American Nuclear Society

MINUTES

Standards Board (SB) Meeting

November 13, 2018
Hilton Orlando Bonnet Creek Hotel ● Orlando, FL

Members Present:
Steven Arndt (Chair), U.S. Nuclear Regulatory Commission
*Donald Eggett (Vice Chair), Individual
John Fabian (Secretary Pro Temp), American Nuclear Society
Kathryn Murdoch (Secretary Pro Temp), American Nuclear Society
*Patricia Schroeder (Secretary), American Nuclear Society
*Robert Budnitz, Lawrence Berkeley National Laboratory
Gene Carpenter, U.S. Department of Energy
George Flanagan, Oak Ridge National Laboratory
David Hillyer, Energy Solutions
Calvin Hopper, Individual
*N. Prasad Kadambi, Individual
Mark Linn, Oak Ridge National Laboratory
Carl Mazzola, Project Enhancement Corporation
John Nakoski, U.S. Nuclear Regulatory Commission
James O'Brien, U.S. Department of Energy
*William Reuland (Observer), Individual
Andrew Smetana, Savannah River National Laboratory
*Steven Stamm, Individual
William Turkowski, Westinghouse Electric Company, LLC
*Edward Wallace, Individual
Larry Wetzel, BWXT, Inc.

**Participated by teleconference for at least part of the time*

Guests:
Sacit Cetiner, Oak Ridge National Laboratory
John Kelly (ANS President), Individual
Garrett Smith, U.S. Department of Energy
Maryanne Stasko, Duke Energy

Members Absent:
Amir Afzali, Southern Company
Robert Bari, Brookhaven National Laboratory
Russell Bell (Liaison), Nuclear Energy Institute
Andrew Sowder, Electric Power Research Institute
Donald Spellman (Liaison), Individual

1. Welcome and Introductions

Standards Board (SB) Chair Steven Arndt called the meeting to order and introductions were made. A quorum was established.

2. Approval of Agenda

The agenda was approved as presented with the flexibility to move discussion items as needed to accommodate schedules.

3. SB Chair Report

- Report from ANS President's Special Session
  Steven Arndt stated that a lot of interesting activities are going on within ANS. As previously reported, ANS President John Kelly has formed a special committee to determine ANS actions to promote advanced reactors. The committee will look at policy aspects of standards and how to get constituents involved. Both Arndt and Robert Budnitz are part of the special committee. They are tasked with providing initial recommendations to the Board of Directors (BOD) at the June 2019 meeting. Arndt clarified that by "policy" they are looking at the broader policy area. Initiatives on advanced reactors will build on the ANS/U.S. Nuclear Regulatory Commission (NRC) Advanced Reactor Standards Needs Workshop held last May.

  Another issue with Standing Committee and Professional Division chairs is the continuing challenge with ANS's budget. The BOD will have a meeting to address budget issues across the Society. This may affect some committees, but Arndt doesn't believe at this time, it will affect the Standards Board. As more information becomes available he will provide to the Standards Board and the committee as a whole.

- Report to the Board of Directors
  Arndt provided a summary of the informational report he submitted to the BOD. The report provides the BOD highlights of key Standards Board activities and initiatives. See Attachment 1 for full detail. Arndt added that he attended the Professional Division Committee meeting and discussed the Professional Division/Standards Committee liaison program.

- Report from NRC Standards Forum
  The recent NRC Standards Forum was held on September 11, 2018, at the U.S. Nuclear Regulatory Commission (NRC). The forum was focused on advanced reactors and collaboration with the industry, and between standards developers. Arndt was in attendance on behalf of ANS. ANS and ASME International played a significant role at the recent forum. Arndt emphasized the need to see more engagement in the forum from other standards developers. He provided the forum of attendees a brief update on ANS activities and, in particular, a high-level summary of the ANS/NRC Standards Needs Workshop held on May 2, 2018. Industry interest in risk-informed, performance-based (RIPB) methods was reiterated at the forum. The NRC was pleased with the outcomes of the both forums and are planning to hold one each year in the September timeframe.

- Recent SB Administrative Ballots

  Risk-informed, Performance-based Principles and Policy Committee (RP3C) Operating Plan – not approved

  > The ballot of the RP3C Operating Plan closed with a number of negative votes which were not able to be resolved. A different direction will be discussed later during today's meeting in greater details.

  A2 Policy Change – approved

  > The revision of Policy A2, Policy on Consensus Committee, Subcommittee, and Working Group Membership, was approved by ballot. The revised policy defines the term "organization" and adds alternate criteria for approving balance of interest for joint

standards development committees. The Policy Manual for the ANS Standards Committee has been updated with the revised policy and posted on the ANS website.

- Recent Visit to NRC by ANS Leadership
  Arndt reported that ANS President John Kelly and ANS Washington Representative Craig Piercy met with Margaret Doane, NRC's Executive Director for Operations, last month to encourage the relationship between ANS and NRC. Arndt was aware that this meeting's agenda included a discussion of NRC support of standards through staff participation and the possibility of additional grant funding but had not heard the outcome. John Nakoski was able to confirm that the NRC would not be able to offer another grant for the probabilistic risk assessment (PRA) standards under development by the ANS/ASME Joint Committee on Nuclear Risk Management. Funding to renew the PRA standards grant would come out of his branch's budget. Nakoski's branch's budget for fiscal year 2019 does not include this provision, and he does not expect 2020 to be any different due to cuts. Arndt recognized the negative effect the loss of grant funds would likely have on the development of the PRA standards. James O'Brien suggested that there is a chance the U.S. Department of Energy (DOE) may be able to provide limited funding for standards developments depending on future policy changes.

- General Chair Comments
  Arndt expressed appreciation to all. He believes that good progress has been made on timeliness, but additional improvements are necessary to be responsive to industry needs. Arndt will be spending a lot of time chatting with industry groups to seek their feedback on standards needs in the future. Donald Eggett added that the Nuclear Energy Institute (NEI) has the lead for initiating a priority survey to their members. Eggett's only concern is that the survey participants will be limited to NEI members—owners/operators. George Flanagan agreed and expressed concern with non-consensus initiatives of NEI. Members expressed their sentiment that the relationship with NEI has worsened over the last few years. Carl Mazzola reminded members that we tried unsuccessfully to institute a Memorandum of Understanding (MoU) between ANS and NEI a few years back. NEI was not in favor of the MoU. Arndt reported that he has spoken with ANS Vice President/President-Elect Marilyn Kray about these issues and believes that her support will be of help in this area.

4. SB Vice Chair Report

Donald Eggett provided a written report to the members in advance. (See Attachment 2 for the full report.) The report addresses the status of his action items, recent ballot responses, industry meetings, and an update of the SMART Matrix. Eggett recognized that the External Communications Task Group is still missing a chair hindering completion of several actions set in the SMART Matrix. Two of Eggett's action items are on hold pending recommendations of the ANS president's special committee on advance reactors and feedback from NEI's standards priority survey.

Eggett also reported that he is looking for a representative in the Richmond, Virginia, area to provide a standards presentation at the next student conference.

In addition, Eggett informed members of a parallel activity on cybersecurity by the Nuclear Information Technology Strategic Leadership (NITSL). NITSL's effort is for current plants. Eggett believes that the ANS-3.15 Working Group on cybersecurity should coordinate their efforts with NITSL if not already doing so. ANS-3.15 Working Group Chair Sacit Cetiner was in attendance. He believes that fellow ANS-3.15 Working Group member Ralph Branscomb is on NITSL and will double check.

ACTION ITEM 11/2018-01: Gene Carpenter to follow up with Sacit Cetiner to confirm if the ANS-3.15 Working Group has a representative from the Nuclear Information Technology Strategic Leadership (NITSL).
DUE DATE: December 31, 2018

5. Secretary/Staff Report

Pat Schroeder provided members a written report of staff activities in advance of the meeting (See Attachment 3 for the full report). She informed members that John Fabian has taken over the lead role of providing support to the JCNRM. Schroeder was asked to provide updates on the following two items:

- Update on ANS Standards Workspace Merger with ANS Collaborate Permitting Development of Standards Volunteer Database
  Schroeder provided some insight into the timetable for development of the Standards Volunteer Database. The merger of the ANS Standards Workspace into the ANS Collaborate platform by Higher Logic is anticipated to be started in the first quarter of 2019. The merged platform could be launched about the middle of 2019. Higher Logic will be contacting ANS staff to start the exploratory stage at which time we will have a better idea of when Higher Logic will start the process of merging the ANS Standards Workspace into the ANS Collaborate platform and how long it will take. Because ANS Collaborate uses membership data from ANS's Association Management System (AMS), there will be additional work by ANS staff to merge Workspace user accounts into the AMS. Administrative features will be handled differently requiring ANS standards staff to be retrained. There will also be some operational changes for members. Higher Logic will also provide a training session for Standards Committee members. ANS's Information Technology (IT) Department will be able to create the Standards Volunteer Database once the two platforms have been merged. Many of the features needed for the Standards Volunteer Database are already enabled in ANS Collaborate. Steven Arndt recognized the importance of the Standards Volunteer Database and stated that he'd enlist the support of the BOD if necessary to make the project a high priority of the IT Department.

- Preliminary Feedback on Move to Techstreet Partnered Store
  The Techstreet partnered standards store went live on August 30, 2018. Techstreet's third quarter sales report showed an increase of $5000 from the previous quarter's royalty payment ($2500). The increase is promising. Sales in the partnered store will be closely monitored and a formal sales report will be provided for the June 2019 meeting.

6. ANS President (Leadership) Address

Steven Arndt introduced ANS President John Kelly. Kelly updated members on activities of the BOD. He stated that the BOD's greatest challenge is reducing the 2019 ANS budget deficit. Kelly also reported on the special committee he formed on the promotion of advanced reactors. The special committee is looking at ways to support advanced reactors through topical meetings and standards as well as other areas. NEI has reorganized to better support advanced reactors and now has several staff members dedicated to this technology. Kelly also reported on his recent meeting with NRC leadership.

7. Standards Committee Strategic Plan Report/SMART Matrix

- Changes to SMART Matrix

Steven Stamm provided background on recommended changes to the SMART Matrix as a result of the comment resolution process on the ballot for the approval of the RP3C Operating Plan. During this process, James O'Brien noticed the overlap of actions in the RP3C Operating Plan with actions in the SMART Matrix. He estimated that 70% of the RP3C Operating Plan was already in the matrix. O'Brien felt that the SMART Matrix could be updated to incorporate the other items that need tracking. Stamm was in agreement and worked with RP3C Chair Prasad Kadambi to make changes to the SMART Matrix.

- Progress on Goals & Objectives as Defined on the SMART Matrix
  SMART Matrix actions were reviewed. An updated SMART Matrix is provided as Attachment 4 to the minutes providing the status as discussed. Reports on specific actions and new action items are provided below:

  Prasad Kadambi reported on the following open RP3C actions under Goal 1 (D) of the SMART Matrix:

  - Goal 1 (D) 1 Row 2—Development of a procedural document is being led by O'Brien and is scheduled to be available by the end of the year. (Note: Goal (D) 1 Rows 3-6 are follow-up actions to Row 2.)
  - Goal 1 (D) 2 Row 1—Preparation of a training package is being led by Ed Wallace and is optimistically expected by the end of January 2019. Wallace added that the contents of the guidance document will influence the training package. (Note: Goal 1 (D) 3 Rows 2-3 are follow-up actions to Goal 1 (D) 2 Row 1.)
  - Goal 1 (D) 4 Row 2—A response has been provided to all 23 standards on RP3C's "Initial Priority List" with recommendations to incorporate RIBP methods where appropriate. Kadambi has provided feedback to these responses which he will discuss during his RP3C report. (Note: Goal 1 (D) 4 Row 3 remains open as a follow up to Goal 1 (D) 4 Row 2.)
  - Goal 1 (D) 5 Row 1—Kadambi is working with Robert Youngblood on an article for *Nuclear News*. The draft article should be available by the end of the year for Standards Board review. Steven Arndt asked that the *Nuclear News* publisher be informed of this article to ensure timely publication. Members agreed that the article should be published by the June 2019 meeting. (Note: Goal 1 (D) 6 Rows 1-3 are follow-up actions to Goal 1 (D) 5 Row 1.)

ACTION ITEM 11/2018-02: Pat Schroeder to notify the *Nuclear New* publisher of the forthcoming article on RIPB methods and the intent to provide the article in time for the May 2019 issue. DUE DATE: December 1, 2018

Arndt recognized that several SMART Matrix actions have not been completed due to the lack of an External Communications Task Group Chair. He explained that he has been actively soliciting for this position but has gotten only lukewarm responses.

The following new action items were assigned as a result of reports on the SMART Matrix actions:

ACTION ITEM 11/2018-03: Donald Eggett to follow up with FWDCC on SMART Matrix actions under Goal 3 (D) on subcommittee and working group use of Workspace and (E) on identification of high priority standards based on government and industry need. DUE DATE: December 31, 2018

ACTION ITEM 11/2018-04: Consensus committee chairs to complete Goal 3 (G) to provide recommendations for changes to improve consensus committee performance to the Policy Task Group Chair (i.e., the Standards Board Chair). DUE DATE: December 31, 2018

ACTION ITEM 11/2018-05: Steven Stamm to take a look at amending Goal 4 (A) Row 2 based on NEI taking the lead on issuance of standards priority survey. DUE DATE: December 1, 2018

ACTION ITEM 11/2018-06: Steven Arndt, Steven Stamm, and Carl Mazzola to map the new ANS Strategic Plan against the ANS Standards Committee Strategic Plan to confirm alignment and to determine if any updates are needed. DUE DATE: March 1, 2019

8. Current Issues

- Prioritization of Consensus Committee Determinations on RP3C Short List of Standards to Benefit from Incorporation of RIPB Methods/Next Step
  Prasad Kadambi explained that the tracking spreadsheet (Attachment 5) is a follow-up effort to the RP3C's short list of standards that would benefit from inclusion of RIPB methods. The spreadsheet captures responses to RP3C's recommendations. Of the23 standards on the list, 11 are currently in development and are using RIPB methods; 9 will consider incorporating RIPB methods when the next revision is initiated, 2 do not feel that RIPB methods are applicable, and 1 is a withdrawn standard with no current plans to resurrect.

  Standards projects in development that are using RIPB methods are tracked by the RP3C. Chairs of projects that acknowledge (via the PINS form) they will be using RIPB methods are automatically added to the RP3C roster. When added, chairs are sent an introductory message by Pat Schroeder to inform them of RP3C and resources available. Kadambi added that interaction with RP3C begins at this time. Schroeder also follows up with these chairs on a regular basis for updates on their progress and maintains a schedule of development. Consideration was given to combining the schedule for RIPB standards in development and the tracking spreadsheet for RP3C's short list of standards recommended to incorporate RIPB; however, the two reports have different standards and serve different purposes. One tracks the development of RIPB standards and the other tracks RP3C interaction.

- Other Current Issues

  Members were made aware of the follow industry efforts that may affect ANS standards:

  - SECY-18-0060, "Achieving Modern Risk-Informed Regulations" recommending a transitional program at the NRC has been issued to the Commission.
  - Recent congressional action, if approved, would encourage use of standards for advanced reactors
  - Draft Regulatory Guide 1353, "Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Approach to Inform the Content of Applications for Licenses, Certifications, and Approvals for non-Light-Water-Reactors," is expected to endorse the License Modernization Project (LMP) once approved.

9. Professional Division (PD)/Standards Committee (SC) Liaisons Program

- PD/SC Liaisons Program Status Update
  William Turkowski reported that the liaison list was updated after the June 2018 meeting and all liaisons were confirmed. A copy of the current liaison list is available as Attachment 6. He prepared a presentation a couple of years ago to explain the responsibilities and benefit of the liaison program. Consensus committees are asked to include time on their agendas for PD liaison reports at all meetings.

- CC/PD Interface Activity
  Steven Arndt received feedback from a few members that said they thought the liaison program was a good idea. Several of the consensus committee chairs reported that they have had little to no interaction with their PD liaison; however, both the JCNRM and the SRACC reported excellent communication with their liaison because they are also consensus committee members. George Flanagan felt that the program is struggling because most liaison appointments change each year with changes to division leadership. Continual changes to PD liaisons appointments result in poor knowledge retention with little consistency. Arndt agreed and stated that we need to communicate with the PDs the importance of continuity with liaison appointments. The following action items were assigned:

ACTION ITEM 11/2018-07: William Turkowski to update the PD/SC presentation to include the recommendation of consistency/longer terms for PD liaison appointments. DUE DATE: January 31, 2019

ACTION ITEM 11/2018-08: Pat Schroeder to reach out to the PD Chair on behalf of Steven Arndt to request 15 minutes on the PD Committee's agenda at the 2019 annual meeting (Saturday evening) to review the PD/SC Liaison Program (using updated presentation) and seek their feedback. DUE DATE: December 15, 2018

ACTION ITEM 11/2018-09: David Hillyer to follow up with William Turkowski regarding the PD/SC Liaison Program presentation and send to FWDCC members. DUE DATE: December 15, 2018

10. Student Section/Associate Membership Report

Steven Arndt asked consensus committee chairs to provide an update of associate member activities in their consensus committees. Several consensus committee chairs reported that they have not received recent feedback on associate member engagement. Larry Wetzel, Andy Smetana, and George Flanagan recognized that their committees had a good amount of associate members, and they were aware that many were actively participating. Wetzel added that a number of associate members assigned to NCSCC working groups are now full members. Carpenter surveyed associate members in LLWRCC working groups a while back. He learned that associate members were surprised with the slow pace of standards development causing a few to lose interest. Others reasons for loss of interest are believed to be career changes and job responsibility changes.

Steven Stamm questioned whether the associate member tracking report (Attachment 7) was current because several of the associate members were placed well over two years ago and should reflect an upgrade to full membership. He also asked that the report be cleaned up to be

easier to read. Pat Schroeder was able to provide some feedback from a few chairs that associate members are not being upgraded because they are not engaging with the working group and not participating at a level consistent with expectations for a full member. Some thought that the two year suggested period to earn voting privileges is not always sufficient as experience varies greatly. Schroeder confirmed that the associate member tracking report reflects the membership classification status presently in Workspace, but that chairs may not be making changes to membership classification in Workspace. Schroeder will contact each working group chair to confirm participation of all associate members and check whether any should be upgraded to full member. The following action items were assigned:

ACTION ITEM 11/2018-10: Pat Schroeder to contact each working group chair to confirm participation of all associate members and check whether any should be upgraded to a full member.
DUE DATE: December 31, 2018

ACTION ITEM: 11/2018-11: Pat Schroeder to update and clean up the associate member tracking report (cross-out pattern hard to read) for the next Standards Board meeting.
DUE DATE: June 1, 2019

Solicitation efforts to encourage student and young members to join the associate membership program were discussed. Schroeder reported that invitations and notices are sent to the Young Member Group (YMG), ANS student sections, and the North American Young Generation Nuclear (NAYGN) on a regular basis. Maryann Stasko suggested that a standards presentation be made at the upcoming YMG Congress. She is working with Brent Rampal on this effort and can help facilitate a standards presentation but may not be able to physically attend due to travel restrictions at Duke Energy.

ACTION ITEM 11/2018-12: Pat Schroeder to work with Maryann Stasko to prepare a standards presentation and to help facilitate a presenter if needed for the upcoming YMG Congress in Washington D.C.
DUE DATE: October 1, 2019

Stamm suggested that associate members with positive experiences be asked to participate in a video for solicitation of other young members was well received.

ACTION ITEM 11/2018-13: Pat Schroeder to explore the possibility and logistics of preparing an associate member video and work with consensus committee chairs to identify 2-3 associate members to participate (if possible).
DUE DATE: June 1, 2019

Arndt summed up the discussion stated that the associate member program has been successful and that efforts to encourage participation of young professionals need to be continued.

11. Review of Open Action Item Report

Open action items were reviewed. A complete status report of open action items is provided at the end of these minutes. Lengthy discussions of a few action items are captured below:

Discussion of ACTION ITEMS 6/2018-16 (quarterly reports) and 11/2015-21 (PINS form): ANS-3.15 Working Group Chair Sacit Cetiner was in attendance and provided members an update on the cybersecurity standard in development. The working group has 15 members with 8-10 of the

members being very active. The working group met during the ANS 2018 Annual Meeting and just held a three-hour meeting on Sunday during the current meeting (November 2018). They are working on the framework and holding philosophical discussions on the direction of the proposed standard. Monthly calls have been started and are expected to continue through 2019.The working group is narrowing down the scope and identifying the objectives of the standard for the Project Initiation Notification System (PINS) form. Steven Arndt believes the key is to find a niche of what our organization can fill to support the chaotic structure and then socialize our plans to the industry. The working group will discuss a schedule on their next call. Cetiner expects to have the PINS finalized in the next few months. Both action items remained open.

Discussion of ACTION ITEM 6/2017-18: Robert Busch's proposed a statement to be included in ANS standards some time ago. The proposed statement (copied below) was discussed:

> "Standards development shall include economic considerations as evaluated from graded approaches and risk-informed insights for ensuring the protection of operating personnel, the public, and the environment with a level of safety commensurate with other hazards and their physical risks."

Standards Board members agreed that having a statement like this is useful but felt that the first part of the statement needs to be crafted in such a way that it provides guidance on economics. ACTION ITEM 6/2017-18 remained open for the Policy Task Group to develop a draft statement and determine a location for where the statement will be used and provide to the Standards Board approval.

12. Risk-informed, Performance-based Principles and Policy Committee (RP3C) Report

- RIPB Guidance Document Status
  Prasad Kadambi asked James O'Brien to provide a brief report on the RIPB Guidance Document. O'Brien reported that he will be scheduling a small group meeting to finalize the guidance document in the next month. The draft guidance document was previously sent out for comments and received positive feedback. O'Brien's goal is to have the guidance document completed and sent to consensus committee chairs for review by the end of the year as indicated on the SMART Matrix.

  Kadambi supplemented his RP3C report with a presentation available as Attachment 8. He touched on high-level topics covered at yesterday's RP3C meeting. RP3C's report and Standards Board comments are provided below:

- CC Feedback on RP3C Recommendations
  RP3C reviewed consensus committee feedback on the recommended short list of standards that would benefit from incorporation of RIPB methods. Kadambi provided Standards Board members a quick review of the spreadsheet tracking feedback and offered a proposed approach to address consensus committee feedback (see slides 5-10 of his presentation—Attachment 8). Follow-up action is needed by consensus committee chairs with standards on the list.

ACTION ITEM 11/2018-14: Gene Carpenter, George Flanagan, Dave Hillyer, Carl Mazzola, and James O'Brien, to respond to the RP3C proposed approach as provided in the RP3C presentation report (slides 5-10) at the November 13, 2018, Standards Board meeting. DUE DATE: June 1, 2019

- Other Items Discussed at the RP3C Meeting
  ANSI/ANS-2.26-2004 (R2017), "Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design," was recommended as a good example of a RIPB standard. The concepts are valid for a wider arena including advanced reactor standards. Carl Mazzola reported that a revision of ANSI/ANS-2.26-2004 (R2017) is being initiated. He was not sure whether the definitions in the standard are consistent with the LMP. Members discuss the need for harmonization of terminology with newly developed documents. Steven Stamm reminded members that working groups should refer to the ANS Glossary when developing or revising a standard to keep definitions consistent.

  Kadambi reported that Mark Linn provided RP3C an update on the development of proposed new standard ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." His update included an ANS new reactor RIPB standards structure identifying the need for development of a new standard or guidance document titled "Integrated Risk-Informed Decision Making Process." Kadambi was asked to take an action item to work with others to consider a proposed new standard or guidance document on the integrated, risk-informed decision making process.

ACTION ITEM 11/2018-15: Prasad Kadambi (lead), Robert Budnitz, Mark Linn, and Robert Youngblood (at invitation of Kadambi) to evaluate need for a new guidance document or standard on the integrated, risk-informed decision making process and prepare a white paper for Standards Board consideration. DUE DATE: February 15, 2019

- Formation of Community of Practice (CoP)
  Kadambi informed Standards Board members of a suggestion made by Kent Welter to form a CoP which he explained as an open group sharing knowledge among individuals with a similar interest. The proposal would be to form a CoP for RIPB. Members had mixed sentiments about forming a CoP. Some felt that the RP3C operated as a CoP. Although considered a duplication of the RP3C, forming a CoP was felt within the purview of RP3C not needing Standards Board approval. Ed Wallace expressed his opinion that feedback from the CoP would be beneficial to standards in development and future revisions. Workspace, or its successor, can be used to store information for those not able to participate in teleconferences. Wallace will be organizing a call with users to discuss this further.

13. Consensus Committee Chair Reports

A. Environmental and Siting Consensus Committee (ESCC)—See Attachment 9 for chair report
Carl Mazzola directed members to his written chair report provided with the meeting materials. A few highlights are noted below:

The committee is proceeding with development of proposed new standard ANS-3.16, "Meteorological Aspects of Wildland Fire Response." He believes the standard is very important considering all of the wild fires in the last few years. A teleconference is scheduled for Friday of this week to discuss the project with a potential new chair. Mazzola stated that the working group is in need of representation from the U.S. Department of Energy.

ACTION ITEM 11/2018-16: James O'Brien to ask Garrett Smith, DOE's Standards Executive, to nominate a representative for ANS-3.16, "Meteorological Aspects of Wildland Fire Response." DUE DATE: December 31, 2018

ESCC will discuss termination of proposed standards ANS-2.25, "Surveys of Ecology Needed to License Nuclear Facilities" (reinvigoration of historical standard ANS-18.5-1982 (W1992); re-designated ANS-2.25) and ANS-2.33, "Aquatic Ecological Surveys Required for Siting, Design, and Operation of Thermal Power Plants" (new standard—formerly designated ANS-18.4) at tomorrow's meetings.

Mazzola reported that the ballot for ANS-16.1, "Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure" (revision of ANSI/ANS-16.1-2003 (R2017)) recently closed with too many abstentions to declare consensus. He is actively recruiting individuals from the private sector with expertise in leachability to add to the ESCC. Standards Board members were asked to recommend qualified candidates.

ACTION ITEM 11/2018-17: Standards Board members to forward Carl Mazzola the name and contact information of any known experts on leachability. DUE DATE: December 31, 2018

Lastly, Mazzola acknowledged the significant support ESCC Vice Chair Jennifer Call and Siting: General & Monitoring Subcommittee Chair have given to ESCC.

B. Fuel, Waste, and Decommissioning Consensus Committee (FWDCC)—see Attachment 10 for chair report
David Hillyer reported that he has drafted four PINS forms; however he is holding off on submitting the PINS until he has chairs lined up. He has a number of volunteers to support working groups, but no one willing to accept the chair role. Hillyer believes he should focus on one project with limited volunteer resources. A new decommissioning standard as well as reinvigoration of several withdrawn standards are in consideration. Mazzola reminded Hillyer that three decommissioning standards projects were terminated a number of years back. Information on the terminated projects may be of interest to him.

ACTION ITEM 11/2018-18: Pat Schroeder to provide David Hillyer available information on the three terminated decommissioning standards projects for his reference. DUE DATE: December 1, 2018

Jodine Jansen Vehec, a knowledgeable FWDCC member, reviewed the two standards recommended by RP3C to include RIPB methods. The review identified several areas that would benefit from RIPB methods which will be incorporated when they are next revised.

C. Joint Committee on Nuclear Risk Management (JCNRM)—see Attachment 11 for chair report
Robert Budnitz recognized Rick Grantom as his co-chair of the JCNRM for ASME. Budnitz explained the committee's organizational structure. All of the standards feed off of the flagship standard ASME/ANS RA-S, "Standard for Level 1/Large Early Release Frequency Probabilistic Assessment for Nuclear Power Plant Applications." The next edition of ASME/ANS RA-S is expected to be issued in early 2020. Five other standards are in various stages of being developed or revised after trial use. All are progressing well. The JCNRM held a four-day meeting in Baltimore, Maryland, from October 8-11, 2018. Budnitz estimated that the meeting had 140 attendees. The JCNRM Executive Committee continues to hold an executive committee teleconference every other week. Presently, the JCNRM has no open inquiries but has received a lot of feedback.

Steven Arndt inquired if the JCNRM has a procedural document on lessons learned from the use of trial use standards. Budnitz offered to share JCNRM's findings with Arndt offline.

ACTION ITEM 11/2018-19: Steven Arndt and Robert Budnitz to discuss lessons learned from the use of trial use standards. DUE DATE: December 31, 2018

D. Large Light Water Reactor Consensus Committee (LLWRCC)—see Attachment 12 for chair report
Gene Carpenter provided a high-level report of LLWRCC activities recognizing projects in development and committee activities. Notable items are listed below:

- The LLWRCC has initiated proposed new standard ANS-3.5.1, "Power Plant Simulators for Use in Simulation-Assisted Engineering and Non-Operator Training."
- Additional members are being solicited to initiate proposed new standard ANS-60.1,"Export Control Standard" (title TBD).
- The need for proposed new standard ANS-3.13 "Nuclear Plant Reliability Assurance Program (RAP) Development Guidance for Design, Construction, and Operation," has been questioned by NEI. Carpenter is looking for additional input to determine if the project warrants investment of limited volunteer resources.
- The ballot for the revision of ANS-3.5, "Nuclear Power Plant Simulators for Use in Operator Training and Examination," closed with two negatives. The ballot has sufficient approval requiring that consensus be declared. Before proceeding, procedures require the objectors to be given the opportunity to request an appeal. The Standards Board letter ballot will likely be issued within two weeks. With approval of the revision expected in the very near future, Steven Arndt asked Carpenter to setup a teleconference with NRC to proactively discuss changes and answer any questions (within the appropriate restrictions).
- Lastly, Carpenter recognized that the LLWRCC was lacking a NRC representative.

ACTION ITEM 11/2018-20: Gene Carpenter to setup a teleconference with NRC to proactively discuss changes and answer any questions (within the appropriate restrictions) on ANS-3.5, "Nuclear Power Plant Simulators for Use in Operator Training and Examination" (revision of ANSI/ANS-3.5-2009). DUE DATE: December 31, 2018

ACTION ITEM 11/2018-21: Gene Carpenter to work with John Nakoski on the appointment of a NRC representative to the LLWRCC. DUE DATE: March 1, 2019

E. Nonreactor Nuclear Facilities Consensus Committee (NRNFCC)—see Attachment 13 for chair report
James O'Brien reported that both of NRFCC's standards in development are making good progress and should be ready for ballot soon. He believes there will be many customers for ANS-3.14, "Process for Aging Management and Life Extension of Nonreactor Nuclear Facilities." Controversy with ANS-57.11, "Integrated Safety Assessments for Nonreactor Nuclear Facilities" was recognized. The appropriate maintenance action is being considered on ANSI/ANS-58.16-2014, "Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities." O'Brien feels that philosophically, it is a good document, but it may not have a customer. A reaffirmation is possible, but O'Brien would like to gather more information about the need for the standard before making this decision.

F. Nuclear Criticality Safety Consensus Committee (NCSCC)—see Attachment 14 for chair report
Larry Wetzel reported that the NCSCC has one PINS form in development for a revision of a current standard, seven standards in develop of which one is a proposed new standard, and three standards currently at the ballot/comment resolution stage. Revisions of both of NCSCC's delinquent standards are at the ballot stage. Because of extensive comments, the resolution process is taking longer than anticipated. Reaffirmations for both will be considered if the resolution process is further delayed. With a new chair appointed, good progress is being made on the revision of ANSI/ANS-8.3-1997 (R2017), "Criticality Accident Alarm System." Optimistically, Wetzel believes that a draft could be ready for ballot by the end of 2019. Lastly, a response to an

inquiry on ANSI/ANS-8.14-2004 (R2016), "Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors," was issued to the ANS-8 Subcommittee for approval. Significant comments are being addressed.

G. Research and Advanced Reactors Consensus Committee (RARCC)—see Attachment 15 for chair report
George Flanagan reported that RARCC has seven projects in development. 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) was issued for ballot. The ANS-54.1 Working Group is incorporating RARCC comments into the draft. Flanagan believes that there will be one maintained objection. RARCC has an ongoing discussion about harmonizing research reactor and advanced reactor standards. Flanagan explained that Kairos Power is currently the only company in the U.S. designing a fluoride salt cooled reactor. At the time ANS-20.1, "Nuclear Safety Criteria and Design Process for Fluoride Salt-Cooled High-Temperature Reactor Nuclear Power Plants," was initiated, there were several vendors interested in this technology. The NRC has expressed concern about supporting a standard with only one vendor. RARCC is considering putting ANS-20.1 on hold in case additional vendors come forward or formally withdrawing the project. Flanagan will check with the ANS-20.1 Working Group Chair Ed Blandford in making this decision. Revisions of ANSI/ANS-15.8-1995 (R2018), "Quality Assurance Program Requirements for Research Reactors," and ANSI/ANS-53.1-2011 (R2016), "Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants," have been initiated due to recent industry interest.

Flanagan confirmed that there has been discussion of using qualitative instead of quantitative risk assessment measures in research reactor standards; however, the discussions have not been positive due to economic concerns.

Mark Linn clarified that the title of proposed new standard ANS-30.1 is "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." The project ranked high on the standards priority survey issued a few years back. There has been confusion on the role of ANS-30.1 which led to Linn preparing a graphic (see slide 3 of Linn's presentation available as Attachment 16) showing the relationship with other new reactor RIPB standards and a design timeline. Robert Budnitz and Ed Wallace both feel that there was coordination with Karl Fleming on objectives and requirements in ASME/ANS RA-S-1.4, "Probabilistic Risk Assessment Standard for Advanced Non-LWR Nuclear Power Plants," with the LMP. Linn wants to make sure that he does not duplicate work related to the LMP in ANS-30.1 and to make sure all are harmonized. Wallace offered to send Linn LMP files including NEI 18-04, "Risk-Informed Performance-Based Guidance for Non-Light Water Reactor Licensing Basis Development." Linn will send Budnitz and Wallace the table he is working on in ANS-30.1 for review to ensure harmonization with RA-S-1.4 and the LMP (respectively).

ACTION ITEM 11/2018-22: Ed Wallace to send Mark Linn the License Modernization Project files including the draft version of NEI 18-04, "Risk-Informed Performance-Based Guidance for Non-Light Water Reactor Licensing Basis Development," for his reference in developing ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." DUE DATE: December 1, 2018

ACTION ITEM 11/2018-23: Mark Linn to send Robert Budnitz and Ed Wallace a copy of a table in development in ANS-30.1 for review to ensure harmonization with RA-S-1.4 (Budnitz) and the LMP (Wallace). DUE DATE: December 31, 2018

Linn ended with a list of coordination and support needed from RARCC to proceed with ANS-30.1.

ACTION ITEM 11/2018-24: Mark Linn to provide RARCC a list of needs to complete ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs."
DUE DATE: December 31, 2018

H. Safety and Radiological Analyses Consensus Committee (SRACC)—see Attachment 17 for chair report
Andrew Smetana reported that SRACC has one PINS form in development and eight draft standards in development. Subject matter experts are being solicited to help determine the appropriate maintenance action on ANSI/ANS-5.10-1998 (R2013), "Airborne Release Fractions at Non-Reactor Nuclear Facilities." The revision of ANSI/ANS-19.1-2002 (R2011), "Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors," is currently at ballot and expected to be approved soon. Smetana confirmed that SRACC has discussed adding performance-based methods to their standards. SRACC feels that the ANS-19 standards on reactor physics could be good candidates for these methods. A suggestion was made for Smetana to contact Prasad Kadambi for RP3C guidance.

ACTION ITEM 11/2018-25: Pat Schroeder to work with Garrett Smith for a DOE staffing recommendation to support maintenance on ANSI/ANS-5.10-1998 (R2013), "Airborne Release Fractions at Non-Reactor Nuclear Facilities."
DUE DATE: December 31, 2018

ACTION ITEM 11/2018-26: Andrew Smetana to contact Prasad Kadambi for RP3C guidance on including performance-based methods in ANS-19 standards.
DUE DATE: December 31, 2018

14. Other Committee Reports (as needed)

- Standards Board Task Groups (TG)

  Policy Task Group (Chair: Arndt)
  An open item for the Policy Task Group was under Agenda Item #11.

  External Communications Task Group (Chair: Open)
  No report provided.

  Internal Communications Task Group (Chair: Turkowski)
  The PD/SC Liaison program coordinated by the Internal Communications Task Group was discussed under Agenda Item #9.

- Liaison Reports (External liaisons)
  Steven Arndt reported that he has been struggling to find individuals willing to serve in the open liaison positions.

  ANSI & ISO/TC 85/SC 6 (Liaison: Prasad Kadambi)
  Prasad Kadambi stated that he had nothing new to report.

  ASCE (Liaison: Carl Mazzola)
  Carl Mazzola keeps track of two ASCE standards—ASCE/SEI 43, "Seismic Design Criteria for Structures, Systems, and Components in Nuclear Facilities, and Minimum Design Loads for

Buildings and Other Structures and ASCE-4, “Seismic Analysis of Safety-Related Nuclear Structures and Commentary.” Presently there are no issues.

EPRI (Liaison: Andrew Sowder)
No report provided.

IEEE/NPEC (SB liaison to NPEC: Donald Spellman / NPEC Liaison to SB: Richard Wood)
A written liaison report (Attachment 18) was provided by Spellman in advance of the meeting.

INPO (Liaison: Open)
No report provided.

JCNRM/SCoRA (Liaison: Stanley Levinson)
Robert Budnitz explained that JCNRM’s Subcommittee on Risk Application (SCoRA) is similar to RP3C in that they provide support to working group incorporating RIPB methods. SCoRA and RP3C are coordinating well. Kadambi added that he attended the SCoRA meeting in Baltimore last month.

NCRP (Liaison: Open)
No report provided.

NEI (Liaison: Russ Bell)
No report provided.

NFPA (Liaison: Bernie Till)
No report provided.

15. Other Business

Robert Budnitz called attention to a potential new activity under the JCNRM. The JCNRM was approached by a group of individuals that provide cyber and physical security to nuclear power plants. These individuals questioned whether PRA methods could be used in cyber and physical security. The JCNRM doesn’t feel this area is ready for a standard, but a guidance document could possibly be developed. JCNRM is hosting a workshop with about a dozen subject matter experts to explore this question. The workshop will be held on November 29, 2018, at ASME’s office in Washington, D.C. Both ANS’s and ASME’s standards boards will be asked for permission if a decision is made to proceed. When questioned, Budnitz confirmed that he is aware of the work on the proposed new standard ANS-3.15 on cybersecurity and is coordinating efforts with this group. He also confirmed that Joe Rivers, Nathan Siu, and John Nakoski will participate on behalf of NRC in the workshop.

16. Review of Action Items from This Meeting

New action items assigned at the meeting were reviewed and confirmed.

17. Future Meetings

Steven Arndt doesn’t expect a need for a teleconference before the June 2019 meeting, but he may need to check with members individually related to his role on the advanced reactors special committee.

The Standards Board meets for a full day on Tuesday at all ANS annual and winter meetings. The next two ANS meetings are as follows:

- 2019 ANS Annual Meeting at Hyatt Regency Minneapolis from June 9-13
  The Standards Board meeting is anticipated on Tuesday, June 11, 2019.

- 2019 ANS Winter Meeting at Marriott Wardman Park from November 17-21
  The Standards Board meeting is anticipated on Tuesday, November 19, 2019.

19. Adjournment

With no further business, the meeting was adjourned.

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
11/2018-01	Gene Carpenter to follow up with Sacit Cetiner to confirm if the ANS-3.15 Working Group has a representative from the Nuclear Information Technology Strategic Leadership (NITSL). DUE DATE: December 31, 2018	Carpenter	OPEN
11/2018-02	Pat Schroeder to notify the *Nuclear New* publisher of the forthcoming article on RIPB methods and the intent to provide the article in time for the May 2019 issue. DUE DATE: December 1, 2018	Schroeder	OPEN
11/2018-03	Donald Eggett to follow up with FWDCC on SMART Matrix actions under Goal 3 (D) on subcommittee and working group use of Workspace and (E) on identification of high priority standards based on government and industry need. DUE DATE: December 31, 2018	Eggett	OPEN
11/2018-04	Consensus committee chairs to complete Goal 3 (G) to provide recommendations for changes to improve consensus committee performance to the Policy Task Group Chair (i.e., the Standards Board Chair). DUE DATE: December 31, 2018	CC Chairs	OPEN
11/2018-05	Steven Stamm to take a look at amending Goal 4 (A) Row 2 based on NEI taking the lead on issuance of standards priority survey. DUE DATE: December 1, 2018	Stamm	OPEN
11/2018-06	Steven Arndt, Steven Stamm, and Carl Mazzola to map the new ANS Strategic Plan against the ANS Standards Committee Strategic Plan to confirm alignment and to determine if any updates are needed. DUE DATE: March 1, 2019	Arndt, Stamm, Mazzola	OPEN
11/2018-07	William Turkowski to update the PD/SC presentation to include the recommendation of consistency/longer terms for PD liaison appointments. DUE DATE: January 31, 2019	Turkowski	OPEN
11/2018-08	Pat Schroeder to reach out to the PD Chair on behalf of Steven Arndt to request 15 minutes on the PD Committee's agenda at the 2019 annual meeting (Saturday evening) to review the PD/SC Liaison Program (using updated presentation) and seek their feedback. DUE DATE: December 15, 2018	Schroeder	OPEN
11/2018-09	David Hillyer to follow up with William Turkowski regarding the PD/SC Liaison Program presentation and send to FWDCC members. DUE DATE: December 15, 2018	Hillyer	OPEN

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
11/2018-10	Pat Schroeder to contact each working group chair to confirm participation of all associate members and check whether any should be upgraded to a full member. DUE DATE: December 31, 2018	Schroeder	OPEN
11/2018-11	Pat Schroeder to update and clean up the associate member tracking report (cross-out pattern hard to read) for the next Standards Board meeting. DUE DATE: June 1, 2019	Schroeder	OPEN
11/2018-12	Pat Schroeder to work with Maryann Stasko to prepare a standards presentation and to help facilitate a presenter if needed for the upcoming YMG Congress in Washington D.C. DUE DATE: October 1, 2019	Schroeder	OPEN
11/2018-13	Pat Schroeder to explore the possibility and logistics of preparing an associate member video and work with consensus committee chairs to identify 2-3 associate members to participate (if possible). DUE DATE: June 1, 2019	Schroeder	OPEN
11/2018-14	Gene Carpenter, George Flanagan, Dave Hillyer, Carl Mazzola, and James O'Brien, to respond to the RP3C proposed approach as provided in the RP3C presentation report (slides 5-10) at the November 13, 2018, Standards Board meeting. DUE DATE: June 1, 2019	Carpenter, Flanagan, Hillyer, Mazzola, O'Brien	OPEN
11/2018-15	Prasad Kadambi (lead), Robert Budnitz, Mark Linn, and Robert Youngblood (at invitation of Kadambi) to evaluate need for a new guidance document or standard on the integrated, risk-informed decision making process and prepare a white paper for Standards Board consideration. DUE DATE: February 15, 2019	Kadambi, Budnitz, Linn	OPEN
11/2018-16	James O'Brien to ask Garrett Smith, DOE's Standards Executive, to nominate a representative for ANS-3.16, "Meteorological Aspects of Wildland Fire Response." DUE DATE: December 31, 2018	O'Brien	OPEN
11/2018-17	Standards Board members to forward Carl Mazzola the name and contact information of any known experts on leachability. DUE DATE: December 31, 2018	SB members	OPEN
11/2018-18	Pat Schroeder to provide David Hillyer available information on the three terminated decommissioning standards projects for his reference. DUE DATE: December 1, 2018	Schroeder	OPEN
11/2018-19	Steven Arndt and Robert Budnitz to discuss lessons learned from the use of trial use standards. DUE DATE: December 31, 2018	Arndt, Budnitz	OPEN

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
11/2018-20	Gene Carpenter to setup a teleconference with NRC to proactively discuss changes and answer any questions (within the appropriate restrictions) on ANS-3.5, "Nuclear Power Plant Simulators for Use in Operator Training and Examination" (revision of ANSI/ANS-3.5-2009). DUE DATE: December 31, 2018	Carpenter	OPEN
11/2018-21	Gene Carpenter to work with John Nakoski on the appointment of a NRC representative to the LLWRCC. DUE DATE: March 1, 2019	Carpenter, Nakoski	OPEN
11/2018-22	Ed Wallace to send Mark Linn the License Modernization Project files including the draft version of NEI 18-04, "Risk-Informed Performance-Based Guidance for Non-Light Water Reactor Licensing Basis Development," for his reference in developing ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." DUE DATE: December 1, 2018	Wallace	OPEN
11/2018-23	Mark Linn to send Robert Budnitz and Ed Wallace a copy of a table in development in ANS-30.1 for review to ensure harmonization with RA-S-1.4 (Budnitz) and the LMP (Wallace). DUE DATE: December 31, 2018	Linn	OPEN
11/2018-24	Mark Linn to provide RARCC a list of needs to complete ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." DUE DATE: December 31, 2018	Linn	OPEN
11/2018-25	Pat Schroeder to work with Garrett Smith for a DOE staffing recommendation to support maintenance on ANSI/ANS-5.10-1998 (R2013), "Airborne Release Fractions at Non-Reactor Nuclear Facilities." DUE DATE: December 31, 2018	Schroeder	OPEN
11/2018-26	Andrew Smetana to contact Prasad Kadambi for RP3C guidance on including performance-based methods in ANS-19 standards. DUE DATE: December 31, 2018	Smetana, Kadambi	OPEN
6/2018-01	Donald Eggett, Prasad Kadambi, Andrew Sowder, and William Turkowki to develop a strategy for how the ANS Standards Committee plans to be proactive and ready to take the lead in development of advanced reactor standards. DUE DATE: TBD	Eggett, Kadambi, Sowder, Turkowki	ON HOLD Turkowski organized a call on 8/27/18 for preliminary discussions. Arndt advised that this action should be put on hold until recommendations are made by John Kelly's special committee.

Standards Board Action Item Status Report
(as discussed/assigned at 11/13/18 meeting)

Action Item	Description	Responsibility	Status/Comments /Reassignments
6/2018-02	Donald Eggett to contact Standards Board members on possible changes to industry priorities for standards development. DUE DATE: TBD	Eggett	ON HOLD On hold pending findings of NEI's priority survey.
6/2018-03	Pat Schroeder to add an agenda item to discuss the volunteer database at the 2018 winter meeting.	Schroeder	CLOSED Item added to agenda.
6/2018-04	Pat Schroeder to provide Standards Board members a 3-month update on the Workspace/Higher Logic platform merger.	Schroeder	CLOSED Updated provided 9/13/18
6/2018-05	Donald Eggett, Robert Budnitz (Rick Grantom), Gene Carpenter, William Turkowski, and Larry Wetzel with Steven Stamm as lead to review the policy on multiple representation and provide recommendations for potential changes in compliance with ANSI requirements. Teleconference to be held to finalize recommendations for presentation to the Standards Board at the November 2018 meeting.	Stamm, Carpenter, Eggett, Budnitz, Turkowski, Wetzel	CLOSED Proposal initially issued for review and comment following by the revised policy issued for approval via ballot.
6/2018-06	Steven Stamm to update the SMART Matrix as discussed during the June 19, 2018, Standards Board meeting.	Stamm	CLOSED Revision issued 7/30/18.
6/2018-07	Steven Arndt to organize an offline discussion to prepare for the next NRC Standards Forum.	Arndt	CLOSED
6/2018-08	Gene Carpenter to review LLWRCC standards for potential revisions/projects that can incorporate additive manufacturing. DUE DATE: June 1, 2019	Carpenter	OPEN Carpenter did a quick review of LLWRCC standards but didn't find any that could incorporate additive manufacturing. He'll get concurrence from members at the next LLWRCC meeting.
6/2018-09	Gene Carpenter to discuss assignment of standards for SMRs (i.e., ANS-30.3) to LLWRCC instead of RARCC with George Flanagan on cases where a single standard should be applicable to both large LWRs and light water SMRs.	Carpenter	CLOSED Flanagan explained that ANS-30.3 was to assign to LLWRCC because it will not follow the LMP. Placement of future standards will be on a case-by-case basis.
6/2018-10	Pat Schroeder to update the Standards Committee Procedures Manual to reflect the approved revision and implement the change as proposed on Attachment 14.	Schroeder	CLOSED Posted 7/25/18 and members notified same day
6/2018-11	William Turkowski to send PD Committee Chair Thomas Remick the PD liaison program presentation and updated liaison list.	Turkowski	CLOSED Presentation sent 6/28/18 by Schroeder with a request to division chairs to confirm assigned liaisons.

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
6/2018-12	Pat Schroeder to check with PD Committee Chairs for changes to PD liaisons as a result of division leadership changes after the June meeting and update the PD/SC liaison list accordingly.	Schroeder	CLOSED Fully confirmed liaison list sent 8/23/18.
6/2018-13	Donald Eggett to contact the ANS Student Conference chair for the upcoming Student Conference April 2019 at Virginia Commonwealth University to explore opportunities for a standards presentation assuming that an ANS standards representative can attend the conference. DUE DATE: December 31, 2018	Eggett	OPEN Eggett touched base with the chair of the student conference. Eggett needs to identify a standards member to attend the conference to make a presentation. Eggett will discuss with Arndt.
6/2018-14	Pat Schroeder to develop a spreadsheet and work with consensus committee chairs to track consensus committee decisions on the 23 standards identified in the RP3C categorization effort.	Schroeder	CLOSED Spreadsheet created and posted to Google docs (here) with a request to CC, SubC, & WG chairs to provide feedback. Completed spreadsheet provided to SB 8/15/18.
6/2018-15	Ed Wallace to provide Pat Schroeder the two presentations made to the ACRS subcommittee on the LMP for distribution to the Standards Board.	Wallace, Schroeder	CLOSED Presentation sent 6/19/18.
6/2018-16	Gene Carpenter to keep Steven Arndt, Don Eggett, Robert Budnitz, and Gerry Kindred informed of progress on ANS-3.15 (cybersecurity standard) on a quarterly basis. DUE DATE: February 15, 2019 (next update)	Carpenter	ON-GOING Update provided at 11/13/18 Standards Board meeting.
6/2018-17	Pat Schroeder to provide Russell Bell ANS-60.1 Working Group Chair Margaret Harding's contact information so that they can discuss NEI's participation.	Bell, Schroeder	CLOSED Information provided; contact made at annual meeting
6/2018-18	Andrew Smetana to review consensus committee scopes to determine if another consensus committee may be a better fit for ANSI/ANS-41.5-2012, "Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation," for potential reassignment.	Smetana	CLOSED ESCC Chair Carl Mazzola and ESCC Vice Chair Jen Call believe that ANS-41.5 fits within their scope. This reassignment was discussed on ESCC's 7/10/18 teleconference and members were in agreement. SB notified 7/11/18.
6/2018-19	David Hillyer to make some inquiries and provide the name(s) of a potential INPO liaison to Steven Arndt. DUE DATE: December 31, 2018	Hillyer	OPEN Eggett informed members that he is working on this in parallel, but Hillyer should remain the contact.
6/2018-20	Pat Schroeder to remove WENRA from the list of external liaisons.	Schroeder	CLOSED Change made.

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
6/2018-21	Steven Arndt to consider the need for additional external liaisons to the Standards Board.	Arndt	CLOSED Arndt recommended that this action item be closed. He believes that we need to do a better job communicating with our current liaisons before we broaden our liaisons.
2/2018-03	Steven Arndt, Steven Stamm, and Pat Schroeder to ~~follow up with Steven Stamm about possible suggestions for~~ a communication~~ing~~ piece on standards opportunities for~~to~~ local sections to be issued through their list serve. DUE DATE: March 31, 2019	Arndt, Stamm, Schroeder	OPEN The action item was amended as discussed at the 11/13/18 meeting for Arndt, Stamm, and Schroeder to develop a communication piece for local sections with standards opportunities to be issued via the local sections list serve.
10/2017-12	Consensus committee chairs to follow up with new liaisons when updated list available. DUE DATE: March 31, 2019	Consensus committee chairs	OPEN An updated liaison list was provided to CC chairs 8/23/18 with a reminder of this action item. Schroeder to resend the file and another reminder.
2/2018-06	Steven Arndt and Pat Schroeder to discuss improving the process of notifying the public, utilities, and industry organizations of ANS standards development activities; possibly expanding the distribution letters to other stakeholders.	Arndt, Schroeder	CLOSED Letters have been drafted for NEI and INPO to notifying them of newly published & reaffirmed standards. Letter issued to NEI; letter to INPO will be issued once contact identified.
2/2018-08	Steven Arndt to contact Ralph Hill for more information on ASME's Board on Nuclear Codes and Standards collaborative effort to revive nuclear power in the United States.	Arndt	CLOSED A teleconference was held with the BNCS Chair Rich Porco to discuss advanced reactor standards. He informed those on the call that the BNCS was not successful in this industry initiative due to the perception of supporting/favoring one technology over another.
10/2017-14	Steven Arndt and Donald Eggett to work with ANS Professional Divisions to establish an annual process to identify opportunities and representatives to make presentations at ANS meetings to encourage standards participation. DUE DATE: June 15, 2019	Arndt, Eggett	OPEN A new action item was assigned at the 11/13/18 meeting to request time on the PDC agenda at the 2019 annual meeting for Arndt to address the PDC.

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
10/2017-19	Consensus committee chairs to review the RP3C categorization spreadsheet of standards and projects recommended to incorporate RIPB methods and develop a path forward with priorities. Consensus committee plans (including variances from the recommendations) to be reported back to the SB and RP3C. (The list includes projects under ESCC, FWDCC, LLWRCC, NRNFCC, and RARCC.)	ESCC, FWDCC, LLWRCC, and RARCC chairs NA for NRNFCC as NRNFCC standards part of operating plan and working w/RP3C.	CLOSED Action Item 6/2018-14 was assigned for Schroeder to prepare a tracking report to gather input from all consensus committees. The spreadsheet was created and posted to Google docs (here). A response on all recommendations was provided and the spreadsheet sent to the SB on 8/15/18.The spreadsheet is accessible HERE.
10/2017-21	Carl Mazzola to work with Jennifer Call (Siting: Atmospheric Subcommittee Chair) to determine the direction and need of proposed new standard ANS-3.16, "Meteorological Aspects of Wildland Fire Response."	Mazzola	CLOSED A questionnaire was prepared and sent to the Nuclear Utility Meteorological Data Users Group and DOE Meteorological Coordinating Council members for feedback. Response was poor, but not unfavorable. The ESCC discussed and agreed to move forward with the development of this standard on their 7/10/18 teleconference.
10/2017-25	Gene Carpenter to contact DOE staff member to follow up on the review of ANS-3.8.7, "Criteria for Planning, Development, Conduct and Evaluation of Drills and Exercises for Emergency Preparedness." DUE DATE: March 31, 2018	Carpenter	OPEN Carpenter confirmed outreach made multiple times, but he is not getting a response. Carpenter will contact the DOE Standards Executive for help.
10/2017-28	Steven Arndt to set up a meeting with Russ Bell and senior NEI leaders. DUE DATE: December 31, 2018	Arndt	OPEN Arndt confirmed that this action is still open. NEI is making changes, and he believes that a new rep maybe appointed. Arndt will try to schedule a meeting within the next month.

Standards Board Action Item Status Report (as discussed/assigned at 11/13/18 meeting)			
Action Item	**Description**	**Responsibility**	**Status/Comments /Reassignments**
06/2017-18	The Policy TG to determine how the statement on standards development drafted by Robert Busch is addressed. DUE DATE: March 31, 2019	Arndt/ Policy TG	OPEN The statement and SB comments on the statement are accessible here. The statement was discussed at the 11/13/18 meeting. Members agreed that a statement would be beneficial but feel that the 1st part on economics should be crafted carefully. The Policy TG will draft a statement and determine a location of where the statement is to be placed for SB approval.
6/2016-03	Russell Bell to help coordinate ANS work on advanced reactor standards with other SDOs and industry. Due Date: On-going	Bell/NEI Liaison	ON HOLD
6/2016-14	External Communications Task Group to evaluate and improve the process of notifying the public and NEI/utilities of standards development activities.	ECTG & Arndt	CLOSED Letters have been drafted for NEI and INPO to notifying them of newly published standards and reaffirmed standards. Letter will be issued once addresses are confirmed.
6/2016-18	Gene Carpenter to discuss the needed action on standards ranked 11-20 on the standards priority survey with the LLWRCC and provide input at the SB at the next call/meeting. Due Date: On-going	Carpenter	OPEN Carpenter confirmed that the LLWRCC has reviewed the standards ranked 11-20 and will continue to review their progress.
11/2015-21	The LLWRCC to approve a PINS for a cybersecurity standard and forward to the standards manager. DUE DATE: March 31, 2019	Carpenter	OPEN As reported at the 11/13/18 meeting, progress is being made and the PINS form should be ready for ballot in early 2019.

ATTACHMENT 1

November 2018 Standards Committee Informative Report to the ANS Board of Directors

from Standards Board Chair Steven A. Arndt

ANS Partners Standards Store with Techstreet

ANS has partnered with Techstreet to host the new ANS Standards Store as of August 2018. This partnership provides enhanced options to customers, including redlines, standards bundles, multi-user PDFs, combination print-plus-PDF options, and customer notifications of changes to standards through the "Track It" feature. ANS members will continue to receive a 10% discount on standards purchased through the partnered store. An added bonus is the Techstreet-embedded software to protect ANS electronic standards.

Techstreet launched the first-ever website for searching and ordering industry codes and standards in 1996. Then in 1998, Techstreet became the first standards provider to offer documents in downloadable PDF format. Techstreet was bought by the Thomson Corporation in 2003 and is currently part of Clarivate Analytics, formerly the Intellectual Property & Science Business of Thomson Reuters—a company with a history dating back to 1850. Clarivate Analytics specializes in providing content and tools to help customers drive innovation, protect their intellectual assets, and maximize the value of their intellectual property.

ANS Standards Workspace Merger with ANS Collaborate and Potential Use as Volunteer Database

The ANS Standards Workspace has been in use for a little over four years. The Standards Board, consensus committees, and subcommittees use this web-based platform for all ballots and communication. Working group use of the site continues to grow. The site now includes 175 active workspaces for all committee levels and active accounts for 784 users (ANS Standards Committee members), 4465 documents have been posted, 4607 email messages generated, and 682 ballots have been issued since Workspace was launched.

Workspace, developed by Kavi, was acquired by Higher Logic roughly a year ago. Higher Logic also owns the community collaborative platform used by ANS committees and divisions called ANS Collaborate. The ANS Standards Workspace will be merged with ANS Collaborate under Higher Logic's community platform in early 2019. While all workspaces, documents, and ballots will be transferred, there will be some operational and format changes. Higher Logic will provide training to ANS staff administrators and Standards Committee members once the two platforms have been merged. The merger is believed to have the potential of connecting the two platforms with searching capabilities useable as a standards volunteer database to help identify potential candidates to staff standards committees. ANS staff will explore this opportunity.

Advanced Reactor Standards Need Workshop

ANS and the U.S. Nuclear Regulatory Commission (NRC) sponsored a workshop on May 2, 2018, near Washington, D.C., for industry partners to develop a strategic vision and path forward for advanced reactors standards. The workshop provided an opportunity for designers, vendors, owners, regulators, and representatives of standards development organizations (SDOs) to discuss standards needs to support advanced reactors. More than 70 participants attended with an additional 40 joining remotely. During the workshop, Technology Working Group (TWG) representatives from organizations involved with fast reactors, high temperature reactors, and molten salt reactors presented information related to standards needs in their technical areas. Breakout sessions for the TWGs were held identifying new and revised standards that would be of benefit to advanced reactors.

ANS Presentation at NRC Standards Forum

ANS Standards Board Chair Steven Arndt made a presentation at the September 11, 2018, NRC Standards Forum. Attendees included industry organizations, regulators, national laboratory representatives, and several standards development organizations. An overview and feedback from the ANS/NRC Advanced Reactor Standards Workshop held May 2, 2018, was provided. A request was made for more involvement from advanced reactor vendors and designers as well as the U.S. Department of Energy to provide direction in setting priorities for advanced reactor standards.

Standards Committee Strategic Plan/Future Plans

Revision 2 of the Standards Committee Strategic Plan was approved by the Standards Board in December of 2017. The long-term, strategic plan focuses on a number of key goals to 1) align standards development priorities with industry needs, 2) develop and maintain high-quality standards, 3) improve efficiency of standards development, 4) expand external outreach, and 5) increase participation in ANS standards committees. An accompanying SMART Matrix was prepared to complement the Strategic Plan with specific actions tracking progress of each goal. The SMART Matrix is reviewed at each Standards Board meeting and updating accordingly. Major actionable initiatives to fulfill the goals include the following:

- Utilizing industry surveys, meetings, and outreach to prioritize standards needs
- Increase the use of risk-informed and performance-based methods in ANS standards
- Enhance relationships with ANS professional divisions through a liaison program
- Create a fee-based standards e-learning program for members and nonmembers
- Implement a standard training program for all Standards Committee members
- Maximize the use of the ANS Standards Workspace for electronic communication and document approval
- Actively solicit new Standards Committee members through the use of ANS publications
- Encourage young professionals to become involved in ANS standards by sending notices to ANS Student Section members, Young Members Group, and the North American Young Generation in Nuclear

Incorporation of Risk-Informed and/or Performance-Based Methods

The Risk-informed, Performance-based Principles and Policy Committee (RP3C) reviewed all ANS standards and projects to evaluate which ones would likely benefit from the use of risk-informed and/or performance-based methods. A list of standards that would provide the most benefit from risk-informed and/or performance-based methods was prepared. Consensus committees were tasked with evaluating RP3C's recommendations and reporting back to the Standards Board. The evaluation process remains in progress.

Professional Division Liaison Program

The Standards Board initiated a liaison program with the support of the ANS Professional Divisions (PD) Committee in 2016. PD liaisons were reconfirmed after the June 2018 meeting with several new liaisons appointed. The program aids in review of associated delinquent standards and enhance consensus committee relationships to assist in recommending new standards and populating working groups with expert individuals. PD liaisons are informed and invited to relevant consensus committee meetings. Time is included on all consensus committee meeting agendas for PD liaison reports.

Standards Committee Engagement of Young Professionals

The Associate Member Program was created in 2007 by the Standards Board at the suggestion of the ANS Young Member Group to allow young professionals the opportunity to participate in standards development without any experience. The Associate Member Program includes university students and those that have only a few years of professional, industry experience. Associate Members earn voting privileges through active participation and increased technical and standards development knowledge. The goal is for the Associate Member to become a full voting member within two years, but the actual length of time to become a full member can vary greatly depending on the experience of the individual and their active participation.

Each year, the ANS Standards Committee engages in outreach to encourage young and emerging professionals to become active in the ANS standards program. The Standards Board Chair made a presentation on the Associate Member Program to members of the North American Young Generation in Nuclear by webinar in March of this year. A broadcast inviting ANS Student Members to participate in ANS standards was issued this September. Since the program was initiated, over 50 young professionals and university students have been placed on a working group as an Associate Member. The program is of mutual benefit and vital to the continued success of the ANS standards program. While standards development requires support of industry experts with years of experience, emerging professionals bring a fresh perspective and revitalization to ensure industry standards needs continue to be met. The Associate Member Program helps to sustain the standards program while providing young professionals and their organizations valuable experience.

Approval of Change to Policy on Standards Committee Member Composition

The Standards Board approved a revision to the policy on the composition of working groups, subcommittees, and consensus committees. The revised policy adds a definition for an "organization" for the purpose of the policy and provides additional criteria allowing the Standards Board to approve multiple ballots from one organization for joint consensus

committees (e.g., the ANS/ASME Joint Committee on Nuclear Risk Management and potential joint committees with other standards development organizations).

Maintenance of Standards

A success carried over the past three years has been the effort to reduce the number of delinquent standards. A reaffirmation form with criteria has been developed to provide reviewers guidance in determining if a standard is appropriate for reaffirmation. The new form resulted in a significant increase of reaffirmations (re-approvals) in 2016. With the success in 2016 and 2017, the effort will be indefinitely continued. A chart showing the improvement over the last five years is provided below:

Year	# of Current Standards at Close of Year	# of Standards Reaffirmed	# of Delinquent Standards	% of Delinquent Standards
2014	78	2	33	42.3%
2015	80	6	25	31.3%
2016	81	20	19	23.4%
2017	80	14	10	12.5%
2018*	83	10	8	9.5%

**Includes approved reaffirmations and those currently in approval.*

It should be noted that 5 of the 8 standards reported as delinquent (those >5 years old) in 2018 have active revisions in development or approval. These projects have submitted the required documentation to the American National Standards Institute (ANSI) and comply with ANSI's requirement for maintenance. The estimated 9.5% delinquency for 2018 is considered exceptionally low. Our goal moving forward is to maintain a delinquency level of no more than 15%.

Certification of Consensus Committee Balance of Interests

Balance of interests reports were prepared confirming that each consensus committee meets the requirement of no more than one-third of its membership from anyone interest category. As dictated by policy, the Standards Board reviewed each report at their June 2018 meeting and certified that all consensus committees are in compliance.

2018 Standards Action Activities

The following standards projects were initiated in 2018:

- ANS-2.22-201x, Environmental Radiological Monitoring at Operating Nuclear Facilities (new standard)
- ANS-3.5.1-201x, Nuclear Power Plant Simulators for Use in Simulation-Assisted Engineering and Non-Operator Training (new standard)

- ANS-6.1.1-201x, Neutron and Photon Fluence-to-Dose Conversion Coefficients (historical revision of ANS-6.1.1-1991)
- ANS-8.1-201x, Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors (revision of ANSI/ANS-8.1-2014)
- ANS-8.7-201x, Nuclear Criticality Safety in the Storage of Fissile Materials (revision of ANSI/ANS-8.7-1998; R2012)
- ANS-10.4-201x, Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry (revision of ANSI/ANS-10.4-2008; R2016)
- ANS-16.1-201x, Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure (revision of ANSI/ANS-16.1-2003; R2017)
- ANS-30.3-201x, Advanced Light-Water Reactor Risk-Informed Performance-Based Design Criteria and Methods (new standard)
- ANS-57.8-201x, Fuel Assembly Identification" (revision of ANSI/ANS-57.8-1995; R2017)

The following standards and/or draft standards were issued for ballot and public review in 2018:

- ANS-3.4-2013 (R201x), Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants (reaffirmation of ANSI/ANS-3.4-2013)
- ANS-6.1.2-2013 (R201x), Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants (reaffirmation of ANSI/ANS-6.1.2-2013)
- ANS-8.1-2014 (R201x), Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors (reaffirmation of ANSI/ANS-8.14-2014)
- ANS-8.23-201x, Nuclear Criticality Accident Emergency Planning and Response (revision of ANSI/ANS-8.23-2007; R2012)
- ANS-10.7-2013 (R201x), Non-Real Time, High Integrity Software for the Nuclear Industry— Developer Requirements (reaffirmation of ANSI/ANS-10.7-2013)
- ANS-15.8-1995 (R201x), Quality Assurance Program Requirements for Research Reactors (reaffirmation of ANSI/ANS-15.8-1995; R2013)
- ANS-16.1-201x, Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure (revision of ANSI/ANS-16.1-2003; R2017)
- ANS-51.10-1991 (R201x), Auxiliary Feedwater System for Pressurized Water Reactors (reaffirmation of ANSI/ANS-51.10-1991; R2008)
- ANS-41.5-2012, Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation (reaffirmation of ANSI/ANS-41.5-2012)
- ANS-54.1-201x, Nuclear Safety Criteria and Design Process for Sodium Fast Reactor Nuclear Power Plants (historical revision of ANS-54.1-1989)

The following standards were approved in 2018:

- ANSI/ANS-2.6-2018, Guidelines for Estimating Present & Projecting Future Population Distributions Surrounding Power Reactor Sites (new standard)

- ANSI/ANS-3.4-2013 (R2018), Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants (reaffirmation of ANSI/ANS-3.4-2013)
- ANSI/ANS-6.1.2-2013 (R2018), Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants (reaffirmation of ANSI/ANS-6.1.2-2013)
- ANSI/ANS-10.7-2013 (R2018), Non-Real Time, High Integrity Software for the Nuclear Industry—Developer Requirements (reaffirmation of ANSI/ANS-10.7-2013)
- ANSI/ANS-15.1-2007 (R2018), The Development of Technical Specifications for Research Reactors (reaffirmation of ANSI/ANS-15.1-2007; R2013)
- ANS-15.8-1995 (R2018), Quality Assurance Program Requirements for Research Reactors (reaffirmation of ANSI/ANS-15.8-1995; R2013)
- ANSI/ANS-15.21-2012 (R2018), Format and Content for Safety Analysis Reports for Research Reactors (reaffirmation of ANSI/ANS-15.21-2012)
- ANSI/ANS-41.5-2012 (R2018), Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation (reaffirmation of ANSI/ANS-41.5-2012)
- ANSI/ANS-51.10-1991 (R2018), Auxiliary Feedwater System For Pressurized Water Reactors (reaffirmation of ANSI/ANS 51.10-199; R2008)
- ANSI/ANS-57.3-2018, Design Requirements for New Fuel Storage Facilities at Light Water Reactor Plants (historical revision of ANS-57.3-1983)
- ANSI/ANS-58.3-1992 (R2018), Physical Protection for Nuclear Safety-Related Systems and Components (reaffirmation of ANSI/ANS-58.3-1992; R2008)

The following standards were published in 2018:

- ANSI/ANS-2.6-2018, Guidelines for Estimating Present & Projecting Future Population Distributions Surrounding Power Reactor Sites (new standard)
- ANSI/ANS-2.10-2017, Criteria for Retrieval, Processing, Handling, and Storage of Records from Nuclear Facility Seismic Instrumentation (historical revision of ANS-2.10-2003)
- ANSI/ANS-8.24-2017, Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations (revision of ANSI/ANS-8.24-2007; R2012)
- ANSI/ANS-57.3-2018, Design Requirements for New Fuel Storage Facilities at Light Water Reactor Plants (historical revision of ANS-57.3-1983)

Responses to inquiries were issued on the following standards:

- ANS-3.1-1993 (R1999) (W2009), Selection, Qualification, and Training of Personnel for Nuclear Power Plants
- ANSI/ANS-5.1-2014, Decay Heat Power in Light Water Reactors

ATTACHMENT 2

ANS Standards Board Meeting

ANS Winter Meeting, Orlando, FL

November 13, 2018

Vice Chairman's Report

Multiple Representation on a Consensus Committee (CC)

A team of Don Eggett, Robert Budnitz, Gene Carpenter, Bill Turkowski, Larry Wetzel with Steve Stamm as the lead reviewed the policy on multiple representation on CCs and issued recommendations on potential changes to current policies. The ballot to approve the revision of Policy A2 which incorporated the proposal on multiple representation for joint SDO consensus committees closed October 15, 2018. After resolution of comments was completed by Steve Stamm, the revision to Policy A2 was fully approved.

Possible Changes in Industry Priorities for Standards Development (Eggett Action Item 6/2018-02)

As a result from the 2018 Standards Forum this past September, an action item came out assigned to NEI to send out to its NEI members to identify and prioritize areas of standards' needs. Steve Vaughn at NEI was assigned this responsibility. (sjv@nei.org)

ANS to Lead in Advanced Reactor Standards Development

A team of Eggett, Turkowski, Kadambi, and Sowder held a teleconference in August to discuss plans for addressing the action received (6/2018-01). The assigned action was:

- develop a strategy to determine how the ANS Standards Committee plans to be proactive and ready to take the lead in development of advanced reactor standards. Some discussion centered on what advanced plants should even be considered: LWR, SMR, Micro reactors. Even the possibility of developing a white paper may be needed. It was also discussed that this action be put a hold on moving forward until we understand what John Kelly's team is doing and his special committee provides results. They were tasked with this same action also. The thought is to reconvene after the 9/11/2018 presentation that Steve Arndt is making to the NRC standards forum and also John Kelly's meeting with the NRC.

Action: Update on John Kelly's Special Committee on ANS Taking the Lead on Advanced Reactors / SB Role is needed. A meeting of his committee was scheduled with the NRC in mid-October to discuss the subject of grants for standards and other posed items for discussion.

Update to SMART Matrix

The SMART Matrix has been updated by Steve Stamm. This includes input and updates from the RP3C members. Another item of note is the need to still fill the External TG Chair. The matrix will be discussed during this meeting with Steve Stamm having the lead.

Opportunities for Standards Presentation

- 2019 Student Conference
- ANS Professional Divisions

Cyber Security Standard

- NITSL (Nuclear Information Technology Strategic Leadership) and its Cyber Security Standing Committee (CSSC)
- NITSL Chairman – Bill Wood, IT Manager at Exelon

ATTACHMENT 3

Secretary/Staff Report
2018 ANS Winter Meeting

Partnering the ANS Store with Techstreet

The Techstreet partnered standards store went live on August 30, 2018. Techstreet's third quarter sales report showed an increase of $5000 from the previous quarter's royalty payment ($2500). The increase is promising. Sales through our own standards store had been very sluggish in 2018 prior to the launching of the partnered store. Gross sales through the ANS Store in 2018 through the end of August totaled $24,430. Based on YTD sales, the 2018 ANS standards store revenue would likely have been only $36,650. With the transition, we do not have the information to provide a sales report for the last six month. We will continue to closely monitor sales through Techstreet and provide a formal sales report for the June 2019 meeting.

Volunteer Database Update

An initial request was made in 2004 for the ANS Information Technology Department to create an online volunteer database that Standards Committee chairs could use to search for potential candidates to fill committee staffing needs. Some work was initiated but eventually stalled due to the lack of needed hardware, ANS staff changes, and an upgrade of the ANS Association Management System software. The merger of Kavi's Workspace (used by ANS Standards Committee) and ANS Collaborate powered by Higher Logic (through the AMS) is believed to have the potential of connecting the two platforms with searching capabilities. Higher Logic's estimate to merge the two platforms is the first quarter of 2019. We are waiting for Higher Logic to contact us to start the exploratory stage for the merger. More will be known after this stage. The ANS Publications Department staff and the Information Technology Department staff will need to work together in developing the ANS Standards Volunteer Database.

ANS Style Manual in Development

The ANS Standards Committee has been referring to the ANSI Style Manual since its publication in 1991. ANSI no longer maintains their style manual and has moved to a style guide sheet with minimal guidance. An ANS Style Manual in the likeness of the ANSI Style Manual has been drafted and issued to the Standards Board for review.

ANS Staff Responsibility Change

John Fabian formally took over the responsibility as ANS staff point of contact for the ANS/ASME Joint Committee on Nuclear Risk Management (JCNRM). The staff change followed a three-month transition period. Fabian provided on-site support to the JCNRM at their recent meeting held October 8 – 11, 2018, in Baltimore, Maryland. Pat Schroeder will continue to be involved with the JCNRM in a supportive role to Fabian. Schroeder will also retain quarterly reporting responsibilities for the NRC grant while funds remain, likely through the first quarter of 2019.

Workspace Usage Stats

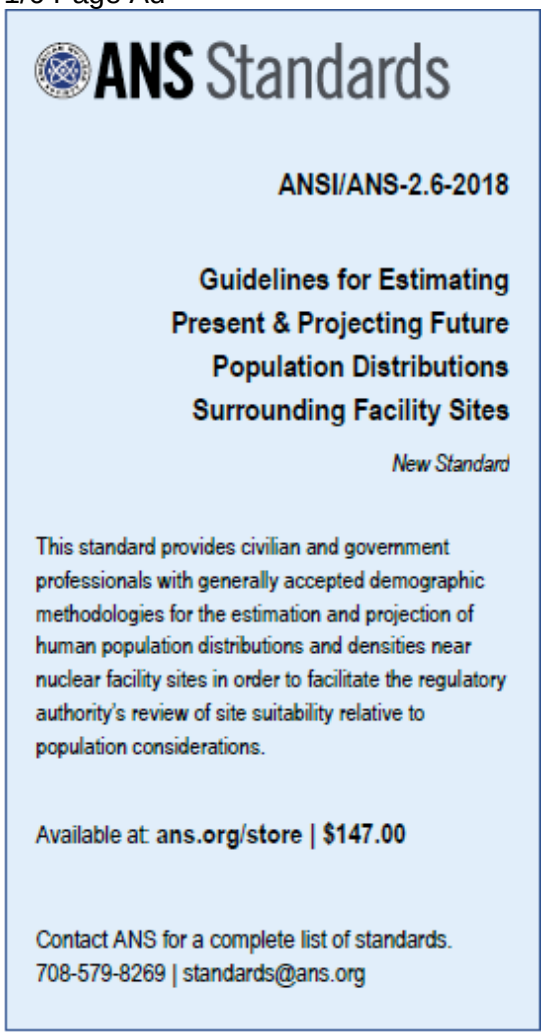
The ANS Standards Workspace has been in use for over four years. The Standards Board, consensus committees, and subcommittees use the platform for all ballots and communication. Working group use of the site continues to grow. The site now includes 175 active workspaces for all committee levels and active accounts for 780 users (ANS Standards Committee members); 4478 documents have been posted, 4631 email messages generated, and 684 ballots have been issued since Workspace was launched. Standards Board and consensus committee ballot usage since launching the site is as follows:

Committee	2015	2016	2017	2018
Standards Board	25	64	53	31
ESCC	11	25	25	12
FWDCC	3	17	15	2
LLWRCC	13	17	17	19
NCSCC	6	10	17	7
NRNFCC	5	4	2	4
RARCC	6	14	5	5
SRACC	5	14	10	7

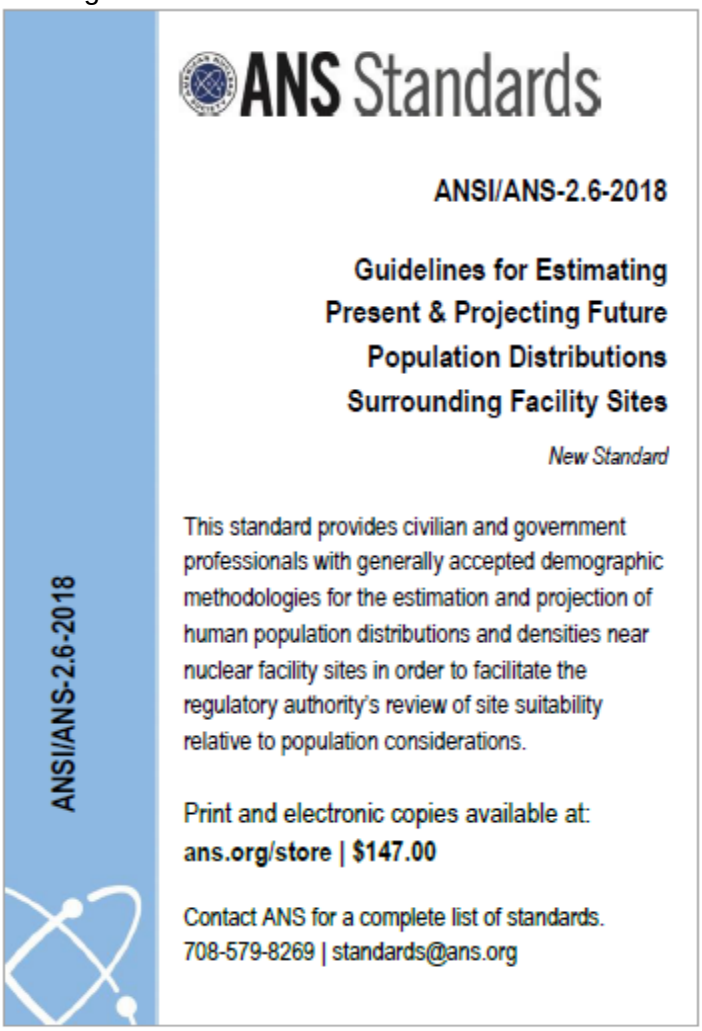
New ANS Standards Ads

ANS standards ads have been redesigned for use in *Nuclear News*. The previous ad style has been used for 20 years or more. Ads were prepared in 1/6 page and 1/4 page size. Examples of the new ads are provided below

1/6 Page Ad



1/4 Page Ad



ATTACHMENT 4

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

A SMART strategic plan consists of goals that are **S**trategic, **M**easurable, **A**ttainable, **R**ealistic and **T**ime-related. This matrix takes each of the Initiatives in the ANS SB Strategic Plan and defines the specific activities that need to be done for each Goal and Objective along with its proposed schedule and responsibility. This is a living document. Updates and comments from Standards Board Members will be solicited and the plan adjusted.

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
Completed	Near Term	Overdue			
Goal #1 Align Standards Development Priories with Current and Emerging Needs					
A. Evaluate the results of the initial industry priority survey	Standards Mgr	Executive summary issued.		1/2016	1/2016
B. Assign responsibilities to the appropriate consensus committees to address the top ten survey identified high priority standards	Standards Mgr	Issue list of high priority standards with assigned responsibilities. List discussed during 2/12/2016 conference call and published in minutes.		2/29/2016	2/29/2016
C. Develop and implement an approach to collect industry priority needs on an ongoing basis and integrate them into standards committee priorities.	Chair External Communications TG	ANS SC Policy drafted to specify this approach and approved by SB.	1/25/17: With no External TG Chair, there has been no action	2/1/2017	
D. Incorporate risk-informed and performance-based methods in ANS standards, where appropriate, by:					
1. Develop the Risk-Informed Performance-Based Principles and Policy Committee Standards Plan	RP3C Chair	Provide draft of Risk-Informed Performance-Based Principles and Policy Committee Operating Plan for SB approval.	A draft plan was provided for SB ballot. Although not approved the information that was developed during the review process provided valuable input into this matrix.. A separate Operating Plan is no longer required.		8/31/2018
	RP3C Chair	Provide draft ANS Risk Informed and Performance Based Standards Plan (which will provide the approaches and procedures to be used by ANS SC consensus committees, subcommittees and working groups to implement risk informed and performance based principles in a consistent manner) for review & comment prior to use in pilot applications	Jim O'Brien to lead effort; underway, should be complete by Dec 31, 2018	~~9/30/2017~~ ~~9/30/2018~~ 12/31/2018	

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
	RP3C Chair	Manage the resolution of comments and send resulting Draft Plan to Standards Manager for issuance for use on two pilot standards.	Jim O'Brien to lead effort	~~12/1/2017~~ 12/31/2018	
	RP3C Chair	Pilot Plan on two standards	Jim O'Brien to lead effort	3/31/2019	
	RP3C Chair	Incorporate lessons learned from pilots and send to Standards Board for ballot as a new policy or procedure.	Jim O'Brien to lead effort	5/10/2019	
	RP3C Chair	Manage the resolution of comments and send resulting document to Standards Manager for issuance as a policy or procedure.	Jim O'Brien to lead effort	6/30/2019	
2. Develop a Risk-Informed Performance-Based Principles training package for training of ANS Standards Committee members.	RP3C Chair	Develop Risk-Informed and Performance-Based Training Package for SC members and provide to SB for review.	Ed Wallace to lead. To be developed in parallel with procedure finalization	~~12/1/2017~~ 1/31/2019	
3. Conduct training of consensus committees and working groups.	CC Chairs	Schedule training for CC/WGs as needed, supported by RP3C training resources. CCs and RP3C to coordinate.	Ed Wallace to lead.	3/31/2019	
	RP3C Chair	Conduct Training for all applicable CCs.	??? to lead	6/30/2019	
4. The RP3C will work with each consensus committee to develop a prioritized list and schedule for incorporating risk-informed and performance-based principles into its standards. Collaboratively, they will Identify and define any new standards that are related to risk-informed and performance-based principles. Some of such work may already have been assigned to other standards working groups, and so it is important to work with the SB and CCs to identify an appropriate WG lead (and CC) for the standards development with the objective of avoiding duplication.	RP3C Chair CC Chairs	Review ANS standards and narrow the list to 23 potential RP3C standards "Initial Priority List" and send to applicable. CCs review the list and provide their inputs on applicability and schedule for each of the 23 standards.	Completed. Link to spreadsheet with CC evaluations and schedules—ACCESS HERE	9/30/2017	8/20/2018
	CC Chairs	*Requested CCs review and confirmation of actions on Phase 1 list of potential RIPB standards and RP3C feedback on insights*	CC Response status: ESCC – 3/22/18 FWDCC – Input provided pending	9/30/2018	11/20/2018

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
			LLWRCC – partial information provided 1/22/18; full details remain pending NCSCC – responded N/A 1/30/18 as no NCSCC standards are on the short list. NRNFCC – N/A standards part of RP3C pilot program RARCC – 7/9/18 SRACC – confirmed N/A 1/30/18 as no SRACC standards are on the short list.		
	RP3C Chair	Manage joint discussions of the actions and schedule for the Initial Priority List of approaches and schedule and provide the results to the Standards Board for discussion at a Standards Board meeting. Mange any required interfaces with CCs and WGs. WGs and CC Management are to give this effort priority.	Agreed approaches and schedules with CC chairs to be incorporated into spreadsheet (ACCESS HERE).	4/30/2019	
5. Publishing a Nuclear News Article to inform other members of the Society of the benefits of this risk-informed and performance-based effort	RP3C Chair	*Nuclear News* (*NN*) article drafted, approved by SB Chair, and forwarded to *NN* editor. Via Standards Manager	Shoot for publication in May 2019 edition.	~~11/1/2017~~ 12/31/2018	
6. Developing presentation materials that can be used to inform other industry groups as to the benefits and use of the ANS Standards Committee risk-informed and performance based standards activities	RP3C Chair	Develop presentation package for use with other industry groups and submit to SB for approval.	To be developed in parallel with plan finalization	3/1/2019	
	RP3C Chair	Contact appropriate organizations to make presentations at NRC RIC, ANS UWC, and owners' groups.		~~7/1/2018~~ 4/30/2019	
	RP3C Chair	Make presentations at a minimum of 2 groups.		5/31/2019	

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
Goal #2: Develop and Maintain High Quality Standards					
A. Enhance the relationships with the ANS Professional Divisions and Technical Groups to assist in populating WGs with expert individuals. (also supports Goal 5)	Internal Communications TG Manager	Issue interface liaisons table between applicable divisions and group and the standards consensus committees.		8/1/2016	6/1/2016
	CC Chairs	Send requests for staffing assistance to ANS Professional Divisions and Technical Groups as needed.	11/2017: ESCC – Done FWDCC - Done LLWRCC - Done NCSCC - Done NRNFCC - Done RARCC - None identified SRACC - Done	Initial requests sent prior to Oct. 2017 meeting. Ongoing	11/1/2017
	Internal Communications TG Manager	Tabulate the summary of the requests made and the results and present to SB.	This item has been replaced by having the CC Chair report the results in their SB reports	NA	
B. Develop and Implement a standards training program for all Standards Committee members to ensure that standards development is consistent with current policies and procedures, thus, producing consistently better quality products in a timelier manner.	Internal Communications TG Manager	Develop initial presentations and post on Workspace.		3/1/2016	3/1/2016
	SB VChair	Assign training instructors.		3/1/2016	3/1/2016
	SB VChair	Prepare training plan.		2/1/2016	2/1/2016
	Standards Mgr	Send out training notices.		3/15/2016	3/15/2016
	Standards Mgr	Complete the initial rounds of training presentations.		6/2/2016	6/2/2016
	SB VChair	Select videos for use in future training presentations.		6/2/2016	6/2/2016
C. Assign a mentor to each new standards working group that is experienced in the use of ANS standard's procedures, policies, glossary and tool kit	CC Chair	Evaluate SubC Chairs for familiarity with toolkit/standards development.	11/2017: ESCC – Done FWDCC - Done LLWRCC - Done	5/1/17	5/31/2018

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
			NCSCC - Done NRNFCC - Done RARCC- Done SRACC - Done		
	CC Chair	Select SubC Chairs and other CC members with respect to their being well versed in toolkit contents and capable of being mentors. Provide mentor list to SB VChair.	11/2017: ESCC – Done FWDCC - Done LLWRCC - Done NCSCC - Done NRNFCC - Done RARCC - Done SRACC - Done	5/1/17	6/12/2018
	CC Chair	In cases where additional assistance is required beyond the SubC Chair, CC should request mentor from SB VChair.	None identified yet	Chairs have been advised.	11/1/2017
Goal #3: Improve Standards Development Production and Efficiency					
A. Expedite development of high-priority standards by improving Standards Board and consensus committee oversight using achievable project plans and definitive schedules with assigned milestones throughout the standards development cycle.	SB VChair	Draft project plan development policy.		10/1/2016	Approved by SB 9/6/16. Project plan w/b added to CC procedures as Appendix K.
	SB VChair	Draft project plan development policy.		10/1/2016	Approved by SB 9/6/16. Project plan w/b added to CC procedures as Appendix K.
	CC Chairs	Develop project plans for 6 total standards from all CCs and submit to consensus committees. This is the total goal for all CCs not 6 by each CC.	6 plans completed: 2.22,2.27, 54.1, 2.25, 2.29, 3.13 and the	6/12/2018	Approved by SB 9/6/16. Project plan

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
			JCNRM milestone schedule		w/b added to CC procedures as Appendix K.
B. Complete the Standards Volunteer Database to facilitate recruiting personnel for Standards Committee activities (also supports Goal #5	ANS IT Dept.	ANS IT complete ANS SC Volunteer Database in accordance with the SB specification.	IT is transitioning to a common ~~sytem~~system for the organization. The Volunteer Data Base will be developed as part of this effort. This is expected to occur over the next 6 months.	~~11/1/2017~~ ~~11/17/2018~~ 6/20/2019	
	SB/ ANS IT Dept.	SB approves database submitted by ANS IT department.		~~2/1/2018~~ ~~2/1/2019~~9/20/2019	
C. Assist the consensus committees in obtaining required human resources using outreach initiatives	Standards Mgr	Develop staffing approach guideline and post to website toolkit.		12/1/2016	Completed by S. Stamm and posted to the toolkit on 8/22/16 here.
D. Maximize use of the ANS Standards Workspace and other communications vehicles to eliminate the need for travel and face-to-face meetings to the maximum extent possible	CC Chairs	Encourage WGs and SubCs to use Workspace and other online and electronic tools to eliminate face-to-face meetings	Procedure issued. CCs have discussed with SubC /Chairs	Done	April 2017
	CC Chairs	CC chairs to submit a confirmation email that this has been discussed with SubCs and WGs.	11/2017: ESCC – Done FWDCC – ?? LL\WRCC – Done NCSCC – Done NRNFCC – ?? RARCC – Done SRACC –- Done	5/1/2017	
E. Acquire funding (e.g., grants) to support the development of high-priority standards on an expedited basis.	CC Chairs/ Priority TG Chair	High priority standards list submitted by all CCs which identify high priority standards planned for near future. Priorities should be based on expected government and industry need.	11/2017: ESCC – ANS-2.8 (12/31/17) FWDCC –- ??	Ongoing Cyber Secure	

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
			LWRCC –- ?? NCSCC -– None NRNFCC – None RARCC – ANS 20.1, 20.2, 30.1 and 30.2 SRACC – None JCNRM – Done		
	SB VChair	Work with CCs to assess each effort, select most appropriate standards, prepare and submit proposals. Submit 1st proposal.	Nov 2017- Agreed to proactively coordinate with NRC and DOE for early identification of potential opportunities.	6/1/2017 Ongoing	
F. Streamline the reaffirmation process to reduce the number of delinquent standards by establishing a systematic review of delinquent standards to start no later than the 4-year mark. This can be accomplished through the following mechanisms: 1. Automatically sending out a Reaffirmation Form to the WG chair with copies to subcommittee chair and consensus committee chair 2. Automate subcommittee and consensus committee approvals of reaffirmation, withdrawal, and revision recommendations 3. Establishing an ANS Professional Division and Technical Group sponsorship program to aid in review of associated delinquent standards with and without active working groups	Standards Mgr	Submit Reaffirmation Forms to WG/SubC Chairs for all standards approaching the 4-year mark.		Ongoing Starting 4/1/2016	Ongoing
	Standards Mgr	Issue list of all standards over 4 year since issuance showing the issuance of Reaffirmation Forms to the WG chairs.		11/1/2016	Ongoing
	Standards Mgr	Action items for reaffirmation setup in Workspace with automatic reminders.		11/1/2016	The report was sent 9/15/16 and will be updated and resent 12/15/16
	Internal Communications Group Manager	Send list of delinquent standards to PDs.		12/1/2016	Completed
	Internal Communications Group Manager	Issue plan and approach to each Professional Division and Technical Group as applicable and obtain indication of acceptance.	COMPLETE	5/1/2017	11/2017
G. Develop subcommittee/consensus committee metrics to identify opportunities for improvements	Policy TG Chair	Identify CC metrics, review with CC Chairs.		10/1/2016	Changed to done!
	CC Chairs	Each CC fill in annual tabulated metric performance.	COMPLETE	5/1/2017	4/1/2017

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
	Policy TG Chair	Evaluate metric results.		3/1/2018	6/1/2018
	CC Chair & Policy TG Chair	Provide recommendations for changes to improve performance.	11/2017: ESCC – None FWDCC – ?? LL\WRCC – ?? NCSCC – ?? NRNFCC – ?? RARCC – ?? SRACC –- ??	6/1/2018	
Goal #4: Expand ANS Awareness and External Outreach					
A. Use periodic survey methods to gain feedback from industry, federal and state agencies; provide feedback to survey responders	SB VChair	Submit draft of survey comment responses to SB Chair for approval.		8/1/2016	7/26/16
	SB Chair	Send responses to commenters.		10/1/2016	Done
	SB Chair	Determine survey frequency for future ANS and industry surveys. (Work with NEI on developing recommendations)	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken.	10/1/2016	
B. Establish periodic leadership meetings with regulatory agencies, owner's groups and industry executives to align needs, and build support for development and greater use	Chair External Communications TG	Discuss communications approach with each of the applicable organizations (industry, federal. and state agencies). Setup regular schedule for discussions.		11/1/2018	
	Chair External Communications TG	Develop and issue master SC external communications plan.		5/1/2017	
C. Establish an ANS Professional Division sponsorship program to broaden input in setting standards priority	Chair Internal Communications TG	Issue plan and approach to each Professional Division and Technical Group as applicable and obtain indication of acceptance.	"Plan" was provided to liaisons. Confirmation pending	10/1/2016	6/2017
D. Seek liaison arrangements with relevant SDOs, where needed, to improve efficiency,	Chair External Communications	Prepare a liaison list identifying each desired liaison interface, the liaison approach, and the	1/25/17: Members recognized that the EC	10/1/2016	3/1/2017

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
effectiveness and consistency of standards across the industry where overlapping or interlocutory standards arise	TG	implementation status.	TG Chair position was open and no action has been taken.		
	Chair External Communications TG	Implement all liaisons on the Liaison Interface List.	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken	10/1/2016	11/2017
E. Establish an approach to keep industry and trade groups advised of approved standards and in-progress standards in their areas of interest	Chair External Communications TG	Issue an Industry and Trade Group Interface Plan.	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken.	10/1/2016	
	Chair External Communications TG	Complete interface plan implementation.		6/1/2018	
F. Identify key international organizations that can contribute to specific ANS standards development projects, including work group participation, review of draft standards, and providing input into standards prioritization.	Chair External Communications TG	Develop listing of key international organization, key contacts, and the desired interfaces we would like to develop.		6/1/2017	
	Chair External Communications TG	Send invitation letter to each of the interface contacts. Follow-up as needed		10/1/2017	
	Chair External Communications TG	Provide completion report to SB.		10/1/2018	
G. Establish a standards educational program for non-Standards Committee members to increase their knowledge of: 1. what consensus standards are, and are not; 2. benefit of consensus standards to the industry; 3. advantages to companies, federal and state agencies, and individuals of supporting standards development	Chair External Communications TG	Develop presentation package.		6/1/2016	6/1/2016
	Chair External Communications TG	Develop invitation list for indoctrination sessions.		8/1/2016	All ANS members
	Chair External Communications TG	Send indoctrination session invitations.		10/1/2016	sent via Jan 2017 N&D, member blast, and ANS home page.
	Chair External	Conduct 1st indoctrination session.		2/1/2017	1/31/2017

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
	Communications TG				
	Chair External Communications TG	Complete sessions.		11/1/2017	
H. Contact leading nuclear companies to determine if they issue regular newsletters and offer to provide standards updates for inclusion.	Chair External Communications TG	Develop list of companies and contacts.	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken.	11/1/2016	
	Chair External Communications TG	Develop short form newsletter.	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken.	11/1/2016	
	Chair External Communications TG	Make contact with 30% and report to SB.	1/25/17: Members recognized that the EC TG Chair position was open and no action has been taken.	4/1/2017	
	Chair External Communications TG	Make contact with 100% and report to SB.		11/1/2017	
I. Evaluate the cost effectiveness of a fee based training program for newly issued/ revised standards.	SB VChair	Prepare draft evaluation plan.		8/1/2016	7/26/2106
	SB VChair	Meet with ANS Membership & Marketing Director and revise plan as appropriate.		8/3/2016	Several calls held; last one on 10/5/16.
	SB VChair	Complete evaluation and send report to SB Chair for discussion with BOD.		3/1/2017	Completed Jan 2017 – Recommended ANS-2.8 & ANS-3.5 once approved.

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
	Standards Mgr	Send owners' groups semi-annual updates on applicable standards activities	Industry newsletter created and provided to Jim Riley as POC for utilities on 10/18/16. Industry newsletter posted here.	Ongoing	
Goal #5: Improve Industry Representation and Sustainability of Working Groups, Subcommittees, and Consensus Committees					
A. Approach owners' groups and industry organizations soliciting member participation in ANS standards	Standards Mgr	Send owners' groups semi-annual updates on applicable standards activities	Industry newsletter created and provided to Jim Riley as POC for utilities on 10/18/16. Industry newsletter posted here.	Ongoing	
	Standards Mgr	Request staffing assistance for select standards.	An updated list of volunteer needs was prepared and posted to the ANS website 8-11/16, announced in Sept. 2016 N&D and distributed through ANS Collaborate to PDs.	Ongoing	
B. Send notices to ANS Student Section members, Young Member Group, Professional Division members, and North American-Young Generation Nuclear members to provide opportunities to participate in ANS standards	Standards Mgr	Send notices biannually.	Broadcast sent to ANS Student Section 9/15/16.	Ongoing Biannually	
		(See Goal #1)			
C. Enhance the relationships with the ANS Professional Divisions and Technical Groups to assist in populating WGs with expert individuals.(See Goal #1)	Standards Mgr	Advertise upcoming standards efforts with requests for support using *Nuclear News*, Nuclear Café, and ANS Linked-In Group.	Volunteer needs section added to *Nuclear News*. List of volunteer needs updated and posted to web and announced in N&D.	Ongoing	Standards Mgr
D. Advertise upcoming standards efforts with requests for support using Nuclear News, Nuclear Café, and ANS Linked-In Group		See goal # 3			
E. ANS IT Department to complete the Standards Volunteer Database, and make it available to subcommittee and consensus committee chairs (See Goal #3)	SB VChair	Develop standard report and provide to CC Chairs.	1/25/17: Stamm confirmed that this action will be completed shortly.	6/11/17	6/11/17
F. Monitor consensus committee and working group success in staffing and recruitment and share best practices across all consensus committees	CC Chairs	Changed to annual report based on performance data provided to the CC Chairs.		6/30/2018+ Ongoing	

SMART Matrix for ANS SC Strategic Plan – Updated 11/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
	SB VChair	Evaluate results of CC reports at SB meeting		6/30/2018+ Ongoing	

ATTACHMENT 5

Tracking of RP3C Recommendation to Incorporate RIPB Methods

ESCC (3) = Yellow
FWDCC (3) = Purple
LLWRCC (12) = Green
NRNFCC (2) = Blue
RARCC (3) = Orange

To be considered
In development
NA; Not applicable

CC Owner (WGC)	DESIGNATION				TITLE	STATUS	Status of Consensus Committee Actions (from Pat Schroeder pulled from committee minutes, Workspace, or miscellaneous emails/documents)	Consensus Committee Chair Input	Subcommittee Chair Input	Working Group Chair Input	Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods
ESCC (WGC: Y. Gao)	ANS-	2	8		Determining Design Basis Flooding at Power Reactor Sites	withdrawn standard; active project	Historical revision in development using RIPB. Significant comments received on the first ballot currently being resolved. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				Reballot estimated November 2018	
ESCC (WGCs: Q. Hossain & D. Clark)	ANS-	2	26		Categorization of Nuclear Facility Structures, Systems, and Components For Seismic Design	current standard approved 2004 (R2017)	The objective of ANS-2.26-2004 and its sister standards (ANS-2.27 & ANS-2.29) is to achieve a risk-informed design that protects the public, the environment, and workers from potential consequences of earthquakes. A revision is being initiated. Additional RIPB methods will be incorporated where possible.		Info in column Q confirmed by Quazi Hossain, the subcommittee & working group chair.		PINS in development	
ESCC (WGC: K. Hanson)	ANS-	2	27		Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	current standard approved 2008 (R2016)	The objective of ANS-2.27-2008 and its sister standards (ANS-2.26 & ANS-2.29) is to achieve a risk-informed design that protects the public, the environment, and workers from potential consequences of earthquakes. A revision is currently in development. Additional RIPB methods will be incorporated where possible. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.		Info in column Q confirmed by Quazi Hossain, the subcommittee chair.		Draft estimated to be completed for subcommittee review in September 2019	
LLWRCC (WGC: J. Sickle)	ANS-	3	1		Selection, Qualification, and Training of Personnel for Nuclear Power Plants	current standard approved 2014	The LLWRCC discussed RP3C's recommendation. The LLWRCC believes that the use of RIPB methods in this standard would not be beneficial.					Believed to be NA for RIPB Maintenance to be considered by 11/20/2019
LLWRCC (WGC: M. Smith)	ANS-	3	2		Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	current standard approved 2012	The LLWRCC discussed RP3C's recommendation. The LLWRCC believes that the use of RIPB methods in this standard would not be beneficial.			In contrast to the CC's discussion, ANS-3.2 WGC M. Smith agrees with RP3C. The application should be considered during the design phase in design and purchase specifications.		Maintenance to be considered by 4/4/2022
LLWRCC (WGC. J. August)	ANS-	3	13		Nuclear Facility Reliability Assurance Program (RAP) Development	active project	The proposed standard in development will be incorporating RIPB methods. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				Project being re-evaluated; WG being reformed	
NRNFCC (WGCs: T. Anselmi & C. McMullin)	ANS-	3	14		Process for Aging Management and Life Extension for Nonreactor Nuclear Facilities	active project	This project is being used as a pilot by the RP3C.			This project is being used as a pilot by the RP3C. The risk considerations in the standard are typical operational and business risks (deterministic) but are candidate examples for RP3C application.	Draft estimated to be completed for NRNFCC review in November 2018	
LLWRCC (WGC: K. Geelhood)	ANS-	18	1		Radioactive Source Term for Normal Operation of Light Water Reactors	revision approved 2016	A revision of this standard was initiated prior to formation of the RP3C. It was approved and published in 2016. Consideration will be given to incorporate RIPB methods when the next revision is initiated.					Maintenance to be considered by 11/1/21
LLWRCC (WGC. E. Johnson-Turnipseed)	ANS-	51	10		Auxiliary Feedwater System for Pressurized Water Reactors	current standard approved in 1991 (R2018); revision in development	A revision of this standard was initiated quite some time ago, prior to the formation of RP3C. The draft was issued for consensus committee ballot and is resolving comments. The working group recognizes the benefit from adding RIPB methods but feels this would require nearly a complete rewrite. The next revision will incorporated RIPB methods.					Revision currently in final stage was initiated before RP3C. Revision anticipated to be approved in 2019. Next maintenance to be considered in 2024.
RARCC (WGC: J. August)	ANS-	53	1		Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants	current standard approved 2011 (R2016)	The 2011 standard incorporates RIPB methods. When initiated, the revision will look to inclusion of additional RIPB methods.	This standard is already RIPB and further changes can be considered when revised.				Maintenance to be considered at 11/12/18 RARCC meeting
RARCC (WGC: G. Flanagan)	ANS-	54	1		Nuclear Safety Criteria and Design Process for Liquid-Sodium-Cooled-Reactor NPPs	active project; historical revision	A historical revision of this standard has been in development for some time. Ballot comments are currently being resolved. It is the purpose of this standard to define requirements for the acceptable use of probabilistic risk information in support of the design process (i.e., risk-informed design criteria).	This standard already has a risk informed section. Further RIPB changes can be considered when revised.		See response from CC chair who is also the WGC.	Draft in final stages of approval	
RARCC (WGC: OPEN)	ANS-	54	6		LMFBR Safety Classification and Related Requirements	inactive project; draft issued for trial use only		There are no plans to revise this standard. SFR safety classification would likely follow the proposed NRC regulartory guide now being proposed by NRC.				NA - no plans to ressurect this inactive project
LLWRCC (WGC: J. Glover)	ANS-	56	1		Containment Hydrogen Control	active project	An action item has been assigned to check with the working group chair for feedback on RP3C's recommendation.			The project was initiated in the 1980s with draft #11 completed in 1985. The draft was reviewed by J. Gilmer (WGC). He believe that the scope is no longer relevant and recommends this proposed standard be dropped from LLWRCC's program of work; therefore, incorporating RIPB is not applicable. LLWRCC will discuss on 8/20/18 teleconference.		Inactive project to be discussed at 11/14/18 LLWRCC meeting.

Tracking of RP3C Recommendation to Incorporate RIPB Methods

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RARCC (3) = Orange

To be considered
NA; Not applicable
In development

CC Owner (WGC)	DESIGNATION				TITLE	STATUS	Status of Consensus Committee Actions (from Pat Schroeder pulled from committee minutes, Workspace, or miscellaneous emails/documents)	Consensus Committee Chair Input	Subcommittee Chair Input	Working Group Chair Input	Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods
LLWRCC (WGC: J. Glover)	ANS-	56	8		Containment System Leakage Testing Requirements	current standard approved 2002 (R2016); RV in development	A revision of this standard has been in development for some time--prior to the formation of the RP3C. The working group chair did not feel that this standard would benefit from RIPB methods.					NA - a revision of this standard has been in development for some time; prior to formation of RP3C and is expected to be issued for ballot is 2019 with ANSI approval the following year. The next maintenance consideration would be by 2024.
FWDCC (WGC: OPEN)	ANS-	57	1		Design Requirements for Light Water Reactor Fuel Handling Systems	current standard approved 1992 (R2015)	See review comments in the cells directly to the right.	Review performed by FWDCC member Jodine Jansen Vehec with concurrence of Mitch Sanders, the subcommittee chair: The feedback from the review of the standard is that it cannot be risk-informed, but it can be risk-influenced. This could be done in the following manner: When developing th+R21e design, use existing Operating Experience to reduce the major contributors to system/component unavailability and reduced system reliability. *For example, certain types of cranes are more reliable than others – so when selecting the auxiliary fuel handling crane – review the industry OE and don't select a crane that has had reliability issues at other plants. Ensure that components that rely on support systems for operation (e.g. air, power, etc.) fail in the "safe" failure position. *This is somewhat addressed by section 6.3.1.5, but additional information/instruction could be added into Section 6.3.4. Ensure the design allows for ease of operation and maintenance since this directly impacts system unavailability. *Although the standard says the equipment shall be designed to permit removal and replacement or repair of all functional components, (Section 6.3.3.7), and Section 6.4 ensures that testing and maintenance can be performed, this does not ensure that the testing/maintenance/replacement will necessarily be easy to perform. Should consider ease of access to the equipment, ability to perform PMs on the equipment to ensure reliability, etc. Consider ensuring that the system/fuel being handled can be put in a safe condition following a Station Blackout Event and a Fire event as well as the Safe Shutdown Earthquake (SSE). Currently, only the SSE appears to be considered.				Maintenance to be considered by 6/16/2021
FWDCC (WGC: R. Browder)	ANS-	57	3		Design Requirements for New Fuel Storage Facilities at LWR Plants	withdrawn standard; revision in development	A revision of this standard was initiated prior to formation of the RP3C. It was approved and published in early 2018. See review comments in the cells directly to the right.	Review performed by FWDCC member Jodine Jansen Vehec with concurrence of Mitch Sanders, the subcommittee chair: The feedback from the review of the standard is that it cannot be risk-informed, but it can be risk-influenced. Since most of the design associated with this standard is passive, not much risk-informing is really available. However, the following considerations could be included: Section 6.4.9 could include the use of Operating Experience when selecting the crane to be used. Certain types of Cranes are more reliable than others – so when selecting the auxiliary fuel handling crane – review the industry OE and don't select a crane that has had reliability issues at other plants. Section 4.2.2 Subsystem Components mentions fire protection, but I do not see any specific requirements for fire protection. When designing fire protection systems for the facility – this could be risk-influenced – design to consider/prevent potential inadvertent actuation of the system, drains of sufficient size to prevent accumulation of fire water, and potential need for fire water collection system to prevent release of fire water that may be contaminated if used on an actual fire that involved MOX.				Maintenance to be considered by 2/27/2023
FWDCC (WGC: R. Eble)	ANS-	57	11		Integrated Safety Assessments for Fuel Cycle Facilities	active project	This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				Draft estimated to be completed for NRNFCC review in November 2018	
LLWRCC (WGC: H. Liao)	ANS-	58	8		Time Response Design Criteria for Safety-Related Operator Actions	current standard approved 1994 (R2008); RV in development	A revision of this standard is in development and close to completing a draft. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				Draft estimated to be completed for subcommittee review in November 2019	
LLWRCC (WGC:OPEN)	ANS-	58	9		Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	current standard approved 1992 (R2015) NOTE: ANSI/ANS-58.9-1981;R1987 and ANSI/ANS-58.9-2002 are one in the same; because paperwork for the 2002 reaffirmation was not filed with ANSI in time, the 1981 standard was reapproved as a new standard and was assigned a new designation	NOTE: The following was provided prior to the WGC resignation on 8/14/18. A revision is just being initiated and the working group is planning to use RIPB. They are looking for guidance. A PINS form is in development.				PINS in development	
LLWRCC (WGC: M. Linn)	ANS-	58	14		Safety and Pressure Integrity Classification Criteria for Light Water Reactors	current standard approved 2011 (R2017)				58.14 consists of three subparts: (1) safety classification, (2) pressure classification, and (3) basic design requirements.		Maintenance to be considered by 1/17/2022
NRNFCC (WGC: P. Rogerson)	ANS-	58	16		Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities	current standard approved 2014		ANS- 58.16 does use RIPB approaches, but this could be looked at more closely and probably improved. The standard is currently being		I agree that RIPB principles are incorporated into the standard currently. Iwouldn't think we would revise the standard solely for the purposes of including RIPB throughout.		Maintenance to be considered by 9/4/19
LLWRCC (WGC: M. Dooley)	ANS-	59	51		Fuel Oil Systems for Safety-Related Emergency Diesel Generators	current standard approved 1997 (R2015)				Revisions of both ANS-59.51 and ANS-59.52 are being initiated and the working group is being formed. The initial feeling is that a risk-based approach to EDGs is "risky" but a performance-based approach would take into account the true "wellness " of the machines. The working group will continue to pursue RP3C's recommendation as work begins on the revisions.	PINS in development	
LLWRCC (WGC: M. Dooley)	ANS-	59	52		Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	current standard approved 1998 (R2015)					PINS in development	

ATTACHMENT 6

Liaisons to ANS Professional Divisions— PD Liaisons Fully Confirmed 8/22/18

ANS Professional Division	Name of PD Liaison	Email of PD Liaison	Name of PD Chair	Email of PD Chair	Associated Consensus Committee (see acronym key below)	Name of ANS Standards Committee Liaison	Email of ANS Standards Comm. Liaison or interface
Accelerator Applications	Charles T. Kelsey	ckelsey@lanl.gov	Reginald Ronningen	ronninge@msu.edu	NRNFCC	James O'Brien	James.OBrien@hq.doe.gov
Aerospace Nuclear Science & Technology	Andy Prichard	Andrew.Prichard@pnnl.gov	Jeffrey King	kingjc@mines.edu	*		
Biology & Medicine	Stephen LaMont	lamont@lanl.gov	Stephen LaMont	lamont@lanl.gov	ESCC	Carl Mazzola	cmazzola@projectenhancement.com
					ANS-3.4 (under LLWRCC)	William Reuland	wreuland@aol.com
Decommissioning & Environmental Sciences	Dustin Miller	dmiller@chaseenv.com	Dustin Miller	dmiller@chaseenv.com	FWDCC	David Hillyer	dwhillyer@hotmail.com
					ESCC	Carl Mazzola	cmazzola@projectenhancement.com
Education, Training, & Workspace Development	Drew Thomas	drew.thomas@inl.gov	Jane LeClair	leclair.jane@gmail.com	LLWRCC	Gene Carpenter	Gene.Carpenter@hq.doe.gov
					NCSCC	Robert Busch	busch@unm.edu
Fuel Cycle & Waste Management	Jeffery R. Brault	jeff_brault@yahoo.com	Jean Francois (Jef) Lucchini	lucchinijf@pvtnetworks.net	FWDCC	Jeffery Brault	jeff_brault@yahoo.com
Fusion Energy	Leigh Winfrey	winfrey@mse.ufl.edu	Arnold Lumsdaine	lumsdainea@ornl.gov	RARCC	George Flanagan	flanagangf@ornl.gov
Human Factors, Instrumentation & Controls	Sacit Cetiner	cetinerms@ornl.gov	Raymond Herb	rlherb@southernco.com	LLWRCC	Pranab K. Guha	pranab.guha@hq.doe.gov
Isotopes & Radiation	Sam Glover (PD chair to serve as temp liaison unti lnew liaison appointed)	glover.14@osu.edu	Sam Glover	glover.14@osu.edu	SRACC	Charlotta Sanders	sander59@unlv.nevada.edu
Materials Science & Technology	Troy Munro	troy.munro@byu.edu	Rita Baranwal	rita.baranwal@inl.gov	*		
Mathematics & Computation	Paul Hulse	paul.hulse@sellafieldsites.com	Dmitriy Anistratov	anistratov@ncsu.edu	SRACC	Paul Hulse	paul.hulse@sellafieldsites.com
Nuclear Criticality Safety**	Kevin Reynolds	kevin.reynolds@cns.doe.gov	Kevin Reynolds	kevin.reynolds@cns.doe.gov	NCSCC	Doug Bowen	bowendg@ornl.gov
Nuclear Installations Safety	Ma Zhegang	zhegang.ma@inl.gov	Matthew Denman	mrdenma@sandia.gov	RARCC	George Flanagan	flanagangf@ornl.gov
	Kevin O'Kula	kevin.okula@aecom.com			NRNFCC	James O'Brien	James.OBrien@hq.doe.gov
	Matthew Denman	mrdenma@sandia.gov			JCNRM	Robert Budnitz	budnitz@pacbell.net
Nuclear Nonproliferation Policy	Kelsey Amundson	kamundson5@gmail.com	Rian Bahran	bahran@gmail.com	ANS-60.1 (under LLWRCC)	Margaret Harding	margaret@4factorconsulting.com
Operations & Power	Scott Ackerman	scott_ackerman@att.net	Gale Hauck	hauckge@westinghouse.com	LLWRCC	Gene Carpenter	Gene.Carpenter@hq.doe.gov
Radiation Protection & Shielding	Shaheen Dewji (PD chair to serve as temp liaison until new liaison appointed)	shaheendewjians@gmail.com,	Shaheen Dewji	shaheendewjians@gmail.com,	SRACC	Charlotta Sanders	sander59@unlv.nevada.edu
Reactor Physics	Dimitrios Cokinos	cokinos@bnl.gov	Todd Palmer	palmerts@ne.orst.edu	SRACC	Dimitrios Cokinos	cokinos@bnl.gov

* Contingent liaison; which would be activated if and when needed

**NOTE: PD chair = PD liaison

Consensus Committee Acronym Key	
Environmental and Siting Consensus Committee (ESCC)	Nuclear Criticality Safety Consensus Committee (NCSCC)
Fuel, Waste, and Decommissioning Consensus Committee (FWDCC)	Nonreactor Nuclear Facilities Consensus Committee (NRNFCC)
Joint Committee on Nuclear Risk Management (JCNRM)	Research and Advanced Reactors Consensus Committee (RARCC)
Large Light Water Reactor Consensus Committee (LLWRCC)	Safety and Radiological Analyses Consensus Committee (SRACC)

ATTACHMENT 7

Associate Member Log (Updated 10/30/18)

	Name	Email	Solicitation or Random	Date VF Rec'd	PLACEMENT	COMMENTS
1	Chelsea Sutton (Maiden Name: Weaver	clynne21@gmail.com ; clynne21@lanl.gov	Not sure but on 8.3 since 2014	NO	8.3	4/25/17: Resigned from 8.3 as no longer in NCS. Currently works in weapon systems surveillance and requirements. Confirmed w/S. Stamm that we do not have any standards in this area to reassign. Moved to inactive. Placed/recruited by WGC; VF/resume requested.
2	Chelsea Collins	chelseatcollins@ufl.edu	Student Section Solicitation 2014	8/13/2014	8.3	3/26/16: Graduated from UFL and employed with FPL - No longer interested inparticipating.
3	Joseph (Joe) Kopacz	jkopacz@iastate.edu	Student Section Solicitation 2014	8/12/2014	3.13	NO LONGER ACTIVE; email no longer good; no response from multiple attempts to reach using alternate email -DEACTIVATES
4	Margaret Kurtts	mkurtts@vols.utk.edu	Student Section Solicitation 2014	8/12/2014	ANS-30.2	11/22/16: A. Afzali accepted Kurtts & Kurtts notified. 11/21/16: Sent request to ANS-30.2 WGC to consider as assoc. member after response from Kurtts expressing interest in ANS-30.2 & other ANS-29 standards; also some interest in ANS-19.4 & ANS-19.5. 11/11/16: Sent followup email offering reassignment now or anytime in the future. 9/2016: learned that she is no longer active on SC-SM; stop participating because job change not relevant to committee. Offered to faciliate placement on different committee. NOT IN WORKSPACE; USES C&S CONNECT
5	Cailyn Ludwig	ludwig7@purdue.edu	Student Section Solicitation 2014	8/12/2014	3.14	
6	Benjamin (Ben) Prewitt	bjp2n4@mst.edu	Student Section Solicitation 2014	8/12/2014	20.1	
7	Dylan Robideaux	drobi825@gmail.com	Student Section Solicitation 2014	7/24/2014	8.7	
8	Dong (Allen) Wang	wangdong@sdnpc.com	random	7/1/2014	3.5	
9	Manit Shah	manitshahd@gmail.com	Student Section Solicitation 2014	8/12/2014	6.4.3, (past AM of 57.2 & 57.3)	3/22/18: removed from 57.2/57.3 - lack of interest; still on 6.4.3 although not very active; may let us know of other groups of interest at later date-ps. 3/22/18 to M. Shah requesting feedback and offer or reassignment sent; immediate response confirmed no activity due to lack of interes in 57.3; interested in 6.4.3 but not much happening due to health of chair-ps. 3/20/2018: 57.3 WGC said that he has not been activ eon 57.3 Responded to survey that he remains interested but that the 6.4.3 WG had not been active. His interested changed slighly and was added to 57.2/57.3 on 9/9/15.
10	Manish Sharma	mksrkf@mst.edu	Student Section Solicitation 2014	8/12/2014	6.4.3	
11	Gregory Suehr	gregory.suehr@gmail.com	Student Section Solicitation 2014	8/12/2014	57.2/52.73	3/20/2018: 57.3 WGC said that he has not been active on 57.3; email sent 3/22/18 to G. Suehr requesting feedback and offer or reassignment; ANS member records shows that he dropped his membership in 2015-ps. 3/23/18: Deactivated for lack of response; will reassigned if/when requested.
12	Stanley (Stan) Tackett	stackett@insight.rr.com	Student Section Solicitation 2014	8/12/2014	6.4.2	
13	Mara Watson	marawtsn@gmail.com	Student Section Solicitation 2014	8/12/2014	ESCC	Never completed WG user account, absolutely no response to anything since added to ESCC; removed from ESCC & sent offer to facilitate more appropriate placement 5/3/16.
14	Tim Stout	timothy.stout@exeloncorp.com	Random	8/27/2014	ANS-58.9	
15	Mihai Diaconeasa	diacon@ucla.edu	Random	5/7/2014	ANS-30.1	9/19/17: added to 2.34 as requested. 8/25/15: placed on 30.1
16	Matthew Hertel	hertelm@onid.oregonstate.edu	Random	3/31/2015	ANS-59.3 & 58.9	4/10/18: Added to 58.9 as 59.3 has not been very active. 10/1/15: placed on 59.3.
17	Theresa Cutler	tcutler@lanl.gov	Recruited by ANS-8.23 WGC/Baker	10/24/2015	8.10	7/2/18: added as AM of 8.3. 6/27/18: Added to 8.20 as full member. 6/25/18: Added to 8.26 as full member. 6/20/18 upgraded from assoc. member (since 5/2015) to full member on ANS-8.23. 8/3/17: informed by 8.10 WGC A. Prichard that she has also been added to 8.10 as assoc. member.
18	Christopher Courtenay	Christopher.Courtenay@duke-energy.com	YMG Solicitation 2015	11/2015	ANS-2.25	Accepted invite to ANS-2.25, althought not his area of expertise; should be considered on siting standard when initiated

Associate Member Log (Updated 10/30/18)

19	Shilp Vasavada	shilp_v@yahoo.com	NAYGM 2015 solicitation	11/18/2015	ANS-3.13	Rec'd invite to 3.13 & accepted same day.
20	Nima Fathi	nfathi@unm.edu	YMG Solicitation 2015	11/3/2015	ANS-10.4	5/13/17: moved to 10.4 WG; initially placed on ans-10 subc as placeholder; Invitation letter issued 1/6/16 & accepted
21	Paul Romano	paul.k.romano@gmail.com	YMG Solicitation 2015	11/11/2015	ANS-10.4	5/13/17: moved from ans-10 to 10.4; initially placed on subc as placeholder; Invitation letter issued 11/13/16
22	Jeremy Gustafson	jlgustafson@bwxt.com	YMG Solicitation 2015	11/1/2015	ANS-56.8	Letter issued and accepted 1/25/16
23	Kaushik Banerjee	banerjeek@ornl.gov	YMG Solicitation 2015	11/20/2015	ANS-19.6.1	Letter issued and accepted 1/26/16
24	Philip Jensen	phjn123@gmail.com	YMG Solicitation 2015	11/2/2015	ANS-3.14	Letter issued 1/28/16 & accepted
25	Enerel Munkhzul	Enerel.Munkhzul@nexteraenergy.com	YMG Solicitation 2015	1/15/2016	ANS-30.2	Letter issued 1/28/16 & accepted
26	Tracy Stover	tracy.stover@srs.gov	Random	11/3/2015	ANS-8.12	Letter issued 2/26/16 ***NO LONGER ASSOC. MEMBER; CURRENT 8.12 VC!***
27	Siddharth Suman	siddharthhuman@gmail.com	YMG Solicitation 2015	11/11/2015	ANS-8.20	Letter issued 3/6/16 & accepted
28	Evan Beese	ebeese@foreignpolicyi.org	YMG Solicitation 2015	Nov-15	ANS-15.1	Letter issued 3/8/16 & accepted
29	Matthew Lynch	matt-lynch@live.com	YMG Solicitation 2015	15-Nov	8.1	No longer interested/active. Letter issued 3/15/16
30	Scott Finfrock	Scott.Finfrock@srs.gov	Invited by L. Wetzel to join 8.24 as assoc member; 6-2015.			L. Wetzel upgraded Frinfrock to full member 6/2018. ***NO LONGER ASSOC. MEMBER; UPGRADED TO VOTING MEMBER.***
31	Brandon O'Donnell	odonnell.brandon@gmail.com	Invited by J. Baker	Oct-15	ANS-8.23	Solicited by J. Baker for 8.23 & added 10/2015 ***NO LONGER ASSOC. MEMBER; UPGRADED TO VOTING MEMBER.***
32	Blaine Rice	barice@nuclearfuelservices.com	Invited by J. Baker	Oct-15	ANS-8.23	Solicited by J. Baker for 8.23 & added 10/2016
33	Bristol Hartlage	bhartlage@curtisswright.com	YMG Solicitation 2015	Nov-15	ANS-3.15	Letter issued 3/23/16 & accepted
34	Ning Zhang	ning.zhang@lanl.gov	random	2014	ANS-8.1	Added to 8.1 as assoc member 6/28/16; initially added to 8.15 in 2014 as Assoc Member **but is now full member on 8.15.**
35	Steven Thompson	steven.a.thompson@dom.com	random	6/20/16	ANS-19.10	e-letter w/placement on 19.10 sent 7-14-16
36	Amir Bahadori	bahadori@ksu.edu	random	5/27/2016	ANS-6.4.2	Accepted to 6.4.2 on 10/13/16 and notification issued same date.
37	Matthew Chapa	matt.r.chapa@gmail.com	random	10/11/2016	ANS-8.19	Accepted to ANS-8.19 on 1/13/17; letter sent 1/16/17.
38	Chelsea Gunter	Chelsea.Gunter@Shearman.com	Feb 2017 NSN Brief	2/16/2017	ANS-57.11	Accepted to ANS-57.11 on 2/21/17; message sent 2/21/17.
39	Charles Cohen	charles.cohen.72@gmail.com	NN	3/12/2017	ANS-2.18	Accepted to ANS-2.18 on 3/15/17; e-letter sent 2/16/17.
40	R. Patrick White	rpwhite@mit.edu	responded to N&D call out for volunteers for 30.3	7/21/2017	ANS-30.3	Accepted to 30.3 on 7/24/17: e-letter sent same day.
41	Kelsey Amundson	kamundson5@gmail.com	random	6/30/2017	ANS-8.20 8.26, 8.19	6/20/18: Added (w/o request) by WGC to 8.26 as assoc member-ps. 11/3/17: Accepted to 8.19 as Assoc. Member-ps. 8/30/17: Invite sent by D. Hill to 8.20 & accepted by K. Amundson; followup letter sent by PAS same day. 8/22/17: Another reminder sent to J. Chapman w/Bowen on CC-ps. 8/1/17: reminder sent-ps. 6/30/17: Send VF/resume to 8.28 WGC J. Chapman for consideration - others of interest have assoc members or are not active.

Associate Member Log (Updated 10/30/18)

42	Timothy Crook	tcrook@transatomicpower.com	random	6/8/2017	ANS-20.2	9/26/17: Accepted by D. Holcomb on ANS-20.2-ps. 9/25/17: W/Flanagan's permission, Crook's VF/resume was sent to ANS-15.22 WGC D. Cronin for consideration-ps. 9/22/17: Sent email to Flanagan w/Holcomb on copy requesting whether another WG should be considered for placement; possibly 15.22-ps. 8/22/17: reminder sent to D. Holcomb w- Flanagan on copy-ps. 8/1/17: reminder sent -ps. 6/15/17: Flanagan responded that he connected Crook w/Holcomb for 20.2. Followup email sent to Holcomb to confirm placement. 6/15/17: VF sent to Flanagan for suggestion on placement. Date on VF is 3/17/17 but not rec'd until 6/8/17.
43	Vaibhav Yadav	vaibhav.yadav@inl.gov	YMG Solicitation 2017	10/4/2017	LPSD WG	10/5/17: Sloane asked SC-SD chairs to consider; Wakefield accepted V. Yadav on LPSD WG; Yadav was notified & completed ASME forms the same day-ps. 10/4/17: Docs sent to Sloane & Amico for consideration under SC-SM & SC-SD-ps. 10/3/17: rec'f VF form/resume. 8/23/17: Responded right away to YMG solicitation & was sent VF. Wanted to get management approval to participate before completing VF.
44	Cheri Paugh	paughcj@westinghouse.com	random	11/2/2017	ANS-58.2	7/24/18: upgraded to full member at request of chair as she has been very active. 11/7/17: Accepted to 58.2 by WGC D. Zheng & notified same date. *****NO LONGER ASSOC. MEMBER; UPGRADED TO VOTING MEMBER.*****
45	Joshua Marshall	jmmarshall@nuclearfuelservices.com	random	6/29/2016	ANS-8.1	11/13/17: Notified of acceptance. 11/9/17: Accepted to 8.1 by WGC N. Brown. NOTE: Delay in placement due to lost VF.
46	Arielle Miller	millerarielle15@gmail.com arielle.miller@dnfsb.gov	submitted new VF after attending NCS Std Forum @ 2017 Winter Meeting	11/2/2017	ANS-8.12 ANS-8.1	11/16/17: Accepted to 8.1 as associate member-ps. 11/15/17: Accepted to 8.12 as Assoc Member but will likely be upgraded to full member assuming that she is active. Initially was added to ANS-54.1 as assoc. member 4/13/11; withdrew due to job change. Was reassigned to 57.11 as associate member on 6/3/2013--currently full member of 57.11.
47	Katherine McCurry (Stedden	katherine.mccurry@nrc.gov	random	8.12	8.12	12/29/17: Email sent to C. Tripp w/req to consider her on 8.12; accepted by Tripp same day. 12/20/17: rec'd VF expressing interest in 8.12; heard about our SC from C. Tripp.
48	Travis Wilson	travis.wilson@cns.doe.gov	random	9/26/17 & resubmitted 12/20/2017 by M. Crouse	ANS-8.22 ANS-8.7	2/7/18: Directed by SubC Chair D.Bowen that he also be added to ANS-8.7. 1/24/18: M. Crouse confirmed acceptance to 8.22; Wilson notified same day.
49	Quentin Newell	quentin.newell@urenco.com	random	1/23/2017	ANS-8.1 & ANS-8.12	2/7/18: SubC Chair D. Dowen directed that Q. Newell be assigned to ANS-8.1 & ANS-8.12; notified same day & added to WS
50	Konner Casanova	konner.casanova@inl.gov	random	9/21/2017	ANS-8.3 & ANS-8.23	2/7/18: SubC Chair D. Dowen directed that Q. Newell be assigned to ANS-8.1 & ANS-8.12; notified same day & added to WS
51	Austin McGee	austin.mcgee@cns.doe.gov	random	11/15/2017	ANS-8.3 & ANS-8.17	2/7/18: SubC Chair D. Dowen directed that Q. Newell be assigned to ANS-8.1 & ANS-8.12; notified same day & added to WS

Associate Member Log (Updated 10/30/18)

52	Jennifer Lyons	jennifer.lyons@pnnl.gov	random	5/1/2018	ANS-8.19	5/1/18: ANS-8.19 WGC J. Miller confirmed placement same day. Per note on VF form: Andrew Prichard recommended joining an ANS Standards Committee.
53	Umer Shahid	umer.shahid@uoit.net	saw notice in NN	6/12/2018	ANS-57.8	6/13/18: asked J. Scaglione to consider on 57.8 and was accepted & notified same day. Would also consider: ANS-15.10, ANS-40.35, ANS-57.5, ANS-57.1, ANS-3.1, ANS-10.7, ANS-10.2, ANS-6.4.3, ANS-6.4.2, ANS-20.2
54	Kurt Harris	kuharris@gmail.com	Random	7/20/2018	ANS-20.2	7/24/18: D. Holcomb accepted K. Harris to ANS-20.2 WG and Harris was notified same day.
55	Brandon Chisholm	brandon.m.chisholm@vanderbilt.edu	Random	8/20/2018	ANS-20.2	8/21/18: D. Holcomb confirm acceptance on 20.2 and B. Chisholm informed same day-ps. 8/21/18: Acknowledgement of request sent to B. Chisholm & VF/resume sent to D. Holcomb for consideration on 20.2 as requested.
56	Hannah Morbach	hpmorbach@bwxt.com hannahmorbach@gmail.com	Random	9/7/2018	ANS-8.3	H. Morbach expressed interest in 8.3 directly to ANS-8.3 WGC J. Hicks. He tried to add her to their roster thru WS but see did not have an account. VF provided 9/7/18 and added right away.
57	Joshua Kane Halsted	halstedj@oregonstate.edu	2018 Student Broadcast	9/28/2018	ANS-15.22	10/10/18: Accepted by 15.22 WGC D. Cronin and notified same day.
58	Jason M. Crye, PhD	jason.crye@cns.doe.gov	Suggestion from D. Bowen	9/5/2018	ANS-8.10	10/30/18: Notification of placement on 8.10 sent 10/29/18: WGC A. Prichard confirmed acceptance on 8.10 NOTE: Submitted VF after talking to D. Bowen.
59	Kristina Spencer, PhD	kspencer@lanl.gov	Suggested during course at UofNM	9/21/2018	ANS-8.17	10/30/18: Placement on 8.17 confirmed & notification sent same day. 10/30/18 & 10/23/18: Reminders sent. 9/27/18: Follow up message sent. 9/25/18: sent to ANS-8.17 WGC E. Saylor for consideration

59 associate members placed since 8/2015
49 current associate members

ATTACHMENT 8

RP3C Report to Standards Board

Orlando, FL

November 13, 2018

Significant Themes Covered of Interest to the Standards Board

- Standards Board (SB) SMART Matrix
  - RP3C responsibilities under Goal #1(D)
- RP3C's Progress Report on Procedural Guidance Development
  - Jim O'Brien is leading this effort
- RP3C Interaction with Consensus Committees (CCs)
  - Continuing the discussions from November 2017 on 23 standards
  - Input to CCs included in slides to Standards Board
- RP3C Interaction with ANS-30.1
  - Discussions are continuing after input provided
- RP3C Interaction with ANS-2.26
  - Discussion of broader application of concepts in the suite of seismic standards
- Changing Environment
  - SECY-18-0096, DG-1353, NEI 18-04
  - Examine utility of creating a risk-informed, performance-based (RIPB) Community of Practice (CoP)

SB SMART Matrix

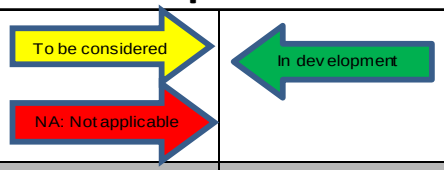
- SB SMART Matrix reflects Standards Committee Strategic Plan.
- RP3C covered by Goal #1 (D):
  - Goal #1=align standards development priorities with current and emerging needs
  - Goal#1(D)=incorporate RIPB methods in ANS standards
- The six activities under Goal#1(D) were discussed relative to responsibilities and schedules.

Procedural Guidance for RIPB Standards Development

- Purpose
  - To outline a process that can be used by developers of standards to incorporate RIPB approaches
- Approach
  - Guidance on steps to take to make a standard more performance based
  - Guidance on steps to take to make a standard more risk informed
  - Examples of how this can be done using existing ANS standards

RP3C Feedback to LLWRCC

Tracking of RP3C Recommendation to Incorporate RIPB Methods

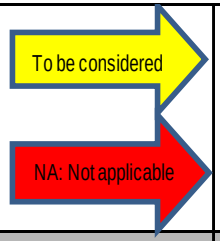
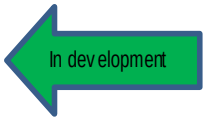
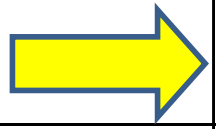
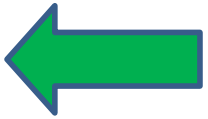
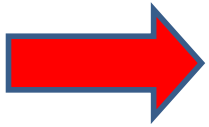


CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
LLWRCC (WGC: J. Sickle)	ANS-	3	1			Believed to be NA for RIPB Maintenance to be considered by 11/20/2019	RP3C recommends PB approach with fitness-for-service considerations
LLWRCC (WGC: M. Smith)	ANS-	3	2			Maintenance to be considered by 4/4/2022	RP3C considers this a high priority standard for RIPB
LLWRCC (WGC. J.	ANS-	3	13		Project being re-evaluated; WG being reformed		RP3C considers this a high priority for advanced non-LWRs
LLWRCC (WGC: K. Geelhood)	ANS-	18	1			Maintenance to be considered by 11/1/21	LMP work in context of DG-1353 should be considered
LLWRCC (WGC. E. Johnson-Turnipseed)	ANS-	51	10			Revision currently in final stage was initiated before RP3C. Revision anticipated to be approved in 2019. Next maintenance to be considered in 2024.	RP3C has reported interactions with WG
LLWRCC (WGC: J. Glover)	ANS-	56	1			Inactive project to be discussed at 11/14/18 LLWRCC meeting.	Work done with LMP on H2 control is relevant

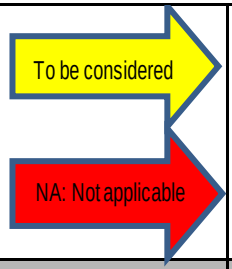
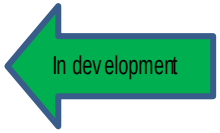
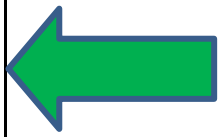
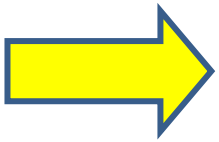
RP3C Feedback to LLWRCC (continued)

					To be considered NA: Not applicable	In development	
CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
LLWRCC (WGC: J. Glover)	ANS-	56	8			NA - a revision of this standard has been in development for some time; prior to formation of RP3C and is expected to be issued for ballot is 2019 with ANSI approval the following year. The next maintenance consideration would be by 2024.	Part 50 App J is PB
LLWRCC (WGC: H. Liao)	ANS-	58	8		Draft estimated to be completed for subcommittee review in November 2019		
LLWRCC (WGC:OPEN)	ANS-	58	9		PINS in development		SFC may be one of the high priority standards for LMP guidance application
LLWRCC (WGC: M. Linn)	ANS-	58	14			Maintenance to be considered by 1/17/2022	LMP guidance definitely applicable
LLWRCC (WGC: M. Dooley)	ANS-	59	51		PINS in development		High likelihood of PB guidance being applicable
LLWRCC (WGC: M. Dooley)	ANS-	59	52		PINS in development		High likelihood of PB guidance being applicable

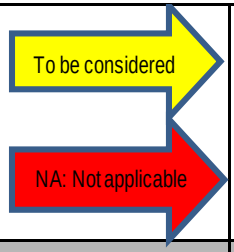
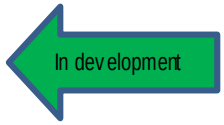
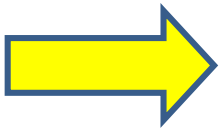
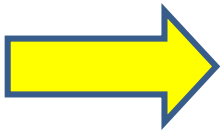
RP3C Feedback to RARCC

							
CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
RARCC (WGC: J. August)	ANS-	53	1			Maintenance to be considered at 11/12/18 RARCC meeting	RP3C working with WG Chair
RARCC (WGC: G. Flanagan)	ANS-	54	1		Draft in final stages of approval		RP3C's input will be provided to SB
RARCC (WGC: OPEN)	ANS-	54	6			NA - no plans to ressurect this inactive project	Needs more consideration

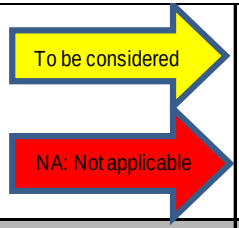
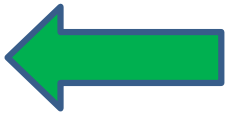
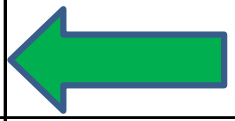
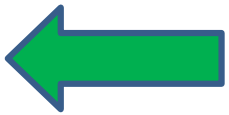
NRNFCC Feedback

							
CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
NRNFCC (WGCs: T. Anselmi & C. McMullin)	ANS-	3	14		Draft estimated to be completed for NRNFCC review in November 2018		RP3C working with CC Chair
NRNFCC (WGC: P. Rogerson)	ANS-	58	16			Maintenance to be considered by 9/4/19	High likelihood of LMP guidance being applicable

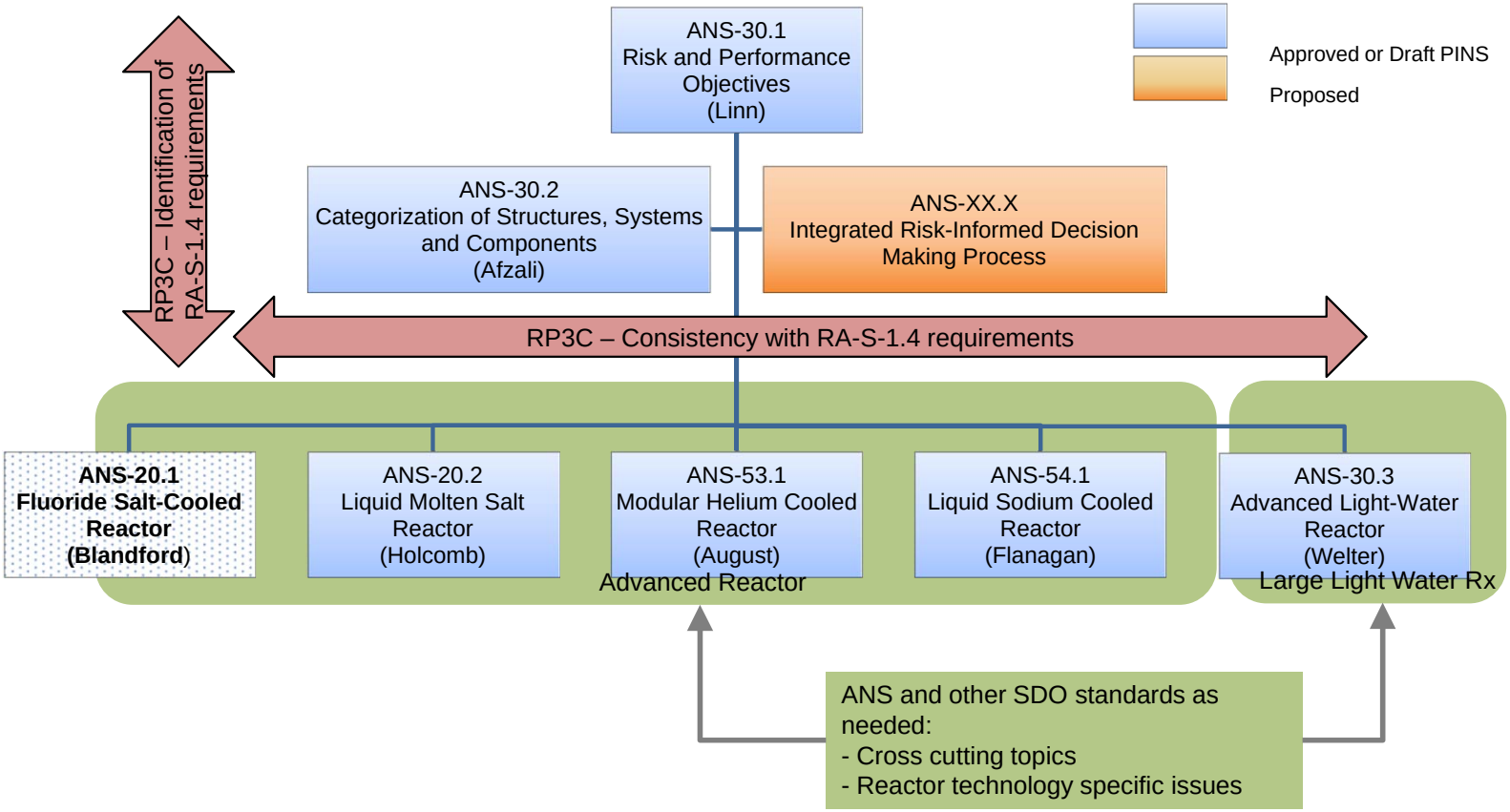
RP3C Feedback to FWDCC

							
CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
FWDCC (WGC: OPEN)	ANS-	57	1			Maintenance to be considered by 6/16/2021	LMP LBE approach may be applicable
FWDCC (WGC: R. Browder)	ANS-	57	3			Maintenance to be considered by 2/27/2023	LMP guidance document may be applicable

RP3C Feedback to ESCC

							
CC Owner (WGC)	DESIGNATION				Estimated Schedule for Drafts in Development Using RIPB Methods	Estimated Consideration Date to Incorporate RIPB Methods	RP3C Proposed Approach
ESCC (WGC: Y. Gao)	ANS-	2	8		Reballot estimated November 2018		RP3C interaction is ongoing. Awaiting WG Feedback
ESCC (WGC: & D. Clark)	ANS-	2	26		PINS in development		Being addressed in 11-2018 RP3C Meeting
ESCC (WGC: K. Hanson)	ANS-	2	27		Draft estimated to be completed for subcommittee review in September 2019		Needs coordination with ANS-2.26

ANS New Reactor RIPB Standards Structure



What ANS-2.26 Does

ANS-2.26:
Assign a “Seismic Design Category (SDC):”

Given the potential consequences of failure, assign a performance criterion: specifically, a *failure probability criterion*.

The other standards then tell you how to go about engineering satisfaction of this criterion.

Figure from Appendix A:

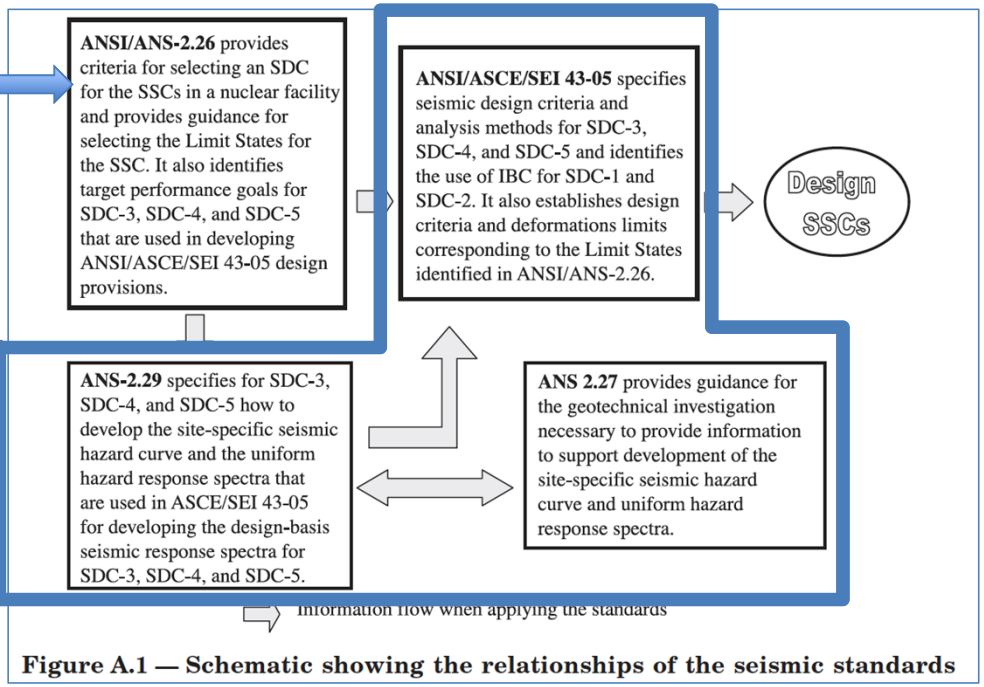


Figure A.1 — Schematic showing the relationships of the seismic standards

Licensing Modernization Project

- NEI-18-04, “RIPB Guidance for non-LWR Licensing Basis Development”
  - Covers LBE selection, SSC classification, and defense-in-depth
  - DG-1353 substantially endorses this guidance
  - Application of the guidance has been tested in variety of current projects
  - Presented to ACRS sub-committee

RIPB Community of Practice

- Enable communication of practices, challenges, and opportunities
- Open architecture knowledge sharing
- Experience has been gained at NRC and NuScale.
- Appears useful for RP3C efforts with addressing issues related to ANS CCs
- Also useful for collaboration with SCoRA
- Standards Board support and direction is needed for success.

RP3C Recommendations

- SB recognition that activities in Goal #1.(D) require focused CC engagement.
- Procedural guidance is being developed using example standards.
  - CCs should be prepared to commit to schedules to advance RP3C interaction for RIPB procedural guidance.
- RP3C inputs provided in report to SB should be followed-up.
  - Current input should lead to specific schedules.
- RARCC follow-up needed on ANS-30.1 report.
  - Disparities among approaches used by working groups need to be resolved.
- SB should recognize and act on implications for ANS standards from NEI-18-04 and DG-1353.
  - ANS has an opportunity to advance non-LWR licensing modernization.
- SB should offer direction on RIPB Community of Practice.
  - Potential benefits extend beyond ANS standards.

ATTACHMENT 9

ESCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

Projects in Consideration/Interest being Sought (3)

- ANS-2.13, "Evaluation of Surface-Water Supplies for Nuclear Power Sites" (reinvigoration of historical standard ANS-2.13-1979 (R1989) (W1999))
- 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 ANS-2.19-1981 (R1990) (W2000))
- ANS-3.16, "Meteorological Aspects of Wildland Fire Response" (proposed new standard)

Project Termination in Consideration (2)

- ANS-2.25, "Surveys of Ecology Needed to License Nuclear Facilities" (reinvigoration of historical standard ANS-18.5-1982 (W1992); re-designated ANS-2.25)
- ANS-2.33, "Aquatic Ecological Surveys Required for Siting, Design, and Operation of Thermal Power Plants" (new standard—formerly designated ANS-18.4)

PINS in Development/Approval (4)

- ANS-2.18, "Standards for Evaluating Radionuclide Transport in Surface Water for Power Sites" (new standard)
- ANS-2.26, "Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design" (revision of ANSI/ANS-2.26-2004 (R2017))
- ANS-2.32, "Guidance on the Selection and Evaluation of Remediation Methods for Subsurface Contamination" (new standard)
- ANS-2.35, "Estimating the Socioeconomic Impacts of Construction, Operations, and Decommissioning a Nuclear Facility" (new standard)

Standards in Development – Approved PINS (7)

- ANS-2.9, "Evaluation of Ground Water Supply for Nuclear Facilities" (reinvigoration of historical standard ANS-2.9-1980 (R1989) (W1999))
- ANS-2.16, "Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities" (new standard)
- ANS-2.22, "Environmental Radiological Monitoring at Nuclear Facilities" (new standard)
- ANS-2.27, "Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments" (revision of ANSI/ANS-2.27-2008 (R2016))
- ANS-2.29, "Probabilistic Seismic Hazard Analysis" (revision of ANSI/ANS-2.29-2008 (R2016))
- ANS-2.34, "Characterization and Probabilistic Analysis of Volcanic Hazards" (new standard)
- ANS-3.8.10, "Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities" (new standard)

Standards at Ballot/Resolving Comments (2)

- ANS-2.8, "Determining External Flood Hazards for Nuclear Facilities" (reinvigoration of historical standard ANS-2.8-1992 (W2002)) (subsumed ANS-2.31)
- ANS-16.1, "Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure" (revision of ANSI/ANS-16.1-2003 (R2017))

Standards Recently Approved (2)

- ANSI/ANS-2.6-2018, "Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Nuclear Facility Sites" (new standard)
- ANSI/ANS-41.5-2012 (R2018), "Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation" (reaffirmation of ANSI/ANS-41.5-2012)

Standards Published in 2018 (2)

- ANSI/ANS-2.6-2018, "Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Nuclear Facility Sites" (new standard)

- ANSI/ANS-2.10-2017, “Criteria for Retrieval, Processing, Handling, and Storage of Records from Nuclear Facility Seismic Instrumentation” (supersedes ANS-2.10-2003 (W2013))

Delinquent Standards (5+ years since ANSI approval) (0)
No delinquent standards at this time.

Responses to Inquiries (0)
No open inquiries.

Membership Changes
- Quazi Hossain – Siting: Seismic Subcommittee Chair (retirement)
- Jim Xu – stepped up to Siting: Seismic Subcommittee Chair
- Brent Gutierrez – new member and new Siting: Seismic Subcommittee Vice Chair

Volunteer Staffing Needs

Staffing Need (member, chair, etc.) # of positions	Standard #	Date Need Identified (Estimated)	Priority (H or M)*	Date Need Filled	Source**	Date-Actions Taken to Fill Need (Estimated)
Members	ANS-2.3	2017	H		a, d, e, i	2017 - current
Chair	ANS-2.9	2017	L		a, d, e	2017 - current
Chair/Members	ANS-2.13	pre-dates ESCC	L		a, e	various 2015-current
Chair	ANS-2.16	Sept 2018	H		a	10/2018 - current
Members	ANS-2.18	pre-dates ESCC	M		a, d, e	various 2015-current
Members	ANS-2.25	pre-dates ESCC	M		a, d, e	various 2015-current
NA-Staffing sufficient	ANS-2.32	pre-dates ESCC	NA	M. Truex accepted WGC role on 11/28/17; WG has 6 members as of October 2018	a, d, e	various 2015-current
Chair/Members	ANS-2.33	2017	M	A candidate to chair the project has been identified if a decision is made to proceed.	a, d, e	2017 - current
NA-Staffing sufficient	ANS-2.35	May 2018	NA	D. Musatti accepted WGC role. WG has 8 members as of October 2018	a, d, e	May 2018
Chair	ANS-3.8.10	Sept 2018			a	10/2018 - current
Chair	ANS-3.16	July 2018	H		a, d, e	July 2018
SubC Vice Chairs (2)	• Atmospheric • General/Monitoring	2014	L		d, e	2014 - current
SubC Vice Chairs (2)	• Hydrogeological • Environmental Impact	2018	L		d, e	2018 various

* High (H) or medium (M) priority based on priority of standard or reaffirmation time limit.

**a. Personal contact, b. standards manager (ANS staff), c. ANS SC referral, d. ANS publication, e. ANS website, f. Linked in post, g. conference speakers and paper authors, h. internet search, i. other

ATTACHMENT 10

FWDCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

PINS in Approval (1)

- ANS-57.8-201x, "Fuel Assembly Identification" (revision of ANSI/ANS-57.8-1995; R2017)

Standards in Development – Approved PINS (1)

- 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)

Standards Recently Approved (1)

- ANSI/ANS-57.3-2018, "Design Requirements for New Fuel Storage Facilities at LWR Plants" (reinvigoration of historical standard)

Standards Published in 2018 (1)

- ANSI/ANS-57.3-2018, "Design Requirements for New Fuel Storage Facilities at LWR Plants" (reinvigoration of historical standard)

Delinquent Standards (5+ years since ANSI approval) (0)

The FWDCC has no delinquent standards.

Responses to Inquiries Issued (0)

The FWDCC has no open inquiries.

Membership Changes

No member changes.

Volunteer Staffing Needs

Staffing Need (Member, chair, etc.)# of positions	Standard #	Date Need Identified (Estimated)	Priority (H or M)*	Date Need Filled	Source**	Date-Actions Taken to Fill Need (Estimated)
Chair/Members	ANS-40.21	pre-dates FWDCC	M		d, e	various 2014 - current
Members	ANS-40.35	pre-dates FWDCC	M		d, e	various 2014 - current
Chair/Members	ANS-55.1	pre-dates FWDCC	M		d, e, f	various 2014 - current
Chair/Members	ANS-55.4	pre-dates FWDCC	M		d, e, f	various 2014 - current
Chair/Members	ANS-55.6	pre-dates FWDCC	M		d, e, f	various 2014 - current
Chair/Members	ANS-57.1	pre-dates FWDCC	M		d, e	various 2014 - current
Members	ANS-57.5	pre-dates FWDCC	M		d, e	various 2014 - current
NA	ANS-57.8	pre-dates FWDCC	NA	7 WGMs as of 10/2018	d, e	various 2014 - current
Chair/Members	ANS-57.10	pre-dates FWDCC	M		e	various 2014 - current
Chair/Vice Chair	Decommissioning (Commercial & Research Facilities) SubC	2014	M		d, e	various 2014 - current
Chair/Vice Chair	High Level, GTCC, Low Level, & Mixed Waste Subcommittee	2014	M		d, e	various 2014 - current
Vice Chair	New and Used Fuel (Design Only) SubC	2014	M		d, e	various 2014 - current

* High (H) or medium (M) priority based on priority of standard or reaffirmation time limit.

**a. Personal contact, b. standards manager (ANS staff), c. ANS SC referral, d. ANS publication, e. ANS website, f. Linkedin post, g. conference speakers and paper authors, h. internet search, i. other

ATTACHMENT 11

JCNRM November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

JCNRM Leadership

The JCNRM is managed by a chair and vice chair representing each society. Robert Budnitz and Rick Grantom serve as co-chairs for ANS and ASME respectively. Dennis Henneke and Pamela Nelson serve as co-vice chairs for ANS and ASME respectively.

JCNRM Meeting

The JCNRM held a series of meetings on Monday, October 8, through Thursday, October 11, 2018, in Baltimore, Maryland. Numerous working group and subcommittee meetings were held on Monday through Wednesday, involving about 140 participants. The JCNRM Executive Committee met on Tuesday and Wednesday afternoons, and the 4-day-long meeting culminated on Thursday with a full-day meeting of the main committee (i.e., the JCNRM consensus committee). The main committee meeting addressed administrative issues such as membership, awards, open ballots, and proposals for future work, and it also had technical discussions on several important topics related to the standards-development work that it oversees. Consideration is being given to initiating projects on a multi-unit PRA standard and on a guidance document for risk-informed cybersecurity and physical security methods. Updates were provided on all projects in development (see the reports below.) The next JCNRM meeting will be held on Monday February 11 through Thursday February 14, 2019, at a city to be selected in the southeast.

ASME/ANS RA-S

The "next edition": Work on the revision of the JCNRM's main flagship PRA standard, ASME/ANS RA-S-2008, has been under way since the release of Addenda B in 2013. This next version will be called a "new edition." This new edition 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 new edition is expected to be issued for ballot in March of 2019, and to be published in early 2020.

Seismic PRA Case: The PRA user community requested the JCNRM to produce an expedited version of the next edition's section dealing with seismic PRA. The relevant JCNRM working group worked diligently for over a year, and produced a new section with updated requirements on seismic PRA that was approved by the JCNRM in March 2018, and issued in April. This "case" is already being used by several US nuclear-power-plant PRA groups that are developing new seismic PRAs, and it was also endorsed by the NRC for certain applications. This is a success story vis-à-vis the responsiveness of the JCNRM to a pressing industry need. A typographical error was recently identified in the Case, and a correction to fix it is currently being balloted by the JCNRM per ASME procedures.

New Standards in Development

There are 5 new PRA methodology standards in various stages of development. Note that 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 (ANSI).

ANS-58.22-2014, "Standard for Low Power and Shutdown Methodology for PRA Applications"

- The writing group is led by Don Wakefield, and took a very long time to complete its first full version: the W.G. began its work in 1999.
- ANS/ASME-58.22-2014 was published on March 25, 2015, for a 36-month trial use period.
- Findings from the trial-use period are currently being incorporated into a revision of this standard, based in part on five pilot applications that were performed at operating nuclear power plants.
- The final version of this revision is being worked on now, but will be held up until the completion of the "next edition" of our flagship at-power PRA standard, so that this standard can be fully coordinated with that at-power standard.

ASME/ANS RA-S-1.2-2014, "Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications" (previously ANS/ASME-58.24)

- The writing group is currently led by Ray Schneider, and this effort has been underway since 2005.
- ASME/ANS RA-S-1.2-2014 was published on January 5, 2015, for a 24-month trial use period.
- Findings from the trial-use period are being incorporated into a revision of the standard; the revised standard will be issued for ballot with the intent of seeking ANSI approval. This version is expected to be ready for JCNRM ballot by the end of 2018.

ASME/ANS RA-S-1.3-2017, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications" (previously ANS/ASME-58.25)

- The writing group is now led by Grant Teagarden, who took over in mid-2018 from Keith Woodard, who had chaired this effort since its inception in 2005.
- The standard was published on July 13, 2017, for a 24-month trial-use period.
- The writing group is now beginning the work to revise the standard based on insights from the trial uses. It is expected that this work will continue through early 2019, at which time a new version will be available for JCNRM ballot, with the intent of seeking ANSI approval.

ASME/ANS RA-S-1.4-2013, "Advanced Non LWR PRA Standard"

- The writing group is led by Karl Fleming, underway since 2007.
- A JCNRM ballot was held in spring 2013, and the standard was published on December 9, 2013, for trial use and pilot application for a 36-month period.
- Multiple pilots have been completed.
- The working group is currently reviewing comments from the trial use of the standard.
- Findings from the trial-use period are being incorporated into a revision of the standard; the revised standard will be issued for ballot with the intent of seeking ANSI approval.
- The final version of this revision will be held up until the completion of the "next edition" of our flagship at-power PRA standard, so that this standard can be fully coordinated with that standard. This means that the next version of this standard will likely be available for ballot in mid-2020.

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

- The project was initiated in 2007. Sarah Bristol is currently the writing group chair.
- The JCNRM calls this the "ALWR PRA Standard."
- A JCNRM ballot was held in spring 2013. Additional changes were made to the draft, in part to accommodate applicability to small modular reactors that use light-water coolant.
- The writing group has incorporated additional comments from the NRC related to the NRC's ALWR Interim Staff Guidance into the draft.
- The ALWR team has reached consensus on the definition of Large Release Frequency. A ballot will be issued to the JCNRM to approve the definition prior to the draft of the full standard being issued for ballot.
- The ALWR Standard will be issued initially as a stand alone standard. It will be issued initially for trial use. The intent is that it will later be incorporated into a revision of RA-S as a chapter or an appendix.

ANS RISC merger with ASME CNRM to form a new "Joint Committee on Nuclear Risk Management": "Organizational" aspects merged in 2012, "business" aspects in 2016

The JCNRM's activities take place under the oversight of the ANS Standards Board and the ASME Board on Nuclear Codes and Standards. Both Boards must approve all important JCNRM standards actions and administrative changes. Both Boards consider the JCNRM to be a "consensus committee" reporting through the usual channels. The merger to create the JCNRM 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 3 subcommittees and a series of about 10 writing groups and working groups, and a half-dozen short-

term project teams. This structure has worked well and there have not been any conflicts between the two societies on anything of substance.

The JCNRM "business" aspect was finalized with the signing of a licensing agreement and a copyright agreement by the managements of both societies on June 23, 2016. The arrangement consists of ANS assumption of the administrative work of editing and publishing all new JCNRM standards and the related expenses; and ASME assumption of the work of arranging meetings, serving as JCNRM Secretary, managing the ballot process, and submitting ANSI documents as needed as well as a few other administrative tasks, and the related expenses. The JCNRM is obligated to follow the "Procedures for ASME Codes and Standards Development Committees." Supplemental procedures to address specifics unique to the JCNRM are in development. The ANS Standards Board has approved the procedures, and the approvals by the JCNRM and the ASME BNCS (Board on Nuclear Codes and Standards) are in process as of the time that this is being written.

Standards Inquiries and Delinquent Standards

A reaffirmation ballot was issued to keep ASME/ANS RA-S-2008/Sb-2013 ("Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications") current while the revision is being completed. The JCNRM does not have any delinquent standards in need of maintenance, nor any active inquiries at this time.

Future Plans

The JCNRM's Executive Committee has been meeting more-or-less bi-weekly by conference call. The principal focus has always been to serve as the "planning committee" and "coordinating committee" to oversee governance of the large and complex set of JCNRM activities, with an eye on planning for up to about two years out. The main JCNRM effort now is to develop the next version of the main PRA Standard ASME/ANS RA-S, which is planned now for ballot in early calendar 2019. 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 3-5 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 issue the ALWR PRA standard under development as discussed in the opening section of this report. This is a major effort, involving volunteer resources.

A third important task, although it does not require a lot of JCNRM effort now, is following the progress of the several "trial use applications" of our new standards, to assure that the way they approach their work provides as much useful feedback information as feasible to the JCNRM.

Finally, the JCNRM has been approached by groups in several countries about forming what we are calling "JCNRM International Working Groups" (IWGs). The Chinese and the Japanese have each already formed an IWG that the JCNRM has approved, and another new IWG is under active discussion in Korea. The Canadians have also inquired about the possibility, although their inquiry is currently dormant. Each IWG consists of several PRA and risk-management experts in the respective country who have agreed to perform reviews of JCNRM draft standards, to perform trial applications of our standards as appropriate, to propose changes to our standards or other new JCNRM initiatives, and generally to act as an "arm" of the JCNRM in the respective country. The Chinese IWG and the Japanese IWG each consist of a couple of dozen engineers. Each of these IWGs holds physical meetings in the foreign country, and its proceedings take place mostly in the foreign language. Each IWG has a chair designated by them but approved by the JCNRM, and each IWG chair will likely be appointed as a voting member of the JCNRM itself, although that decision will be taken on a case-by-case basis. (We have insisted that the English language skills of each IWG chair be acceptably

competent. This has not been a problem at all so far.) The JCNRM sees the formation of IWGs as a way to involve foreign experts in an organized activity that can assist the JCNRM in its technical work. The benefit to our foreign colleagues is early access to our work products and an opportunity to influence them technically at a relatively early stage.

Financial Support

A series of grants to the ANS from the U. S. Nuclear Regulatory Commission (NRC) have provided financial support for the work of the standards committee, mainly to cover travel costs of participants who have no other financial support, but also to cover a few other selected administrative and meeting expenses. The latest of these was formally awarded in February 2015 and allows funds to be used through February 2020; however, funds are expected to be depleted by February 2019. We are actively looking at ways to encourage the issuance of a Funding Opportunity Announcement allowing ANS to submit a new NRC grant proposal.

ATTACHMENT 12

LLWRCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

Projects in Consideration (1)

- ANS-56.1, "Containment Hydrogen Control" (proposed new standard—title TBD)

PINS in Development (4)

- ANS-3.15, "Cybersecurity for Nuclear Facilities" (proposed new standard—title TBD)
- ANS-56.2, "Containment Isolation Provisions for Fluid Systems After a LOCA" (historical revision of ANSI/ANS-56.2-1984 (W1999))
- ANS-58.2, "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture" (reinvigoration of historical standard)
- ANS-60.1, "Export Control Standard" (proposed new standard—title TBD)

PINS in Approval/Comment Resolution (2)

- ANS-3.5.1 "Power Plant Simulators for Use in Simulation-Assisted Engineering and Non-Operator Training" (proposed new standard)
- ANS-59.3, "Nuclear Safety Criteria for Control Air Systems" (reinvigoration of historical standard)

Standards in Development – Approved PINS (5)

- 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) ****LLWRCC members proposed a redirection of the emergency preparedness standards to new nonLWR plants. 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-30.3, "Advanced Light-Water Reactor Risk-Informed Performance-Based Design Criteria and Methods" (new standard)
- ANS-56.8, "Containment Leakage Testing Requirements" (revision of ANSI/ANS-56.8-2002 (R2016))
- ANS-58.8, "Time Response Design Criteria for Safety-Related Operator Actions" (revision of ANSI/ANS-58.8-1994 (R2017))

Standards at Ballot/Resolving Comments (3)

- ANS-3.5-201x, "Nuclear Power Plant Simulators for Use in Operator Training and Examination" (revision of ANSI/ANS-3.5-2009)
- ANS-51.10-201x, "Auxiliary Feedwater System for Pressurized Water Reactors" (revision of ANSI/ANS-51.10-1991 (R2018))
- ANS-58.3-1992 (R2018), "Physical Protection for Nuclear Safety-Related Systems and Components" (withdrawal of standard)

Standards Recently Approved (3)

- ANS-3.4-2013 (R2018), "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants" (reaffirmation of ANSI/ANS-3.4-2013)
- ANS-51.10-1991 (R2018), "Auxiliary Feedwater System for Pressurized Water Reactors" (reaffirmation of ANSI/ANS-51.10-1991 (R2008))
- ANSI/ANS-58.3-1992 (R2018), "Physical Protection for Nuclear Safety-Related Systems and Components" (reaffirmation of ANSI/ANS-58.3-1992 (R2008))

Standards Published (0)

No standards were published in 2018.

Delinquent Standards (5+ years since ANSI approval) (1)

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

Responses to Inquiries in Development/Approval (1)

- An inquiry was received 3/29/18 on ANSI/ANS-58.2-1988 (W1998), "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture." A response is in development.

Membership Changes

Charles Brown retired from the LLWRCC.

Volunteer Staffing Needs

Staffing Need (Member, chair, etc.)# of positions	Standard #	Date Need Identified (Estimated)	Priority H or M)*	Date Need Filled	Source**	Date-Actions Taken to Fill Need (Estimated)
Members	ANS-3.13	2014	M		d, e	various 2014-current
NA	ANS-3.15	2018	NA	WGC recommitted; WG has 19 members.	d, e, f	various 2016-current
Members	ANS-51.10	2014	M		d, e, f	various 2014-current
Members	ANS-56.1	2014	M		d, e, f	various 2014-current
Members	ANS-56.2	April 2018	M	E. Johnson-Turnipseed (temp. chair)	d, e	May 2018-current
NA	ANS-58.2	pre-dates LLWRCC	NA	WG has 7 members as of 10/2018	e, f	various 2014-current
Members	ANS-58.3	pre-dates LLWRCC	M		e, f	various 2014-current
Chair/Members	ANS-58.6	2014	M		d, e	various 2014-current
Chair/Members	ANS-58.11	pre-dates LLWRCC	M		d, e	various 2014-current
Members	ANS-59.51	pre-dates LLWRCC	M	Chair committed 3/2/2017	d, e, f	various 2014-current
Members	ANS-59.52	pre-dates LLWRCC	M	Chair committed 3/2/2017	d, e, f	various 2014-current
Members	ANS-60.1	2016	M		d, e	various 2016-current
NA	LWR & Reactor Auxiliary Systems Designs SubC	2017	NA	M. French agreed to step up to SubC C Feb. 2018	d, e	2017-current
Vice Chair	LWR & Reactor Auxiliary Systems Designs SubC	February 2018	M		d, e	April 2018-current
Chair	Power Generation & Plant Support Systems SubC	2017	H		d, e	2017-current

* High (H) or medium (M) priority based on priority of standard or reaffirmation time limit.

**a. Personal contact, b. standards manager (ANS staff), c. ANS SC referral, d. ANS publication, e. ANS website, f. Linkedin post, g. conference speakers and paper authors, h. internet search, i. other

ATTACHMENT 13

NRNFCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

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)

Delinquent Standards (5+ years since ANSI approval) (0)

No delinquent standards at this time. Maintenance action is being considered on ANSI/ANS-58.16-2014, "Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities."

Responses to Inquiries (0)

No open inquiries.

Standards Published (0)

No standards were published.

Membership Changes

James Miller, Sabia Inc., retired from the NRNFCC and all standards activities.

Volunteer Staffing Need

The NRNFCC currently has no staffing needs. If a decision is made that a revision of ANSI/ANS-58.16-2014 should be initiated, working group members will be recruited.

ATTACHMENT 14

NCSCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

PINS in Development (1)

- ANS-8.22, "Nuclear Criticality Safety Based on Limiting and Controlling Moderators" (revision of ANSI/ANS-8.22-1997 (R2016))

Standards in Development – Approved PINS (7)

- ANS-8.1, "Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors" (revision of ANSI/ANS-8.1-2014)
- ANS-8.3, "Criticality Accident Alarm System" (revision of ANSI/ANS-8.3-1997 (R2017))
- ANS-8.7, "Nuclear Criticality Safety in the Storage of Fissile Materials" (revision of ANSI/ANS-8.7-1998 (R2017))
- ANS-8.12, "Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (revision of ANSI/ANS-8.12-1987 (R2016))
- ANS-8.20, "Nuclear Criticality Safety Training" (revision of ANSI/ANS-8.20-1991 (R2015))
- ANS-8.26, "Criticality Safety Engineer Training and Qualification Program"(revision of ANSI/ANS-8.26-2007 (R2016))
- ANS-8.28, "Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety" (new standard)

Standards @ Ballot/Resolving Comments (3)

- ANS-8.1-2014 (R201x), "Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors" (reaffirmation of ANSI/ANS-8.1-2014)
- ANS-8.21, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision of ANSI/ANS-8.21-1995 (R2011))
- ANS-8.23, "Nuclear Criticality Accident Emergency Planning and Response" (revision of ANSI/ANS-8.23-2007 (R2012))

Standards Recently Approved (0)

No standards have been approved in 2018.

Standards Published (0)

No standards were published.

Delinquent Standards – 5+ Years Since ANSI Approval (2)

- ANSI/ANS-8.21-1995 (R2011), "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision @ NCSCC ballot/comment resolution)
  NOTE: Progress on comment resolution from the NCSCC ballot of the revision has been slower than anticipated. WGC David Erickson suggested that a reaffirmation be processed to keep the standard current while the revision is completed. A reaffirmation statement has been requested.
- ANSI/ANS-8.23-2007 (R2012), "Nuclear Criticality Accident Emergency Planning and Response" (revision @ subcommittee ballot/comments resolution)
  NOTE: The NCSCC ballot of the revision closed 9/8/18. Comments are currently being resolved.

Responses to Inquiries in Development (1)

An inquiry was received 1/30/2018 on ANSI/ANS-8.14-2004 (R2016), "Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors." The ANS-8 ballot to approve the draft response received a number of comments and 10 negative votes. Comments are being addressed.

Membership Changes

Ernest Elliott, N3B - Los Alamos, was approved as an NCSCC member.

Volunteer Staffing Needs

Staffing Need (Member, chair, etc.)# of positions	Standard #	Date Need Identified (Estimated)	Priority (H or M)*	Date Need Filled	Source**	Date-Actions Taken to Fill Need (Estimated)
NA	ANS-8.3	2017	M	Jerry Hicks appointed 6/2018	a, e	2017

* High (H) or medium (M) priority based on priority of standard or reaffirmation time limit.

**a. Personal contact, b. standards manager (ANS staff), c. ANS SC referral, d. ANS publication, e. ANS website, f. Linkedin post, g. conference speakers and paper authors, h. internet search, i. other

ATTACHMENT 15

RARCC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

Standards in Development – Approved PINS (7)

- ANS-1, "Conduct of Critical Experiments" (revision of ANSI/ANS-1-2000 (R2012))
- ANS-15.8, "Quality Assurance Program Requirements for Research Reactors" (revision of ANSI/ANS-15.8-1995 (R2018))
- ANS-15.22, "Classification of Structures, Systems and Components for Research Reactors" (new standard)
- ANS-20.1, "Nuclear Safety Criteria and Design Process for Fluoride Salt-Cooled High-Temperature Reactor Nuclear Power Plants" (new standard)
- ANS-20.2, "Nuclear Safety Design Criteria and Functional Performance Requirements for Liquid-Fuel Molten Salt Reactor Nuclear Power Plants" (new standard)
- ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs" (new standard)
- ANS-30.2, "Structures, Systems, and Component Classification for Nuclear Power Plants" (new standard)

Standards at Ballot/Resolving Comments (1)

- 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 Recently Approved (3)

- ANS-15.1-2007; R2018, "The Development of Technical Specifications for Research Reactors" (reaffirmation of ANSI/ANS-15.1-1007 (R2013))
- ANS-15.8-1995; R2018, "Quality Assurance Program Requirements for Research Reactors" (reaffirmation of ANSI/ANS-15.8-1995 (R2013))
- ANS-15.21-2012; R2018, "Format and Content for Safety Analysis Reports for Research Reactors" (reaffirmation of ANSI/ANS-15.21-2012)

Delinquent Standards (5+ years since ANSI approval) (1)

- ANS-1-2002 (R2012), "Conduct of Critical Experiments" (revision in progress)

Responses to Inquiries (0)

The RARCC has no open inquiries.

Staffing Needs

The RARCC has no current staffing needs. A revision of ANSI/ANS-53.1-2011 (R2016), "Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants," will be discussed at RARCC's meeting on November 12, 2018. Assuming a decision is made to initiate a revision, the working group will be reformed.

Membership Changes

There have been no recent membership changes.

ATTACHMENT 16

ANS Standards Committee RP3C Meeting

Discussion on ANS 30.1

Orlando FL

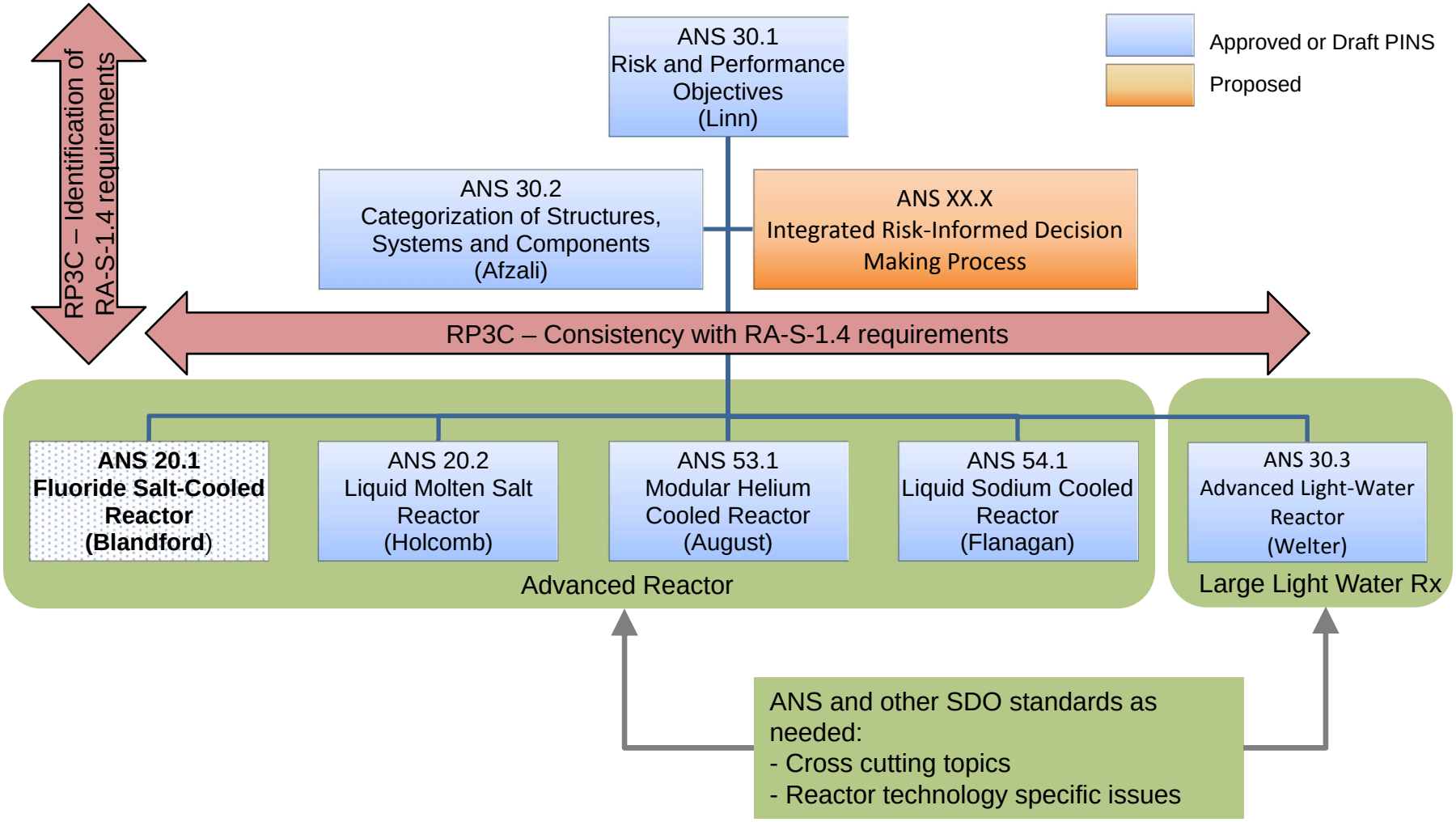
November 12, 2018

What is ANS 30.1?

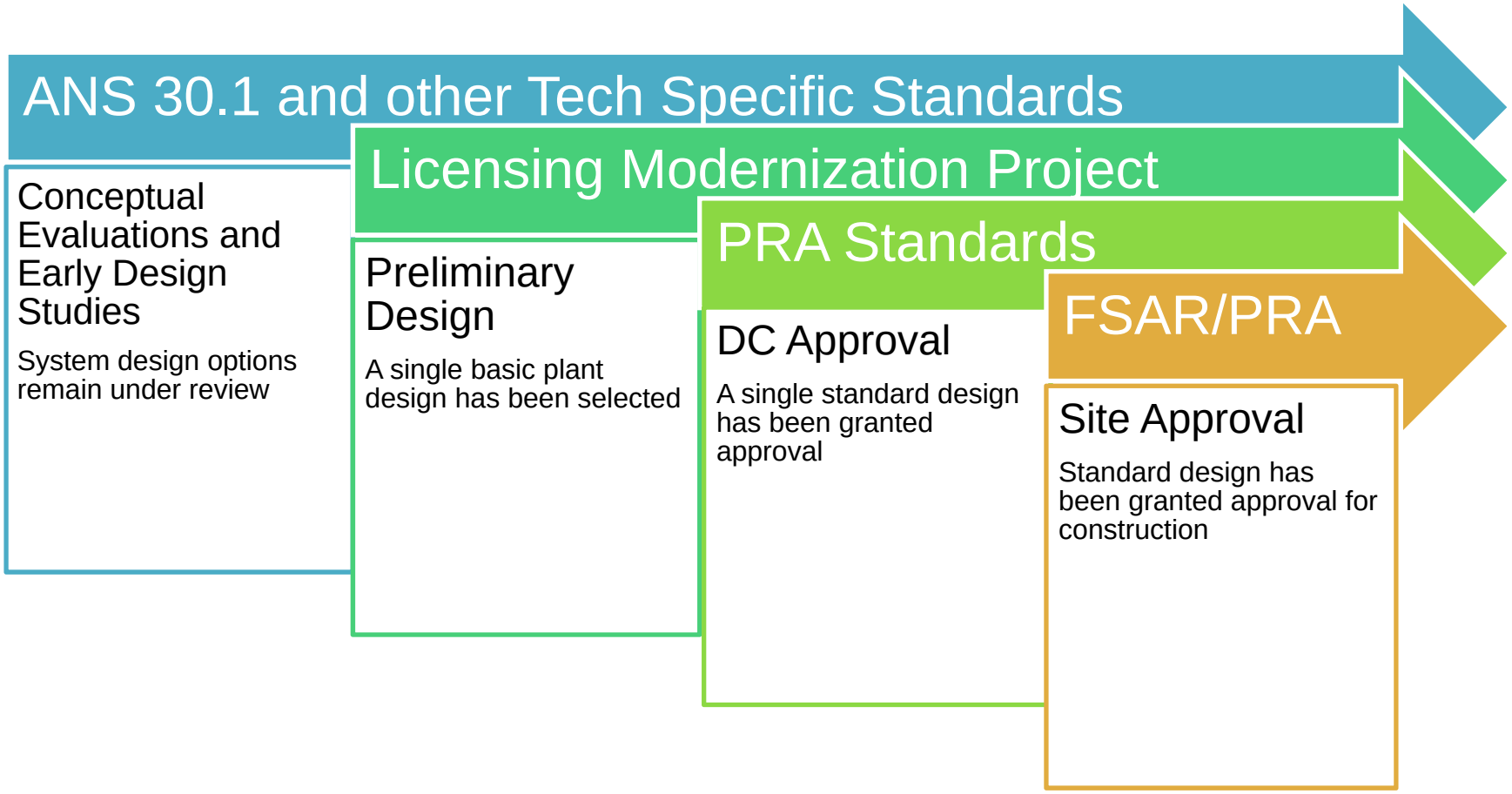
Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs

- It is not a design criteria document and does not specify design criteria
- Emphasis is to promote the use of risk-informed and performance-bases (RIPB) methods and techniques to provide more flexible design process commensurate with the safety of a given reactor technology
- It is a technology neutral standard
- It is to provide a consistent RIPB framework for lower tier technology-specific advanced reactor standards
- It allows for augmentation of deterministic design requirements using RIPB methods and results or the replacement of deterministic requirements with equivalent requirements based on RIPB methods
- It allows early discussion of RIPB insights on design basis events, equipment safety classification, defense in depth, and high level safety criteria

ANS New Reactor RIPB Standards Structure



New reactor design timeline



Boundaries of ANS 30.1

Integration of ANS 30.1 with other activities placed constraints on the document

- Provide consistent RIPB framework across all new reactor technologies
- Should address early design when PRA not possible to prepare
- Be consistent with the Licensing Modernization Project
- Be consistent with existing PRA Standards such as ASME/ANS-RA-S-1.4 2013

Contents of ANS 30.1

ANS 30.1 currently addresses

- The definition of RIPB methods, how they differ from PRA, and how to integrate them into the design process
- General requirements that are sufficient and necessary for a process to develop a robust RIPB reactor design
  - Develop principle design criteria
  - Use a systems engineering process
  - Use a quantitative process to evaluate defense in depth
  - Evaluate design(s) using sequence-based assessments
- Use of RIPB methods to derive safety insights
- The affirmation of acceptable design results
- Identification of ASME/ANS-RA-S-1.4 2013 Objectives and Requirements appropriate for early design considerations
- Compendium of RIPB methods applications and examples

Needs of ANS 30.1

ANS 30.1 is in current need of

- Consensus by immediate stakeholders on the current draft content and subject intent. Specific content change or layout feedback is needed to provide WG direction
- Assistance in definition of appropriate RA-S-1.4 requirements (vertical) and consistency in application of those requirements across all tech-specific standards (horizontal)
- Coordination to ensure consistency with the LMP work
- Direct and active interaction with WGs preparing lower tier standards to ensure consistent incorporation of ANS 30.1 requirements
- Involvement by the Standard's Board to ensure progress on the New Reactor RIPB Standards Structure is achieved in a timely manner

ATTACHMENT 17

SRACC Chairman's Report to the ANS Standards Board

Tuesday, November 13, 2018 • Hilton Orlando Bonnet Creek, Orlando, FL

PINS in Development/Approval (1)

- ANS-19.8, "Fission Product Yields for 235U, 238U, and 239P" (proposed new standard)

Standards in Development – Approved PINS (9)

- ANS-6.1.1, "Neutron and Photon Fluence-to-Dose Conversion Coefficients" (reinvigoration of historical standard ANSI/ANS-6.1.1-1991)
- 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-10.4, "Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry" (revision of ANSI/ANS-10.4-2008 (R2016))
- ANS-19.5, "Requirements for Reference Reactor Physics Measurements" (historical revision of ANSI/ANS-19.5-1995—new standard)
- ANS-19.3.4, "Determination of Thermal Energy Deposition Rates in Nuclear Reactors" (revision of ANS-19.3.4-2002 (R2017))
- ANS-19.6.1, "Reload Startup Physics Tests for Pressurized Water Reactors" (revision of ANSI/ANS-19.6.1-2016)
- ANS-19.9, "Delayed Neutron Parameters for Light Water Reactors" (new standard)
- ANS-19.12, "Nuclear Data for the Production of Radioisotope" (new standard)

Standards at Ballot/Resolving Comments (1)

- ANS-19.1, "Nuclear Data Sets for Reactor Design Calculations" (revision of ANSI/ANS-19.1-2002 (R2011))

Standards Recently Approved (2)

- ANSI/ANS-6.1.2-2013 (R2018), "Group-Averaged Neutron and Gamma-Ray Cross Sections for Radiation Protection and Shielding Calculations for Nuclear Power Plants (reaffirmation of ANSI/ANS-6.1.2-2013)
- ANSI/ANS-10.7-2013 (R2018), "Non-Real Time, High Integrity Software for the Nuclear Industry—Developer Requirements" (reaffirmation of ANSI/ANS-10.7-2013)

Standard Published (0)

No standards published in 2018.

Delinquent Standards (5+ years since ANSI approval) (4)

- ANSI/ANS-5.4-2011, "Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel (maintenance requested)
- ANSI/ANS-5.10-1998 (R2013), "Airborne Release Fractions at Non-Reactor Nuclear Facilities" (maintenance requested)
- ANSI/ANS-10.2-2000 (R2009), "Portability of Scientific and Engineering Software" (SRACC concurred with working group's decision to allow the standard to be administratively withdrawn; update to be initiated when technology stable)
- ANSI/ANS-19.1-2002 (R2011), "Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors" (revision currently with SRACC for approval)

Responses to Inquiries in Development (0)

The SRACC has no open inquiries.

Membership Changes

There have been no recent membership changes.

Volunteer Staffing Needs

Staffing Need (Member, chair, etc.)# of positions	Standard #	Date Need Identified (Estimated)	Priority (H or M)*	Date Need Filled	Source**	Date-Actions Taken to Fill Need (Estimated)
Chair/Members	ANS-6.3.1	2015	M		d,e	various 2015-current
NA	ANS-10.4	2017	NA	9 WGMs as of 10/2018	d, e	2017
Members	ANS-19.3.4	2017	M		a, d, e	2017 - current
Chair/Members	ANS-19.8	pre-dates SRACC	M		a, d, e	various 2014-current
Chair/Members	ANS-19.9	pre-dates SRACC	M		a, d, e	various 2014-current
Chair/Members	ANS-19.12	pre-dates SRACC	M		d, e	various 2014-current

* High (H) or medium (M) priority based on priority of standard or reaffirmation time limit.

**a. Personal contact, b. standards manager (ANS staff), c. ANS SC referral, d. ANS publication, e. ANS website, f. Linkedin post, g. conference speakers and paper authors, h. internet search, i. other

ATTACHMENT 18

IEEE/NPEC Liaison Report to A S Standards Board 11/13/2018

Report of IEEE Nuclear Power Engineering Committee Activities of interest to ANS

IEEE Standards under preparation for balloting:

- IEEE 627, "IEEE Standard for Qualification of Equipment Used in Nuclear Facilities"

IEEE standards under revision:

- IEEE Std 308, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating"
- IEEE Std 336, "IEEE Recommended Practice for Installation, Inspection, and Testing for Class 1E Power, Instrumentation, and Control Equipment at Nuclear Facilities"
- IEEE Std 338. "IEEE Standard for Criteria for the Periodic Surveillance Testing of Nuclear Power Generating Station Safety Systems"
- IEEE Std 382, "IEEE Standard for Qualification of Safety-Related Actuators for Nuclear Power Generating Stations"
- IEEE Std 420 "IEEE Standard for the Design and Qualification of Class 1E Control Boards, Panels, and Racks Used in Nuclear Power Generating Stations"
- IEEE Std 577, "IEEE Standard Requirements for Reliability Analysis in the Design and Operation of Safety Systems for Nuclear Power Generating Stations"
- IEEE Std 649, "IEEE Standard for Qualifying Class 1E Motor Control Centers for Nuclear Power Generating Stations"
- IEEE Std 692, "IEEE Standard for Criteria for Security Systems for Nuclear Power Generating Stations"
- IEEE Std 741, "IEEE Standard Criteria for the Protection of Class 1E Power Systems and Equipment in Nuclear Power Generating Stations"
- IEEE Std 765, "IEEE Standard for Preferred Power Supply (PPS) for Nuclear Power Generating Stations"
- IEEE Std 845, "IEEE Guide for the Evaluation of Human-System Performance in Nuclear Power Generating Stations"
- IEEE Std 1023, "IEEE Recommended Practice for the Application of Human Factors Engineering to Systems, Equipment, and Facilities for Nuclear Power Generating Stations"
- IEEE Std 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems for Nuclear Power Generating Stations"

IEEE Standards recently published:

- IEEE Std 384 "IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits"
- IEEE Std 603, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations"

IEEE-IEC Collaboration

Joint projects are ongoing to develop IEEE/IEC dual logo standards for the following:

- IEC/IEEE Std 63113 "IEC/IEEE Standard for Spent Fuel Pool Monitoring Instrumentation"

- IEC/IEEE Std 62582-6, “Standard for Nuclear power plants - Instrumentation and control important to safety - Electrical equipment condition monitoring methods - Part 6: Insulation Resistance”
- IEC/IEEE Std 60980-344, “IEEE Standard for Seismic Qualification of Equipment for Nuclear Power Generating Stations”

New Joint projects are starting for the revision of current IEEE/IEC dual logo standards:

- IEC/IEEE Std 62582-1, “Standard for Nuclear power plants - Instrumentation and control important to safety - Electrical equipment condition monitoring methods - Part 1: General”
- IEC/IEEE Std 62582-2, “Standard for Nuclear power plants - Instrumentation and control important to safety - Electrical equipment condition monitoring methods - Part 2: Indenter modulus”
- IEC/IEEE Std 62582-4, “Standard for Nuclear power plants - Instrumentation and control important to safety - Electrical equipment condition monitoring methods Part 4: Oxidation induction techniques”

Recent Joint Standard Publications with IEC

- IEEE/IEC 60780-323, “IEC/IEEE International Standard - Nuclear facilities - Electrical equipment important to safety – Qualification”

- IEEE 63147-2017, “IEEE/IEC International Standard - Criteria for accident monitoring instrumentation for nuclear power generating stations” [Adoption of IEEE 497]

“Common Cause Failure Systems Analysis and Diversity”.- potential new joint standard with ANS

Submitted by Donald J. Spellman