate course titled "Case Studies in Nuclear Codes and Standards" as part of the school's Nuclear Engineering Program. The course addresses 17 major standards. Standards from the American Society of Mechanical (ASME), ASTM International, and the Institute of Electrical and Electronics Engineers were also part of the curriculum.

With the 2013 reorganization of the ANS Standards Committee doubling the number of consensus committees, options for restructuring the standards meeting schedule at ANS national meetings were explored. Members agreed on a fixed schedule that provided optimum participation of all consensus committee representatives at the Risk-informed and Performance-based Principles Policy Committee and to provide for ANS staff support for these top-level committees.

ASME/ANS RA S-1.2-2014, "Severe Accident Progression and Radiological Release (Level 2) PRA Standard for Nuclear Power Plant Applications for Light Water Reactors (LWRs)," has just been approved for release as a trial use and pilot application standard. This standard was developed by a collaboration of the ASME and the ANS. This standard will be used by the Pressurized Water Reactors Owners' Group on the U.S. Nuclear Regulatory Commission Level 3 Probabilistic Risk Assessment Project peer reviews.

The ANS has 77 current standards of which 15 are considered delinquent for lack of maintenance within five years of ANSI approval or reaffirmation. These standards are delinquent due to a lack of volunteer resources. Great efforts have been made to solicit subject matter experts through several methods including Notes & Deadlines, ANS LinkedIn Group, tweets in the Nuclear Café, and outreach with the owners' groups. Additional avenues to solicit new volunteers will continue to be explored.

The following standards projects were initiated in 2014:

- ANS-3.13-201x, "Nuclear Facility Reliability Assurance Program (RAP) Development" (new standard);
- ANS-3.14-201x, "Process for Aging Management and Life Extension of Nonreactor Facilities" (new standard);
- ANS-8.24-201x, "Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations" (revision of ANSI/ANS-8.24-2007; R2012).

The following draft standards were issued for ballot and public review:

- ANS-2.30-201x, "Criteria for Assessing Tectonic Surface Fault Rupture and Deformation at Nuclear Facilities" (new standard);

- ANS-3.1-201x, “Selection, Qualification, and Training of Personnel for Nuclear Power Plants” (revision of withdrawn standard ANSI/ANS-3.1- 1993; R1999; W2009);
- ANS-3.5-201x, “Nuclear Power Plant Simulators for Use in Operator Training and Examination” (revision of ANSI/ANS-3.5-2009);
- ANS-5.1-201x, “Decay Heat Power in Light Water Reactors” (revision of ANSI/ANS-5.1-2005);
- ANS-8.10-201x, “Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement” (revision of ANSI/ANS-8.10-1983; R1988; R1999; R2005);
- ANSI/ANS-14.1-2004; R2009; R201x, “Operation of Fast Pulse Reactors” (reaffirmation of ANSI/ANS-14.1-2004; R2009);
- ANS-15.16-201x, “Emergency Planning for Research Reactors” (revision of ANSI/ANS-15.16-2008).

The following lists approval of new standards, revised standards, and reaffirmations:

- ANS-8.15-2014, “Nuclear Criticality Safety Control of Selected Actinide Nuclides” (revision of ANSI/ANS-8.15-1981; R1987; R1995; R2005);
- ANSI/ANS-8.17-2004; R2009; R2014, “Criticality Safety Criteria for the Handling, Storage, and Transportation of LWR Fuel Outside Reactors” (reaffirmation of ANSI/ANS-8.17-2004; R2009);
- ANSI/ANS-8.19-2014, “Administrative Practices for Nuclear Criticality Safety” (revision of ANSI/
- ANS-8.19-2005);
- ANSI/ANS-58.16-2014, “Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities” (new standard).

The following standards were published:

- ANSI/ANS-8.1-2014, “Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors” (revision of ANSI/ANS-8.1-1998; R2007);
- ANSI/ANS-8.19-2014, “Administrative Practices for Nuclear Criticality Safety” (revision of ANSI/ANS-8.19-2005).

Attachment 2

American Nuclear Society
Standards Committee

555 North Kensington Avenue
La Grange Park, Illinois
60526-5592 USA
708-579-8269 • standards@ans.org

December 2, 2013

Mr. Eugene S. Grecheck
13802 Beechwood Point Rd
Midlothian, VA 23112-2531

RE: ANS/Utility Engagement Program

Dear Mr. Grecheck:

At your request to Dr. Prasad Kadambi at the Special Committee on Integration Oversight at the ANS winter meeting regarding how the ANS standards program could provide enhanced benefits to support the subject engagement program, members of the Standards Board have drafted a response for your consideration. The response includes some generic comments regarding the presentation slides used for the initial discussion with utilities, a list of recommended actions that could be presented to potential member utilities as standards benefits, and a listing of each of the ANS consensus committees and their scopes for general information. We hope these incentive suggestions would enhance the offer for utilities to join such a program.

The ANS Standards Committee is eager and willing to help secure this beneficial program between ANS and nuclear utilities and will respond to any questions or additional information you may desire.

Regards,

Donald J. Spellman, Chair
ANS Standards Board

Attachments
1) Comments on Presentation for the ANS Utility Engagement Program and Suggested Areas of Benefit
2) Scope Statements for ANS Consensus Committees

Cc: Donald R. Hoffman, ANS President
Robert C. Fine, JD, CAE, ANS Executive Director
Steven L. Stamm, ANS Standards Board Vice Chair
N. Prasad Kadambi, Past ANS Standards Board Chair
Diane Cianflone, Director of ANS Membership and Marketing
Rick Michal, Director of ANS Scientific Publications and Standards

Attachment to Grecheck Letter

The following general comments pertain to the slide presentation for the ANS Utility Engagement Program:

1) There do not appear to be sufficient benefits to utilities discussed in the presentation to justify the amounts being requested. We need to have strong specific activities that will directly and indirectly benefit utility corporate members that align with ANS' role and capabilities.

2) It is important to remember that nuclear utility operators are focused on three things: how can we economically accept innovations that reduce cost, how can we continue to convince the general public of the benefits of nuclear power generation, and how can we more effectively protect the public, the sunk cost of our assets, and at the same time the safety of our workers and contractors.

3) The Utility Engagement Program will require a carefully orchestrated sales approach to be successful in recruiting utility members. Unless there have been discussions with and commitments obtained from utility CEOs ahead of time, it is not likely that the utilities will pay that much money for memberships. ANS needs to start with one most likely member to accept such a plan and gain a commitment from that CEO. Based on Mr. Gary Taylor being an ANS Board Member, Entergy would probably be a good first choice. This needs to be done in a face-to-face meeting at a very high level in the corporations.

4) The presentation has too much general ANS activities. This could be reduced and the focus changed to the specific strategically important benefits that members would obtain that non-members would not have.

5) One major potential value of ANS is to provide fair, unbiased, scientifically based information to the public, industry and government related to nuclear issues. We have a lot of room for improvement in this area. For this enhancement program, ANS should focus on each potential utility member's specific issues rather than general activities that benefit the entire industry.

6) ANS should not try to compete with NEI as a regulatory interface advocate or with INPO regarding operational excellence programs.

The following are specific suggested areas of potential benefits to provide to corporate members solicited through the ANS Utility Engagement Program. Some of these recommendations go beyond standards but deserve consideration.

1) **Encourage each member to appoint a single point of contact** for that entity on matters related to voluntary consensus standards much like current standards executives for DOE and NRC.

2) **Utility Executive Standards Advisory Committee** – The ANS Standards Committee will form a Utility Executive Standards Advisory Committee to be staffed with a member from each corporate member (the corporate standards executive), the ANS Executive Director, the chair and vice chair of the Standards Board, and the ANS standards secretary (as a non-voting member). The functions of this committee would be to provide recommended areas for standards development beneficial to utilities and help with allocation of utility resources to standards development. Business to be conducted on-line.

3) **Access to ANS standards** – A discount at the Information Center on Nuclear Standards (ICONS) toward purchase of a complete set of ANS standards and other useful benefits plus a discount on any additional standards or publications ordered via the ANS website.

   This should not be done by distributing all standards at no cost since utilities would have no incentive to continue membership once they had the full set of standards. It would be better to provide a one-time

discount for ICONS and a password that anyone in a member organization could use when ordering additional standards and publications that would expire if membership is not renewed.

4) **Membership on a standards consensus committee (CC)** – A corporate member would have the right to request that and be encouraged to nominate a senior member from its organization with knowledge in the area of a standards CC be appointed to a CC. The CC is the only area where industry, government, and regulatory personnel discuss and resolve technical issues without any inhibitions. A true consensus is determined based on the draft standard and comment resolutions by the working groups. A list of the ANS CCs and their scopes is attached.

5) **Right to participate in the Standards Committee Standards Strategic Plan review** – This could be done by teleconference that would allow the designated corporate standards executives to provide insights into standards that would fill longer-term needs of their organizations

6) **Right to review standards prior to issue** – Copies of standards at ballot will be sent to the corporate member's designated standards executive to coordinate review within its organization and submittal of any resultant comments.

7) **Priority handling for clarification of existing standards** – If a corporate member has a question of the intent of a portion of a standard; they can submit an inquiry and will be given priority handling. (Nominal 30 draft response time)

8) **Nuclear Standards News** – Subscription to be included in corporate membership for posting on corporate websites

9) **Standards writing group** – Corporate members will be given priority through the corporate standards executive in selection of members to participate on working groups. Participation in the activities described above represents tangible professional development for younger members of utility companies belonging to NA-YGN or Women in Nuclear and other such grassroots next-gen type of groups. All Project Initiation Notification System (PINS – i.e., project charters) forms will be provided to the corporate standards executive for consideration.

10) **Standards notifications** – Corporate standards executives will receive the ANS Standards Committee Report of Activities and notification of any events related to standards of their interest. A copy should be provided on initial meeting with the corporation.

11) **Nominations for ANS Board of Directors** – Corporate members would have the right to offer a senior person in their nuclear organization as a nominee for the ANS Board of Directors.

12) **Publications discount** - A 50% discount rate on all standards and ANS publications.

13) **Corporate Member Public Relations Committee** – This ANS Standing Committee provides recommendations for the development and implementations of public and government relations activities critical to the member nuclear power utilities.

We would be pleased to discuss these comments in more detail with you.

Submitted by:

Donald J. Spellman, ANS Standards Board Chair

Steven L. Stamm, ANS Standards Board Vice Chair

Dr. N. Prasad Kadambi, Past ANS Standards Board Chair

Attachment to Grecheck Letter

SCOPE STATEMENTS FOR ANS CONSENSUS COMMITTEES

Large Light Water Reactor (LLWR) Consensus Committee Scope:

The LLWR Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for the design, operation, maintenance, operator selection and training, and quality requirements for current operating nuclear power plants and future nuclear power plants that employ large station light water moderated, water-cooled reactors. The standards include the reactor island, balance of plant, and other systems within the plant boundary that affect safety and operations. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Research and Advance Reactor (RAR) Consensus Committee Scope:

The RAR Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for the design, operation, maintenance, operator selection and training, and quality requirements for current and future research and test reactors including pulsed critical facilities, reactors used for the production of isotopes for industrial, educational, and medical purposes and current and advanced non-large LWRs. The scope includes but is not limited to: water-cooled and non-water cooled Small Modular Reactors, Generation III+ and IV reactors, and future non-light water cooled/moderated large commercial reactors.

The RAR standards include but are not limited to the design and operation of the nuclear island, the balance of plant, and other systems within the plant boundary affecting safety and operations. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Non-Reactor Nuclear Facilities (NRNF) Consensus Committee Scope:

The NRNF Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for the safety analysis, design, maintenance, operator selection and training, and quality requirements for non-reactor nuclear facilities including facilities using radioactive isotopes, remote handling of radioactive materials, fuel processing, mixed oxide fuel processing and other fuel cycle facilities other than spent fuel handling and storage. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Safety and Radiological Analyses (SRA) Consensus Committee Scope:

The SRA Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for physics methods and measurements for nuclear facilities, shielding materials and methods for shielding analyses, safety analyses and for the associated computational methods and computer codes. Input data for calculations and codes, such as nuclear cross sections, are included in this scope. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Environmental and Siting (ES) Consensus Committee Scope:

The ES Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for all aspects of nuclear power plant and non-reactor nuclear facility siting, environmental assessment, environmental management, and the categorization of natural phenomena hazards at these public and private sector nuclear facilities.

Many of the ES standards presently support the siting and environmental needs of the civilian nuclear industry and the Department of Energy (DOE) in meeting 10 CFR 50, 10 CFR 51 and 10 CFR 52 licensing requirements and compliance with 40 CFR enabling regulations associated with the Clean Air Act, Clean Water Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response Compensation and Liability Act, and National Environmental Policy Act. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Fuel, Waste, and Decommissioning (FWD) Consensus Committee Scope:

The FWD Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards for the design, operation, maintenance, operator selection and training, quality requirements of new and used fuel transport, storage and related handling facilities; including high level/TRU, greater-than-Class C, low level, and mixed waste processing and facilities, and for the decommissioning of commercial, educational, research and government facilities. The ANS Standards Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Joint Committee on Nuclear Risk Management – ANS/ASME (JCNRM)

The JCNRM Consensus Committee is responsible for the preparation and maintenance of voluntary consensus standards that establish safety and risk criteria and methods for completion of probabilistic risk analysis (PRA), risk management, and risk assessments and for applications of PRA methods upon concurrence of the ANS Standards Board. These criteria and methods are applicable to design, development, construction, operation, decontamination, decommissioning, waste management, and environmental restoration for nuclear facilities. Activities of the consensus committee shall be guided by the Procedures for ASME Codes and Standards Development Committees but shall also meet the intent of ANS Standards Committee Rules and Procedures unless specifically authorized by the ANS Standards Board.

Nuclear Criticality Safety Consensus Committee

The NCS consensus committee is responsible for the preparation and maintenance of voluntary consensus standards for determining the potential for nuclear criticality of fissile material in all facilities excluding the reactor plant and fuel handling facilities, for the prevention of accidental criticality in those facilities, for mitigating consequences of accidents should they occur, and for the prevention of Anuclear chain reactions in all activities associated with handling, storing, transporting, processing, and treating fissionable nuclides. The ANS Consensus Committee Rules and Procedures shall be used to guide the activities of this consensus committee.

Attachment 3: Secretary/Staff Report & Sales Report

ANS Standards Staff/Secretary Report
November 2014

ANS Standards Committee Workspace

The greatest staff effort of 2014 has been the creation of the new ANS Standards Committee Workspace. To date, 113 workspaces have been created for the Standards Board, special committees, consensus committees, subcommittees, and working groups. User accounts have been created for 422 members. The first Workspace training was held on March 13 to introduce the Standards Board and consensus committees to our new Workspace and included an overview of balloting, commenting, committee document tabs, calendar events, and action items. The Standards Board and consensus committees started using Workspace for balloting shortly after the training for administrative ballots. Standards action ballots were initiated through Workspace once all members had logged on to their user account. While the Standards Board and consensus committees became familiar with Workspace, ANS staff began creating sites for subcommittees and working groups. Project views were also created for 69 active projects. A second Workspace training with more advanced features geared to committee chairs was held October 21. A third topical Workspace training was held on October 28 to provide all members a more in depth training on balloting, commenting, and comment resolution. ANS staff has issued 62 ballots through Workspace and uploaded well over 600 documents to the site this year.

The effort of initiating Workspace was underestimated due to the slow response of subcommittee and working group chairs to provide current rosters for their groups and a bit of procrastination of some to complete the setup of their account and log on. Each user is sent a welcome email with a link and instructions to log on to their account. Users that do not log on within a week need to be sent a reminder email with a new link to their account. Some of the nonresponse issues are attributed to Workspace emails flagged as spam/junk.

ANS staff continues to send reminders out to many of the 422 members to complete the setup of their account and anticipates creating an additional 200 user accounts as working group rosters are received. The effort of training working group members in using Workspace is expected to require significant staff resources for the rest of the year and into 2015. On a continuing basis, staff will need to provide guidance to working group chairs in the use of Workspace for comment management and to orientate new users.

New Look for ANS Standards and *Nuclear Standards News*

The cover of ANS standards and the *Nuclear Standards News* newsletter have been redesigned to comply with the ANS Branding Guide and to give all ANS products a consistent look. A copy of the new designs is attached with this report. We expect the new designs to be used starting 2015.

Grant Proposals

ANS staff helped to prepare and submitted two grant proposals in response to an open announcement by the U.S. Nuclear Regulatory Commission (NRC) related to risk-informed and performance-based products. One grant proposal was a continuation of previous grants for the development of probabilistic risk assessment (PRA) standards. The second proposal was for the development of industry-based, risk-informed, and performance-based (RIPB) structures, systems, and component (SSC) safety classification system for reactor and nonreactor nuclear facilities. ANS has received tentative word from the NRC that

the proposal to develop PRA standards will be award. No indication has been received on the proposal to development a RIPB SSC safety classification.

ANSI Update

ANS staff facilitated the approval of four American National Standards, one reaffirmation, and initiation of three proposed new standards/revisions to current standards. The next ANSI audit has been scheduled for the week of August 3, 2015. It is anticipated that the audit will be conducted via electronic means.

ISO/TC 85/SC 6 Progress Report

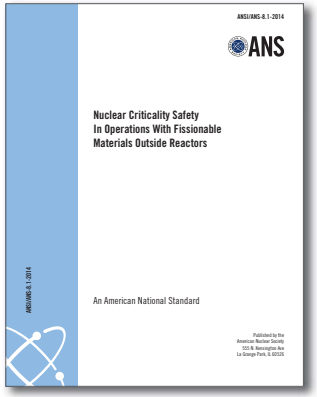
The SC 6 meeting scheduled to be held with ISO TC 85 from June 2 - June 6, 2014, in Moscow, Russia, was cancelled. Preparation has begun for the next SC 6 meeting to be held June 5-6, 2015, prior to the ANS Annual Meeting in San Antonio, Texas. Eight proposed international standards projects have been registered as active since ANS took over the secretary role of SC 6 in January of 2013. All are listed below with the relevant ANS standard indicated in parenthesis following the title:

- ISO/NP 18075, "Steady-State Neutronics Methods for Power-Reactor Analysis" (ANS-19.3)
- ISO/NP 18077, "Reload Startup Physics Tests for Pressurized Water Reactors" (ANS-19.6.1)
- ISO/NP 18156, "Technical Specification Guide for Decay Heat Computational Codes in Nuclear Reactors" (ANS-5.1)
- ISO/NP 18195, "Method for Justification of Nuclear Safety Fire Partitioning Efficiency in Water Cooled Nuclear Power Plants" (no comparable ANS standard)
- ISO/NP 18229, "Essential Technical Requirements for GEN IV Nuclear Reactors" (no comparable ANS standard)
- ISO/NP 18583, "Mobile Equipments for Emergency Intervention on Nuclear Installation" (no comparable ANS standard)
- ISO/NP 19226, "Determination of Neutron Fluence and Displacements per Atom (dpa) in Reactor Vessel and Internals" (ANS-19.10)
- ISO/NP 19492, "Technical Specifications for Research Reactors" (ANS-15.1)

ANS Standards Staff Responsibilities

- Issues ballots for the Standards Board, RP3C, consensus committees, and subcommittees
- Serves as secretary to the SB, RP3C, and consensus committees
- Supports the Nuclear Risk Management Coordinating Committee (NRMCC) as secretary
- Serves ISO/TC 85/SC 6 as secretary
- Provides administrative services to the Standards Board, RP3C, consensus committees, the NRMCC, and ISO/TC 85/ SC 6 including meeting preparations and logistics, meeting materials, and minutes
- Coordinates space requests for all standards committees meetings during ANS national meetings
- Supports the National Council on Radiation and Protection Liaison Committee as staff liaison
- Maintains volunteer database, standards database, ans the ANS Standards Committee Workspace
- Maintains volunteer records and facilitates volunteer placement
- Maintains standards-related web pages on the ANS Web site including the online ANS Store
- Submits standards action related documents to ANSI and submits standards action announcements to *Nuclear News, ANS News,* ANS Notes & Deadlines as appropriate
- Prepares approved drafts for editing/typesetting
- Facilitates editor questions on draft standards and secures chair approval to publish, reviews typeset drafts for formatting consistency, insures chair changes/corrections are implemented before publication

- Submits final PDF for printing and posting to the online ANS Store
- Announces the publication of new and revised standards in Notes & Deadlines, *ANS News, Nuclear News*, and *Nuclear Standards News*
- Prepares standards ads for use in *Nuclear News*
- Distributes comp copies of standards to working group and consensus committee members
- Provides newly published standards to contractors
- Prepares the ANS Standards Committee Report of Activities annually
- Serves as point of contact with ANSI for domestic and SC 6 international standards
- Facilitates ANSI standards program audits
- Maintains standards sales lists
- Maintains standards stock – electronic and print
- Facilitates Information Center on Nuclear Standards (ICONS), PR announcements, distributions, invoicing
- Writes all articles, formats, prints, and distributes *Nuclear Standards News*
- Responds to all general inquiries on ANS standards/facilitates responses to inquiries on ANS standards requirements, recommendations, and permissions
- Responds to Standards Committee inquiries on policies, rules, and procedures as appropriate
- Manages reimbursement of grant funds, submits quarterly financial and technical reports
- Prepares budget for standards program



◀ Standards Cover

Nuclear Standards News ▶

ANS

Standards Sales Report
June 1, 2014 - October 15, 2014

Designation & Title of Standard	# Sold Paper / Electronic	Total
ANS-2.3-2011, Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Power Plants	0/1	70.00
ANS-2.8-1992;W2002, Determining Design Basis Flooding at Power Reactor Sites	0/10	1,720.00
ANS-2.15-2013, Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities	1/2	513.00
ANS-2.17-2010, Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants	0/1	138.00
ANS-2.19-1981;R1990;W2001, Guidelines for Establishing Site-Related Parameters for Site Selection and Design of an Independent Spent Fuel Storage Installation (Water Pool Type)	0/1	127.80
ANS-2.21-2012, Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	0/1	55.00
ANS-2.23-2002;R2009, Nuclear Plant Response to an Earthquake	0/1	116.10
ANS-2.27-2008, Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	0/1	108.90
ANS-2.29-2008, Probalistic Seismic Hazard Analysis	0/1	124.20
ANS-3.1-1993;R1999;W2009, Selection, Qualification Training of Personnel for Nuclear Power Plants	0/3	252.30
ANS-3.2-2012, Managerial, Administrative, and Quality Assurance Controls for the Operational Phase of Nuclear Power Plants	1/4	625.00
ANS-3.4-2013, Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	3/1	1,275.20
ANS-3.5-2009, Nuclear Power Plant Simulators for Use in Operator Training and Examination	0/1	121.00
ANS-3.11-2005;R2010, Determining Meteorological Information at Nuclear Facilities	0/3	391.50
ANS-5.1-2005, Decay Heat Power in LWRs	0/2	288.80
ANS-5.4-2011, Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	0/1	78.00
ANS-6.1.1-1991; W2001, Neuron and Gamma-Ray Fluence-to-Dose Factors	1/1	183.60
ANS-6.1.2-1999;R2009;W2013, Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	1/0	55.00
ANS-6.4-2006, Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants	0/1	187.20
ANS-6.4.2-2006, Specifications for Radiation Shielding Materials	1/2	89.70
ANS-6.4.3-1991;W2001, Gamma-Ray Attenuation Coefficients and Buildup Factors for Engineering Materials	0/2	442.70
ANS/HPSSC-6.8.1-1981, Location and Design Criteria for Area Radiation Monitoring Systems for Light Water Nuclear Reactors	0/1	70.00
ANS-8.1-1998;R2007;W2014, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	1/0	85.50
ANS-8.1-2014, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	46/15	4,963.75
ANS-8.3-1997;R2003, R2012, Criticality Accident Alarm Systems	0/1	102.00
ANS-8.7-1998:R2007, Guide for Nuclear Criticality Safety in the Storage of Fissile Materials	0/1	87.00
ANS-8.10-1983;R1988;R1999;R2005, Criteria for Nuclear Criticality Safety Controls	1/0	47.00
ANS-8.12-1987;R1993;R2002;R2011, Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	1/0	95.00
ANS-8.19-2005;W2014, Administrative Practices for Nuclear Criticality Safety	17/0	620.00
ANS-8.19-2014, Administrative Practices for Nuclear Criticality Safety	0/1	45.90
ANS-8.20-1991;R1999;R2005, Nuclear Criticality Training	0/2	89.30
ANS-8.22-1997;R2006, Nuclear Criticality Safety Based on Limiting & Controlling Moderators	1/0	50.40
ANS-8.23-2007;R2012, Nuclear Criticality Accident Emergency Planning and Response	0/1	119.00

Designation & Title of Standard	# Sold Paper / Electronic	Total
ANS-8.24-2007;R2012, Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations	3/2	473.00
ANS-8.26-2007;R2012, Criticality Safety Engineer Training and Qualification Program	0/1	36.00
ANS-10.2-2000;R2009, Portability of Scientific and Engineering Software	0/1	47.00
ANS-10.4-2008, Verification and Validation of Non-Safety Related Scientific and Engineering Computer Programs for the Nuclear Industry	0/2	247.00
ANS-10.5-2006;R2011, Accommodating User Needs in Scientific and Engineering Computer Software Development	0/1	56.00
ANS-10.7-2013, Non-Real-Time, High-Integrity Software for the Nuclear Industry—Developer Requirements	1/0	110.00
ANS-15.1-2007,R2013, The Development of Technical Specifications for Research Reactors	0/1	95.00
ANS-15.2-1990;W1999, Quality Control for Plate-Uranium-Aluminum Fuel Elements	0/1	56.00
ANS-15.2-1999;R2009, Quality Control for Plate-Uranium-Aluminum Fuel Elements	0/1	64.00
ANS-15.4-2007, Selection and Training of Personnel for Research Reactors	0/2	140.00
ANS-15.7-1977; R1986, Research Evlulation Reactor Site Evaluation	0/1	64.00
ANS-15.8-1995;R2005,R2013, Quality Assurance Program Requirements for Research Reactors	0/2	128.00
ANS-15.11-2009, Radiation Protection at Research Reactors	0/1	124.00
ANS-15.16-2008, Emergency Planning for Research Reactors	0/4	249.60
ANS-15.21-1996;R2006, Format and Content for Safety Analysis Reports for Research Reactors	1/1	248.00
ANS-16.1-2003;R2008, Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure	0/3	405.00
ANS-18.1-1999;W2009, Radioactive Source Term for Normal Operation of LWRs	0/2	180.50
ANS-40.37-2009. Mobile Low Level Radioactive Waste Processing Systems	1/2	438.00
ANSI/ANS-41.5-2012, Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	0/3	450.80
ANS-51.1-1983;R1988;W2000, Nuclear Safety Criteria for the Design of Stationary PWRs	0/1	210.00
ANS-52.1-1983;R1988;W2001, Nuclear Safety Criteria for Design of Stationary Boiling Water Reactor Plant	0/1	208.00
ANS-53.1-2011, Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants	0/1	233.00
ANS-54.1-1989;W1999, General Safety Design Criteria for a Liquid Metal Reactor Nuclear Power Plant	0/1	78.30
ANS-56.2-1984;R1989;W1999;W2012, Containment Isolation Provisions for Fluid Systems after a LOCA	0/2	360.00
ANS-56.4-1983;R1986;W2012, Pressure and Temperature Transient Analysis for Light Water Reactor Containments	0/1	138.00
ANS-56.11-1988;W2000, Design Criteria for Protection Against the Effects of Compartment Flooding in LWR Plants	0/1	70.00
ANS-57.2-1983;W1999; Design Requirements for LWR Spent Fuel Facilities at NPPs	0/1	125.00
ANS-57.5-1996;R2006, Light Water Reactors Fuel Assembly Mechanical Design and Evaluation	0/1	87.00
ANS-58.9-2002;R2009, Single Failure Criteria for LWR Safety-Related Fluid Systems	1/0	47.00
ANS-58.14-2011, Safety and Pressure Integrity Classification Criteria for LWRs	0/2	388.00
ANS-59.51-1989;W1997, Fuel Oil Systems for Emergency Diesel Generators	0/1	70.20
ASME/ANS RA-2008 & Addenda, Level 1/LERF PRA for Nuclear Power Plant Applications	N/A	361.20
ASME/ANS RA-S-1.4-2013, PRA Standard for Advanced Non-LWR NPPs	2/0	1,000.00
Misc Standards: Historical standards, drafts, bulk sales	N/A	104.00
GRAND TOTAL		**20,429.45**

Attachment 4

POLICY ON HANDLING REFERENCES AND EXCERPTS IN STANDARDS

1. BACKGROUND

Standards typically use references to substantiate or supplement its requirements. Referencing other American National Standards is usually done in the text of a standard, but referencing other types of documents, including regulations, other government documents, and draft documents, requires special instructions. This policy addresses all types of references and provides related guidelines on where to use references. In addition, this policy addresses the requirements associated with excerpting material from sources other than ANS Standards.

2. POLICY

2.1 Referencing Regulations and American National Standards

References to and quotes from regulations and American National Standards may be included in the text of a standard.

When a reference to or a quote from a regulation is made a requirement, a “shall” statement shall be used. The verbs “should” and “may” shall not be used in referring to or quoting from a regulation.

When referencing or quoting from an American National Standard, the verb used (shall, should, or may) shall accurately reflect whether the document or its excerpt is being made a requirement, is being recommended for use, or is permitting its use.

If a regulation or American National Standard is used to justify a value used in the standard or to support a requirement in the standard, a footnote shall be used to cite the reference. An example of the use of a footnote follows.

A similar requirement is set forth in a regulation.[a]

[a] *See 10CFR50.76(b).*

Also, a footnote shall be used when the standard points out that a regulation or American National Standard addresses the same, similar, or alternative concept as that being discussed in the standard.

2.2 Referencing Published Documents Other Than Regulations and American National Standards

Referencing or quoting from any published document, including regulatory documents that are not regulations, shall adhere to the same requirements as set forth in Article 2.1 for American National Standards.

Excerpts from a government document may be used without quotation marks because they are not copyrighted. However, the source of the material used shall be given in a footnote.

Use of Copyrighted Information in ANS Standards

The following shall be followed in order to assure the proper protection of copyrighted sources.

- Excerpts from ANS standards, ANS publications (including ANS published technical papers) can be made without obtaining permission, unless protected by a third party copyright.
- Excerpts from the public domain (U.S. government originated work and other material from non-copyright protected sources) can be made without obtaining permission
- Excerpts from other sources (published books, journals, and non ANS standards) are typically protected by copyright and require permission from the publisher prior to inclusion in and publication of the standard. Such permission shall be obtained by the ANS Scientific Publications and Standards Department ~~organization~~staff.
- ANS ~~S~~staff shall obtain approval from the original publisher that includes:
    - Irrevocable, royalty-free, worldwide rights (i.e., a license) to use the excerpted material in connection with the standard
    - Right to exploit and grant permission to use the standard's content derived from the excerpted material in any format or media without restriction
- Standards ~~W~~working ~~G~~groups should avoid excerpting material from copyrighted sources if possible.
- The attached form, DISCLOSURE OF COPYRIGHTED MATERIAL IN ANS STANDARDS, shall be filled out and sent to the ANS s~~S~~tandards a~~A~~dministrator, with a copy to the consensus committee chair, for every standard when it is sent for consensus committee ballot in order to document whether ANS staff needs to obtain permission and to provide the needed information to ANS to do so.
- The ANS ~~S~~standards ~~A~~administrator will maintain records of all copyright permissions obtained for each standard.
- All excerpted material shall be properly referenced as specified in this policy
- Copyright protection applies to the presentation of material in the published document and not the ideas and principles behind the presentation.
- Equations can be generally be excerpted from copyrighted material without permission.
- Copyrights do expire. The expiration dates vary depending on when it was published and whether the author is still alive. ANS ~~S~~staff will consider this in determining whether publisher permission is required.

Any document relied on by the standard shall be available to all potential users.

If a referenced document can be obtained only by purchase, the cost shall be nominal; that is, the cost shall be similar to the cost of the standard itself and the cost of other American National Standards being referenced or quoted. If the cost of the referenced document exceeds this general range, the document shall not be referenced or quoted. However, the document may be included in a footnote, as noted in Article 2.1.

2.3 Referencing Draft Documents and Withdrawn Standards

Draft documents may be referenced in a standard under the following conditions only.

- The draft document shall not be quoted.
- The draft document shall not be included in a requirement (“shall” statement).

- A draft document may be used to support an observation or a “should” or “may” statement by characterizing (or paraphrasing) the pertinent portion of the draft. When used for such a purpose, a footnote shall be included that provides the title, identifier (such as working group number in the case of a draft standard, or other unique designator for other documents), the status of the draft (such as a revision number or date), the location of the pertinent text within the draft, and contact information for the responsible owner, author, or correspondent. Also, the scope of the draft document should be included in the footnote.

In the case where a standard has been approved but not issued, the requirements of Article 2.1 shall be applied, but the referenced standard shall be indicated by “(draft).”

If a standard that has been withdrawn is referenced, the requirements of Article 2.1 shall be applied, but the referenced standard shall be indicated by “(withdrawn).”

2.4 *Specifying References*

All references shall include the date and version of the reference.

2.5 Statement to be Included in the References Section of All Standards

A statement shall be included in the references section of all new and revised standards concerning the allowed use of subsequent revisions to referenced standards. The statement to be incorporated is set forth in the Policy on the Implementation of Maintenance Procedures, at the end of Article 2.3.

JFM, 8/16/05
(JFM revised, 11/29/05)
(DJS revised, 5/2/14)
(SLS revised 7/15/17)

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Telephone: (708) 579-8269 ● Fax: (708) 579-8248 ● Email: standards@ans.org

DISCLOSURE OF COPYRIGHTED MATERIAL IN ANS STANDARDS

The Policy on Handling References in Standards provides working groups direction in citing references and in using third-party, copyrighted material in an ANS standard. Material may generally be extracted freely from U.S. government publications and regulations if a U.S. government organization developed the material since that material is publicly released. Equations may generally be excerpted from copyrighted material without permission if properly referenced. Copyright protection applies to material (except equations) excerpted from the published document and does not apply to the ideals and principles behind the presentation. **This form shall be completed by the working group chair and sent to the ANS standards administrator with a copy to the consensus committee chair for all standards that are sent for consensus committee ballot.** Based on this information, ANS staff will obtain the necessary copyright permission if required.

Working group information

Working group chair name: _____ _____ Company affiliation: _____

Address: _____ City/state/ zip: _____

Phone: _____ Email address: _____

Designation and title of ANS standard: _____

Please indicate below whether any third-party, copyrighted material has been included in the standard.

☐ No, third-party, copyrighted materials have been included in the standard.

☐ Yes, third-party, copyrighted materials have been included in the standard and are listed on page 2 of this form:

Information on Excerpts from Other Documents

Title of Source Document	Standard Page/Section Where Excerpted Material is Used	Author of Source Document	Publisher / Contact Information of Source Document	Copyright Date if Known	Approval Required/ Obtained ***For ANS HQ Use***

Attachment 5

Student Members Solicitation - Placement Log (Updated 10-23-14)

	Student Name		Student email	Phone # if Provided	Volunteer Form / Resume Received	PLACEMENT
1	Collins	Chelsea Collins	chelseatcollins@ufl.edu	386-365-8472	YES	8.3
2	Kopacz	Joseph (Joe) Kopacz	jkopacz@iastate.edu	563-940-7887	YES	3.13
3	Kurtts	Margaret Kurtts	mkurtts@vols.utk.edu	210-807-0041 (cell)	YES	JCNRM SC/SM
4	Ludwig	Cailyn Ludwig	ludwig7@purdue.edu	402-516-4910	YES	3.14
5	Prewitt	Benjamin (Ben) Prewitt	bjp2n4@mst.edu	636-226-8210	YES	20.1
6	Robideaux	Dylan Robideaux	drobi825@gmail.com	337-257-2443	VF ONLY	8.7
7	Shah	Manit Shah	manitshahd@gmail.com	979-587-3427	YES	6.4.3
8	Sharma	Manish Sharma	mksrkf@mst.edu	573-647-0488	YES	6.4.3
9	Suehr	Gregory Suehr	gregory.suehr@gmail.com	412-302-1189	YES	57.2/5.73
10	Tackett	Stanley (Stan) Tackett	stackett@insight.rr.com	614-854-8786 (work) 914-937-0423 (home)	YES	6.4.2
11	Watson	Mara Watson	marawtsn@gmail.com	269-290-8264	YES	ESCC

Attachment 6

Addressing Beyond Design Basis Events in ANS Standards

1. Background:

The question was raised at the June 2014 Standards Board meeting: “Should ANS Standards address beyond design basis events (BDBEs)?” The following actions items were assigned:

> ACTION ITEM 6/2014-12: Andrew Smetana to consider if and how BDBE should be addressed in standards developed by SRA.
> DUE DATE: 10/1/2014
>
> ACTION ITEM 6/2014-13: George Flanagan (current SB Chair) to develop a white paper on how to address BDBE in ANS standards. *(Note: Steven Stamm will develop a draft for Flanagan that indicates RP3C should be included this in its plan.)*DUE DATE: 9/1/2014

2. Do ANS Standards Currently Address BDBEs:

Yes a number of ANS standards already address BDBEs although this may not be highlighted as such in the standards. In reality BDBE was derived to allow a lesser set of regulatory requirements to be used for very low probability events that have the potential of significant consequences.

- PRA Standards - By their nature, PRA standards address the total universe of events including BDBEs. However, PRA methodology standards do not classify events into design basis and BDBEs.
- Any standards on topics which are regulated under regulations that address BSBEs must address BDBEs to be consistent with the governing regulations.
- General design criteria standards – General design criteria standards, such as ANS 53.1, specifically address BDBEs.
- Calculations standards need to address how to determine BDBE impacts on plant Systems Structure and Components and how the consequences are determined,

3. Guidance for Addressing BDBEs in Future Standards to be Developed by RP3C:

A consistent approach needs to be developed for addressing BDBE in standards in the future. The development of this approach needed to consider risk and performance and thus is assigned to RP3C to include in its plan. The goal is to address the spectrum of potential transients and events from a common, overall perspective. In reality, we already design for BDBEs and as such the term BDBEs is really a misnomer. Our approach needs to recognize that the design for systems and equipment whose sole purpose is to protect the public from very low probability events do not have to meet the same design criteria as those that mitigate more probable events in order to assure a high level of safety.

Attachment 7

Action Item Status Report for Review at November 11, 2014 Standards Board Meeting

*****Action items are formally closed at a meeting with agreement of the members. *****

Action Item	Description	Responsibility	Status/Comments /Reassignments
6/2014-01	**Andrew Smetana to start a dialog with the NRC to effect the rulemaking process to replace the reference to the 1971 decay heat standard (ANS-5.1) in 10CFR50, Appendix K, with a reference to the most current standard. *(Note: This should include the discussion of whether the NRC prefers to use the 2005 version or the pending revision.)* DUE DATE: 8/1/2014**	**Andrew Smetana**	**OPEN**
6/2014-02	Pat Schroeder to add standards generic letter for volunteer placement to the SB online workspace. DUE DATE: 7/1/2014	Pat Schroeder	Completed Posted 7/9/14 and available at in SB documents tab
6/2014-03	**Each consensus committee (CC) chair to appoint a maintenance coordinator to be responsible for tracking maintenance needs of each CC. DUE DATE: 9/1/2014**	**CC Chairs**	**OPEN (FWD, NRNF, SRA, RAR) Completed by NCS = Lon Paulson JCNRM = Paul Amico ESCC = Leah Parks LLWR = Tim Meneely**
6/2014-04	**Steven Stamm to complete the specification of preferred definitions in the glossary and issue the revised document. DUE DATE: 10/1/2014**	**Steven Stamm**	**OPEN**
6/2014-05	Pat Schroeder to check on whether comments entered in our online workspace need to be submitted to be saved and if there is a way for a member to download their comments. DUE DATE: 7/1/2014	Pat Schroeder	Completed Info emailed to SB & CCs on 6/30/14
6/2014-06	Pat Schroeder to resend request to Standards Committee chairs to provide a list of projects in need of additional volunteer support for posting in LinkedIn, Nuclear Café/tweets. DUE DATE: 7/1/2014	Pat Schroeder	Completed Info provided and incorporated into a list for the PWROG meeting in August 2014 and posted to ANS website
6/2014-07	Pat Schroeder to post Donald Eggett's DID white paper for SB member comments with a copy to Mark Linn. DUE DATE: 9/1/2014	Pat Schroeder	Completed Doc posted 7/2014 to Workspace

6/2014-08	**Steven Stamm (with Gene Carpenter's support) to review SB comments on Donald Eggett's DID white paper and revise accordingly. DUE DATE: 10/1/2014**	**Steven Stamm**	**OPEN**
6/2014-09	Pat Schroeder to add standards header to the foreword of all future ANS standards. DUE DATE: 9/1/2014	Pat Schroeder	Completed Header added to three new standards ANS-6.1.2, ANS-8.1, ANS-8.19
6/2014-10	Pat Schroeder to distribute the IEEE white paper to the SB. DUE DATE: 7/1/2014	Pat Schroeder	Completed Distributed 6/17/14
6/2014-11	**George Flanagan (current RAR chair) to evaluate and/or develop a PINS for a standard on how to prepare an ITAAC to determine if an ANS standard should be developed. DUE DATE: 8/1/2014**	**George Flanagan**	**OPEN**
6/2014-12	**Andrew Smetana to consider if and how BDBE should be addressed in standards developed by SRA. DUE DATE: 10/1/2014**	**Andrew Smetana**	**OPEN**
6/2014-13	**George Flanagan (current SB Chair) to develop a white paper on how to address BDBE in ANS standards. (Steven Stamm will develop a draft for Flanagan that indicates RP3C should be included this in its plan.) DUE DATE: 9/1/2014**	**George Flanagan**	**OPEN** (draft prepared by Stamm sent to Flanagan 8/1/14)
6/2014-14	**Donald Spellman to form a working group with representation from multiple SDOs to develop a coordination of related standards activities on component classification. DUE DATE: 10/1/2014**	**Donald Spellman**	**OPEN**
6/2014-15	Steven Stamm to prepare guidance on what goes into a standard and what goes into an appendix. Guidance may consider the 6 points discussed at the 6/17/14 SB meeting. DUE DATE: 9/1/2014	Steven Stamm	Completed Doc issued for approval; Ballot closed 9/2/14.
6/2014-16	Pat Schroeder to distribute Mark Linn's presentation regarding redirection of the ANS-50.1 Working Group to preparation of a new general reactor design criteria standard. DUE DATE: 8/1/14	Pat Schroeder	Completed Presentation posted on Workspace 7/2/14.
6/2014-17	William Reuland to prepare a paragraph summarizing the position requirements for a replacement of Dennis Newton as Light Water Reactor & Reactor Auxiliary Systems Designs Subcommittee chair on LLWR and provide to Pat Schroeder to distribute to the SB for their help in soliciting a new subcommittee chair.	Pat Schroeder	Completed Email with position information Sent to SB 7/17/14.

	DUE DATE: 8/1/2014		
6/2014-18	**Prasad Kadambi to put together a status report on the NEI/NRC RISC committees' recommendations and provided to Pat Schroeder for distribution to the SB. DUE DATE: 9/1/2014**	**Prasad Kadambi**	**OPEN**
6/2014-19	**Mathew Panicker to work with Carol Moyer in acquiring a response to why the NRC was not following Circular No. A-119 on the JCNRM Advanced Light Water Reactor PRA standard. DUE DATE: 9/1/2014**	**Mathew Panicker**	**OPEN**
6/2014-20	**Donald Spellman (Policy TG Chair) to determine if the Policy TG needed to be reformulated/changed to improve the activity of this group. DUE DATE: 8/1/2014**	**Donald Spellman**	**OPEN**
6/2014-21	Pat Schroeder to issue the proposed External Communications Task Group charter for comment to George Flanagan, Steven Stamm, and Donald Spellman and forward comments to the TG for resolution. DUE DATE: 7/1/2014	Pat Schroeder	Completed Proposal provided and reviewed
6/2014-22	**Internal Communications TG to prepare 5 training presentations and provide for member comments. Presentations include 1) overview of nuclear related standards, plus additional slides that address international aspects, and 2) ANS standards organization and staffing, 3) the standards development process, 4) Standards Committee policies and procedures, and 5) CC policies and procedures DUE DATE: 11/1/2014**	**Internal Communications**	**OPEN Three presentations completed**
6/2014-23	**Robert Busch to prepare a student presentation on ANS standards. DUE DATE: 10/1/2014**	**Robert Busch**	**OPEN**
6/2014-24	**Internal Communications TG to review the old NFSC division liaisons list and reinstitute the ANS professional division representative program. (Old NFSC professional division liaison list to be provided to ICTG by Pat Schroeder.) DUE DATE: 9/1/2014**	**International Communications**	**OPEN In development**
6/2014-25	James August to send his list of priority standards to Pat Schroeder for SB comment. DUE DATE: 7/1/2014	James August	Completed ***D. Spellman asked to take over as Priority TG Chair and develop updated list.
6/2014-26	Pat Schroeder to change JCNRM to JCNRM/SCoRA and add WENRA on the liaison list.	Pat Schroeder	Completed

	DUE DATE: 7/1/2014DUE DATE: 7/1/2014		
6/2014-27	Pat Schroeder to check with George Flanagan about the possibility of moving the RAR to Monday morning of the ANS winter (November) meetings. DUE DATE: 9/1/2014	Pat Schroeder	Completed
6/2014-28	**George Flanagan (current SB Chair) to follow up with Donald Hoffman in September (2014) about interactions with Tom Boyce (NRC) to make sure that the NRC thinks of ANS first for nuclear issues and interface improvements to accomplish this. DUE DATE: 9/30/2014**	**George Flanagan**	**OPEN**
11/13-03	**Schroeder to use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members. DUE: As needed.**	**Pat Schroeder**	**OPEN (on-going)**
11/13-12	**The RP3C to complete the Risk-Informed and Performance-Based Plan and circulate to the SB in advance of the November 2014 (was June 2014) meeting for approval at the meeting. DUE: November 1, 2014**	**Prasad Kadambi**	**OPEN**
11/13-14	**George Flanagan to solicit additional vendor participation for the RAR. DUE: November 1, 2014**	**George Flanagan**	**OPEN**
11/13-15	**James O'Brien to solicit additional membership from industry to the NRNF. DUE: November 1, 2014**	**James O'Brien**	**OPEN**
11/13-16	**Andrew Smetana to solicit additional membership from industry on the SRA. DUE: November 1, 2014**	**Andrew Smetana**	**OPEN**
11/13-17	**Donald Eggett to solicit additional membership from government on the FWD. DUE: November 1, 2014**	**Donald Eggett**	**OPEN**
11/13-18	**All CC chairs to provide Donald Spellman a list of priority standards to be revised and or developed within their CC. DUE: December 31, 2014**	**ANS CC Chairs**	**OPEN**
11/13-20	**Donald Eggett to inform FWD about RP3C and to review any new PINS developed and consider if RIPB insights should be incorporated. DUE: November 1, 2014**	**Donald Eggett**	**OPEN**
11/13-25	**Donald Spellman to provide Donald Hoffman a list of consensus committees (and/or areas) that could benefit from more utility participation within two**	**Donald Spellman**	**OPEN**

	weeks. **DUE: July 31, 2014**		
11/12-04	Donald Spellman to begin development of one or more grants for ANS support. Projects to be considered for a grant proposal include ANS-2.8 (Flood Hazards), ANS-3.13 (Reliability Assurance Program), ANS-57.11 (Fuel Cycle Facilities), and advanced reactors. Due: On Hold	Donald Spellman	On Hold (grant proposals not currently being accepted)
11/12-17	**Prasad Kadambi to prepare a business case for initiating an ANS conformity assessment program.** **Due: November 1, 2014**	**Prasad Kadambi**	**OPEN**
6/12-04	**Donald Spellman to review the "Toolkit" for potential improvements as suggested by David Sachs.** **Due: January 1, 2015**	**Donald Spellman**	**OPEN**

Attachment 8

For Standards Board Approval

Problem Areas Identified during Recent Ballots of New Standards

1.1. Introduction

During the June 17, 2014 Standards Board meeting, six generic issues resulting from comments submitted on the ballot of ANS-56.18, “Safety Categorization and Design Criteria for Non-Reactor Nuclear Facilities,” were discussed. This has been expanded to the following eight issues:

1. Content and Use of Appendices
2. Different Technical Criteria for the Same Type of Facilities
3. Classification Systems
4. Use of "shall be evaluated”
5. Specification of Design Codes and Standards
6. Referencing other Standards Development Organizations (SDO) Standards
7. Degree of Specificity
8. Use of Copyrighted Materials in Standards

Steven Stamm was assigned the task of providing guidance covering these points. This guidance has been reviewed and approved by the Standards Board for dissemination to all Standards Committee members.
The goal of this effort is to provide feedback on problem areas and improve direction to working groups (WGs). Each Standards Committee member is requested to review this summary. Any questions should be directed to the ANS Standards Administrator (Pat Schroeder).

Each item includes, as applicable:
General Requirements - overview of the issue and recommended approach
Examples - where needed to provide better understanding of the issue
References – ANS policies that should be reviewed for further information on the issue.
Disposition actions to be taken by the Standards Board to provide further permanent guidance

1.2. Issues

1.2.1. Content and Use of Appendices

General Requirements - Appendices may be provided only for the purposes of clarification, illustration and general information in respect to a standard. They shall be within the scope of the project under which the standard is being developed and they shall not be inconsistent with the standard. Appendices shall not contain requirements and thus shall not contain “shall” statements. The fact that an appendix is provided for clarification, illustration and general information purposes shall be made clear by the way that it is referenced in the text, by a statement to this effect in the foreword and by an indication in the title of the appendix.

Example Acceptable Uses for Appendices in ANS Standards

- Provide backup information on the development of one or more of the requirements in the standard
- Provide an example of an approach which can be used to meet one or more of the requirements in a standard where there are a large number of potential approaches
- Provide historical information regarding the scope of the standard which is too voluminous to include in the foreword
- Provide industry experience related to some aspect of the scope of the standard

Example Unacceptable Uses for Appendices

- Move what should be requirements from the standard to an appendix to make them non-requirements
- Provide amplifying information on a requirement in the standard that is necessary to be able to meet the requirement

- Provide alternatives to the requirements in the body of the standard
- If there are a limited number of acceptable approaches to meeting a standard's requirement, these should be included in the body of the standard as part of the requirement and not in an appendix.

Reference ANS Policies
The ANS "POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD ("SHALL," "SHOULD," AND "MAY")" specifies that "The number of appendices should be kept to a minimum and used to either illustrate possible approaches or to discuss known problems when clearly acceptable practices have not been widely adopted or defined."

Disposition
The above concepts of this section will be added to the Policy Manual for the ANS Standards Committee.

1.2.2. Different Technical Criteria for the Same Type of Facilities

General Requirements - ANS standards shall be technically based not politically based. Thus the requirements specified in a standard shall be that set of requirements that the WG believes are needed to assure that an application which meets these requirements will be technically acceptable. If different entities in the nuclear industry use different acceptable approaches to meet the scope covered by the standard, the WG should apply its best effort to reach agreement between the entities on a single, common set of requirements. In some cases this may not be feasible and the WG may need to focus on what it believes to be an acceptable standard set of requirements.

The above general requirements apply instances where there are differing requirements used by industry companies, national laboratories, universities and the U.S. Department of Energy (DOE). The scope of the standard needs to consider whether it can provide a single set of requirements that will cover that scope and still be meaningful. If not, separate standards should be considered. [For example, light water reactors (LWRs) and modular high temperature gas-cooled reactors are sufficiently different that there requirements are covered in separate standards; however, LWR requirements should be the same regardless of the companies or entities involved.]

Example - An example where a single standard with a single set of requirements should be applied is a standard that relate to both DOE and the U.S. Nuclear Regulatory Commission (NRC) licensed facilities of the same types where DOE and NRC have different guidelines. It is not the function of ANS to create separate standards for the same types or similar facilities. The ANS WG should attempt to define a single acceptable approach. This may require some negotiation. If needed, the WG should enlist the support of ANS standards management through its subcommittee and consensus committee.

Disposition
The above material will be added to ANS Standards Committee Policy, "POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD ("SHALL," "SHOULD," AND "MAY")

1.2.3. Classification Systems

General Requirements – At this time there are several different classification systems in ANS standards. The goal of the ANS Standards Committee is to have a logically based classification hierarchy that would apply classification systems in all ANS standards and be used as the basis for standards of other SDOs. While not all of the classes would apply to every standard; those that did apply would be consistent with this logically based hierarchy. This would apply to both safety and seismic classification systems. An effort is being initiated by the ANS Standards Board to create a high-level, multi-SDO Task Group to develop recommendations for this approach. In the interim,

WGs should minimize the development of new independent classification approaches and use existing classification approaches where possible.

Disposition
The above concepts of this section will be added to ANS standards toolkit document: “An Introduction to the Preparation of ANSI/ANS Standards and Their Role in the Licensing Process” written by William Reuland in 2009. When the results from the multi-SDO task group are available, they will be incorporated into a new ANS standard.

1.2.4. Use of "shall be evaluated”

General Requirements – The use of the term “shall be evaluated” shall not be used unless clear guidance regarding methodology, approaches, acceptance criteria and documentation requirements are defined in the standard [See ANS Policy “POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD (“SHALL,” “SHOULD,” AND “MAY”)]

Example: “The use of ASME Code shall be evaluated for the design of this facility.” This statement is not acceptable since it leaves the selection of the design code to the user of the standard. This means that there is NO standard.

Disposition
The existing statement in ‘“POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD (“SHALL,” “SHOULD,” AND “MAY)” will be expanded to add the additional information above.

1.2.5. Specification of Design Codes and Standards

General Requirements – Requirements to apply specific design codes and standards shall be made using clear shall statements in the body of the standard. The WG shall identify the specific codes or standards that will result in an acceptable product in its standard. Remember a user may opt to use a different code or standard by taking exception to the ANS Standard. However, the requirements in our standards need to be guided by the principal that “If a user claims to have applied an ANS standard, it is a meaningful statement and provides a clear basis for acceptability”.

Disposition
The ANS policy, “POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD (“SHALL,” “SHOULD,” AND “MAY)”.will be modified to specifically mention this item.

1.2.6. Referencing other SDO Standards

General Requirements – Where related requirements are covered by other ANS standards, only those ANS standards shall be referenced. If the WG feels that it important to note material covered in another SDOs standard that is within the scope of an ANS standard and a reference to the other SDO standard is not provided in the applicable ANS standard, it may note the existence of this other SDO standard in a footnote.

Disposition
This item will be added to the ANS policy, “POLICY ON HANDLING REFERENCES IN STANDARDS.”

1.2.7. Degree of Specificity

General Requirements - The minimum level of requirement specification acceptable in an ANS standard is that which is sufficient to provide assurance that multiple independent persons using the standard will have a common understanding of the requirement and the products produced through the implementation of the standard will have the intended capabilities and quality.

Reference ANS Policies

The ANS “POLICY FOR SPECIFYING REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS IN A STANDARD (“SHALL,” “SHOULD,” AND “MAY”)” specifies that,” VCS prepared under the cognizance of the ANS Standards Committee shall be clear and concise, avoiding ambiguity. It must be very clear that when a standards user claims that actions are in accordance with the requirements of an ANS standard, the meaning of such a claim is well understood by all parties and can be verified by an independent second party. Standards writers and reviewers shall recognize that they are not directly setting requirements for the industry because all VCS are intended for voluntary use, and it is the prerogative of the user to determine its level of implementation. It is not sufficient to simply use a “shall" statement to specify a requirement. Our goal is that each “Shall” statement, if effectively implemented, provides an acceptable product. However, “should” statements should be used very sparingly as they compromise the specificity of a standard. “Should” may be used to indicate a preference among two or more acceptable actions that describe some but not all of the acceptable actions. If the standard describes all known acceptable actions, then “shall” shall be used (in the context of “one of the following shall be done”) instead of “should.” “Should” statements shall not be used to avoid those cases where the WG is unable to provide the needed clarity.

Disposition
Specificity requirements for ANS standards are already adequately covered in the ANS SC Policy Manual.

1.2.8. Use of Copyrighted Materials in Standards

WGs should avoid using materials from copyrighted sources. If the use of copyrighted material is unavoidable then material excerpted from copyrighted sources shall only be included in published ANS standards if documented approval from the controlling entity for that copyright (normally the publisher) has been obtained.

Disposition
POLICY ON HANDLING REFERENCES IN STANDARDS – is being revised to clarify the requirements and responsibilities for obtaining the requisite copyright approvals.

Attachment 9

Report on Action Item 6/2014-20 for Donald Spellman (Policy TG Chair) to determine if the Policy TG needed to be reformulated/changed to improve the activity of this group.

I have reviewed the current scope of the SB Policy Task Group and propose the below membership and scope statement and suggest that the name be changed to the "Advisory Task Group" for clarification.

Advisory Task Group:

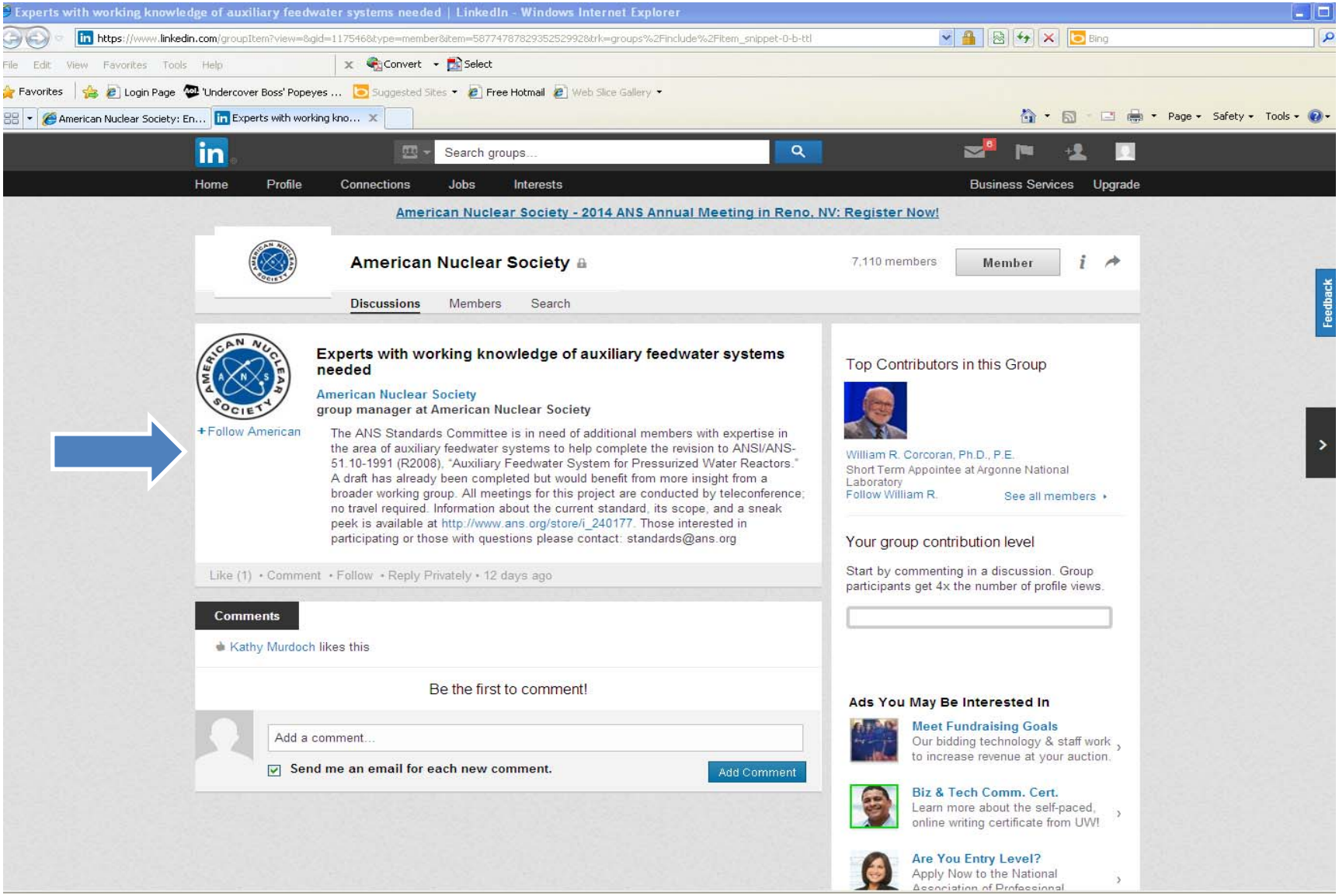
Membership: current and past Chairs of the ANS SB, the current SB Vice Chair and the Standards Administrator.

Scope:
· Function as an advisory group to the chair of the standards board on administrative or procedural issues referred to it from the SB.
· Interface with the ANS Board of Directors and Standing Committees through the SB Chair on policy issues that affect the ANS strategic plan.
· Review external requests from other SDOs,government organizations, and the public for relevance to the activities of the standards committee and make recommendations on these requests to the SB Chair.This does not include clarifications and inquiries on specific standards that are handled under the SC rules and procedures.
· Resolve questions referred to the task group from the SB relative to questions or clarifications of SC policies, rules and procedures.

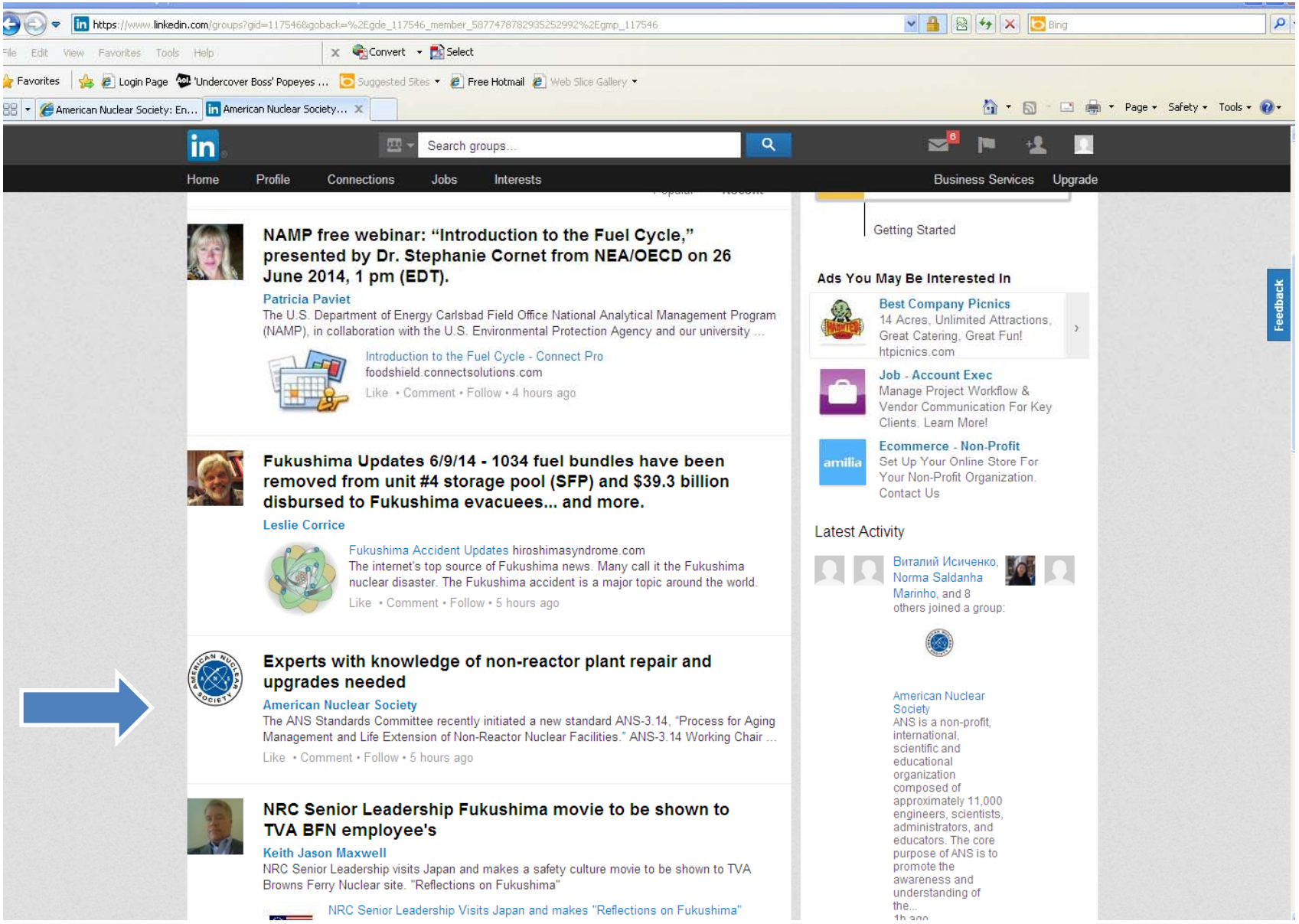
Attachment 10

Postings to ANS LinkedIn Group & tweets on Nuclear Café plus scheduled postings/tweets…..

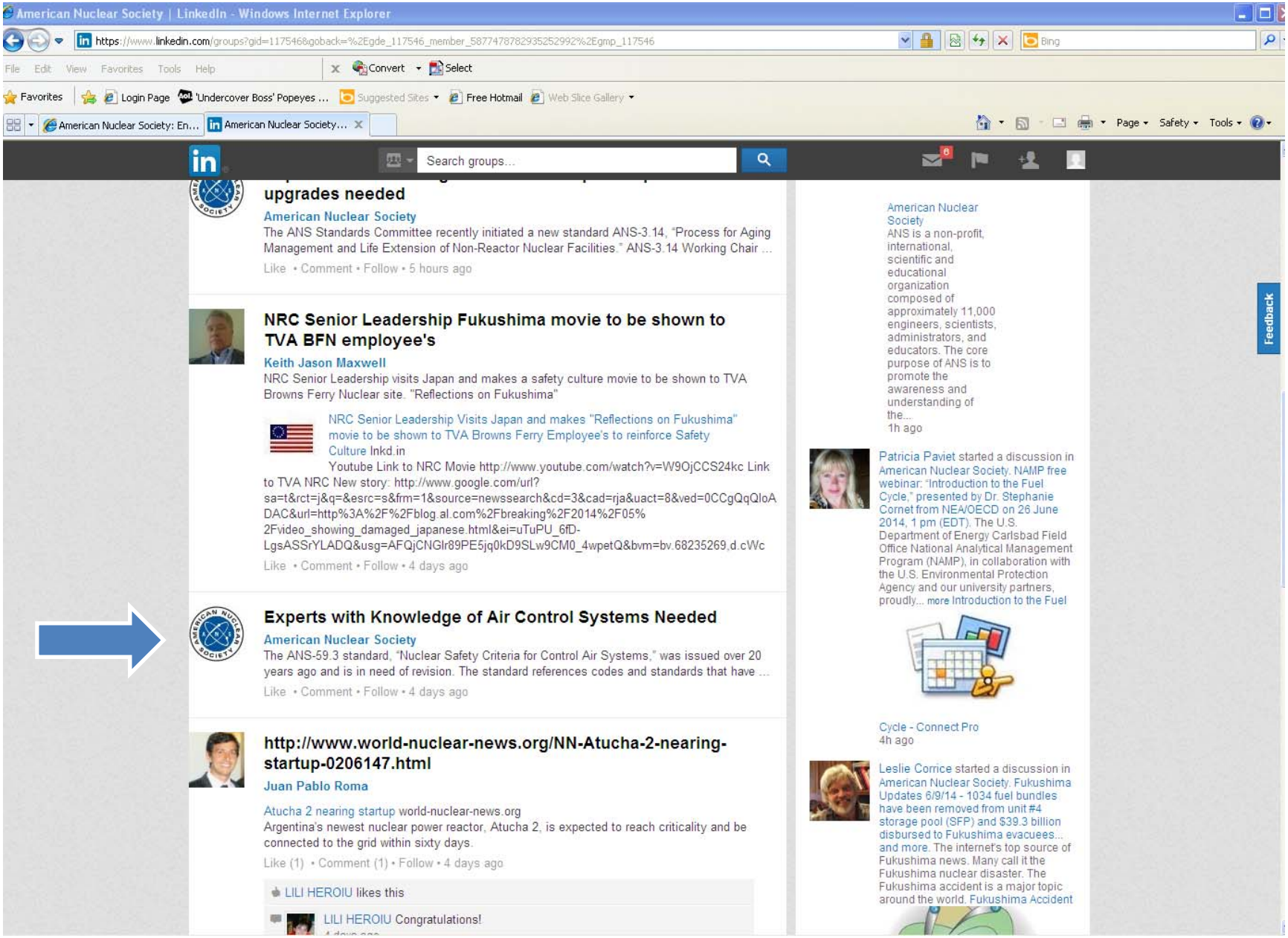
ANS-51.10



ANS-3.14


https://www.linkedin.com/groups?gid=117546&goback=%2Egde_117546_member_5877478782935252992%2Egmp_117546
Favorites
Login Page
'Undercover Boss' Popeyes ...
Suggested Sites
Free Hotmail
Web Slice Gallery
American Nuclear Society: En...
American Nuclear Society...
Search groups...
Home
Profile
Connections
Jobs
Interests
Business Services
Upgrade
NAMP free webinar: "Introduction to the Fuel Cycle," presented by Dr. Stephanie Cornet from NEA/OECD on 26 June 2014, 1 pm (EDT).
Patricia Paviet
The U.S. Department of Energy Carlsbad Field Office National Analytical Management Program (NAMP), in collaboration with the U.S. Environmental Protection Agency and our university ...
Introduction to the Fuel Cycle - Connect Pro
foodshield.connectsolutions.com
Like • Comment • Follow • 4 hours ago
Fukushima Updates 6/9/14 - 1034 fuel bundles have been removed from unit #4 storage pool (SFP) and $39.3 billion disbursed to Fukushima evacuees... and more.
Leslie Corrice
Fukushima Accident Updates hiroshimasyndrome.com
The internet's top source of Fukushima news. Many call it the Fukushima nuclear disaster. The Fukushima accident is a major topic around the world.
Like • Comment • Follow • 5 hours ago
Experts with knowledge of non-reactor plant repair and upgrades needed
American Nuclear Society
The ANS Standards Committee recently initiated a new standard ANS-3.14, "Process for Aging Management and Life Extension of Non-Reactor Nuclear Facilities." ANS-3.14 Working Chair ...
Like • Comment • Follow • 5 hours ago
NRC Senior Leadership Fukushima movie to be shown to TVA BFN employee's
Keith Jason Maxwell
NRC Senior Leadership visits Japan and makes a safety culture movie to be shown to TVA Browns Ferry Nuclear site. "Reflections on Fukushima"
NRC Senior Leadership Visits Japan and makes "Reflections on Fukushima"
Getting Started
Ads You May Be Interested In
Best Company Picnics
14 Acres, Unlimited Attractions, Great Catering, Great Fun!
htpicnics.com
Job - Account Exec
Manage Project Workflow & Vendor Communication For Key Clients. Learn More!
Ecommerce - Non-Profit
Set Up Your Online Store For Your Non-Profit Organization. Contact Us
Latest Activity
Виталий Исиченко, Norma Saldanha Marinho, and 8 others joined a group:
American Nuclear Society
ANS is a non-profit, international, scientific and educational organization composed of approximately 11,000 engineers, scientists, administrators, and educators. The core purpose of ANS is to promote the awareness and understanding of the...
Feedback

ANS-59.3


American Nuclear Society | LinkedIn - Windows Internet Explorer
https://www.linkedin.com/groups?gid=117546&goback=%2Egde_117546_member_5877478782935252992%2Egmp_117546
Search groups...
upgrades needed
American Nuclear Society
The ANS Standards Committee recently initiated a new standard ANS-3.14, "Process for Aging Management and Life Extension of Non-Reactor Nuclear Facilities." ANS-3.14 Working Chair ...
Like • Comment • Follow • 5 hours ago
NRC Senior Leadership Fukushima movie to be shown to TVA BFN employee's
Keith Jason Maxwell
NRC Senior Leadership visits Japan and makes a safety culture movie to be shown to TVA Browns Ferry Nuclear site. "Reflections on Fukushima"
NRC Senior Leadership Visits Japan and makes "Reflections on Fukushima" movie to be shown to TVA Browns Ferry Employee's to reinforce Safety Culture Inkd.in
Youtube Link to NRC Movie http://www.youtube.com/watch?v=W9OjCCS24kc Link to TVA NRC New story: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=newssearch&cd=3&cad=rja&uact=8&ved=0CCgQqQIoADAC&url=http%3A%2F%2Fblog.al.com%2Fbreaking%2F2014%2F05%2Fvideo_showing_damaged_japanese.html&ei=uTuPU_6fD-LgsASSrYLADQ&usg=AFQjCNGlr89PE5jq0kD9SLw9CM0_4wpetQ&bvm=bv.68235269,d.cWc
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Experts with Knowledge of Air Control Systems Needed
American Nuclear Society
The ANS-59.3 standard, "Nuclear Safety Criteria for Control Air Systems," was issued over 20 years ago and is in need of revision. The standard references codes and standards that have ...
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http://www.world-nuclear-news.org/NN-Atucha-2-nearing-startup-0206147.html
Juan Pablo Roma
Atucha 2 nearing startup world-nuclear-news.org
Argentina's newest nuclear power reactor, Atucha 2, is expected to reach criticality and be connected to the grid within sixty days.
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American Nuclear Society
ANS is a non-profit, international, scientific and educational organization composed of approximately 11,000 engineers, scientists, administrators, and educators. The core purpose of ANS is to promote the awareness and understanding of the...
1h ago
Patricia Paviet started a discussion in American Nuclear Society. NAMP free webinar: "Introduction to the Fuel Cycle," presented by Dr. Stephanie Cornet from NEA/OECD on 26 June 2014, 1 pm (EDT). The U.S. Department of Energy Carlsbad Field Office National Analytical Management Program (NAMP), in collaboration with the U.S. Environmental Protection Agency and our university partners, proudly... more Introduction to the Fuel Cycle - Connect Pro
4h ago
Leslie Corrice started a discussion in American Nuclear Society. Fukushima Updates 6/9/14 - 1034 fuel bundles have been removed from unit #4 storage pool (SFP) and $39.3 billion disbursed to Fukushima evacuees... and more. The internet's top source of Fukushima news. Many call it the Fukushima nuclear disaster. The Fukushima accident is a major topic around the world. Fukushima Accident
Feedback

Additional copy for use in ANS LinkedIn Group for the next few weeks:

Issued May 28, 2014, on ANS LinkedIn Group and tweeted via Nuclear Café

Experts with working knowledge of auxiliary feedwater systems needed
The ANS Standards Committee is in need of additional members with expertise in the area of auxiliary feedwater systems to help complete the revision to ANSI/ANS-51.10-1991 (R2008), "Auxiliary Feedwater System for Pressurized Water Reactors." A draft has already been completed but would benefit from more insight from a broader working group. All meetings for this project are conducted by teleconference; no travel required. Information about the current standard, its scope, and a sneak peek is available at http://www.ans.org/store/i_240177. Those interested in participating or those with questions please contact: standards@ans.org

For issuance the week starting Monday, June 2, 2014:

Experts with knowledge of Air Control Systems Needed
The ANS-59.3 standard, "Nuclear Safety Criteria for Control Air Systems," was issued over 20 years ago and is in need of revision. The standard references codes and standards that have been superseded and/or withdrawn such as ANSI/ANS-51.1-1983 (R1988); ANSI/ASME B31.1-1989; ANSI/ASME BPV Code-1992, Section III; and ANSI/IEEE 308-1991. This standard could benefit from new requirements that improve performance for system piping to avoid joining of pipe segments with low temperature medium (such as solder). It is believed that the additional direction in this area would go a long way to improve system capability if piping is involved in a fire area. If you are in agreement and can offer expertise in this area, please contact standards at standards@ans.org to get started.

For issuance the week starting Monday, June 9, 2014:

Experts with knowledge of non-reactor plant repair and upgrades needed
The ANS Standards Committee recently initiated a new standard ANS-3.14, "Process for Aging Management and Life Extension of Non-Reactor Nuclear Facilities." ANS-3.14 Working Chair Herbert Massie with the Defense Nuclear Facilities Standards Board proposed this standard because… "Unlike for commercial nuclear reactors, a standard does not exist for determining acceptable methods for conducting systematic reviews of non-reactor nuclear facility structures, systems, and components." Several members have already committed to this project but additional members from a utility or a fuel cycle facility with expertise in repair and plant upgrades would complete the group. Contact standards@ans.org if this sounds like you and you would like to help set requirements in this new standard.

For issuance the week starting Monday, June 16, 2014:

Experts on Solid, Gaseous, and Liquid Radioactive Waste Processing Systems Needed

The ANS Standards Committee is forming a combined working group to revise standards for solid, gaseous, and liquid radioactive waste processing systems for LWRs. The working group chair is anxious to get started but needs a few additional experts before work can begin. The majority of the work on this project will be completed through electronic means. A kick-off meeting may be scheduled for an upcoming ANS bi-annual meeting. Members from stakeholders of solid, gaseous, and liquid radioactive waste processing systems are needed. This is an opportunity to have input into updating requirements for the industry. Those interested in participating or those with questions should contact standards@ans.org.

For issuance the week starting Monday, June 23, 2014:

ANS Standards Committee Needs Project Leaders

Voluntary consensus standards represent the best knowledge of the field. They are written by groups of volunteers who are regarded as the technical experts in the nuclear energy industry. The ANS depends on these dedicated and talented volunteers to support its standards development program. Especially important are those volunteers that commit to chairing a standards project. The ANS Standards Committee is currently in need of several project leaders we call "working group chairs." Some of the standards projects in need of direction are in the area of siting, remediation, radiation shielding, fuel assembly, spent fuel, emergency diesel generators, air control systems, and low-level radioactive waste. Travel not necessarily required. More information about the projects in need of your leadership is available here. Contact standards@ans.org to see how you can help.

Attachment 11

ANS RP3C Meeting
Report to Standards Board

Anaheim, CA

November 11, 2014

Report on RP3C Plan Status to Standards Board

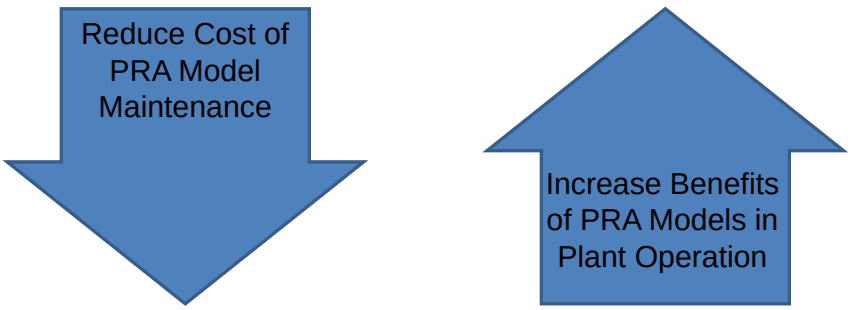
- Membership
- Key external driver changes
- Status of draft and prognosis
- Status of endorsement of plan by RP3C members including CC chairs
- Summary of Challenges and Actions to overcome
- SB actions, if any

Changing Environment

- Discussion of Changing Environment
  - JCNRM
  - NRMCC
  - NRC action plan for NUREG 2150
- Existing plants
  - Owner's Group view of RIPB utility
  - Cumulative Effects of Regulation
  - NTTF Recommendation 1
  - Risk-Informed Steering Committees
- New Reactors
  - NGNP letters from ACRS and NRC (July)
  - Multi-module issues
- DOE Work on Advanced Reactors

PWR Owners Group Perspective

The Future Focus of the RMSC will be to **improve efficiency** of PRA model maintenance as well identify ways to leverage models to **reduce the cost** of plant operations



PWROG Technical Focus Areas

Top 1-2 Year

- External Flooding
- Improving Regulatory Certainty in Risk-Informed Applications
- Reducing Fire PRA Conservatisms
- Existing Risk Informed Applications
- Digital I&C Risk Assessments

PWROG Technical Focus Areas

Top 3-5 Year

- Low Power/Shutdown Risk
- Fully Integrated All Modes Models
- Containment Risk Analysis (Level 2)
- High Winds/Tornado Risk Assessments
- Cumulative Effects Implementation

PWROG Technical Focus Areas

Top 6-10 Year

- Risk Informed Regulatory Structure
- Off-site Consequences Risk Analysis (Level 3)
- Life after 60 & Asset Management
- Generation Risk Models
- New Risk Informed Applications to Leverage Newly developed PRA Models

Implications of OG Perspective to ANS Efforts

- There is so much work to be done that we need to find ways of including the efforts of every willing participant.
- There is a “Catch-22” relative to resources.
- ANS has the opportunity to take the lead and then rally others to the cause.
- We need to have confidence that sound technical arguments will eventually prevail.

Plan Outline Update

- Introduction
  - Background
    - ANS Role
    - Purpose
    - Charter Summary
    - Approach
  - Technical Bases and Drivers
- Processes and Outcome Objectives
  - ANS RIPB Standards Policy Statement Update
  - Policy Implementation Guidance
    - Perform Functional Analysis
    - Perform Functional Binning
    - Assign Risk Regime
    - Identify Performance Factors and Parameters
    - Establish Monitoring Requirements
    - Confirm Contribution to Goals
  - Standards Development Priorities
- Implementation Plan
  - Near Term Products
  - Intermediate Term Activities
  - Longer Term Activities
- Implementation Support Needs
- References

Next Steps

- Plan Completion
- CC Engagement and Support
- Pilot Efforts

Plan Completion

- SB reaffirmation of RP3C Charter
- Integration of draft text in ANS Workspace
- Identification and resolution of technical issues that need clarification, alignment or redirection
- Identification of new/revised standards needed and PINS development/prioritization
- Update the plan over time to create a repository that reflects the experiences and needs of the CCs

CC Engagement

- RP3C develop CC “kickoff” introduction package regarding on how to move forward
- Guiding principles
  - Support RIPB evolution at CC and WG level
  - Don’t disrupt current work and standards development
  - Use the on-going Standards Prioritization effort for each CC to examine which standards should be considered for RIPB treatment and which don’t likely represent high value targets

Pilot Efforts

- Gained support from LLWR CC to pilot the RIPB prioritization process
  - Use the existing priority list as foundation for RIPB screening
  - Pilot the CC engagement process and materials
  - Identify a core team of risk methods experts and risk application experts (RP3C member volunteers) to provide the implementation resources for the CC/WG engagement

Attachment 12

Large Light Water Reactor (LLWR) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014 ● Anaheim, California

Projects in need of support (chair/members) to be initiated (6)

- ANS-18.1, "Radioactive Source Term for Normal Operation of Light Water Reactors" (revision of historical standard ANSI/ANS-18.1-1999)
- ANS-56.1, "Containment Hydrogen Control" (reinvigoration of withdrawn project)
- ANS-58.2, "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture" (reinvigoration of historical standard ANSI/ANS-58.2-1988)
- ANS-58.8, "Time Response Design Criteria for Safety-Related Operator Actions" (revision of ANSI/ANS-58.8-1994 (R2008))
- ANS-58.11, "Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors" (reinvigoration of historical standard ANSI/ANS-58.11-1995 (R2002))
- ANS-59.3, "Nuclear Safety Criteria for Control Air" (reinvigoration of historical standard ANSI/ANS-59.3-1992 (R2002))

PINS in Development (1)

- ANS-58.6, "Criteria for Remote Shutdown for Light Water Reactors Facilities" (reinvigoration of historical standard ANSI/ANS-58.6-1996 (R2001))

Standards in Development – Approved PINS (8)

- ANS-3.8.7, "Properties of Planning, Development Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness at Nuclear Facilities" (revision of historical standard ANSI/ANS-3.8.7-1998) ****Once ANS-3.8.7 is completed, a path forward for completing the remaining emergency preparedness standards will be determined. This includes ANS-3.8.1, ANS-3.8.2, ANS-3.8.3, and ANS-3.8.6.****
- ANS-3.13 "Nuclear Plant Reliability Assurance Program (RAP) Development Guidance for Design, Construction, and Operation" (new standard)
- ANS-51.10, "Auxiliary Feedwater System for Pressurized Water Reactors" (revision of ANSI/ANS-51.10-1991 (R2008))
- ANS-56.8, "Containment Leakage Testing Requirements" (revision of ANSI/ANS-56.8-2002 (R2011))

Standards at Ballot/Resolving comments

- ANS-3.5, "Nuclear Power Plant Simulators for Use in Operator Training and Examination" (revision of ANSI/ANS-3.5-2009)

Delinquent Standards (5+ years since ANSI approval) (6)

- ANSI/ANS-51.10-1991 (R2008) "Auxiliary Feedwater System for Pressurized Water Reactors" (revision initiated)
- ANSI/ANS-58.3-1992 (R2008), "Physical Protection for Nuclear Safety-Related Systems and Components" (inactive)
- ANSI/ ANS-58.8-1994 (R2008), "Time Response Design Criteria for Safety-Related Operator Actions" (revision initiated but needs additional members to move forward)
- ANSI/ANS-58.9-2002 (R2009), "Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems" (inactive)
- ANSI/ANS-59.51-1997 (R2007), "Fuel Oil Systems for Safety-Related Emergency Diesel Generators" (inactive)
- ANSI/ANS-59.52-1998 (R2007), "Lubricating Oil Systems for Safety-Related Emergency Diesel Generators" (inactive)

Responses to Inquiries in Development/Approval (2)

- An inquiry was received on ANSI/ANS-58.2-1988, "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture," on 11/26/05. A response was approved by the LLWR and is currently with the Standards Board for certification.
- An inquiry was received on ANSI/ANS-56.8-2002 (R2011), "Containment System Leakage Testing Requirements," on 7/15/14. Comments from the LLWR ballot to approve the draft response are currently being resolved.

Attachment 13

Research & Advanced Reactors (RAR) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014, Meeting ● Anaheim, California

PINS in Development/Approval (4)

- ANS-15.11, "Radiation Protection at Research Reactor Facilities" (revision of ANSI/ANS-15.11-2009)
- ANS-15.15, "Criteria for the Reactor Safety Systems of Research Reactors" (revision of historical standard ANSI/ANS-15.15-1978 (R1986))
- ANS-30.1, "Risk-Informed and Performance-Based Nuclear Power Plant Design Process" (new standard)
- ANS-30.2, "Standard on SSC Classification" (title TBD – new standard)

Standards in Development – Approved PINS (5)

- ANS-15.2, "Quality Control for Plate-type Uranium-Aluminum Fuel Elements" (revision of ANSI/ANS-15.2-1999 (R2009))
- ANS-15.4, "Selection and Training of Personnel for Research Reactors" (revision of ANSI/ANS-15.4-2007)
- ANS-15.8, "Quality Assurance Program Requirements for Research Reactors" (revision of ANSI/ANS-15.8-1995 (R2013))
- ANS-20.1, "Nuclear Safety Criteria and Design Process for Fluoride Salt-Cooled High-Temperature Reactor Nuclear Power Plants" (new standard)
- ANS-54.1, "Nuclear Safety Criteria and Design Process for Liquid-Sodium-Cooled Reactor Nuclear Power Plants" (revision of historical standard ANSI/ANS-54.1-1989)

Standards at Ballot/Resolving Comments (2)

- ANSI/ANS-14.1-2004 (R2009), "Operation of Fast Pulse Reactors" (reaffirmation of ANSI/ANS-14.1-2004 (R2009))
- ANS-15.16, "Emergency Planning for Research Reactors" (revision of ANSI/ANS-15.16-2008)

Delinquent Standards (5+ years since ANSI approval) (5)

- ANSI/ANS-14.1-2004 (R2009), "Operation of Fast Pulse Reactors" (reaffirmation at ballot)
- (ANSI/ANS-15.2-1999 (R2009), "Quality Control for Plate-type Uranium-Aluminum Fuel Elements" (revision initiated)
- ANSI/ANS-15.4-2007, "Selection and Training of Personnel for Research Reactors" (revision initiated)
- ANSI/ANS-15.11-2009, "Radiation Protection at Research Reactor Facilities" (revision being initiated)
- ANSI/ANS-15.16-2008, "Emergency Planning for Research Reactors" (revision at ballot)

Responses to Inquiries in Development (1)

An inquiry was received 12/18/13 on ANSI/ANS-15.4-2007, "Selection and Training of Personnel for Research Reactors.

Attachment 14

Nonreactor Nuclear Facilities (NRNF) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014, Meeting ● Anaheim, California

PINS in Approval Process/Resolving Comments (1)

- ANS-57.11, "Integrated Safety Assessments for Nonreactor Nuclear Facilities" (new standard – revised PINS in approval)

Standards in Development – Approved PINS (2)

- ANS-3.14, "Process for Aging Management and Life Extension of Nonreactor Nuclear Facilities" (new standard)
- ANS-57.11, "Integrated Safety Assessments for Nonreactor Nuclear Facilities" (new standard)

Standard Approved (NFSC) (1)

- ANSI/ANS-58.16-2014, "Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities" (new standard)

Responses to Inquiries in Development/Delinquent Standards (5+ years since ANSI approval)(0)

The committee has not received any inquiries on standards and does not have any delinquent standards.

Attachment 15

Safety & Radiological Analyses (SRA) Consensus Committee
Chairman's Report to the Standards Board
June 17, 2014, Meeting ● Reno, Nevada

PINS in Development (1)

- ANS-6.1.1, "Neutron and Gamma-Ray Fluence-To-Dose Factors" (reinvigoration of historical standard ANSI/ANS-6.1.1-1991)

Standards in Development – Approved PINS (9)

- ANS-6.4.2, "Specification for Radiation Shielding Materials" (revision of ANSI/ANS-6.4.2-2006)
- ANS-6.4.3, "Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials" (reinvigoration of historical standard ANSI/ANS-6.4.3-1991)
- ANS-6.6.1, "Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants" (revision of ANSI/ANS-6.6.1-1987 (R2007))
- ANS-10.8," Non-Real Time, High-Integrity Software for the Nuclear Industry: User Requirements" (new standard)
- ANS-19.1, "Nuclear Data Sets for Reactor Design Calculations" (revision of ANSI/ANS-19.1-2002 (R2011))
- ANS-19.9, "Delayed Neutron Parameters for Light Water Reactors" (new standard)
- ANS-19.11, "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors" (revision of ANSI/ANS-19.11-1997 (R2011))
- ANS-19.12, "Nuclear Data for the Production of Radioisotope" (new standard)

Standards Approved (1)

- ANSI/ANS-5.1-2014, "Decay Heat Power in Light Water Reactors" (revision of ANSI/ANS-5.1-2005)

Delinquent Standards (5+ years since ANSI approval) (8)

- ANSI/ANS-6.3.1-1997 (R2007), "Program for Testing Radiation Shields in Light Water Reactor (LWR)" (chair needed)
- ANSI/ANS-6.4-2006, "Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants" (chair needed)
- ANSI/ANS-6.4.2-2006, "Specification for Radiation Shielding Materials" (revision initiated)
- ANSI/ANS-6.6.1-1987 (R2007), "Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants" (revision being initiated)
- ANSI/ANS-10.2-2000 (R2009), "Portability of Scientific and Engineering Software" (being considered for reaffirmation)
- ANSI/ANS-10.4-2008, " Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry" (being considered for reaffirmation)
- ANSI/ANS-19.3.4-2002 (R2008) "The Determination of Thermal Energy Deposition Rates in Nuclear Reactors" (chair needed)
- ANSI/ANS-19.10-2009, "Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals (new chair committed)

Responses to Inquiries in Development (0)

The committee has not received any inquiries on standards.

Attachment 16

JCNRM Chairman's Report to the ANS Standards Board
November 11, 2014 • Anaheim, California

ASME/ANS RA-b-2013

A new addendum to the JCNRM's main "flagship" PRA methodology standard for LWR PRA was approved and published at the end of 2013. This "addendum" is known colloquially as "Addendum B" and is formally designated as ASME/ANS RA-b-2013. It contains changes that are mostly of a clarifying or consistency-across-the-standard nature, plus bringing many citations and other aspects up to date. Work on the next revision, which the JCNRM will call a "new edition", is already under way. This new version is expected to contain many substantive changes based on feedback from recent users of the standard, along with extensive re-formatting and the like. The schedule for this next version is not yet clear, but is expected to be complete by early 2016.

New Standards in Development

NOTE: The JCNRM has decided that each of these new standards will be released initially for Trial Use and Pilot Application – not for approval as an American National Standard by the American National Standards Institute.

ANS-58.22-201x, "Low Power Shutdown PRA Methodology"

- Working group is led by Don Wakefield, underway since 1999.
- After several ballots and comment resolutions, the WG completed a final draft that was issued for ballot. The ballot closed on 12/17/2013.
- A very strong majority voted for approval; however, resolution of comments resulted in numerous changes to the draft requiring an additional (recirculation) ballot.
- A recirculation ballot was issued with a due date of 11/13/2014.

ASME/ANS RA-S-1.2-201x , "Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications" (previously ANS/ASME-58.24)

- Writing group is led by Ed Burns, underway since 2005. Burns took over as chair from Mark Leonard in early 2013. Leonard had led the WG since its inception.
- After several ballots and comment resolutions, the WG completed a final draft which was issued for ballot to the JCNRM. The ballot closed on 5/13/14.
- A very strong majority voted for approval; consensus was declared with one objection related to the potential endorsement of the NRC of a trial use standard.
- This standard will be used by the PWROG on the NRC Level 3 Probabilistic Risk Assessment Project peer reviews.
- This standard is in production and expected to be published by the end of 2014.

ASME/ANS RA-S-1.3-201x, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications" (previously ANS/ASME-58.25)

- Working group is led by Keith Woodard, underway since 2005.
- After several ballots and comment resolutions, the WG completed a final draft in late 2013, but the release was on hold waiting for NRC input to comment resolutions.
- NRC comments were recently received and a working group meeting is scheduled for November 19-20, 2014.
- If the current schedule holds, a version will be ready for another ballot sometime in the spring of 2015.

ASME/ANS RA-S-1.4, "Advanced Non LWR PRA Standard"

- Working group is led by Karl Fleming, underway since 2007.
- A final JCNRM ballot was held in spring 2013, and the ballot was successful. This standard was published on December 9, 2013, for trial use and pilot application for a 36-month period.

ASME/ANS RA-S 1.5, "Advanced Light Water Reactor PRA Standard"

- Working group is led by Jim Chapman, underway since 2007.
- A final JCNRM ballot was held in spring 2013, and it was approved by the JCNRM. Additional changes were made to the draft, in part to accommodate applicability to SMRs (small modular reactors) that use light-water coolant. The working group is currently considering additional comments from the NRC related to the ALWR ISG and possible changes to the draft before issuing the standard for a reballot.

ANS RISC merger with ASME CNRM to form a new "Joint Committee on Nuclear Risk Management"

The merger has two aspects, an "organizational" aspect and a "business" aspect.

The "organizational" aspect, which was completed in early 2012 after over two years of administrative and liaison work, involved developing a "Rules and Operating Procedure" and a new structure for the joint committee. The structure consists of four subcommittees and a series of about ten writing groups and working groups, and a half-dozen short-term project teams. The two societies' Boards approved the "Rules and Operating Procedure" in final form in late 2011, and the new structure was put in place then. The new JCNRM is now formally in existence and has been operating as such since spring 2012, after having operated informally as a single joint entity for over a year prior to that. With this series of steps in place, the former ANS RISC Committee and the former ASME Committee on Nuclear Risk Management have effectively ceased to exist.

The JCNRM "business" aspect is not yet in place. Issues of revenue sharing and sharing of administrative tasks still need to be formally resolved. Negotiations have been advancing recently after a long period of slower movement. The outlines of the final business arrangement are now in place, although nothing has been "approved" in final form yet. The tentative arrangement consists of 50-50 revenue and cost sharing; ANS assumption of the administrative work of editing and publishing all new JCNRM standards; and ASME assumption of the work of arranging meetings, managing the finances, managing the ballot process, and a few other administrative tasks.

It is a pleasure to report that there seems to be almost no "friction" between the two societies in terms of how this merger has worked so far or will work in the future. The two co-chairs and the staff of the two societies are working well together and rather little in the way of a legacy of the two societies' former roles remains as an impediment.

Standards Inquiries and Delinquent Standards

No inquiries have been received recently. The JCNRM does not have any delinquent standards in need of maintenance.

Future Plans

The JCNRM's Executive Committee has been meeting more-or-less bi-weekly by conference call to plan the next two years' activities. The main effort is to develop the next version of the main PRA Combined Standard, which is planned now for early 2016. This next version, which we will call a "new edition" instead of an "addendum," is expected to have substantial changes to the format as well as to the content, based largely on feedback received in the past 2-3 years as this standard has been used by the commercial nuclear power operating fleet and by the NRC. During this period of use, many areas have been identified where inconsistencies exist between different parts of the large PRA standard, mostly due to variable interpretations, and a few other problems have also been discovered during use. A number of what the JCNRM has called "cross cutting issues" have also been identified, each of which is being worked on by one of several *ad hoc* project teams within the larger JCNRM. Some of these issues have policy implications for how the standard is to be used, but mostly these are issues with technical substance.

The other major JCNRM task in the next year is to ballot and issue the several new standards under development that are discussed in the opening section of this report. This is a major effort, involving several dozen volunteers.

In mid-2103, the JCNRM established a separate new subcommittee, the Subcommittee on Risk Applications, with the charter to be the JCNRM interface with ANS and ASME (and other SDOs in the future) so as to provide assistance to other standards-development projects whenever such a project desires to develop a new standard (or modify an existing standard) to provide risk-informed or performance-based requirements. This new JCNRM Subcommittee will be the JCNRM interface with the ANS Standards Board's new Risk-informed and Performance-based Principles Policy Committee (RP3C.)

In September 2014, the JCNRM dissolved one of its subcommittees, the Subcommittee on Planning, Interface, and Implementation, because the JCNRM leadership concluded that it would be more efficient to disperse this Subcommittee's several responsibilities among the other three JCNRM subcommittees.

In early 2013, the JCNRM appointed two task groups, one to recommend whether it should begin the development of a new standard for PRA to evaluate the risk from spent fuel pools, and another to evaluate the need and efficacy of a possible new standard covering PRA for small modular reactors of various designs. At its February 2014 meeting in Palm Beach, FL, the JCNRM decided not to embark on a new standard for spent-fuel-pool PRA at this time because significant work is now underway to develop an improved PRA methodology for that work. The JCNRM decided to await the completion of that work. The issue of whether to develop a new PRA standard for SMRs is still under consideration. There is also some early discussion on whether the JCNRM should start working on standards for non-reactor nuclear facilities, which standards are of great interest to the U.S. Department of Energy.

Financial Support

For several years until it ended in 2013, a grant to the ANS from the U. S. Nuclear Regulatory Commission provided financial support for the work of the standards committee, mainly to cover travel costs of participants who had no other financial support, but also to cover a few other selected expenses. In spring 2014, a new grant application was submitted by the ANS in response to an NRC formal solicitation. As of this writing, the grant application is still pending.

Attachment 17

Nuclear Criticality Safety (NCS) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014, Meeting ● Anaheim, California

PINS in Development (1)

- ANS-8.22, "Nuclear Criticality Safety Based on Limiting and Controlling Moderators" (revision of ANSI/ANS-8.22-1997 (R2011))

PINS in Approval Process/Resolving Comments (1)

- ANS-8.29, "Nuclear Criticality Safety in Fuel Reprocessing Facilities" (new standard)

Standards in Development – Approved PINS (8)

- ANS-8.3, "Criticality Accident Alarm System" (revision of ANSI/ANS-8.3-1997 (R2012))
- ANS-8.12, "Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (revision of ANSI/ANS-8.12-1987 (R2011))
- ANS-8.20, "Nuclear Criticality Safety Training" (revision of ANSI/ANS-8.20-1991 (R2005))
- ANS-8.21, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision of ANSI/ANS-8.21-1995 (R2011))
- ANS-8.24, "Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations" (revision of ANSI/ANS-8.24-2007 (R2012))
- ANS-8.26, "Criticality Safety Engineer Training and Qualification Program"(revision of ANSI/ANS-8.26-2007 (R2012))
- ANS-8.27, "Burnup Credit for LWR Fuel" (revision of ANSI/ANS-8.27-2007)
- ANS-8.28, "Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety" (new standard)

Standard at Ballot/Resolving Comments (1)

- ANS-8.10, "Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement" (revision of ANSI/ANS-8.10-1983 (R2005))

Approved Standards (3)

- ANSI/ANS-8.15-2014, "Nuclear Criticality Control of Selected Actinide Nuclides" (revision of ANSI/ANS-8.15-1981 (R2005))
- ANSI/ANS-8.17-2004 (R2014), "Criticality Safety Criteria for the Handling, Storage, and Transportation of LWR Fuel Outside Reactors" (reaffirmation of ANSI/ANS-8.17-2004 (R2009))
- ANSI/ANS-8.19-2014, "Administrative Practices for Nuclear Criticality Safety" (revision of ANSI/ANS-8.19-2005)

Responses to Inquiries in Development (0)

- None

Responses to Inquiries Released (1)

- A response to an inquiry received 5/20/14 on ANSI/ANS-8.19-2005, "Administrative Practices for Nuclear Criticality Safety," and ANSI/ANS-8.26-2007 (R2012), "Criticality

Safety Engineer Training and Qualification Program," was approved and issued October 27, 2014.

Delinquent Standards – 5+ Years Since ANSI Approval (3)

- ANSI/ANS-8.10-1983 (R2005), "Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement" (NCS ballot comments being resolved)
- ANSI/ANS-8.20-1991 (R2005), "Nuclear Criticality Safety Training" (revision balloted by ANS-8; comments being resolved)
- ANSI/ANS-8.27-2008, "Burnup Credit for LWR Fuel" (revision balloted by ANS-8; comments being resolved)

Attachment 18

Environmental & Siting (ES) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014, Meeting ● Anaheim, California

Projects in Consideration for Development/Volunteer Support Needed (14)

- ANS-2.6, "Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Nuclear Facility Sites" (new standard)
- ANS-2.11[1], "Guidelines for Evaluating Site-Related Geotechnical Parameters at Nuclear Power Sites" (reinvigoration of historic standard ANSI/ANS-2.11-1978 (R1989))
- ANS-2.13, "Evaluation of Surface-Water Supplies for Nuclear Power Sites" (reinvigoration of historical standard ANSI/ANS-2.13-1979 (R1989))
- ANS-2.19, "Guidelines for Establishing Site-Related Parameters for Site Selection and Design of an Independent Spent Fuel Storage Installation (Water Pool Type)" (reinvigoration of historical standard ANSI/ANS-2.19-1981 (R1990))
- ANS-2.22, "Environmental Radiological Monitoring at Nuclear Facilities," (new standard)
- ANS-2.25, "Surveys of Ecology Needed to License Nuclear Facilities" (reinvigoration of historical standard ANSI/ANS-18.5-1982/redesignated ANS-2.25) (Approved PINS but no membership)
- ANS-2.32, "Guidance on the Selection and Evaluation of Remediation Methods for Subsurface Contamination" (new standard – project lost chair before PINS comments resolved/no current activity)
- ANS-18.2.1, "Methods for Inferring Environmental Doses" (new standard)
- ANS-18.3.1, "Entrainment: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms" (new standard)
- ANS-18.3.2, "Cold Shock: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms" (new standard)
- ANS-18.3.3, "Entrapment/Impingement: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms at Water Intake Structures" (new standard)
- ANS-18.4, "Aquatic Ecological Surveys Required for Siting, Design, and Operation of Thermal Power Plants" (new standard)
- ANS-18.6, "Discharge of Thermal Effluents into Surface Waters" (new standard)
- ANS-18.7, "Control and Monitoring of the Discharge of Chemicals" (new standard)

PINS in Development/Approval (3)

- ANS-2.10, "Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation" (reinvigoration of historical standard ANSI/ANS-2.10-2003))
- ANS-2.18, "Standards for Evaluating Radionuclide Transport in Surface Water for Nuclear Power Sites," (new standard)
- ANS-2.23, "Nuclear Plant Response to an Earthquake" (revision of ANSI/ANS-2.23-2002 (R2009))

Standards in Development – Approved PINS (7)

- ANS-2.2, "Earthquake Instrumentation Criteria for Nuclear Power Plants" (reinvigoration of historical standard ANSI/ANS-2.2-2002)
- ANS-2.8, "Determine External Flood Hazards for Nuclear Facilities" (reinvigoration of historical standard ANSI/ANS-2.8-1992)
- ANS-2.9, "Evaluation of Ground Water Supply for Nuclear Facilities" (reinvigoration of historical standard ANSI/ANS-2.9-1980 (R1989))
- ANS-2.16, "Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities" (new standard)

[1] ANS-2.27 & ASCE 43-05 supersede ANS-2.11.

- ANS-2.31, “Estimating Extreme Precipitation at Nuclear Facility Sites” (new standard)
- ANS-3.8.10, “Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities” (new standard)
- ANS-3.11, “Determining Meteorological Information at Nuclear Facilities” (revision of ANSI/ANS-3.11-2005 (R2010))

Standards at Ballot/Resolving Comments (1)

- ANS-2.30, “Criteria for Assessing Tectonic Surface Fault Rupture and Deformation at Nuclear Facilities” (new standard)

Delinquent Standards (5+ years since ANSI approval) (3)

- ANSI/ANS-2.27-2008, “Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments” (inactive)
- ANSI/ANS-2.29-2008, “Probabilistic Seismic Hazard Analysis” (being reviewed to determine maintenance)
- ANSI/ANS-16.1-2003 (R2008), “Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure” (new chair just committed)

Responses to Inquiries in Development (1)

An inquiry was received 7/10/14 on ANSI/ANS-2.3-2011, “Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites.” A response was approved and issued 9/24/14.

Attachment 19

Fuel, Waste, & Decommissioning (FWD) Consensus Committee
Chairman's Report to the Standards Board
November 11, 2014, Meeting ● Anaheim, California

PINS in Development (4) (No PINS currently in development)

- ANS-40.35, "Volume Reduction of Low-Level Radioactive Waste or Mixed Waste "(reinvigoration of historical standard ANSI/ANS-40.35-1991)
- ANS-55.1, "Solid Radioactive Waste Processing Systems for Light Water Reactor Plants" (revision of ANSI/ANS-55.1-1992 (R2009))
- ANS-55.4, "Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants" (revision of ANSI/ANS-55.4-1992 (R2007))
- ANS-55.6, " Liquid Radioactive Waste Processing System for Light Water Reactor Plants" (revision of ANSI/ANS-55.6-1992 (R2007))

Standards in Development – Approved PINS (2) (Submittal of 1st draft review targeted now for March 2015. WG activities to be elevated to meet new time frame)

- ANS-57.2, "Design Requirements for Light Water Reactor Spent Fuel Facilities at Nuclear Power Plants" (reinvigoration of historical standard ANSI/ANS-57.2-1983)
- ANS-57.3, "Design Requirements for New Fuel Storage Facilities at LWR Plants" (reinvigoration of historical withdrawn standard)

Delinquent Standards (5+ years since ANSI approval) (8)

- ANSI/ANS-40.37-2009, "Mobile Low Level Radioactive Waste Processing Systems"
- ANSI/ANS-55.1-1992 (R2009), "Solid Radioactive Waste Processing Systems for Light Water Reactor Plants" (revision to be initiated—needs members)
- ANSI/ANS-55.4-1992 (R2007), "Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants" (revision to be initiated—needs members)
- ANSI/ANS-55.6-1993 (R2007), "Liquid Radioactive Waste Processing System for Light Water Reactor Plants" (revision to be initiated—needs members)
- ANSI/ANS-57.1-1992 (R2005), "Design Requirements for Light Water Reactor" (chair/members needed)
- ANSI/ANS-57.5-1996 (R2006), "Light Water Reactors Fuel Assembly Mechanical Design and Evaluation" (chair/members needed)
- ANSI/ANS-57.8-1995 (R2006), "Fuel Assembly Identification" (chair/members needed)
- ANSI/ANS-57.10-1996 (R2006), "Design Criteria for Consolidation of LWR Spent Fuel (chair/members needed)

Responses to Inquiries in Development (1)

An inquiry was received 8/10/14 on ANSI/ANS-57.1-1992 (R2005), "Design Requirements for Light Water Reactor." A response is in development. Targeting response by 12/15/14.

Recently Assigned Personnel to the FWDCC

1. Harry Felsher, Nuclear Regulatory Commission, Full Member
2. Gregory Suehr, Associate Member, assigned to ANS 57.2 and 57.3 WG

Future Plans

- Near term (3 months)
  - ✓ Complete assignments of Subcommittee (SC) Chairs and Vice chairs for each FWD SC by 9/1/14
    (In progress – targeting 12/31/14 for assigning those requiring near term need)
  - ✓ Obtain consensus from FWDCC members on the number and title of each SC by 8/15/13
    (In progress – targeting 1/31/15)

- Long Term (6 months)
  - ✓ Evaluate the need for developing a new and updated standard for those inactive fuel, waste, and decommissioning standards by 10/31/14
    (Review in progress)
  - ✓ Determine new areas where standards are needed for fuel, waste, and decommissioning by 11/10/14
    (In progress – need for decommissioning standards will be required based on recent discussions with industry engaged personnel. Currently developing a list of targeted areas)