American Nuclear Society (ANS)
Standards Board (SB) Minutes
Las Vegas, Nevada
November 9, 2010

Members Present
N. Prasad Kadambi, *Standards Board Chair, Individual*
Robert J. Budnitz, *RISC Chair*, *Lawrence Berkeley National Laboratory*
Carl A. Mazzola, *NFSC Chair, Shaw Environmental and Infrastructure, Inc.*
Peter S. Hastings, *Member at Large*, *Duke Energy*
Calvin M. Hopper, *N16 Chair, Individual*
Herbert W. Massie, *Member at Large, Defense Nuclear Facilities Safety Board*
Caroline M. McAndrews, *Member at Large*, *Southern California Edison*
Mathew M. Panicker, *Member at Large, U.S. Nuclear Regulatory Commission*
Tawfik M. Raby, *N17 Chair, National Institute of Standards & Technology*
Patricia A. Schroeder, *Standards Board Secretary, American Nuclear Society*
William M. Turkowski, *Member at Large, Westinghouse*
James H. Riley, *Liaison, Nuclear Energy Institute*
R. Michael Ruby, *Member at Large, Constellation Energy-Ginna NPP*
Michael J. Wright, *Member at Large, Entergy*

Members Absent
Walter M. Justice, *Member at Large, Tennessee Valley Authority*
Charles H. (Chuck) Moseley, *Member at Large, Individual*
Donald J. Spellman, *Standards Board Vice-Chair, Oak Ridge National Laboratory*
Steven L. Stamm, *Member at Large, Shaw Nuclear Services*

Guests
James K. August, *CORE, Inc.*
William H. Bell, *South Carolina Electric & Gas Co.*
Richard (Dick) Black, *U.S. Department of Energy*
Craig Piercy, *American Nuclear Society*
William B. Reuland, *Individual*

1. Welcome and Introductions
Introductions were made, and Standards Board (SB) Chair Prasad Kadambi welcomed the members and guests.

2. Approve Agenda
The agenda was approved as presented.

3. Standards Board Chair's Report
SB Chair Prasad Kadambi stated that since the SB met last June, things had been moving forward on several fronts. He explained that he had been trying to prepare the SB for the future. The Society was going through a period of transition that included a directive restricting Monday committee meetings. The merger of the probabilistic risk assessment (PRA) activities of the American Nuclear Society (ANS) Risk Informed Standards Committee (RISC) and the American Society of Mechanical Engineers (ASME) Committee on Nuclear Risk Management (CNRM) was another example of change. The ANS Board of Directors gave the SB conditional approval of the merger. Kadambi explained that the SB would be hearing reports of the merger later during the meeting. He stated that we needed to broaden our efforts with ASME to coordinate activities in other areas as

well. Kadambi requested that members look at what was going on in the Society and to get involved in what was of interest to them.

A. Board of Directors (BOD) Presentation (See Attachment A)
Prasad Kadambi provided the members a copy of his presentation to the ANS BOD. The presentation was provided as Attachment A.

B. Report on Brazil Nuclear Codes & Standards Workshop
Prasad Kadambi informed members that he represented ANS at a workshop in Brazil. The workshop was entitled "U.S. Codes and Standards Workshop: Applications for the Brazilian Oil & Gas and Nuclear Industries," and was held in Rio de Janeiro, Brazil, August 18, through 20, 2010. ANS was asked to support the conference by Miguel Hernandez with the U.S. Department of Commerce. Kadambi explained that ASME was a primary supporter. Kadambi provided a presentation on behalf of ANS. It was his belief that ANS needed to make a presence at these types of events, when possible. A copy of Kadambi's presentation is provided as Attachment B.

C. Report on Utility Working Conference Seminar
Prasad Kadambi informed members that a training opportunity for ANS members was provided at the Utility Working Conference in Amelia Island, Florida. He was able to get Dennis Henneke to help him put together a training activity on the application aspect of PRAs and where regulatory policy fit in. The seminar, presented at the end of the Conference on August 11, 2010, was not attended by many ANS members but was extremely well received by those who did attend. Kadambi stated that he received strong encouragement to do additional seminars.

D. Report on India Nuclear Expo
Prasad Kadambi explained that he was on personal business in India and learned of a Nuclear Expo in Mumbai, India, on October 8 and 9, 2010. Being in India, he was able to get support from ANS to attend the expo at minimal cost to the Society. A report of the meeting put out by the organizers is provided as Attachment C. Kadambi felt that benefits of participating were potential opportunities in the future. Some SB members questioned whether participation at international conferences was a good use of ANS resources. Kadambi recognized that ANS did not have the level of resources that are available to ASME, but felt that ANS should participate and make a presence in these types of conferences, when possible.

E. NRC Public Meeting, October 19, 2010 (See Attachment D)
Prasad Kadambi reported that he attended a U.S. Nuclear Regulatory Commission (NRC) public meeting on October 19, 2010, and provided a presentation (See Attachment D). The public meeting addressed issues raised by the Nuclear Energy Institute (NEI) about the future plans for the PRA standards. Both ANS and ASME participated.

F. Nuclear Energy Standards Coordination Collaborative (NESCC) Standards Projects Initiative
Prasad Kadambi explained that a request had recently been received from Jim Riley for a list of standards projects that could benefit from funding through the NESCC. The NESCC had requested input from NEI on what standards would be of benefit to the industry. Riley was assigned the task and sought input from ANS, ASME, and the Institute of Electrical and Electronics Engineers (IEEE). Kadambi explained that he took the suggestions of SB members to prepare a list for Riley.

G. SB Chair
Prasad Kadambi informed members that he recently met with the incoming ANS President, Eric Loewen. He reported that Loewen would be implementing term limits for all Society standing committee chairs. Therefore his role as SB Chair would expire after the June 2011 Annual Meeting. Kadambi stated that he had requested

prior to this notice that Carl Mazzola take over the SB Vice-Chair position. He explained that Loewen may choose to appoint any ANS member as the new SB Chair or may choose to appoint Mazzola. Tawfik Raby complimented Kadambi on his efforts and expressed his concern that he should be permitted to fulfill the initiatives he began. Raby felt that the abrupt change in leadership would have a negative effect on the Standards Committee. Raby proposed the following motion:

> **MOTION:**
> To instruct Carl Mazzola to send a letter to the President-Elect of the Society that Prasad Kadambi be kept as Standards Board Chair because of the current circumstances involving worldwide standards vital to the US.

While members agreed that Kadambi did an excellent job, most felt that it was the prerogative of the ANS President and the Board of Directors to enforce the Bylaws. The motion failed to be seconded.

Herbert Massie suggested that a more appropriate motion would have been to prepare a letter to the ANS President and President-Elect expressing the significant contributions made by Kadambi. He proposed the following:

> **MOTION:**
> To write a letter to the ANS President and President-Elect with Prasad Kadambi's contributions and let that stand on its own.

The motion passed with 10 for, 1 against, and 1 abstention. In fulfillment of the action item, Carl Mazzola was asked to prepare the letter.

Action Item 11/10-01: Carl Mazzola to write a letter to the ANS President and President-Elect outlining Prasad Kadambi's contributions as ANS Standards Board Chair.

4. Upcoming NESCC Meeting

Prasad Kadambi informed SB members that the next NESCC meeting was scheduled for November 22, 2010. He planned to attend the meeting to represent ANS and invited other SB members to attend. Dick Black, a NESCC supporter, addressed the SB and explained how the NESCC began. He stated that the NESCC hadn't developed yet as he intended. Black believed that funding would be provided in the near future to support standard projects. It was Black's sentiment that the most important project currently in the works under the NESCC was the standards database. The database would be made publically available once completed and would become useful for international industries to be prepared for the nuclear renaissance. He stressed that the intention of this project was not to create a licensing database.

It was recommended that a copy of the list of standards that could benefit from NESCC support prepared for NEI be provided to Black.

Action Item 11/10-02: Prasad Kadambi to send Dick Black the list of standards projects that could benefit from NESCC funding provided to NEI through Jim Riley.

Mathew Panicker questioned how the NRC was informed of new standards. Kadambi confirmed that the NRC and the U.S. Department of Energy (DOE) Standards Executives were sent new and reaffirmed standards upon approval with a request to review and consider for endorsement/adoption. Robert Budnitz stated that he felt it was the responsibility of the representative on the responsible consensus committee to inform their agency of

standards activities. Several members agreed with Calvin Hopper that it was important to notify more than just NRC. He suggested the following motion:

MOTION:
To inform NEI and the Energy Facilities Contractor's Group (EFCOG) as well as DOE and NRC of new standards.

Jim Riley expressed concern that by including NEI there was an expectation that they would notify the industry which was not their role. Peter Hastings suggested that it would be better to include the Institute of Nuclear Power Operations than NEI. Riley asked that if new standards were sent to NEI, an accompanying letter clearly state that NEI was not expected to notify the industry but that a copy was provided for retention in their library.

AMENDED MOTION:
To inform NEI and EFCOG, as well as DOE and NRC of new standards and provide a copy.

The motion passed with one member in opposition.

Action Item 11/10-03: Pat Schroeder to notify the DOE, NRC, NEI and EFCOG of new standards and provide a copy.

5. Proposed Standards Committee Training Initiative

Prasad Kadambi explained that he appointed Mathew Panicker to help support his initiative on training. Panicker explained that a potential training opportunity on nuclear criticality safety (NCS) was not received favorably by N16. Robert Busch thought there were two reasons that the training was not received well. One was that they do not issue certifications and the other because the ANS-8 working group chairs were not consulted in advance. Kadambi explained that this was an exploratory initiative for discussion with the Professional Development Committee to bring value to ANS membership. Hopper informed members that the NCS Division organized a technical session when a new N16 standard was approved. Kadambi stated that we had an opportunity to build on the concept of training workshops or to reject the idea. He felt that NCS had many favorable characteristics for implementing a training initiative. Kadambi was in favor of the initiative as it had the possibility to bring in revenue for ANS and perhaps a portion to the Standards Committee. Busch explained that the current workshop structure used volunteer leaders and that the revenue went directly to the Society. Herb Massie summarized an ASME training initiative he supported in the 1980s that was successful at creating revenue. Panicker suggested the following motion:

MOTION:
To explore the possibility of offering a workshop/course on NCS with the possibility of offering certification.

The motion was not seconded.

Bob Budnitz stated that he did not feel it was appropriate for the SB to initiate certification although training in some areas may be an appropriate extension. Michael Wright suggested that the advice of a lawyer be sought before considering a certification program. Some members thought training on PRAs might be a good place to start. Budnitz clarified that training on risk-informed analysis could be of benefit.

AMENDED MOTION:
To seek support from the BOD to initiate training as a pilot project on risk-informed decision making for the nuclear industry.

The amended motion was seconded for discussion. Members expressed several concerns about taking on training activities. Questions arose on whether this activity was under a different purview of the Society. When the Standards Committee scope was read, some members felt that the development of a standard could include training. Another concern expressed was whether training activities was a good use of the Standards Committee's limited resources. Busch recommended that the SB delegate this decision to each consensus committee. Budnitz stated that the RISC decided not to take on training at the last meeting partly because they were too busy.

The amended motion was approved seven to two with one abstention.

To fulfill the motion, Prasad Kadambi accepted an action item to create an ad hoc committee to determine if the SB structure would need to change and to determine the appropriate purview.

Action Item 11/10-04: Prasad Kadambi to create an ad hoc committee to: 1) determine if the SB structure needs to change to accommodate a training initiative; and/or, 2) determine the appropriate body to initiate training for a pilot project on risk-informed decision making for the nuclear industry.

6. Small Modular Reactors (SMRs) (See Attachment E)

Peter Hastings explained that the presentation (Attachment E) was in partial completion of Action Item 6/10-01 for him to work with Prasad Kadambi on a concept of a safety case for SMRs and other ideas to increase engagement of the ANS Standards Committee in SMR activities. Hastings added that this was part of a larger plan to be of benefit to the industry. A useful outcome would be to determine how ANS could support SMRs. Hastings stated that some challenges occurred since the last meeting. He felt that it was uncertain to what extent SMRs would be developed. Hastings stated that it was recognized that standards for SMRs expecting to be licensed in the near term could not be developed in time to support those licensing efforts. In the near-term, fundamental changes were not needed as exemptions to regulations could be utilized. Hastings's observation was that the SMR vendors had not yet come together on several issues. He reported a significant issue was that there were only finite resources and in some cases these efforts were competing. Additionally, there was not a clear, single person/team in charge. Hastings reported that both NEI and ANS were working on similar white papers. Changes in the short-term could be done on an interim basis before rulemaking can be changed.

Kadambi recommended that we latch on to these initiatives and make the needed improvements on our standards. He questioned Hastings whether he saw anything specific we could take advantage of. Hastings suggested brainstorming what standards could be developed in the next few years to support SMRs. William Bell thought that we might need standards for three different SMR designs.

Kadambi stated that most standards developing organizations had a group that provided a conformity assessment program that addressed verification of conformance to design standards. He felt that SMRs were an opportunity to try something new even if only as an exploratory effort. If our standards activity included a conformity assessment program, it could reduce the burden on regulatory efforts needed, provided it could show that safety requirements were being met. The intent would be to have conformity assessment built into a standard requiring a qualified, third-party inspection/audit function. Kadambi thought that if this was accomplished in the private sector, there would be a cost savings.

As a standards board, Hastings felt that our committees could identify what was useful to the SMR community, taking into account what could be accomplished in time to support it. ANS should prepare a list of standards that could put forth conformity assessment standards. Further down the path, the SB could identify standards on

implementation and siting. To support SMRs, the SB would need to commit to develop needed standards quickly.

Hastings felt that the standards community should stay away from emergency planning because it is being addressed via regulatory programmatic initiatives through NEI, with the goal to make emergency planning less onerous for licensees where appropriate. Risk informing emergency planning would be beneficial, but that would be a longer-term goal. Kadambi suggested a guide or standard on defense-in-depth and made the following motion:

MOTION:
To support development of a guide or standard to fulfill the needs of defense-in-depth for SMRs.

The motion was not seconded as members agreed with Hastings's suggestion to engage the BOD to determine what the top five options might be before a decision was made and suggested a teleconference to discuss. Members were in agreement that a white paper should be prepared on a guide/standard on SMRs to be determined via SB teleconference.

Action Item 11/10-05: Peter Hastings to establish one or more SMR-related standards to be identified at a subsequent conference call and directed to the appropriate consensus committee for development.

7. Nuclear Risk Management Coordinating Committee (NRMCC)
With the next NRMCC to be held the following day, there was nothing new to report.

8. Status of Proposed Joint Committee on Nuclear Risk Management (JCNRM) (See Attachment F)
A presentation on the proposed JCNRM was provided to the members (see Attachment F). Bob Budnitz distributed a few copies of the revised JCNRM procedures that were currently out for approval with the ASME Board on Nuclear Codes and Standard (BNCS). If approved by BNCS, the SB would have the opportunity to review and approve. Budnitz did not feel that any of the changes were substantive and did not believe that the BNCS had any substantive comments or objections. Prasad Kadambi reminded the members that the SB was previously provided an opportunity to comment but that he felt it was important for members to have an opportunity to formally approve the revised procedures. Tawfik Raby reiterated his opposition to the formation of the JCNRM which the members acknowledged.

Budnitz explained that both societies had concerns with scope questions. However, it was Budnitz's thought that this issue was controlled because each new project required approval by both societies' boards. Although he accepted that the merger had the potential to result in some losses to ANS, he felt that there would also be gains to the Society and to the industry. Kadambi stressed that the open issues of equity, scope, and procedures remained unresolved and need to be addressed. Bob Budnitz asked for SB member comments as soon as possible so that they could be incorporated into the procedures.

Action Item 11/10-06: Bob Budnitz to provide the JCNRM procedures electronically to members for comment through Pat Schroeder.

Action Item 11/01-07: Members to provide comments on the JCNRM procedures/changes by November 12, 2010, through Pat Schroeder.

9. Discussion of Standards Committee Rules and Procedures (See Attachment G)

A. Changes to the Standards Committee Rules and Procedures

Pat Schroeder reviewed the changes to the Standards Committee Rules and Procedures presented in track changes mode (Attachment G.) The following changes were approved for submittal to the American National Standards Institute (ANSI):

- Article 3.2.2: The sentence "Names of consensus committee members and their organizational affiliation shall be available to interested parties upon request." was added.
- Article 5.1: To clarify the establishment of due process and eliminate a perceived conflict with Article 5.6, the words "as described in 5.6" were added.
- Article 5.5, ¶ 2: Related to notification of appeals, the words "in writing" were added.
- Article 5.5, ¶ 3: Related to substantive changes, the words "or recirculation ballot when feasible" were added.
- Article 5.5, ¶ 3: Related to balloting, the sentence "In the case of a vote taken at a meeting, those not in attendance shall be provided an opportunity to vote either prior to or after the meeting." was added.
- Article 5.7: The clause, "(2) reaffirmations shall be accomplished without any substantive changes to the main text of the standard," was added.
- New Article 5.8 was added as follows:

  "The designation of and publication of American National Standards shall comply with the current version of the ANSI Essential Requirements. American National Standards shall

  - include an approval logo or the words "an American National Standard" on its cover or title page;
  - be identified by a unique alphanumeric designation; and
  - clearly indicate on its cover or title page if it has been reaffirmed or withdrawn.

  Portions of a published document that are not approved through the consensus process shall not contain requirements necessary for conformance with the approved American National Standard and shall be clearly identified."

- Article 5.9: Was updated to incorporate the new policy on responding to inquires and at the requirement of ANSI, to clarify that responses cannot supplement or modify a standard. The article now reads

  "Inquiries (i.e., requests, and/or questions) about American National Standards developed by the Standards Committee shall be submitted to the Standards Administrator. The Standards Administrator shall send each inquiry to the ANS Standards Board Chair, the responsible consensus committee chair, and responsible subcommittee chair for their review to assure that the inquiry is relevant to the identified standard and does not qualify as a *case interpretation*. If the inquiry is determined to be a *case interpretation* or *not relevant* to the specified standard, the SB Chair shall respond to the requestor within 30 days of the receipt of the inquiry. Upon the determination by the SB Chair, consensus committee chair, and subcommittee chair that the inquiry is not a *case interpretation* and is relevant to the referenced standard the subcommittee chair shall manage the development of a response to the inquiry according to the SB POLICY ON DEVELOPING RESPONSES TO INQUIRIES ABOUT STANDARDS REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS. The response shall not supplement or modify the standard. The response shall be reviewed for technical content by the appropriate working group, subcommittee and balloted by the responsible consensus committee in accordance with Article 5.4. The SB Chair shall reply to the requestor of the inquiry. Each response shall be published in Nuclear News. "

- New Article 5.13 was added as follows:

  "Requests for withdrawal of an American National Standard for cause shall comply with the current version of the ANSI Essential Requirements."

- Annex C, Section 2.1 was changed as follows (red= new text):

  ANSI procedures require that American National Standards undergo maintenance procedures within five years. To accommodate the revision process, ANSI permits the extension of the viability of a standard for up to an additional five years, or a total of ten years from the initial approval of the standard. To ensure that records are retained for at least this ten-year period (i.e., minimally one complete standards cycle), the following documents associated with each current and withdrawn American National Standard, if held at ANS as of November 16, 2004, shall be retained by ANS for 11 years (after the last ANSI approval).

Two suggestions from the ANSI audit report were not accepted. The SB chose to retain the 60 day-ballot period (see Article 5.3) as they felt the existing procedures which allowed for the ballot period to be shorted at the discretion of the consensus committee chair was adequate. Additionally, members felt strongly that Article 6.4 should retain the text "If the appeal is denied, the notification to the appealer shall state that further appeal may be made to the ANSI Board of Standards Review" for procedural clarity.

B. Policy on Multiple Representation (currently in trial use) (See Attachment H)
Prasad Kadambi explained that the Policy on Committee Representation had been in trial use with the new balance of interest definitions for some time. He asked members to formally approve the policy. Members approved the Policy on Committee Representation unanimously without change. See Attachment H for a copy of the approved policy.

C. Statement in Foreword Regarding Inquiries (See Attachment I)
The proposed statement to be included in the Foreword for users to submit an inquiry was reviewed (See Attachment I). Questions arose with consistency in the statement and the new policy on provided responses to inquiries. Calvin Hopper asked to work with Pat Schroeder to make both consistent to bring back to the SB for approval.

Action Item 11/10-08: Calvin Hopper to work with Pat Schroeder to prepare a statement for the Foreword of each standard to be consistent with the policy.

10. Consensus Committee Reports (N16, N17, NFSC, RISC)

A. N16 Committee (See Attachment J)
A written report was provided (Attachment J). N16 Chair Calvin Hopper reported that the N16 Committee held a meeting the previous Saturday, November 6, 2010. He explained that a decision would be made on whether to move forward with the ANS-8.25 standards project on criticality safety related postings. Hopper stated that he proposed an expansion of the N16 membership that was discussed at the meeting. Robert Busch added that the committee voted to take the membership up to 22. Hopper informed the SB that he requested N16 members to provide suggestions for new leadership of N16, and the committee voted to accept the nomination of Busch as N16 Chair effective with the close of today's Standards Board meeting. Hopper called for the following motion:

MOTION:
To approved Robert Busch as N16 Chair to replace Calvin Hopper.

The motion approving Busch as N16 Chair was approved unanimously by the SB.

Prasad Kadambi informed the SB that Hopper requested him to send a letter to the ANS President requesting N16 space to meet on Monday afternoon of ANS meetings. The letter was sent to ANS President Joe Colvin and the full BOD. Having received no response, Kadambi explained that he approached Colvin at the meeting. He thought that Colvin was responsive to the points addressed in the letter and was hopeful that an exception to the recent policy on Monday meetings would be made in the future.

Prasad Kadambi requested Busch to follow consistent procedures in submitting meeting minutes.

B. N17 Committee (See Attachment K)
N17 Chair Tawfik Raby recommended members to seek the written report for additional details (Attachment K). Raby noted that many, many requests to update ANSI/ANS-5.1-2005, "Decay Heat Power in Light Water Reactors," were received. In compliance, the working group was making every effort to revise and expedite. Raby reported that he was working with the ANS-10 Subcommittee Chair to update standards within the purview of ANS-10 standards as he felt they were needed by the industry. Prasad Kadambi asked Raby to follow consistent procedures in submitting meeting minutes.

C. NFSC (See Attachment L)
NFSC Chair Carl Mazzola reported on the NFSC meeting held the previous day at the University of Nevada, Las Vegas. He stated that the NFSC had been very busy over the last year. Mazzola summarized his written report (see Attachment L) and highlighted the following standards activities:

- ANS-2.17, "Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants," should be approved shortly.
- ANS-2.3, "Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites," was currently out for ballot.
- ANS-5.4, "Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel," and ANS-2.21, "Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink," were resolving comments.
- The ANS-3.8 series of historical standards on emergency preparedness were being reinvigorated.
- The revision of ANS-18.1, "Radioactive Source Term for Normal Operation of Light Water Reactors," was struggling to acquire data to complete an update.
- The possibility of issuing ANS-53.1, "Nuclear Safety Criteria for the Design of Modular Helium-Cooled Reactor Plants," for TUPA was discussed.

Additionally, Mazzola noted that four responses to inquiries on standards were recently issued and an ad hoc committee was formed to find a nominee for a new NFSC Chair, since he would be taking a leadership position in the SB and would not have enough time available to continue in his NFSC role after the 2011 Annual Meeting.

D. RISC (See Attachment M)
RISC Chair Bob Budnitz referred members to the written RISC report (Attachment M). He stated that ANS/ASME-58.25, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications," was just completed and would be issued for ballot for TUPA. Budnitz estimated that that draft standard ANS-58.22, "Low Power and Shutdown PRA Methodology," should be ready for ballot by the end of the month. ANS/ASME-58.24, "Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications," was expected to be ready for ballot around March 2011. Budnitz reminded members of a letter received from NEI requesting ANS and ASME to put a hold on issuing the PRA standards. The request was as a result of the immediate NRC endorsement of the Fire PRA

standard as soon as issued. Budnitz noted that the RISC felt issuing drafts for trial use prior to gaining approval by ANSI would solve the concern.

Budnitz confirmed that the ANS-58.22 draft standard was written to be included with the combined standard. ANS/ASME-58.24 and ANS/ASME-58.25 were being developed as joint ANS/ASME standards, with ANS as the lead that would not be included in the combined standard.

Budnitz reported that discussions had been undertaken with two potential candidates who might be considered as possible candidates for the vacant position of RISC vice-chair, which position would transition to the position of co-vice chair of the new JCNRM when is it established. The names of the candidates were mentioned on an informal basis, but no action was taken by the SB at this time on this issue.

11. Discuss and Resolve Action Items

Open action items were discussed and closed if completed. A list of action items and their status can be found at the end of these minutes. A few additional action items were assigned during the discussion.

In regards to Action Item 06/10-03, Bob Budnitz stated that RISC discussed the NEI letter. The RISC did not want to slow down the PRA standards as NEI requested but were in favor of issuing a standard for trial use to avoid endorsement prior to use. Jim Riley believed that issuing a standard for trial use was acceptable to NEI and offered to confirm that a formal response was not required.

Action Item 11/10-09: Jim Riley to confirm that NEI was satisfied with the decision to issue the PRA standards for trial use and are not in need of a formal response to the letter.

12. Secretary's Reports

A. Staff Report, Standards Reports, Sales Report (See Attachments N, O, P)

Pat Schroeder directed members to the provided written reports (Attachments N, O, P) for review at their convenience. She noted of interest a significant sale of standards in the ANS-10 series for a DOE conference totaling just over $16,000.

B. New Project Initiation Notification System (PINS) Forms/Letter Ballots

Members were provided an opportunity to comment on the revised PINS of ANS-58.8, "Time Response Design Criteria for Safety-Related Operator Actions," and ANS-58.16, "Safety Classification and Design Criteria for Non-Reactor Nuclear Facilities," as well as the certification of a response to an inquiry on withdrawn standard ANSI/ANS-3.4-1983, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants."

13. Liaison Reports

A. Operations & Power Division (OPD)

Kadambi stated that the OPD meeting was sparsely attended and there wasn't anything new to report.

B. NEI

Jim Riley stated that he provided his insight throughout the meeting. No additional report was necessary.

C. Washington Liaison Report

Craig Piercy introduced himself as the ANS Washington Representative. He stated that he has been receiving questions about standards on small and medium-sized power reactors. He was happy to help but needed input from members. Piercy stated he expected that DOE would have more ability next year to fund standards through the NESCC. It was speculated that John Kelly and Dick Black, both with DOE, would have decision-making authority on providing funding. Piercy suggested working with DOE on priorities.

D. International Organization of Standardization (ISO)
Calvin Hopper reported on ISO Technical Committee (TC) 85, Subcommittee (SC) 5, activities. He stated that they were making good progress. Hopper explained that international members were very interested in decontamination. The NCS Working Group 8 had three new standards out. With the recent new appointment of chairmen of SC 6 and new involvement of subcommittees associated with SC 6, Hopper believed that there would be renewed interested. Tawfik Raby believed that SC 6 was on life support as there had been difficulty getting other countries to support. Prasad Kadambi added that there was a speech where NRC Chairman Jackzo mentioned that safety standards should be developed on an international level. A suggestion was made for ANS to take that up under TC 85. Kadambi recommended that ANS-58.14 "Safety and Pressure Integrity Classification Criteria for Light Water Reactors," be used as a basis.

E. IEEE/Nuclear Power Engineering Committee
No report was available.

14. Other Business

A. Standardizing Records for Consensus Committees (minutes on file)
Prasad Kadambi noted that this item was addressed earlier under consensus committee reports.

B. Documenting Application/Use of ANS Standards Internationally
Prasad Kadambi asked SB members to inform Pat Schroeder of any knowledge of ANS standards used internationally, as learned.

C. Remote Access Standards Committee Membership
Prasad Kadambi explained that there were numerous international experts that could benefit the standards program who did not have the ability to travel to participate in working group meetings. It was his goal to find a way to capture this resource by use of remote access capability.

D. Potential Standards Related to Radioactive Dispersal Devices (RDD)
Michael Wright explained a request made at the NFSC meeting the previous day from Jim Mallay to consider developing a standard on the consequences of dispersion of RDD. Members were unsure that the ANS Standards Committee was the appropriate body to develop the standard. Prasad Kadambi stated that he would follow up with Jim Mallay.

Action Item 11/10-10: Prasad Kadambi to follow up with Jim Mallay on a RDD standard.

15. Adjourn
The meeting was adjourned.

American Nuclear Society
Standards Board Action Items for Review at November 2010 Meeting

Action Item	Description	Responsibility	Status
11/10-01	Carl Mazzola to write a letter to the ANS President and President Elect outlining Prasad Kadambi's contributions as ANS Standards Board Chair.	Carl Mazzola	OPEN (done)
11/10-02	Prasad Kadambi to send Dick Black the list of standards projects that could benefit from NESCC funding provided to NEI through Jim Riley.	Prasad Kadambi	OPEN (done)
11/10-03	Pat Schroeder to notify the DOE, NRC, NEI and EFCOG of new standards and provide a copy.	Pat Schroeder	OPEN (done)
11/10-04	Prasad Kadambi to create an ad hoc committee 1) to determine if the SB structure needs to change to accommodate a training initiative, and/or 2) to determine the appropriate body to initiate training for a pilot project on risk-informed decision making for the nuclear industry.	Prasad Kadambi	OPEN
11/10-05	Peter Hastings to establish one or more SMR-related standards to be identified at a subsequent conference call and directed to the appropriate consensus committee for development.	Peter Hastings	OPEN
11/10-06	Bob Budnitz to provide the JCNRM procedures electronically to members for comment through Pat Schroeder.	Bob Budnitz	OPEN (done)
11/10-07	Members to provide comments on the JCNRM procedures/ changes by November 12, 2010, through Pat Schroeder.	All Members	OPEN (done)
11/10-08	Calvin Hopper to work with Pat Schroeder to prepare a statement for the Foreword of each standard to be consistent with the policy.	Calvin Hopper, Pat Schroeder	OPEN
11/10-09	Jim Riley to confirm that NEI was satisfied with the decision to issue the PRA standards for trial use and are not in need of a formal response to the letter.	Jim Riley	OPEN (done)
11/10-10	Prasad Kadambi to follow up with Jim Mallay on a RDD standard.	Prasad Kadamib	OPEN (closed)
06/10-01	Peter Hastings to work with Prasad Kadambi on concept of a safety case for SMRs and other ideas to increase engagement of the ANS Standards Committee in SMR activities.	Peter Hastings, Prasad Kadambi	closed
06/10-02	Mathew Panicker to support Prasad Kadambi in developing training for standards.	Mathew Panicker, Prasad Kadambi	closed
06/10-03	Robert Budnitz to ask RISC members to support a free tutorial session at the utility conference in August 2010 at Amelia Island.	Robert Budnitz	closed
06/10-04	Pat Schroeder to send William Turkowski a link to the NESCC webpage.	Pat Schroeder	closed
06/10-05	Robert Budnitz to discuss NEI letter with RISC and propose a recommended response for SB consideration.	Robert Budnitz	OPEN

06/10-06	Robert Budnitz to provide SB members a copy of the revised JCNRM procedures.	Robert Budnitz	closed
06/10-07	Chuck Moseley, Steve Stamm, and Michael Wright to serve as the 2011 Standards Service Award Ad hoc Committee.	Chuck Moseley, Steve Stamm, Michael Wright	OPEN
06/10-08	Calvin Hopper to provide documentation for the necessity of two DOE votes on N16.	Calvin Hopper	closed
06/10-09	Donald Spellman to define what international participation is desired.	Donald Spellman	OPEN
06/10-10	The Standards Board Vice Chair and consensus committee chairs to serve on an ad hoc committee to develop, on a yearly basis, a list of priority standards that are in need of funding from an outside source.	Donald Spellman & consensus committee chairs	OPEN
06/10-11	Mike Westfall to provide TC 85's business plan to the Standards Board for their reference (through Pat Schroeder).	Mike Westfall	closed
06/10-12	Prasad Kadambi to send link to series of SMRs white papers to the Standards Board (through Pat Schroeder).	Prasak Kadambi	closed
11/09-01	Prasad Kadambi and Pat Schroeder to draft a statement on clarifications and interpretations for inclusion in the foreword of all standards and consider need for practice to be included in a policy.	Prasad Kadambi, Pat Schroeder	closed
11/09-03	Standards Board members provide ANS Standards Board Chair Prasad Kadambi with suggestions to increase ANS international participation.	Standards Board Members	closed

Attachment A

ANS Standards Committee Activity Update

N. Prasad Kadambi,
Chair, ANS Standards Board

November 11, 2010

ANS Standards Committee Outlook

- The Standards Committee continues to address the issues arising during these challenging times so as to place ourselves in a better position for the future.
- The Standards Board understands that ANS is going through significant changes, and would like to ensure that our changes harmonize with those in the Society.
- At the June 2010 meeting, we requested, and the ANS BOD granted conditional approval, for the merger of ANS and ASME committees on PRA standards. Our collaboration with ASME has broadened since then.
- Although hampered somewhat by lack of resources, we continue to make progress on the initiatives we started.

ANS- ASME Activities

- The ANS Risk Informed Standards Committee has begun working with the ASME Committee on Nuclear Risk Management in the form of the Joint Committee on Nuclear Risk Management even while we work through equity, scope and procedural issues.
- ANS and ASME were among the participants in a Nuclear Codes and Standards workshop in Brazil.
- We also appeared together at an exhibition in Mumbai, India coinciding with the second anniversary of the nuclear treaty.
- We participated jointly in an NRC public meeting on risk-informed regulation and PRA standards.
- It is becoming increasingly clear that there are significant resource implications for ANS to participate on an equal footing with ASME.
- We request the BOD to begin addressing the resource issues relative to ANS consensus standards.

Status of Standards Board Initiatives

- The ANS continues to be an active participant of the Nuclear Energy Standards Coordination Collaborative (NESCC) and participates on several task groups. The NESCC could become a significant source of resources for standards activities.
- We are trying to increase the value proposition for ANS membership and standards activities by making available training based on standards. Along these lines, we offered a free seminar at the Utility Working Conference on risk-informed decision-making.
- We will be working with other Divisions to incorporate continuing education credit-worthy courses in conjunction with ANS meetings.
- As we observe the possibility of substantial national investment in small modular reactors, we are exploring ideas on how the Standards Committee can more fully participate in that effort.
- We continue to emphasize open channels of communication with major stakeholders.

ANS Standards Committee

Activities and Highlights

- We held a Young Professionals competition and the ANS nominee won a spot for an IEC Conference participation.
- We have had a successful ANSI audit.
- We have served our user community with six clarifications on specific standards.
- Four standards have been balloted.
- Three standards were issued for public review.
- We have formalized a process to issue selected standards as approved for “Trial Use and Pilot Application” after being appropriately balloted.

Attachment B

US Codes and Standards Workshop

Rio de Janeiro, Brazil

August 19, 2010

American Nuclear Society Standards

N. Prasad Kadambi, Ph.D, P.E.

Chair, Standards Board

American Nuclear Society

ANS: What it is & What it does

- The American Nuclear Society (ANS) was established in 1954 as a not-for-profit, international, scientific and educational organization.

- ANS has since developed a membership composed of approximately 11,000 that include about 900 members living overseas in 40 countries. ANS currently has 19 professional divisions, 1 technical group, 51 US and nine overseas local sections, 23 plant branches, 41 student branches, and more than 100 organization members.

ANS: Consensus Standards

The mission of the ANS Standards Committee is to develop voluntary consensus standards to be certified by the American National Standards Institute (ANSI) as American National Standards. The ANSI has served as administrator and coordinator of the US private sector voluntary standardization system and represents the US on international standards committees including ISO and IEC.

What is a standard?

- A standard is a document that sets forth requirements for the design, manufacture, or operation of a piece of equipment. It can also address computer firmware and software.

- A standard can address the necessary physical and functional features of equipment, its safe application, or some combination of these.

- A standard is applicable only if an organization invokes its requirements (standards are intended to be voluntary) or if a government agency formally endorses it.

Benefits of the Standards Development Process

- The only forum in which all facets of the industry participate voluntarily, openly, and under rules that promote technical rigor
- Unique opportunity for the free exchange of ideas between competitors, regulators, and regulated
- Discussions can be broad ranging (such as operations and regulatory interpretations)
- Each member/stakeholder has an equal standing
- Communication, understanding, and appreciation for different views and philosophies

ANS Standards: Scope

The ANS Standards Committee is responsible for the development and maintenance of standards that address the design, analysis, and operation of components, systems, and facilities related to the application of nuclear science and technology.

The scope includes standards in the following areas:

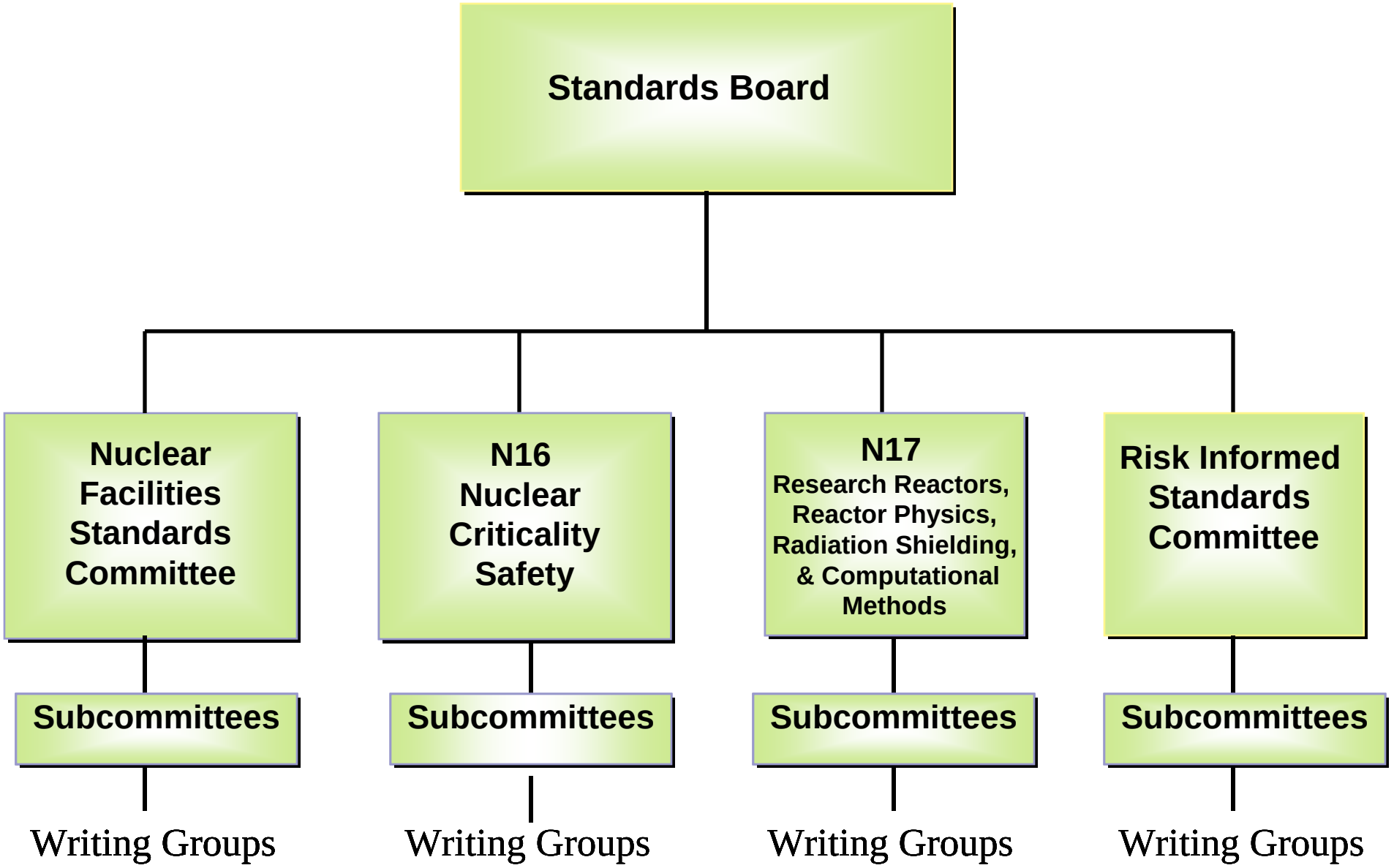
- *Nuclear criticality safety*
- *Definitions of terminology used in nuclear science and technology*
- *Facilities for handling radioactive isotopes, including the remote handling of radioactive materials*
- *Research reactors and critical facilities*
- *Reactor physics and radiation shielding*
- *Ensuring the integrity of computer programs in the nuclear field*
- *Siting requirements for nuclear facilities*
- *Nuclear facility design, including safety criteria for the facility*
- *Reactor operation, including operator training and selection*
- *Fuel design, handling, and storage*
- *Radioactive waste management*
- *Remediation and restoration of sites used for nuclear facilities*
- *Fission product behavior*
- *Probabilistic risk assessment, risk management, and risk criteria*

Structure & Process

ANS

Standards Committee

ANS Standards Committee



ANS Standards Committee

- *The ANS Standards Committee is a stand-alone volunteer group governed by its accredited rules and procedures.*
- *The Standards Committee consists of consensus committees, subcommittees, and working groups, all of which are under the administrative control and policy direction of the ANS Standards Board.*
- *Standards developed by the Standards Committee are intended to be issued as American National Standards.*
- *The Standards Committee reviews standards being developed or issued by other organizations on related topics to help ensure consistency and completeness and to avoid duplication.*

ANS Standards Board

- The President-Elect of ANS may appoint up to 12 members to the Standards Board.
- Each consensus committee chair is automatically a member of the Standards Board.
- The chair of the Standards Board is also the chair of the Standards Committee.

Standards Board Responsibilities

- Administers the Standards Committee Rules and Procedures, which have been accredited by ANSI
- Ensures that the rules of due process have been fulfilled and certifies the consensus process
- Establishes policies for standards development
- Coordinates the activities of the Standards Committee
- Recommends to the ANS Board of Directors on standards matters
- Solicits liaison members from other SDOs and ANS Professional Divisions

Consensus Committees, Subcommittees

What they cover

Consensus Committee Responsibilities

- Develops broad consensus on each of its standards and ensures due process
- Establishes and manages subcommittees
- Selects members based on recognized expertise but must represent a balance among materially affected interests
- Typically has 20 to 25 members

Balance-of-Interests for Consensus Committees

Made up of several interest groups, with limit of one-third membership for any one group, Interest groups include:

- Owners
- Vendors
- Architect-Engineers
- Consultants
- Government Agencies
- National Laboratories
- Universities
- Societies (including standards developing organizations)
- Individual

Interest groups are determined by organization financially supporting representative (except for other standards developing organizations).

N16, Nuclear Criticality Safety

Scope:

To develop and maintain standards for determining the potential for nuclear criticality of fissile fissionable material outside reactors, for the prevention of accidental criticality, and for coping with accidents should they occur.

N17, Research Reactors, Reactor Physics, Radiation Shielding and Computational Methods

Scope:

To develop and maintain standards for the location, design, construction, operation, and maintenance of all nuclear reactors for training and research, both as mechanisms for investigating reactors per se and as sources of radiation, and excluding reactors designed for the production of electrical energy; standards for the location, design, construction, operation, and maintenance of critical facilities; standards for calculational methods and computer codes for use in nuclear-reactor and reactor-physics calculations, including shielding. Inputs into calculations and codes, such as nuclear cross sections, are included in this scope.

NFSC, Nuclear Facilities Standards Committee

Scope:

To develop and maintain standards for the preparation and maintenance associated with nuclear facilities. The Committee's standards address siting, design, operation, and waste management activities at these facilities, as well as remediation and restoration of formerly utilized sites.

RISC, Risk Informed Standards Committee

Scope:

To develop and maintain standards that establish safety and risk criteria and methods for probabilistic analysis, risk assessment, and risk management. These criteria and methods are applicable to design, development, construction, operation, decontamination and decommissioning, waste management, and environmental restoration for nuclear facilities.

List of Subcommittees

ANS-1: Conduct of Critical Experiments (N17)
ANS-6: Radiation Protection & Shielding (N17)
ANS-8: Fissionable Material Outside Reactors (N16)
ANS-10: Mathematics & Computation (N17)
ANS-14: Fast Pulse Reactors (N17)
ANS-15: Operation of Research Design (N17)
ANS-19: Physics of Reactor Design (N17)
ANS-21: Maintenance, Operations, Testing & Training (NFSC)
ANS-22: System Design Criteria (NFSC)
ANS-24: Modeling & Analysis (NFSC)
ANS-25: Site Characteristics (NFSC)
ANS-26: Emergency Planning (NFSC)
ANS-27: Fuel Cycle, Waste Management & Decommissioning (NFSC)
ANS-28: HTGR Design Criteria (NFSC)
ANS-29: Advanced Initiatives (NFSC)

ANS in Recent Developments

- The rapid growth in the level of activity related to new nuclear construction led to creation of a body to better coordinate standards development activities
- The Nuclear Energy Standards Coordinating Collaborative (NESCC) was created under the auspices of the National Institute of Standards Technology and ANSI
- The USNRC and the Department of Energy, along with all interested standards development organizations, are key participants
- ANS was an advocate in the development of and is a current active member of the NESCC to facilitate and coordinate the timely identification, development, and revision of standards for the design, operation, development, licensing, and deployment of nuclear power plants.

Relationship between

ANS Standards Committee

And The US NRC

NRC's Participation and How it Offers Benefits

- NRC has a policy of participating in standards development to improve resource utilization
- Industry experts freely provide relevant technical knowledge and experience
- Regulatory requirements are developed in concert with requirements in standards
- Improves efficiency and effectiveness

ANS Interactions with the NRC

- NRC has appointed staff representatives to every ANS consensus body, and most subcommittees and working groups.
- Participating staff provide both their technical expertise and the NRC position on the technical and policy issues associated with the standard.
- The NRC endorsement of ANS standards can make it easier, or make it unnecessary, to issue new regulations.
- The development process of standards exerts a major influence on evolving regulatory guidance.

NRC Use of Standards

The National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, Section 12(d), requires federal agencies to use voluntary consensus standards in lieu of government-unique standards, unless such use is impractical or inconsistent with law.

Why standards and not regulations?

- Standards incorporate broad technical experience
- Standards combine peer review process with prescribed methods to reach consensus
- Standards committees provide a forum in which all interested parties can objectively discuss technical issues, involving agencies, competitors, industry groups etc., without formalities of public announcements and documentation.
- Standards provide best practices and workable solutions to concepts and established principles

Coordination with SDOs

- Coordination with complementing standards developing organizations (SDOs) has always been of significant importance to the ANS.
- ANS along with the ASME established the Nuclear Risk Management Coordinating Committee (NRMCC) in February 2004.
- The US NRC is a member of this volunteer group, which includes representatives from industry, government, national laboratories, education, and other SDOs.
- NRMCC coordinates the development and maintenance of standards that address risk management.
- The ANS Standards Committee enjoys liaison relationships with numerous SDOs and industry organizations.

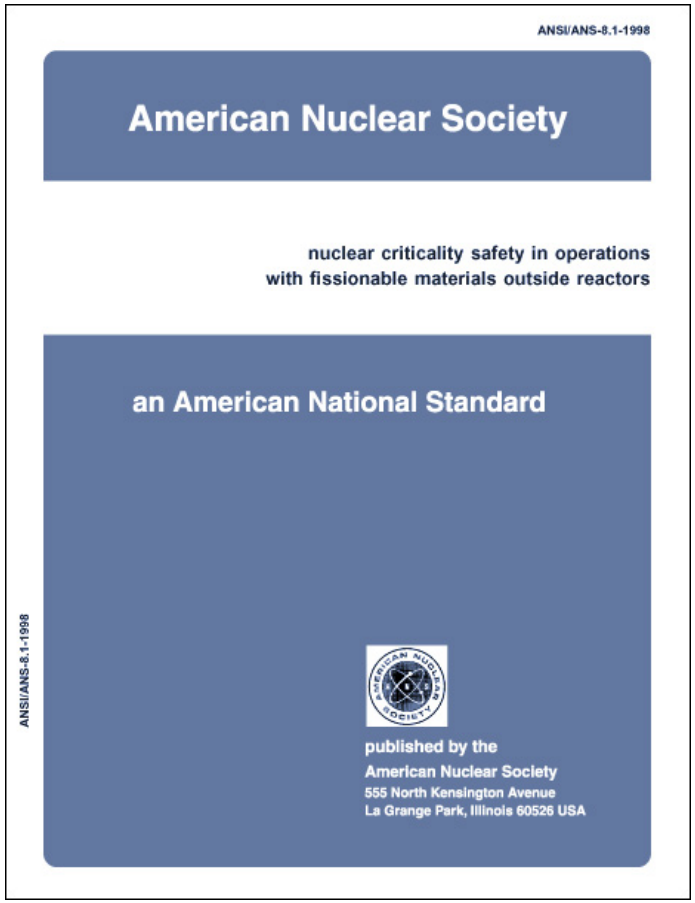
International Use of

ANS Standards

International Standards

- US involvement is coordinated through American National Standards Institute
- ANSI represents the US on international standards committees, including ISO and IEC
- ANS Standards Committee members participate in ISO TC-85, SC 5 & 6

International Recognition of ANS Standards



ANS standards are used by many countries directly or through incorporation in ISO and IAEA standards.

Examples of ANS Standards Used Internationally

- ANS-3.2 (N18.7), “Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants,” is used by South Korean operating nuclear power plants.
- ANS-56.2-1984, “Containment Isolation Provisions for Fluid Systems After a LOCA,” is used by German operating nuclear power plants.

Incorporation of ANS Standards

The following have been incorporated into ISO standards and/or IAEA guidance documents:

- ANS-8.1, “Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors,” was used in ISO 1709:1995, Nuclear energy – Fissile materials – Principles of criticality safety in storing, handling and processing,” (nearly verbatim) and elements of the standards were used in several IAEA Safety Standards including No. SSG-5, SSG-6, SSG-7, and NS-R-5.

- ANS-8.19, “Administrative Practices for Nuclear Criticality Safety,” was used in ISO 14943:2004, “Nuclear fuel technology – Administrative criteria related to nuclear criticality safety,” (nearly verbatim) and elements of the standards were used in several IAEA Safety Standards including No. SSG-5, SSG-6, SSG-7, and NS-R-5.

Other Standards Used by ISO, IAEA or IEC

- ANS-8.3, “Criticality Accident Alarm System” (ISO, IAEA, IEC)
- ANS-8.7, “Nuclear Criticality Safety in the Storage of Fissile Materials” (ISO, IAEA)
- ANS-8.9, “Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate” (ISO, IAEA)
- ANS-8.10, “Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement” (ISO, IAEA)
- ANS-8.17, “Criticality Safety Criteria for the Handling, Storage and Transportation of LWR Fuel Outside Reactors” (ISO, IAEA)
- ANS-8.20, “Nuclear Criticality Safety Training (ISO, IAEA)
- ANS-8.21, “Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors” (ISO, IAEA)
- ANS-8.22, “Nuclear Criticality Safety Based on Limiting and Controlling Moderators” (ISO, IAEA)

International Projects in Development using ANS Standards

Several other ANS standards are currently being incorporated into international standards. Some of these are:

- ASME/ANS-RA-S-2008, “Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications” (ISO & IAEA)
- ANS-2.23, “Nuclear Plant Response to an Earthquake” (IAEA)
- ANS-5.1, “Decay Heat Power in Light Water Reactors,” (ISO)
- ANS-8.23, “Nuclear Criticality Accident Emergency Planning and Response (ISO & IAEA)
- ANS-8.27, “Burnup Credit for LWR Fuel” (ISO)

In Summary

- The ANS has a history reaching back more than half a century of serving the nuclear technology community
- The ANS has always had a strong international presence in standards and information exchange
- The ANS Standards Committee is willing to work with Brazilian institutions to exchange nuclear safety information through standards activities.

Attachment C

UBM

INDIA NUCLEAR ENERGY 2010

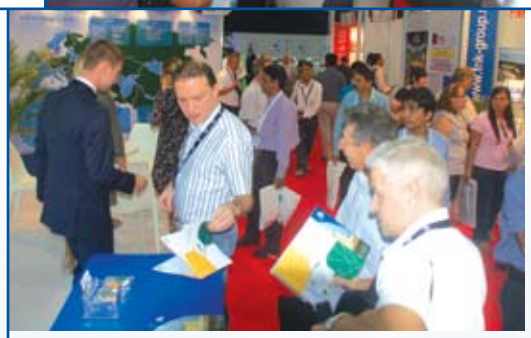
Energy Security for the Future...

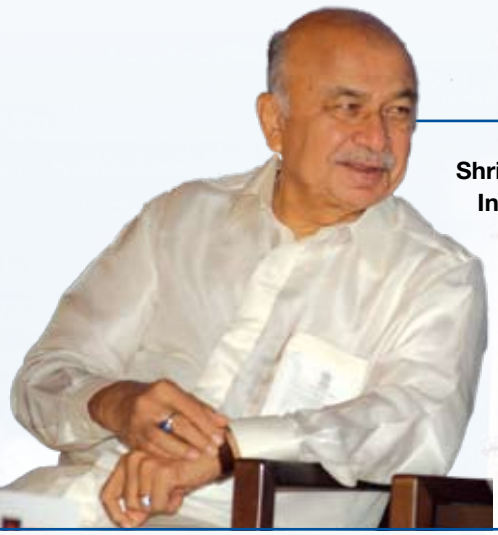
7 – 9 October 2010 - Bombay Exhibition Centre, Mumbai

India Nuclear Energy 2010
received an overwhelming response

The energy sector holds the key in accelerating the economic growth of India. However, the development of the Indian energy sector has been constrained by capital, technology, environment and security issues arising out of internal and external consequences.

India Nuclear Energy 2010 provided a suitable platform for the companies to display their products and services to one of the largest markets in the world. The event represented a great opportunity that brought users and buyers together with international suppliers and manufacturers of the Nuclear Energy Industry.

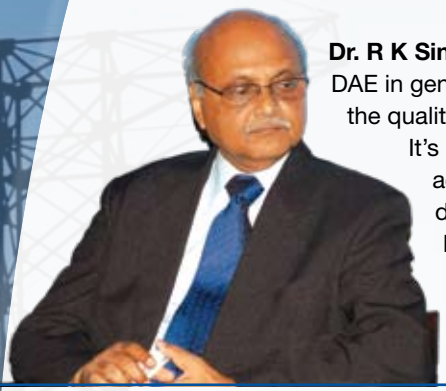




Shri. Sushil Kumar Shinde, Hon'ble Union Minister of Power, Government of India inaugurated India Nuclear Energy Summit 2010 on 8th October 2010 at The Westin Mumbai Garden City, Mumbai. In his inaugural speech, Mr Shinde detailed a plan for adding 62,000 MW of capacity in the 11th Plan and 1,00,000 MW in 12th plan. He also adds that there is a plan to raise nuclear power generation to 60,000 MW from the present 4,500 MW over the next 20 years. The New Electricity Policy is committed to provide electricity to all households by 2012 and plans to rapidly increase power generation. Nuclear Energy plays a vital role in this as it is clean, fast and sustainable.

RETROSPECTIVE

Dr. Srikumar Banerjee—Chairman, Atomic Energy Commission delivered the keynote address at **India Nuclear Energy Summit 2010.** Dr Banerjee spoke about the Nuclear Industry roadmap ahead towards a sustainable nuclear energy future and the addition of 40000 MW by way of light water reactors. He also told while the progress of indigenous technology would continue to supplement capacity augmentation, the more important task is to evolve a closed fuel cycle so that resources were conserved for the longer term. **After visiting exhibition**, he also mentioned that this is a very useful event and should be an **annual event for Nuclear Energy Industry.**

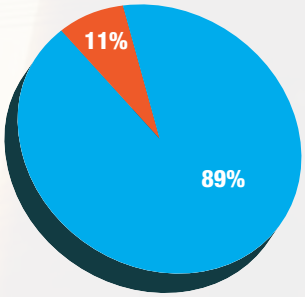


Dr. R K Sinha, Director- Bhabha Atomic Research Center (BARC), Guest of Honour informed that DAE in general and BARC in particular has a mandate to exploit Atomic Energy for the betterment of the quality of life of fellow Indians and contributed to the Energy security leading to social benefits. It's an opportunity for the Indian and global industries to join as partners in facilitating the accelerated growth of the Indian Nuclear Power programmes consitent with a roadmap designed to meet Indian needs. Energy independence is very important for a large country like India in the long term. Energy security means tying up arrangements to ensure that in future energy resources and technology will be available from domestic as well as global resources to meet the requirements. **After visiting exhibition**, he mentioned that this kind of events will help the industry in the long run.

India Nuclear Energy 2010 was co-partnered and endorsed by the **Department of Atomic Energy, Government of India.** It provided an opportunity for domestic & international companies to avail of the huge untapped potential that the nuclear industry has in India.

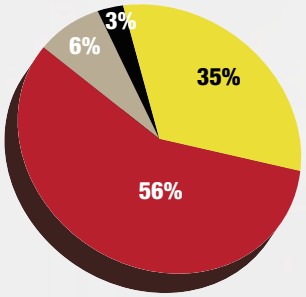
Dr. Srikumar Banerjee & Dr. R K Sinha Visited the Exhibition

VISITOR PROFILE



Visitors

- Indian
- International



- Top Management
- Managers & Middle level Management
- Junior management
- Others

India Nuclear Energy Summit 2010, 2nd edition was on the 8th October 2010 at Hotel Westin, Goregaon, Mumbai. The Summit was attended by 285 delegates from India and abroad. An interactive roundtable was organised with the participation of Corporate Heads from India & abroad to discuss "Business Opportunities in the Growing India Nuclear Energy Sector"

HIGHLIGHTS OF THE EXHIBITION

The event saw participation from the leading companies like **DAE, Alstom, Areva, Hindustan Construction Co., GE Hitachi, Westinghouse, American Nuclear Society, Power Grid Corporation of India, BHEL, Gammon India, Electronics Corporation of India, Schneider Electric, Wartsila, GMR Group, Nuvia India, Khaitan & Co., NHPC, REC, Ingersoll Rand, Sandvik Asia, Rolls Royce, Premium Energy Transmission, Ratnamani** to name a few.

The event had excellent participation from overseas with country pavilions from **France, Russia, USA, Finland** and individual companies from other countries. 3500 Industry professionals from the Energy space had visited the event over three days.

NETWORKING RECEPTIONS

GE Hitachi and Westinghouse from **USA Pavilion** had sponsored Networking Reception for all the Exhibitors and invitees.

French Pavilion and French Consulate had organized a reception during the Exhibition and invited top officials from Nuclear Energy industry.

BARC, NPCIL Visit

Media Coverage

Meet Us At...

INDIA NUCLEAR ENERGY 2011

Energy Security for the Future...

29 Sep. - 1 Oct. 2011

Organised by

UBM

Venue
Bombay Exhibition Centre
Hall 5, Western Express Highway
Goregaon (East)
Mumbai 400 063, India

For Space Bookings Contact
Mr. Abhijit Mukherjee Project Director
UBM India Pvt Ltd
Board Line : +91 22 6612 2600 / 644
Email : abhijit.mukherjee@ubm.com
Website : www.indianuclearenergy.net

Attachment D

ANS Perspectives on Risk-Informed Standards

October 19, 2010

American Nuclear Society Standards Committee

N. Prasad Kadambi, Ph.D, P.E.

Chair, Standards Board

American Nuclear Society

ANS Standards cover:

- *Nuclear criticality safety*
- *Definitions of terminology used in nuclear science and technology*
- *Facilities for handling radioactive isotopes, including the remote handling of radioactive materials*
- *Research reactors and critical facilities*
- *Reactor physics and radiation shielding*
- *Ensuring the integrity of computer programs in the nuclear field*
- *Siting requirements for nuclear facilities*
- *Nuclear facility design, including safety criteria for the facility*
- *Reactor operation, including operator training and selection*
- *Fuel design, handling, and storage*
- *Radioactive waste management*
- *Remediation and restoration of sites used for nuclear facilities*
- *Fission product behavior*
- *Probabilistic risk assessment, risk management, and risk criteria*

ANS Standards Committee Strategic Objectives

- *The ANS Standards Committee has had a long-term objective to incorporate into all of its standards risk-informed and performance-based concepts.*
- *The technical challenges ANS faces are the same as others, but the practical difficulties are compounded by resource limitations.*
- *Our half-century of efforts to publish standards used all over the world can be sustained only if we continue to receive the help such as the NRC grants, and succeed in the potential of funding from the Nuclear Energy Standards Coordinating Collaborative.*
- *The ANS Standards Committee views the partnership we have established with ASME as an example of similar constructive collaboration that is possible in many other areas and with other stakeholders.*

ANS's Proposed Approach

- In 2009, ANS took advantage of two opportunities (in February and June) to state our positions regarding implementation of the PRA methodology standards
- Our collective success can be assured only by active collaboration, and by allocating adequate time and resources for complementary development of theory and practice
- We must work to assure that the volunteer efforts of our technical experts are not viewed by stakeholders as being counter-productive
- Hence, even as the new-build activities proceed, we should be applying probabilistic methods to the entire list shown in the above slide.

In Summary

- The ANS's half-century history of serving the nuclear technology community faces severe constraints from limited resources
- The technical capabilities of the ANS are vital to address the current challenges
- We will work with all stakeholders to assure success for our volunteers efforts.
- We look for leadership from our policy institutions so that consensus standards continue to play a valuable role.

Attachment E

ANS Standards Board Role in Development of Small Modular Reactors

A Conversation

Peter Hastings
Las Vegas, NV
09 Nov 2010

Background

- Action (June SB action item 6/10-01): Peter Hastings to work with Prasad Kadambi on the concept of a safety case for SMRs and other ideas to increase engagement of the ANS Standards Committee in SMR activities.
- Why Now?
  - Various "framework" initiatives underway
  - SMR as "springboard" for making changes
  - ANS relevancy through demonstrated benefit
  - Improvement in consensus process
  - Clarification of role of ANS

Possible Enabling Goals

- Support changes in regulatory framework in support of SMRs (SECY-10-0034)
- Support establishment of "holistic review" approach for SMRs (post-SECY-10-0034)
- Support development of a framework, implementation strategy, and plans and schedules to more fully integrate the use of risk insights and development of risk-informed licensing review plans for each SMR (COMGBJ-10-0004/ COMGEA-10-0001)
- Support/lead development of technical standards and regulatory framework for non-LWRs
- Strategize more fundamental shifts in policy/framework for licensing basis development and review

The Challenge

- Struggling renaissance - bad economy, incomplete designs, schedules slipping - "burning platform" for considering significant changes does not clearly exist
- Near-term SMR licensing efforts underway at a pace where substantive change in NRC review structure won't be timely
- Unclear where/if near-term SMRs (integrated PWRs) really need a fundamental change in standards treatment
- Scope of initial assignment – *use of standards differently than in the past* – doesn't seem to comport with safety case being negotiated with NRC
- Nexus between different treatment of standards and more ambitious changes in regulatory approach not readily apparent

The Challenge (continued)

- Current framework issues being discussed within ANS and NEI consistently concluding that near-term regulatory changes need to be accomplished via exemptions, because of the lead time for rulemaking (for fairly simple issues)
- SMR vendors not yet aligned on schedule, approach
- Resources for potentially competing efforts (ANS SMR, ANS STDs, NEI) continue to be at a premium
- Lack of clear organization for path forward on various issues

Framework Concepts

- Near-term implementation
  - Work within existing framework
  - Design-centered review
  - "Holistic" review
  - Exemptions from regulation
  - Exceptions to guidance
- Mid-term
  - Rulemaking
  - New guidance
  - Integration of risk information
  - Standards development on leading edge
- Longer term
  - Assess appetite for fundamental shifts in review methodologies

SECY-10-0034

- Identification of NRC staff priorities for various regulatory framework issues, including:
  - Modularity considerations
  - Staffing
  - Fees
  - Price-Anderson
  - Source terms
  - Safeguards/security issues
- Used as basis for most ANS SMR & NEI white papers
- Near-term exemptions & later rulemaking
- Does not address non-LWRs in near term

COMGBJ-10-0004/COMGEA-10-0001

- Joint memo from Apostolakis/Jaczko to other Comms, who concurred
- Subsequent SRM directs staff to develop policy paper to discuss:
  - Framework, implementation strategy, plans, schedules to integrate use of risk insights into pre-application activities and review of SMR applications, including identification of risk-significant SSCs and other aspects that contribute most to safety
  - Alignment of review focus/resources to risk-significant SSCs to enhance review efficiency, including identification of review guidance applicable to SMRs
  - Development of risk-informed licensing review plans for each of the SMR reviews
  - Development of a new risk-informed regulatory framework (longer term)
  - Resolution strategies for substantive policy considerations in SECY-10-0034
- Paper also to discuss alignment of NRC resources and approach for seeking external stakeholders' views

Longer-Term Possibilities: Standards for Safety Case

- Look to UK and Australian "safety case" approaches
- Non-prescriptive approach (performance-based) approach to SAR development
- RG 1.206 and NUREG-0800 roughly equivalent, but with much more prescriptive detail
- Consider proposing leaner, more focused review guidance
  - US Safety Case document could be roadmap for required suite of standards for SMRs
  - Immediate needs are standards for "Safety Culture," "Defense-in-Depth," and "Feedback of Operational Experience"
- Challenges
  - Timing could be tricky to be useful to SMRs and not perturb other ongoing activities (e.g., "holistic review" effort)
  - Resources to generate guidance
  - Technical-vs-policy/regulatory DOR between NRC and NEI
  - "Burning platform" issue

Longer-Term Possibilities: Improved Conformity Assessment System

- Problem: US nuclear regulatory system relies too much on USNRC for its CA needs
- Solution: Prototype of solution exists with mechanical components and ASME standards coupled with established CA practices
- ANS does not have a fully-developed corresponding CA analog on the operations side; some rudimentary examples exist with criticality safety, operator qualifications, personnel qualifications etc.
- Need to expand toward a full-blown CA set of functions in whatever areas NRC is willing to accept public-private partnerships
- Similar challenges as above

Recommendations

- Identify key areas of focus based on SMR vendor needs
  - Consider lead time
  - Avoid policy/regulatory topics
- Identify time-based priorities
  - Design standards for technologies very early in development
  - Implementation standards for post-design use (e.g., siting, EP, etc.)
- Collaborate with ANS SMR committee & NEI
  - Possible challenge areas within identified population of white papers or SECY implementation activities
  - Increase member (especially utility/vendor) support
- Demonstrate value - *perform*
  - Identify resources available to support
  - Consider leveraging DOE and other "external" programmatic resources
  - Improve pace of standards development

Round Table

- Standards Board input on where standards are helpful to the mid- and longer-term approach
- Do we have a role in near-term efforts (SECYs, holistic review)
- Non-LWR standards for designs expected to come to the fore in the next 5-10 years
- Other changes could be more structural to how applications are developed and reviewed, for a much more strategic view
- Do we need an ANS standard on "SMRs"
- Path forward

Attachment F

U.S. Nuclear Regulatory Commission
Public Meeting on Risk-Informed Activities

Status of Joint Committee on Nuclear Risk Management (JCNRM) and Nuclear Risk Management Coordinating Committee (NRMCC)

Kenneth R. Balkey-ASME and Chuck Moseley-ANS
Co-Chairs, Nuclear Risk Management Coordinating Committee

NRC Offices – 21 Church Street
Rockville, Maryland
October 19,2010

JCNRM Activities

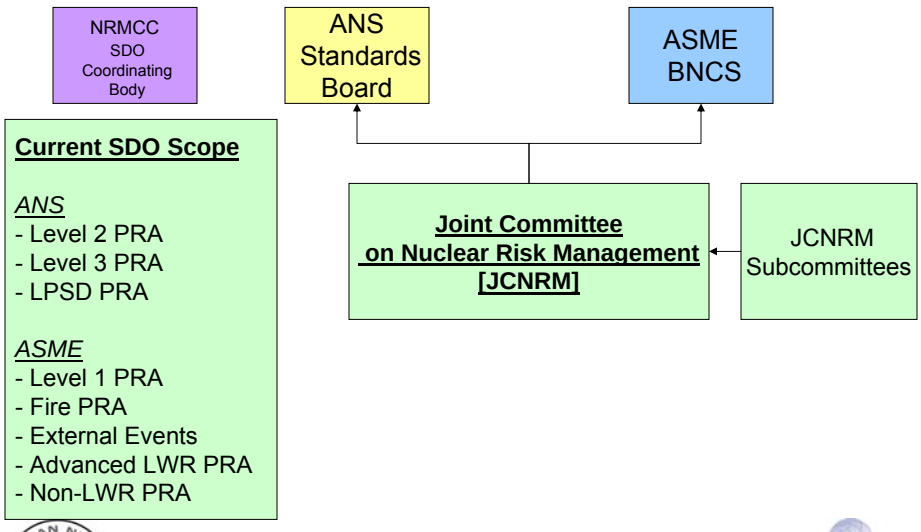
- Full Committee and subcommittees meeting in September 2010 (CNRM & RISC have merged)
- JCNRM Main Committee and Subcommittee members were approved
- JCNRM Main Committee membership being approved by both Boards
- 5 Ballots in process for the next Addendum to the PRA standard

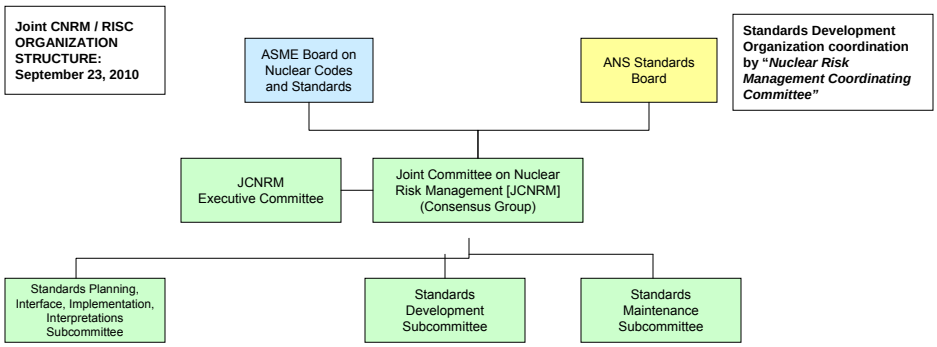
Source Slides 2-9 – Rick Grantom, Chair, ASME CNRM

JCNRM Benefits

- Reduces likelihood of duplication of efforts
- Reduced travel requirements
- Brings additional technical expertise to improve quality of standard products
- Establishes common processes for developing, piloting, and publishing standard products

JCNRM Organization Chart





PIII (P 3) Charter
S/C Planning, Interface, Implementation, Interpretations

This S/C is responsible for identifying and making recommendations to the JCNRM regarding the need for new Risk Management Standards and other SDO products (e.g. guidance documents) or modifications to existing standards (e.g., making recommendations regarding inquiries and interpretations) and to develop, manage and communicate the JCNRM Strategic Plan.

Further, this S/C will provide an active interface with other standards groups that are developing or implementing risk-informed or risk related standards.

6

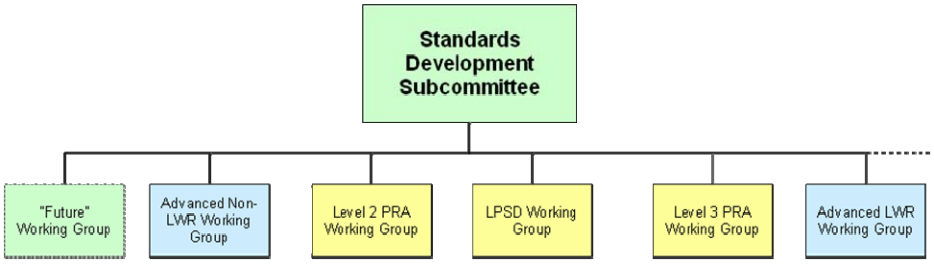
PIII Structure

- 4 Working Groups
  - **Planning**: Identify and prioritize the need for new or modified Risk Management Standards and guidance documents
  - **Interface**: Provide an active interface with standards developing committees and groups that are developing or implementing risk-informed standards or guidance documents using risk information or risk methods.
  - **Implementation**: Monitor and facilitate the implementation of standards products by the user community.
  - **Interpretations:** Manage the standards interpretation process.

Subcommittee on Standards Maintenance (SCSM)

- **Charter** – The Subcommittee for Standards Maintenance has responsibility for maintaining those standards and guidance documents approved by JCNRM.
- **Structure** – Five Working Groups
  - Part 1 (Process)
  - Part 2 (Internal Events)
  - Part 3 (Internal Floods)
  - Part 4 (Internal Fires)
  - Part 5 (Seismic and Parts 6-10)

Subcommittee on Standards Development (SCSD)



Charter/Purpose:

This S/C is responsible for developing new Risk Management Standards that are deemed necessary to support nuclear industry needs as recommended by S/C Standards Planning, Interface, and Implementation, and approved by the JCNRM.

Supporting Information:

Standards Development Working Groups will be added to this S/C as required to provide the technical expertise required to develop new Standards. Once revision 0 of a Standard has been issued, the Working Group will move to the Maintenance S/C.

Nuclear Risk Management Coordinating Committee (NRMCC)

NRMCC Charter

- The NRMCC coordinates the development and maintenance of Codes and Standards that address risk management and risk-informed decision-making for current and new nuclear power plants … in order to avoid redundancy in requirements
- The NRMCC also facilitates the training and use of the resulting Codes and Standards

NRMCC Objectives

- Develop a plan designed to facilitate the implementation and use of nuclear risk-related standards required to meet the identified needs of the user community
- Determine the relative priority of individual standards to guide when their development should be initiated
- Recommend to standards development organizations (SDOs) who should assume responsibility for the development of each standard; These recommendations require mutual acceptance by the interested SDOs

NRMCC Member Organizations

- ASME – (American Society of Mechanical Engineers)*
- American Nuclear Society (ANS)*
- Institute of Electrical and Electronic Engineers (IEEE)
- U. S. Nuclear Regulatory Commission (NRC)
- U. S. Department of Energy (DOE)
- Nuclear Energy Institute (NEI)
- Electric Power Research Institute (EPRI)
- Nuclear Steam Supply System (NSSS) Owners Groups

* *Ken Balkey and Chuck Moseley serve as Co-Chairs of the NRMCC representing the ASME and ANS Standards Boards, respectively*

NRMCC Current Discussion

- July 30, 2010 telecon to address NRC proposed plan for endorsement of PRA standards and related guidance and NEI response letters to NRC, ASME, and ANS; Two key issues –
  1. Process
     - Risk-informed applications
     - Guidance or standard or pilot
     - How do we produce
  2. Governance
     - Where does one take deviations
     - How do we insure that process is maintained
- ASME and ANS each preparing letters to respond to NEI letters
- NRMCC meeting / telecon being planned for Nov. 10, 2010

Summary

- Significant progress has been made toward the formation of the ASME / ANS Joint Committee on Nuclear Risk Management (JCNRM)
- The Nuclear Risk Management Coordinating Committee (NRMCC) is currently addressing process and governance issues related to proposed plans for development, endorsement, and implementation of PRA and risk-informed application standards

Attachment G

American Nuclear Society

Standards Committee

Rules and Procedures

February 12, 2004

JFM, 7/7/05
JFM, 1/31/06

Reaccredited by ANSI on February 8, 2006

NPK, 5/24/09

Annexes A & B approved by the ANS Standards Board at 6/16/09 Meeting
Annex C approved as a separate policy at 11/16/2004 Standards Board Meeting
Section 5.4, 5.5 and Annex D Approved by ANS Standards Board 10/6/09 via e-ballot
Revision to Section 5.3 Approved by ANS Standards Board 10/20/09 via e-ballot

Reaccredited by ANSI on November 4, 2009

Changes to accommodate 2010 ANSI Esssential Requirement Changes and recommendations resulting from ANSI audit.

TABLE OF CONTENTS

American Nuclear Society
Standards Committee
Rules and Procedures

1. SCOPE

The American Nuclear Society Standards Committee is responsible for the development and maintenance of standards that address the design, analysis, and operation of components, systems, and facilities related to the application of nuclear science and technology. The scope of the Standards Committee includes the development and maintenance of standards on the following subjects and closely related activities:

a. Nuclear criticality safety
b. Definitions of terminology used in nuclear science and technology
c. Facilities for handling radioactive isotopes, including the remote handling of radioactive materials
d. Research reactors and critical facilities
e. Reactor physics and radiation shielding
f. Ensuring the integrity of computer programs in the nuclear field
g. Siting requirements for nuclear facilities
h. Nuclear facility design, including safety criteria for the facility
i. Reactor operation, including operator training and selection
j. Fuel design, handling, and storage
k. Radioactive waste management
l. Remediation and restoration of sites used for nuclear facilities
m. Fission product behavior
n. Probabilistic risk assessment, risk management, and risk criteria

The Standards Committee does not develop standards for the application of radiation for medical purposes.

The Standards Committee reviews standards being developed or issued by other organizations on related topics to help ensure consistency and completeness and to avoid duplication.

Standards developed by the Standards Committee are intended to be issued as American National Standards.

2. ORGANIZATION

2.1 The Standards Committee consists of consensus committees, subcommittees, and working groups, all of which are under the administrative control and policy direction of the ANS Standards Board (SB).

2.2 The American Nuclear Society sponsors the Standards Committee and provides

(1) continuity of leadership and (2) adequate staff assistance to ensure due process, to maintain the official records of the Standards Committee, to provide administrative support, to assist in the distribution of draft standards, to publish approved standards, and to publicize meetings of the SB and its consensus committees.

Elements of the Standards Committee organization include:

a. Standards Board. The SB shall provide policy and procedural direction for the Standards Committee. It shall certify that the consensus process within the Standards Committee is fulfilled and shall ensure that due process procedures are established and implemented.

b. Consensus Committees. The SB shall establish consensus committees to develop consensus for the approval of proposed standards and to manage the development and maintenance of standards within their assigned scopes of responsibility.

   The number of consensus committees shall be limited to those needed to address the scope of the Standards Committee, but each consensus committee shall have an assigned scope that is focused on a set of technical areas that permits an efficient development process taking into consideration good management practices, available personnel, and the total workload of the Standards Committee.

   Each consensus committee shall be responsible for establishing and managing the activities of those subcommittees and working groups needed to develop proposed standards within its scope of responsibility.

c. Subcommittees. Subcommittees may be established by each consensus committee to manage the activities of working groups and to perform technical reviews of all proposed and revised standards within their scopes of responsibility. Each subcommittee shall be assigned a specific area of technical responsibility and shall review proposed standards for technical need, relevance, and acceptability. Subcommittees shall ensure that their standards are technically consistent with other related American National Standards.

d. Working Groups. Subcommittees may establish working groups to develop proposed standards and maintain existing standards within their scopes of responsibility.

3. MEMBERSHIP

3.1 Standards Board. Members of the SB, except for consensus committee chairmen, shall be appointed by the President of the American Nuclear Society with the advice of the current chairman of the SB and in conformance with the Bylaws and Rules of the Society. Members shall be members of ANS and shall include a chairman, vice-chairman, each consensus committee chairman, and at least six but not more than twelve other individuals, each of whom shall have experience and interest in the application or development of standards within the scope of the ANS Standards Committee. ANS shall appoint a staff member to serve as secretary to the SB and to provide advice on and to fulfill required administrative services; this member shall not have voting privileges.

3.2 Consensus Committees

3.2.1 The initial membership of any new consensus committee shall be appointed by the SB. Subsequent changes in membership shall be made by the consensus committee in accordance with its own procedures. The chairman shall be elected by the consensus committee subject to approval by the SB. Each consensus committee shall appoint an individual to act as secretary and to assist in administrative matters. This individual may be an ANS staff member. The secretary may have voting privileges in procedural and policy matters but shall not have balloting privileges on standards. If the secretary is an ANS staff member, this person may be the same individual as defined in 3.1 above.

3.2.2 All directly and materially affected interests shall have an opportunity for fair and equitable participation on each consensus committee without dominance by any single interest. Opportunity for membership on any consensus committee shall be provided to individuals and organizational representatives willing to participate. Each member should have background in the scope of the committee. Names of consensus committee members and their organizational affiliation shall be available to interested parties upon request. To ensure proper balance, not more than one-third of the membership shall be drawn from any particular interest group: owners, vendors, architect-engineers, consultants, government agencies, national laboratories, universities, societies, and individuals. In addition, representatives from industry and standards developing organizations having scopes closely related to that of the ANS Standards Committee shall be sought for membership. See Annex A for definitions of these interest groups.

Comment [PS1]: Addition for compliance with ANSI Essential Requirement.

3.2.3 Each consensus committee shall establish procedures for its conduct of business. These procedures shall address the election of the chairman and vice chairman of the committee and shall be consistent with these Rules and Procedures. The procedures should address the establishment of subcommittees and working groups and their responsibilities as part of the consensus process.

3.2.4 Each consensus committee member shall be expected to give thorough consideration to each subject brought before the committee for action, to vote on the approval of each proposal, to advise on the development of standards and their

maintenance, to assist in establishing the membership of the consensus committee and its subcommittees, and to assist generally in carrying out the functions of the consensus committee. The chairman of the consensus committee shall review the record of activity of each member annually with regard to the member's contribution, balloting record, response to ballot comments, attention to correspondence, and meeting attendance. The chairman shall take appropriate action to ensure that all members actively participate in the work of the consensus committee. Any member removed from the committee may appeal that decision to the SB.

3.2.5 Any member of a consensus committee who cannot attend a committee meeting should be represented by an alternate, who shall have all the privileges and obligations of a member during the period of service in this capacity. The selection of an alternate for two or more consecutive meetings shall be subject to acceptance by the committee chairman; due regard shall be given to the provisions of Article 3.2.4 above.

3.3 Subcommittees.

Each member of a subcommittee shall have competence in and concern with the scope of the subcommittee. To help ensure a balance of interests, the membership shall include representation from at least two interest groups as described in Article 3.2.2 and should include at least three interest groups. If only two interest groups are represented, the SB shall approve the apportionment of the membership.

3.4 Working Groups

Each member of a working group shall have demonstrated expertise in the scope of the proposed standard. The size and diversity of the working group shall be consistent with goals of developmental efficiency, user interest, and applicability of the content of the proposed standard.

4. OFFICERS

4.1 The Standards Board shall have a chairman, vice-chairman, and secretary.

4.2 The chairman and vice-chairman of each consensus committee shall be elected by the committee for a specified, renewable term. Elections shall be by written vote or e-mail (with at least two months advance notice). Any election of the chairman or vice-chairman shall be valid only if at least two thirds of the membership votes.

4.3 The chairman of the SB shall ensure that adequate liaison is maintained with the American National Standards Institute, and the chairmen of the SB and of each consensus committee shall ensure that active liaison is maintained with appropriate regulatory agencies. The chairman of each consensus committee shall maintain technical liaison with other related standards developing organizations to coordinate standards development activities and to attempt to avoid conflicts, deficiencies, or overlaps.

4.4 The secretary of each consensus committee, who may be an ANS staff member, shall be responsible for notification of the consensus balloting process, including the distribution of drafts of proposed standards and ballot forms, and collection and documentation of ballot results. The secretary shall be responsible for recording and distributing minutes of all meetings of the consensus committee to all members and shall maintain the records of the committee.

5. CONDUCT OF BUSINESS

5.1 The Standards Board shall establish governing policies and procedures for the Standards Committee to ensure management efficiency, consistency of approach, and adherence to the principles of due process within the concept of consensus. Actions taken by consensus committees on proposed standards shall adhere to the spirit of gaining consensus. Consensus is the state of having reached substantial agreement using a process where the beneficial aspects of various proposals are adopted based on an open consideration and development of positive alternatives as described in Article 5.6.

Comment [PS2]: Revised per audit report recommendation 8(C)1 to "Revise 5.1 and/or 5.6 to resolve apparent conflict in the definition of consensus."

5.2 A quorum shall consist of over 50 percent of the voting membership, including designated alternates, of the SB or consensus committee. A simple majority of those present shall determine the official actions of the committee, except consensus balloting on proposed standards.

5.3 Proposed standards, revisions, reaffirmations, and withdrawals shall be submitted for letter ballot to the members of the appropriate consensus committee. The ballot period shall be set for 60 days but may be shortened at the discretion of the consensus committee chairman if the committee has recently reviewed an earlier draft or if there is a substantial demand for the standard by the user community. Unless sequential public review is considered more appropriate by the committee chairman, concurrent public review, through the Board of Standards Review of the American National Standards Institute, shall be afforded; an announcement of the availability for public review of proposed standards, revisions, reaffirmations, or withdrawals shall be made in Nuclear News.

Comment [S3]: Auditor suggested a shorter ballot period but did not include recommendation in report as a finding.

5.4 Notification of standards activity shall be announced in suitable media as appropriate to demonstrate the opportunity for participation by all directly and materially affected persons. At the initiation of a project to develop or revise an American National Standard[1], notification shall be transmitted to ANSI using the Project Initiation Notification System (PINS) form, or its equivalent, for announcement in *Standards Action*. Any comments resulting from the filing of PINS shall be addressed in accordance with Section 2.5 on Notification of Standards Development and Coordination of the current version of ANSI Essential Requirements.

In addition, proposals for new American National Standards and proposals to revise, reaffirm, or withdraw approval of existing American National Standards shall be

[1] Including the national adoption of ISO and IEC standards as American National Standards.

transmitted to ANSI using the BSR-8 form, or its equivalent, for listing in *Standards Action* in order to provide an opportunity for public comment. Addenda may be issued for minimal revisions of American National Standards and shall follow the requirements of full revisions.

Comment [S4]: Addenda was previously discussed as an option for our RISC standards.

The public review comment period on proposals for new American National Standards and proposals to revise, reaffirm, or withdraw approval of existing American National Standards shall be one of the following:

- A minimum of thirty days if the full text of the revision(s) can be published in *Standards Action*;
- A minimum of forty-five days if the document is available in an electronic format, deliverable within one day of a request, and the source (e.g., URL or an E-mail address) from which it can be obtained by the public is provided to ANSI for announcement in *Standards Action;* or
- A minimum of sixty days, if neither of the aforementioned options is applicable.

5.5 All comments submitted during the ballot process and corresponding public review shall be addressed technically by the responsible working group (or subcommittee). The working group shall make a concerted effort to resolve all negative ballots by working directly with the balloters. All correspondence relating to the consensus balloting process shall be retained by the secretary of the consensus committee.

In the event that one or more negative ballots or public review comments cannot be resolved, the members of the responsible consensus committee shall be so advised and be provided evidence of attempts at resolution along with the unresolved objection(s) and afforded an opportunity to respond, reaffirm, or change their original vote. In addition, anyone who submitted a negative ballot that remains unresolved, as well as anyone who submitted comments through the public review process that remain unresolved, shall be informed of their right to appeal in writing prior to taking the actions set forth in Article 5.7.

Comment [PS5]: Per audit report recommendation 8(C) 2: "Revise 5.5 to add the words 'in writing' for providing a disposition to objectors and informing unresolved objectors of the right to appeal."

If a substantive change is made to a proposed standard to resolve any ballot or public review comment, the substantive change shall be resubmitted to the committee for letter ballot or recirculation ballot when feasible unless concurred to by the responsible consensus committee during a regular meeting, and shall be submitted for a second public review. In the case of a vote taken at a meeting, those not in attendance shall be provided an opportunity to vote either prior to or after the meeting. The chairman of the consensus committee, in consultation with the responsible subcommittee chairman as needed, shall decide whether the change is substantive. Any change to a requirement in the standard, including new or deleted requirements, shall be considered a substantive change.

Comment [S6]: In discussion of ANSI audit recommendation iv, ANSI recommends that recirculation ballots be conducted for substantive changes to expedite the process verses a full ballot and re-review of full draft. A full ballot would be necessary if substantive changes are deemed too extensive for submittal of draft in track mode.

Comment [PS7]: Addition per audit report recommendation 8(C)3: "Revised 5.5 to add "in the case of a vote taken at a meeting, offering those not in attendance to vote either prior to or after the meeting."

5.6 If, in the final ballot tally, at least a majority of the members ballot affirmative, the chairman of the consensus committee may determine that consensus for approval has been obtained. If at least two-thirds of the members ballot affirmative, the chairman shall declare that consensus for approval has been obtained. In both cases, however, the segment of the committee voting affirmative shall represent a reasonable balance

of interests of the committee (see Article 3.2.2). Any determination of consensus shall be made only if at least two-thirds of the members submit valid ballots.

5.7 The SB shall certify that all procedures contained herein pertaining to due process have been implemented (see Article 2.2a). In certifying that due process procedures have been properly implemented, the Standards Board shall ensure that (1) the provisions of Article 5.4 as well as that portion of Article 5.5 on balance of interests have been met, (2) reaffirmation were accomplished without any substantive changes to the main text of the standard; (3) efforts have been made to ensure maximum participation by consensus committee members, (4) the number of outstanding negative ballots has been minimized, and (5) the full intent of consensus as set forth in Article 5.1 has been adhered to, in addition to the implementation of the numerical guidance provided in Article 5.5. Upon declaration of consensus for approval by the responsible consensus committee chairman, proposed standards, revisions, reaffirmations, or withdrawals shall be submitted to the Board of Standards Review of ANSI for approval.

Comment [PS8]: Addition for compliance with the 2010 ANSI Essential Requirements

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5.8 The designation of and publication of American National Standards shall comply with the current version of the ANSI Essential Requirements. American National Standards shall

- include an approval logo or the words “an American National Standard” on its cover or title page;
- be identified by a unique alphanumeric designation; and
- clearly indicate on its cover or title page that it has been reaffirmed or withdrawn.

Portions of a published document that are not approved through the consensus process shall not contain requirements necessary for conformance with the approved American National Standard and shall be clearly identified.

Comment [PS9]: Addition for compliance with the 2010 ANSI Essential Requirements

Deleted: Requests for interpretation of an American National Standard developed by the Standards Committee shall be submitted to the secretary of the SB.

5.9 Inquiries (i.e., requests, and/or questions) about American National Standards developed by the Standards Committee shall be submitted to the Standards Administrator. The Standards Administrator shall send each inquiry to the ANS Standards Board Chair, the responsible consensus committee chair, and responsible subcommittee chair for their review to assure that the inquiry is relevant to the identified standard and does not qualify as a *case interpretation*. If the inquiry is determined to be a *case interpretation* or *not relevant* to the specified standard, the SB Chair shall respond to the requestor within 30 days of the receipt of the inquiry. Upon the determination by the SB Chair, consensus committee chair, and subcommittee chair that the inquiry is not a *case interpretation* and is relevant to the referenced standard the subcommittee chair shall manage the development of a response to the inquiry according to the SB POLICY ON DEVELOPING RESPONSES TO INQUIRIES ABOUT STANDARDS REQUIREMENTS, RECOMMENDATIONS, AND PERMISSIONS. The response shall not supplement or modify the standard. The response shall be reviewed for technical content by the

Deleted: The secretary of the SB shall provide the request to the chairman of the SB, who, in consultation with the responsible consensus committee and subcommittee chairmen, shall determine whether the request is to be handled as an interpretation or clarification.

Deleted: A clarification is a written reply to a question regarding the original intent of a requirement in an American National Standard and is developed by the responsible working group.

Comment [PS10]: Per ANSI auditor recommendation iii, statement that an interpretation can alter a requirement was removed and clarification added that response would not supplement/modify the standard.

Deleted: A clarification has no effect on the standard and requires the concurrence of the subcommittee chair only.

appropriate working group, subcommittee and balloted by the responsible consensus committee in accordance with Article 5.4. The SB Chair shall reply to the requestor of the inquiry. Each response shall be published in Nuclear News.

5.10 Consensus committee meetings shall be held as decided upon by the chairman or by petition of five or more members to conduct the business of the committee. Meetings of subcommittees or working groups may be held as decided upon by the respective chairmen.

5.11 Each subcommittee shall perform a detailed, technical review of proposed standards prior to their being submitted for consensus ballot.

5.12 American National Standards developed under procedures of the ANS Standards Committee shall be considered for maintenance within five years after the year of ANSI approval and formal action shall be promptly initiated to revise, reaffirm, or withdraw them.

5.13 Requests for withdrawal of an American National Standards for cause shall comply with the current version of the ANSI Essential Requirements.

6. APPEALS

6.1 An appeal regarding the conduct or incompleteness of any procedure called for under Section 5 of these Rules and Procedures may be made at any time. An appeal shall be submitted in writing to the secretary of the SB stating the explicit reason for the appeal and at what point in the process the person making the appeal is not satisfied. The chairman of the SB shall determine whether the appeal is procedural or technical in nature.

6.2 If the appeal is procedural, the responsible consensus committee chairman shall be advised. The consensus committee chairman, in consultation with the responsible subcommittee chairman, shall develop a plan of action to resolve the appeal. Upon completion of this action, the chairman of the SB shall notify the appealer of the results.

6.3 If the appeal is technical, an ad hoc review committee shall be established by the chairman of the SB; this committee shall include the secretary of the SB, the vice-chairman of the SB, the responsible consensus committee chairman, and one other individual with expertise in the technical area being appealed; in no case shall the chairman of the SB or any member of the responsible subcommittee or working group be appointed to this ad hoc committee. The ad hoc committee shall work with the working group and the appealer to establish an equitable resolution in view of the technical information publicly available. Upon completion of the ad hoc committee's action, the chairman of the SB shall be advised, shall review the action to ensure procedural compliance, and shall notify the appealer of the results.

6.4 The appeals process shall be completed in a timely fashion in accordance with SB procedures and with adequate provision for fairness on the part of all participants.

Deleted: Because an interpretation can alter one or more requirements in the standard, it shall be reviewed for technical content by the appropriate subcommittee and balloted by the responsible consensus committee in accordance with Article 5.4.

Deleted: The clarification or approved interpretation shall be reviewed by the chairman of the SB, who shall reply to the inquirer

Deleted: . Each clarification and interpretation shall be published in Nuclear News.

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Comment [PS11]: Addition for compliance with the 2010 ANSI Essential Requirements

Comment [PS12]: Statement noting future appeal to ANSI deleted per auditor recommendation #4.

Deleted: If the appeal is denied, the notification to the appealer shall state that further appeal may be made to the ANSI Board of Standards Review.¶

7. REVISIONS TO THESE RULES

Proposed revisions to these rules shall be submitted to the SB for approval. The Executive Standards Council of ANSI shall be notified of any revisions to these rules.

ANNEX A

Definitions of Interest Groups

Article 3.2.2 of these Rules and Procedures specify that no more than one-third of the membership of each consensus committee represent any one type of organization. The following definitions shall be used to determine the interest category of each member of a consensus committee.

1. OWNERS

Any organization (including utilities) that owns a nuclear power facility. Includes operators of such facilities where the operator and owner are different companies. Includes national or international organizations established to represent or work on behalf of owners (e.g., NEI, INPO, EPRI, and WANO).

2. VENDORS

Any organization that provides equipment (including fuel) to an owner, the government, or to another vendor. Includes organizations that also provide services to owners. (Vendors are also called suppliers or manufacturers.)

3. ARCHITECT-ENGINEERS

Any organization that provides services (but not equipment) to an owner, the government, or a vendor. Includes organizations that provide design work (including architectural services), planning, and construction management.

4. CONSULTANTS

Any organization whose mission is to provide professional services (but not equipment) for addressing technical, research, development, safety, and regulatory issues among Owners, Vendors, Government, Universities, and National Laboratories.

5. GOVERNMENT AGENCIES

Any federal or state agency (such as departments, administrations, commissions, and boards) with missions to regulate use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to protect the environment, and to advance the national, economic, and energy security of the United States.

6. NATIONAL LABORATORIES

Organizations managing and operating government owned facilities for the purpose of basic and applied research and development for industry or government.

7. UNIVERSITIES

Any recognized institute of higher learning whose mission is to educate and to provide research through an environment of open and interactive collaboration with industry and government.

8. SOCIETIES

Standards developing organizations, including insurance and nuclear inspection, whose mission is to develop standards, consensus or otherwise, that have potential relevance to ANS standards (ANS representation is not allowed).

9. INDIVIDUALS

A person who is nationally recognized for expertise within the scope of the assigned consensus committee and whose services or travel are not paid for by any other organization defined herein (with the exception of grants administered by ANS or a similar organization).

Sponsoring Organization

The organization that is represented or pays for a persons participation in the activities of the consensus committee. Applies to employees of any organization defined herein regardless of financial support.

JFM, 7/7/05
JFM, 1/31/06
NPK, 8/26/08
PS, 10/6/09, Editorial

ANNEX B

Classifications of Standards Committee Membership

1. MEMBERS

An individual with interest in ANS standards activities, who qualifies by possessing the background needed in the scope of the committee, and the ability to participate. Members shall be afforded voting privileges.

2. ASSOCIATE MEMBERS

An individual with interest in standards development, but who may not yet possess the knowledge, experience, and/or expertise that would naturally result from significant experience in a technical field. With the concurrence of the chair of individual ANS standards activities group (i.e., working groups, subcommittees, consensus committees, and Standards Board) an Associate Member would be expected to fully participate in standards activities with the exception of voting. Each standards committee may have a maximum of two Associate Members. The term of the Associate Membership will be for two years. After two years, the Associate Member will be considered for full membership in the capacity that was served. The chair of any ANS standards activity may grant voting privileges to the Associate Member if that chair deems that the knowledge and/or contributions of the associate member are significant enough to warrant voting.

3. ALTERNATES

A member who cannot attend a committee meeting should be represented by an alternate who shall have all the privileges and obligations of a member during the period of his or her service in this capacity. The selection of an alternate for two or more consecutive meetings shall be subject to acceptance by the appropriate chair.

4. LIAISONS

An individual representing another organization for the purpose of coordination of activities among organizations. The liaison facilitates communication that helps ensure consistency and avoid conflicts or duplication with ANS standards activities. The chair of any ANS standards activity may grant voting privileges to the liaison.

5. OBSERVERS AND EXPERTS

Any individual and organization having an interest may request being designated as an observer. A committee may select individual experts to provide technical assistance to the committee. Observers and individual experts shall be advised of all committee activities, may attend meetings, and may submit comments for consideration, but shall not vote, ballot, or hold office.

NPK, 5/24/09

ANNEX C

Records Retention Policy

1. BACKGROUND

The ANS Standards Committee produces a large volume of documents, including meeting minutes, draft standards, ballots, policies and procedures, and correspondence. In addition to historical interest in this material, many of these documents must be retained to provide adequate evidence of due process and to confirm that consensus has been reached on approved standards. This policy sets forth criteria for the retention of all documents developed by the Standards Committee.

2. POLICY

2.1 Documents Required to Substantiate Due Process

ANSI procedures require that American National Standards undergo maintenance procedures within five years. To accommodate the revision process, ANSI permits the extension of the viability of a standard for up to an additional five years, or a total of ten years from the initial approval of the standard. To ensure that records are retained for at least this ten-year period (i.e., minimally one complete standards cycle), the following documents associated with each current and withdrawn American National Standard, if held at ANS as of November 16, 2004, shall be retained by ANS for 11 years (after the last ANSI approval).

Deleted: every

Comment [S13]: Changes to this section made per ANSI recommendation 8(C)5 of audit report.

- Ballots
- Resolution of comments
- Correspondence related to retained negative ballots, including reconsideration of ballots
- Correspondence related to any appeals and their disposition
- SB letter ballots
- Official ANSI forms (e.g., PINS, BSR-8, and BSR-9)
- Correspondence
- Consensus committee rosters and minutes
- Annual certifications of balance of interests

2.2 Draft Standards and Policy-Related Documents

Many documents provide the basis for important policy decisions related to the format and content of standards and transcend the requirement to perform maintenance on American National Standards. The following documents shall be retained by ANS indefinitely:

- Policies and procedures and all revisions thereto
- Drafts of all standards circulated for review or ballot

- Published versions of American National Standards
- Documents that provide substantiation of values used in each American National Standard
- Correspondence related to clarifications and interpretations, including their final disposition

2.3 Other Documents

All other documents produced by the Standards Committee shall be retained by ANS as deemed appropriate by the Standards Administrator, including SB meeting minutes and consensus committee meeting minutes. The retention of all documents should be based in part on their historical significance.

ANNEX D

Compliance with Normative American National Standards Policy

1. PATENT POLICY

The American Nuclear Society does not anticipate any patent issues, but in the event of such an occurrence, we will comply with the ANSI Patent Policy as stated in 3.1 of the current version of ANSI Essential Requirements: Due process requirements for American National Standards.

2. COMMERCIAL TERMS AND CONDITIONS

The American Nuclear Society does not anticipate the need for provisions involving business relations between buyer and seller such as guarantees, warranties, and other commercial terms and conditions in its standards but in the event of such an occurrence, we will comply with the ANSI policy on Commercial Terms and Conditions as stated in 3.2 of the current version of ANSI Essential Requirements: Due process requirements for American National Standards.

3. METRIC POLICY

The ANS Standards Committee actively encourages the use of the International System of Units (SI) in the writing of standards, and specifically that SI units should either be provided parenthetically alongside English units or SI units alone should be used, unless to do so would significantly impede the progress of the standards.

Attachment H

IN TRIAL USE WITH NEW BALANCE OF INTEREST DEFINITIONS

POLICY ON COMMITTEE REPRESENTATION

1. BACKGROUND

This policy provides guidance on the composition of working groups, subcommittees, and consensus committees. It supplements the criteria set forth in Articles 3.2, 3.3, and 3.4 of the accredited rules and procedures. In addition, criteria are provided for accepting more than one representative on a consensus committee from a single organization. These criteria supplement the criteria for consensus committee membership given in Article 3.2.2 of the accredited rules and procedures.

2. POLICY

2.1 *Representation*

Requests for representation on a specific committee shall be referred to the proper chair. More general requests to join the standards committee shall be handled by the standards administrator in conjunction with appropriate committee chairs (see Policy on the Objectives and Administration of the ANS Standards Board, Article 3, paragraph 3 for additional guidance). Also, see the Policy on the Administration of the Standards Committees, Articles 2, 3, and 4 for the structure and management of all committees.

2.1.1 Working Groups

Members of working groups should be selected for their recognized expertise in the scope of the assigned standard. The makeup of a working group should include representatives from appropriate types of organizations (see Policy on Certification of Consensus Committee Membership, which defines categories of interest). However, there is no requirement to achieve balance on a working group among types of organizations; membership should be based on the expertise required to develop the standard.

The size of and diversity of disciplines represented on the working group shall be consistent with the goals of efficiency, user interest, and useful technical content of the proposed standard. Although members may be drawn from a spectrum of involved interests, the total membership should be limited to enhance close working relationships and good communication, and to help ensure an efficient standards development process.

2.1.2 Subcommittees

Members of subcommittees should be selected for their experience and competence in the scope of the committee and for their ability and willingness to participate in committee activities, and for their ability to provide credible technical comments on proposed standards. Although balance is not required, subcommittee members should represent each type of organization that has a material interest in the scope of the committee (see Policy on Certification of Consensus Committee Membership). Multiple representatives from a single organization should be avoided unless these individuals have expertise in different disciplines needed to address the scope of the committee. In addition, not more than 40 percent of the membership should be from any one interest group.

The number of members on a subcommittee should be sufficient to provide a broad range of perspectives and review comments. Members should be selected from supervisory personnel,

licensed operators, and highly experienced engineers and scientists. Members should have substantial experience as members of working groups.

2.1.3 Consensus Committees

Representation on consensus committees should be as broad as possible, and shall include representatives from each type of organization that has a material interest in the scope of the committee (see Policy on Certification of Consensus Committee Membership). Members of consensus committees should be selected for their experience in the scope of the committee; for their ability and willingness to participate in committee activities; and for their ability to provide credible review and ballot comments on issues involving policy, feasibility of implementation of proposed standards, and commercial fairness and impartiality.

Consensus committee members should be selected from management personnel, licensed operators, and the most experienced engineers and scientists. Members should have substantial experience as members of subcommittees. Multiple representatives from a single organization, if deemed necessary by the chair, shall adhere to Article 2.2 of this policy.

2.2 *Multiple Representatives from a Single Organization on Consensus Committees*

In establishing the membership of consensus committees, the requirements of due process and consensus always supersede any other objective. Specifically, the provisions of Articles 3.2.2 and 5.1 of the accredited rules and procedures shall be fulfilled in every respect. This policy applies to the chair of each consensus committee.

2.2.1 Criteria for Selecting Multiple Members from a Single Organization

The criteria contained in this article pertain to committee membership only and do not apply to balloting privileges, which are addressed in Article 2.2.2 of this policy.

Two representatives from a single organization may be appointed to a consensus committee if they comply with the criteria listed below. Alternatively, two representatives from a single organization may be members of a consensus committee if one of the individuals is an elected chair of a subcommittee and is compelled to be a member in accordance with the rules of that consensus committee.

In addition, three representatives from a single organization may be appointed to a consensus committee if at least one individual is an elected chair of a subcommittee and is compelled to be a member in accordance with the rules of that consensus committee, and the other representatives comply with the following criteria.

Criteria

- Each member shall be an employee of the organization under consideration and each member (other than a subcommittee chair) shall represent different interests as determined by their assignments to separate and distinct product lines or service areas. Examples of these functional and organizational distinctions are given below.

- The different interests between two candidates shall be measured by how much their job responsibilities and their technical perspectives differ from each other. An assessment of the functional responsibilities of the individuals and their organizational separation shall be made to determine whether they have different interests. Geographic location shall not be a factor.

Examples of functional and organizational distinctions

- For a vendor or service provider, typical areas that demonstrate distinct assignments are services (such as consulting, analytical, or field services), component manufacture and supply, fuel manufacture and supply, and equipment design and supply. Organizational separation is usually defined by being the responsibility of different corporate officers.

- For an owner/operator, distinct assignment areas are typically engineering (including support services, such as purchasing, QA, and licensing), operations (including operators, maintenance personnel, outage support functions, HP, and chemistry), and training.

- For a government organization, distinct assignment areas are typically regulatory related (including licensing, compliance, inspection, security, and project management), materials and research, and field management. Distinct areas are usually under the responsibility of different offices. Two members shall not represent a single national laboratory even if the functions are apparently distinct.

- For university and research organizations, the two distinct areas are university and non-university research establishments not defined under government.

2.2.2 Criteria for Multiple Ballots from Members Representing a Single Organization

Each organization should provide a single ballot. The Standards Board shall concur with (or deny) any situation in which two ballots from a single organization are deemed necessary by the chair of a consensus committee. The sole basis for Standards Board concurrence shall be whether the criteria set forth in this policy are complied with, including adherence to the spirit and intent of due process and balance of interests.

If two members of a consensus committee represent a single organization, they should decide between them which one will develop comments and submit a ballot. This agreement may be for all ballots or may be done on a subject basis, where one individual casts a ballot on certain defined subject areas, and the other on the remaining areas. This agreement shall be provided to the committee chair in writing.

If two ballots from a single organization are considered desirable and appropriate by the members because they represent different interests, and a single ballot would not fairly represent their separate interests, a memo from the two members shall be sent to the chair requesting permission to submit two ballots. The memo shall include a clear explanation of why this decision is reasonable and necessary. The chair shall review the request, shall apply the above criteria, and shall make a binding decision. If the request for two ballots is denied and both members believe the denial is unfair, they can appeal to the consensus committee to vote on the matter. If still denied, the members may appeal to the Standards Board for a final judgment.

The number of members permitted to submit a ballot together with another member from the same organization shall not exceed 15 percent of the membership of the committee that are allowed to ballot.

In no case shall members of a single organization be permitted to submit more than two ballots.

JFM, 7/27/05
(JFM revised, 11/29/05)

Attachment I

Inquiry Statement for Inclusion in Foreword of ALL Future Standards
For Standards Board Consideration

INQUIRY REQUESTS

The American Nuclear Society (ANS) Standards Committee will provide responses to inquiries about requirements, recommendations and/or permissive statements (i.e., "shall," "should," and "may," respectively) in American National Standards that are developed and approved by ANS. Responses to inquiries will be provided according to the Policy Manual for the ANS Standards Committee. Non relevant inquiries or those concerning unrelated subjects will be returned. ANS does not develop Case Interpretations.

Responses to inquiries on standards are published in the Society's magazine, *Nuclear News*, and are available publicly on the ANS Web site or by contacting the ANS Standards Administrator.

INQUIRY FORMAT

Inquiry requests must include the following:

(1) the name, company name if applicable, mailing address, and telephone number of the inquirer;

(2) reference to the applicable standard edition, section, paragraph, figure and/or table;

(3) the purposes of the inquiry;

(4) the inquiry stated in a clear concise manner; and

(5) the proposed reply.

Inquiries should be addressed to

American Nuclear Society
ATTN: Standards Administrator
555 N. Kensington Avenue
La Grange Park, IL 60526

Or standards@ans.org

Attachment J

N16 Chairman's Report
ANS November 2010 Meeting ● Las Vegas, Nevada

PINS in Development (1)

- ANS-8.22, "Nuclear Criticality Safety Based on Limiting and Controlling Moderators" (revision of ANSI/ANS-8.22-1997 (R2006))

PINS in Approval Process/Resolving Comments (3)

- ANS-8.20, "Nuclear Criticality Safety Training" (revision of ANSI/ANS-8.20-1991 (R2005))
- ANS-8.25, "Development of Nuclear Criticality Safety Related Postings" (new standard)
- ANS-8.28, "Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety" (new standard)

Standards in Development – Approved PINS (7)

- ANS-8.1, "Nuclear Criticality Safety in Operations With Fissionable Materials Outside Reactors" (revision of ANSI/ANS-8.1-1998 (R2007))
- ANS-8.3, "Criticality Accident Alarm System" (revision of ANSI/ANS-8.3-1997 (R2003))
- ANS-8.10, "Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement" (revision of ANSI/ANS-8.10-1983 (R2005))
- ANS-8.12, "Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (revision of ANSI/ANS-8.12-1987 (R2002))
- ANS-8.15, "Nuclear Criticality Control of Selected Actinide Nuclides" (revision of ANSI/ANS-8.15-1981 (R2005))
- ANS-8.19, "Administrative Practices for Nuclear Criticality Safety" (revision of ANSI/ANS-8.19-2005)
- ANS-8.21, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision of ANSI/ANS-8.21-1995 (R2001))

Standards at Ballot/Comment Resolution (2)

- ANSI/ANS-8.6-1983 (R201x), "Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ" (Standards Board Letter Ballot due 10/28/2010)
- ANSI/ANS-8.12-1997 (R201x), "Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (N16 Reaffirmation Ballot due 12/21/2010)

Inquiry Responses (1)

A response to an inquiry received 3/2/2010 on ANSI/ANS-8.3-1997 (R2003), "Criticality Accident Alarm System Inquiry," was issued 9/9/2010.

Delinquent Standards (9)

- ANSI/ANS-8.3-1997 (R2003), "Criticality Accident Alarm System" (revision initiated)
- ANSI/ANS-8.6-1983 (R2001), "Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ" (reaffirmation in progress)
- ANSI/ANS-8.10-1983 (R2005), "Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement" (revision initiated)

- ANSI/ANS-8.12-1987 (R2002), Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (reaffirmation in progress; revision initiated)
- ANSI/ANS-8.14-2004, "Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors"
- ANSI/ANS-8.15-1981 (R2005), "Nuclear Criticality Control of Special Actinide Elements" (revision initiated)
- ANSI/ANS-8.19-2005, "Administrative Practices for Nuclear Criticality Safety" (revision initiated)
- ANSI/ANS-8.20-1991 (R2005), "Nuclear Criticality Safety Training" (revision initiated)
- ANSI/ANS-8.21-1995 (R2001), "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision initiated)

Attachment K

N17 Chairman's Report

ANS November 2010 Meeting ● Las Vegas, Nevada

PINS in Development (3)

- ANS-6.3.1, "Program for Testing Radiation Shields in Light Water Reactors (LWR)" (revision of ANSI/ANS-6.3.1-1987 (R2007))
- ANS-6.4.3, "Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials" (historical revision of ANSI/ANS-6.4.3-1991)
- ANS-15.20, "Criteria for the Reactor Control and Safety Systems of Research Reactors" (new standard)

Standards in Development – Approved PINS (13)

- ANS-5.1, "Decay Heat Power in Light Water Reactors" (revision of ANSI/ANS-5.1-2005)
- ANS-6.1.2, "Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants" (revision of ANSI/ANS-6.1.2-1999 (R2009))
- ANS-10.7, "Non-Real Time, High Integrity Software for the Nuclear Industry" (new standard)
- ANS-15.2, "Quality Control for Plate-Type Uranium-Aluminum Fuel Elements" (revision of ANSI/ANS-15.2-1999 (R2009))
- ANS-15.8, "Quality Assurance Program Requirements for Research Reactors" (revision of ANSI/ANS-15.8-1995 (R2005))
- ANS-15.17, "Fire Protection Program Criteria for Research Reactors" (historical revision of ANSI/ANS-15.17-1981 (R2000))
- ANS-15.19, "Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactor" (historical revision of ANSI/ANS-15.19-1991)
- ANS-15.21, "Format and Content for Safety Analysis Reports for Research Reactors" (revision of ANSI/ANS-15.21-1996 (R2006))
- ANS-19.1, "Nuclear Data Sets for Reactor Design Calculations" (revision of ANSI/ANS-19.1-2002)
- ANS-19.3, "Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors" (revision of ANSI/ANS-19.3-2005)
- ANS-19.9, "Delayed Neutron Parameters for Light Water Reactors" (new standard)
- ANS-19.11, "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors" (revision of ANSI/ANS-19.11-1997 (R2002))
- ANS-19.12, "Nuclear Data for the Production of Radioisotope" (new standard)

Standards at Ballot/Resolving Comments (1)

- ANS-19.6.1, "Reload Startup Physics Tests for Pressurized Water Reactors," (revision to ANSI/ANS-19.6.1-2005)

Clarifications (1)

A response to an inquiry received 7/15/2010 on ANSI/ANS-19.6.1-2005, "Reload Startup Physics Tests for Pressurized Water Reactors," was issued 9/27/2010.

Delinquent Standards (4)

- ANSI/ANS-5.1-2005, "Decay Heat Power in Light Water Reactors" (revision initiated)
- ANSI/ANS-19.1-2002, "Nuclear Data Sets for Reactor Design Calculations" (revision initiated)
- ANSI/ANS-19.4-1976 (R2000), "A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification"
- ANSI/ANS-19.11-1997 (R2002), "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Water Moderated Power Reactors" (revision initiated)

Attachment L

NFSC Chairman's Report

ANS November 2010 Meeting ● Las Vegas, Nevada

I. Standard approved by NFSC (1)	Status	SC
ANSI/ANS-3.11-2005 (R201x), Determining Meteorological Information at Nuclear Facilities (reaffirmation)	approved by NFSC; letter ballot to be issued for SB certification	ANS-21

II. Standards and draft standards at ballot or comment resolution (7)	Status	SC
ANS-2.3, Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites (reinvigoration of historical standard)	at ballot with due date of 12/6/10	ANS-25
ANS-2.17, Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Production Facilities (reinvigoration of historical standard)	resolving comments from re-ballot	ANS-25
ANS-2.21, Criteria for Assessing Atmospheric Effects On the Ultimate Heat Sink (new standard)	resolving comments/revising draft	ANS-25
ANS-41.5, Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation (new standard)	resolving comments/revising draft	ANS-24
ANS-5.4, Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel (reinvigoration of historical standard)	resolving comments/revising draft	ANS-24
ANS-53.1, Nuclear Safety Criteria for the Design of Modular Helium-Cooled Reactor Plants (new standard)	resolving comments/revising draft	ANS-28
ANS-58.14, Safety and Pressure Integrity Classification Criteria for Light Water Reactors (reinvigoration of historical standard)	resolving comments/revising draft	ANS-22

III. Standards in development with an approved PINS (12)	Status	SC
ANS-2.2, Earthquake Instrumentation Criteria for Nuclear Power Plants (revision of ANSI/ANS-2.2-2002)	in development	ANS-25
ANS-2.9, Evaluation of Ground Water Supply for Nuclear Facilities (reinvigoration of historical standard)	in development	ANS-25
ANS-2.15, Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities (new standard)	in development	ANS-24
ANS-2.16, Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities (new standard)	in development	ANS-24
ANS-2.25, Surveys of Terrestrial Ecology Needed to License Thermal Power Plants (reinvigoration of historical standard)	in development	ANS-25
ANS-2.30, Assessing Capability for Surface Faulting at Nuclear Facilities (new standard)	in development	ANS-25
ANS-3.1, Selection, Qualification, and Training of Personnel for Nuclear Power Plants (reinvigoration of historical standard)	in development	ANS-21
ANS-3.8.10, Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities (new standard)	in development	ANS-24
ANS-18.1, Radioactive Source Term for Normal Operation of Light Water Reactors (reinvigoration of historical standard)	in development	ANS-24
ANS-51.10, Auxiliary Feedwater System for Pressurized Water Reactors (revision of ANSI/ANS-51.10-1991 (R2008))	in development	ANS-22
ANS-54.1, General Safety Design Criteria for a Liquid Sodium Reactor Nuclear Power Plants (reinvigoration of historical standard)	in development	ANS-29
ANS-56.8, Containment System Leakage Testing Requirements (revision of ANSI/ANS-56.8-2002)	in development	ANS-21

NFSC Chairman's Report

ANS November 2010 Meeting ● Las Vegas, Nevada

IV. PINS approved by NFSC (6)	Status	SC
ANS-3.8.1, Criteria for Radiological Emergency Response Functions and Organizations for Nuclear Facilities (reinvigoration of historic standard)	resolving SB comments	ANS-26
ANS-3.8.2, Criteria for Functional and Physical Characteristics of Radiological Emergency Response Facilities at Nuclear Facilities (reinvigoration of historic standard)	resolving SB comments	ANS-26
ANS-3.8.3, Criteria for Radiological Emergency Response Plans and Implementing Procedures and Maintaining Emergency Response Capability for Nuclear Facilities (reinvigoration of historic standard)	resolving SB comments	ANS-26
ANS-3.8.6, Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response and Emergency Radiological Field Monitoring, Sampling and Analysis for Nuclear Facilities (reinvigoration of historic standard)	resolving SB comments	ANS-26
ANS-3.8.7, Criteria for Planning, Development, Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness at Nuclear Facilities (reinvigoration of historic standard)	resolving SB comments	ANS-26
ANS-58.16, Safety Classification and Design Criteria for Non- Reactor Nuclear Facilities (new standard)	PINS issued to SB for approval of substantive change	ANS-22

V. PINS in approval with NFSC (3)	Status	SC
ANS-2.31, Standard for Estimating Extreme Precipitation at Nuclear Facility Sites (new standard)	resolving comments/revising PINS	ANS-25
ANS-3.2, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants (revision of ANSI/ANS-3.2-2006)	resolving comments/revising PINS	ANS-21
ANS-58.8, Time Response Design Criteria for Safety-Related Operator Actions (revision ANSI/ANS-58.8-1994 (R2008))	resolving comments/revising PINS	ANS-22

VI. PINS in preparation (5)	Status	SC
ANS-3.4, Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants (revision of ANSI/ANS-3.4-1996 (R2002))	to be drafted by WG	ANS-21
ANS-3.5, Nuclear Power Plant Simulators for Use in Operator Training and Examination (revision of ANSI/ANS-3.5-2009)	to be drafted by WG	ANS-21
ANS-40.21, Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds (new standard)	to be drafted by WG	ANS-25
ANS-40.35, Volume Reduction of Low-Level Radioactive Waste or Mixed Waste (reinvigoration of historic standard)	to be drafted by WG	ANS-27
ANS-58.2, Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture (reinvigoration of historic standard)	to be drafted by WG	ANS-24

VII. Delinquent standards (9)	Status	SC
ANSI/ANS-2.2-2002, Earthquake Instrumentation Criteria for Nuclear Power Plants	revision in development	ANS-25
ANSI/ANS-2.10-2003, Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	inactive working group	ANS-21
ANSI/ANS-3.4-1996 (R2002), Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	revision in development	ANS-21

ANSI/ANS-56.8-2002, Containment System Leakage Testing Requirements	revision in development	ANS-21
ANSI/ANS-57.1-1992 (R2005), Design Requirements for Light Water Reactor Fuel Handling Systems	inactive working group	ANS-27
ANSI/ANS-57.8-1995 (R2005), Fuel Assembly Identification	inactive working group	ANS-27
ANSI/ANS-58.6-1996 (R2001), Criteria for Remote Shutdown for Light Water Reactors	inactive working group	ANS-21
ANSI/ANS-58.11-1995 (R2002), Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors	inactive working group	ANS-22
ANSI/ANS-59.3-1992 (R2002), Nuclear Safety Criteria for Control Air Systems	inactive working group	ANS-22

IX. Clarifications (4)	**Status**	**SC**
ANSI/ANS-3.4-1983, Nuclear Power Plant Simulators for Use in Operator Training and Examination	inquiry received 8/13/09; response approved by NFSC; LB issued to SB for certification w/due date of 11/9/10	ANS-21
ANSI/ANS-3.5-2009, Nuclear Power Plant Simulators for Use in Operator Training and Examination	inquiry received 10/13/09; issued 10/21/10	ANS-21
ANSI/ANS-3.5-2009, Nuclear Power Plant Simulators for Use in Operator Training and Examination	inquiry received 11/13/09; issued 10/21/10	ANS-21
ANSI/ANS-58.2-1988 , Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	in development by working group	ANS-24

Attachment M

RISC Chairman's Report

ANS November 2010 Meeting ● Las Vegas, Nevada

Standards in Development

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

- Writing group is led by Mark Leonard, underway since 2005
- Draft issued to RISC & ASME CNRM for preliminary review in January 2010
- Comments were provided to the working group for consideration in May 2010
- Waiting for NRC comments on the preliminary review
- The working group held a two-day meeting at ANS on August 23 & 24, 2010
- Ballot date to be determined; tentatively anticipated in the first quarter of 2011

ANS/ASME-58.25-20xx, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications"

- Writing group is led by Keith Woodard, underway since 2005
- Draft issued to RISC & ASME CNRM for preliminary review in October 2009
- Comments were provided to the working group for consideration in February 2010
- Bulk of NRC comments were provided to the working group in April 2010
- Draft to be issued for RISC ballot with concurrent public review in November 2010; also to be provided to ASME CNRM for comment

In RISC Ballot/Vote (or resolving comments)

ANS-58.22-20xx, "Low Power Shutdown PRA Methodology"

- Writing group is led by Don Wakefield, underway since 1999
- Reballot was issued due to substantive changes
- Reballot closed October 2008 with 674 committee comments and 116 public comments
- Comment responses and a revised draft were issued to RISC in November 2009
- Working group is resolving the remaining issues before issuing a revised draft for another ballot anticipated before the end of 2010

ANS RISC Merger with ASME CNRM

The RISC met on September 20 & 23, 2010, in a joint meeting with the ASME CNRM in Boston, Massachusetts. The organizational structure and member assignments for the proposed Joint Committee on Nuclear Risk Management (JCNRM) were discussed as well as project status. A ballot for approval of the JCNRM was issued to the ASME Board of Nuclear Codes and Standards with a due date of October 20, 2010. Comments are currently being resolved. The ANS Standards Board will be notified of any proposed changes to the JCNRM procedures. It is anticipated that the result of the ASME-BNCS process will be approval by the BNCS of the JCNRM, but with some proposed changes to the draft "JCNRM Rules and Operating Procedure." The proposed changes, which are being followed closely by the RISC Chairman, are not considered to be substantive—"a lot of little noodling and some modest improvements that are not controversial." However, the proposed revised draft must of course be forwarded to the ANS Standards Board for its review and approval. This SB approval, if it occurs, should be the final step before the JCNRM can come into existence.

There is one more substantive issue to be resolved between ANS and ASME, and that is the set of financial questions involving both revenue sharing and the sharing of staff and other costs between the

two societies. Revenue sharing: There are no new PRA standards coming up for release in the next few months under the proposed new JCNRM for which the revenue-sharing issue comes into play. There is also a revenue-sharing agreement already in place for the revenues realized from the existing joint ANS-ASME PRA combined standard. Because this should serve as a model for any new revenue sharing agreement, the negotiations on a new revenue sharing agreement should be straightforward and non-controversial. Staff and other costs: The issue of costs, specifically staff costs, still remains to be discussed between ANS and ASME staff, but is not considered a showstopper issue. Proposal for SB consideration and action: The proposal from the RISC Chairman, Robert J. Budnitz, joined in by the ASME CNRM Chairman, C. Rick. Grantom, therefore is to bring the new JCNRM into existence as soon as the "JCNRM Rules and Operating Procedure" is finalized and concurred in by the ANS SB, but even if the financial negotiations are not yet complete. The SB will be asked by the RISC Chairman to consider this proposal during its regular November meeting in Las Vegas."

RISC Meeting

The RISC is not planning to meet during the November 2010 ANS Meeting. The next meeting is anticipated to be the first official JCNRM meeting to be held in February 2011.

Standards Inquiries and Delinquent Standards

The RISC has not received any standards inquiries and does not have any delinquent standards in need of maintenance.

Attachment N

Staff Report
November 2010

Standards Development

Nine drafts have been issued for ballot with parallel public review. Several of these drafts have been reviewed multiple times to gain approval of substantive changes due to incorporation of committee and public comments. Approval of the following draft standards by the American National Standards Institute is anticipated in the coming months:

- ANS-2.3-201x, "Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites" (revision of withdrawn standard ANSI/ANS-2.3-1983; W1993)
- ANS-2.17-201x, "Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Production Facilities" (revision of withdrawn standard ANSI/ANS-2.17-1980; R1989; W2000)
- ANS-2.21-201x, "Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink" (new standard)
- ANS-5.4-201x, "Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel" (revision of withdrawn standard ANSI/ANS-5.4-1982; W1993)
- ANS-19.6.1-201x, "Reload Startup Physics Tests for Pressurized Water Reactors" (revision of ANSI/ANS-19.6.1-2005)
- ANS-41.5-201x, "Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation" (new standard)
- ANS-53.1-201x, "Nuclear Safety Criteria and Safety Design Process for Modular Helium-Cooled Reactor Plants" (new standard)
- ANS-58.14-201x, "Safety and Pressure Integrity Classification Criteria for Light Water Reactors" (revision of withdrawn standard ANSI/ANS-58.14-1993; W2003)
- ANS-58.22-201x, "Low Power and Shutdown PRA Methodology" (new standard)

Grant Activities

Probabilistic risk assessment (PRA) standards being developed by the Risk Informed Standards Committee (RISC) continue to benefit from a grant awarded by the U.S. Nuclear Regulatory Commission. The primary purpose of this grant is to aid in the development of PRA standards that address low power and shutdown (LPSD), accident progression and source term analysis (Level 2 PRA), and consequence analysis (Level 3 PRA). Since receiving the grant, all three working groups have completed drafts for committee preliminary review. The Level 3 PRA and the LPSD working groups anticipating releasing a draft for formal committee ballot with concurrent public review before the end of 2010. The Level 2 PRA draft is expected to be issued for ballot and public review the first quarter of 2011.

Standards Committee News

Standards Board Chair, N. Prasad Kadambi, was among the presenters at the "U.S. Codes and Standards Workshop: Applications for the Brazilian Oil & Gas and Nuclear Industries," held in Rio de Janeiro, Brazil, August 18 to 20, 2010. Kadambi provided attendees a brief history of the

Society, overview of the ANS Standards Committee scope and organizational structure, and an explanation of the standards development process. The workshop was supported by the U.S. Department of Commerce and several organizations including ANS.

The Standards Board continues to explore new activities such as training, international work, and standards on small modular reactors. The policy on releasing draft standards for trial use was reissued. The Standards Board is working on revising the Standards Committee Rules and Procedures to incorporate recommendations from the American National Standards Institute.

ANS Standards Committee nominee, Michael Kurzeja, was selected as one of three winners of the International Electrotechnical Commission (IEC) Young Professional Competition. Kurzeja is a member of the ANS Young Member Group and the current president of the North American Young Generation in Nuclear. As part of the award, recipients receive financial support to attend the IEC 2010 General Meeting October 2010 in Seattle, Washington.

The Standards Board and two consensus committees are scheduled to meet during the ANS Winter Meeting in Las Vegas along with numerous working groups.

New leadership was appointed for three subcommittees of the Nuclear Facilities Standards Committee. New subcommittee leadership includes the following:

- ANS-21 Subcommittee, Maintenance, Operations, Testing & Training: Gene Carpenter (Chair); Sheila Lott (Vice-Chair)
- ANS-26 Subcommittee, Emergency Planning: Evan Lloyd (Chair); Charles Brown (Vice-Chair)
- ANS-27 Subcommittee, Fuel Cycle, Waste Management & Decommissioning: Donald Eggett (Chair); Jeffery Brault (Vice-Chair)

<u>Formation of ANS/ASME Joint Consensus Committee</u>
The ANS Risk Informed Standards Committee (RISC) and the ASME Committee on Nuclear Risk Management (CNRM) continue to work together on probabilistic risk assessment standards. A proposal is in works for the RISC and the CNRM to merge forming a joint committee. The merger would create a new consensus body called the Joint Committee on Nuclear Risk Management reporting to both the ANS and ASME standards boards. A few open issues are being resolved.

<u>Standards Committee Coordination with Other Committees</u>
Standards Committee members continue to support the Nuclear Risk Management Coordinating Committee and the Nuclear Energy Standards Coordination Collaborative on behalf of the ANS.

<u>Clarifications</u>
The Standards Committee continues to respond to inquiries on standards. All clarifications are published in *Nuclear News* and *Nuclear Standards News*. Additionally clarifications are publicly available under “Related Sections” in the ANS On-line Store under standards at

(http://www.ans.org/standards/clarifications/). Four clarifications were issued on the following three standards:

- ANSI/ANS-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination"
- ANSI/ANS-8.3-1997 (R2003), "Criticality Accident Alarm System"
- ANSI/ANS-19.6.1-2005, "Reload Startup Physics Tests for Pressurized Water Reactors"

Standards Groups Meet at ANS

The ANS-3.2, ANS-3.5, ANS-3.8.7, and ANS-58.24 working groups met at ANS over the last few months. The working groups find the location of the society convenient to members from both the east and west coast and appreciate the comfortable facilities.

Attachment O

Project Activity Report

10/19/2010

NFSC

ANS- 2 . 2	Earthquake Instrumentation Criteria for Nuclear Power Plants	ANS-25	Farhang Ostadan (PhD)	WG Writing Draft
ANS- 2 . 3	Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites (7/10: changed per J. Stevenson)	ANS-25	John D. Stevenson	Ballot @ CC
ANS- 2 . 6	Guidelines for Estimating Present & Forecasting Future Population Distributions Surrounding Nuclear Facility Sites	ANS-25	OPEN	CC PINS Comment w/WG
ANS- 2 . 8	Determining Design Basis Flooding at Power Reactor Sites	ANS-25	OPEN	PINS Development
ANS- 2 . 9	Evaluation of Ground Water Supply for Nuclear Facilities	ANS-25	James S. Bollinger	WG Writing Draft
ANS- 2 . 13	Evaluation of Surface-Water Supplies for Nuclear Power Sites	ANS-25	Lance Vail	PINS Development
ANS- 2 . 15	Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities	ANS-24	John Ciolek & Cliff Glantz - VC	WG Writing Draft
ANS- 2 . 16	Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities	ANS-24	John Ciolek / Cliff Glantz - VC	WG Writing Draft
ANS- 2 . 17	Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants	ANS-25	James Bollinger/Todd Rasmussen	CC Ballot Comment w/ WG
ANS- 2 . 18	Standards for Evaluating Radionuclide Transport in Surface Water for Nuclear Power Sites	ANS-25	Angelos Findikakis	PINS Development
ANS- 2 . 21	Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	ANS-25	Steve Vigeant / Cliff Glantz - VC	CC Ballot Comment w/ WG
ANS- 2 . 25	Surveys of Terrestrial Ecology Needed to License Thermal Power Plants	ANS-25	Chris Guggino	WG Writing Draft
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	James Beavers & Ivan Wong (co-chairs)	WG Writing Draft
ANS- 2 . 31	Standard for Estimating Extreme Precipitation at Nuclear Facility Sites (Unapproved)	ANS-25	John D. Stevenson	CC PINS Comment w/WG
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	Kent Hamlin	WG Writing Draft
ANS- 3 . 2	Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	ANS-21	Marion Smith	PINS @ CC
ANS- 3 . 4	Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	ANS-21	Barbara Stevens	PINS Development
ANS- 3 . 7 . 1	Facilities and Medical Care for On-Site Nuclear Power Plant Radiological Emergencies	ANS-25	OPEN	PINS Development
ANS- 3 . 8 . 1	Criteria for Radiological Emergency Response Functions and Organizations	ANS-25	Ronald Markovich	SB PINS Comments w/ WG
ANS- 3 . 8 . 2	Criteria for the Functional and Physical Characteristics of Radiological Emergency Response Facilities	ANS-25	Ronald Markovich	SB PINS Comments w/ WG
ANS- 3 . 8 . 3	Criteria for Radiological Emergency Response Plans and Implementing Procedures	ANS-25	Ronald Markovich	SB PINS Comments w/ WG
ANS- 3 . 8 . 6	Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response for Nuclear Power Plants	ANS-25	Ronald Markovich	SB PINS Comments w/ WG

ANS- 3 . 8 . 7	Criteria for Planning, Development, Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness	ANS-25	Ronald Markovich	SB PINS Comments w/ WG
ANS- 3 . 8 . 10	Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities	ANS-24	John Ciolek & Cliff Glantz - V C	WG Writing Draft
ANS- 5 . 4	Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	ANS-24	Carl E. Beyer	CC Ballot Comment w/ WG
ANS- 40. 21	Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds	ANS-25	William Dornsife	CC PINS Comment w/WG
ANS- 40. 35	Volume Reduction of Low-Level Radioactive Waste or Mixed Waste	ANS-27	Dennis Ferrigno & Mark Gerboth	PINS Development
ANS- 41. 5	Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	ANS-24	Saleem Salaymeh/Tom Rucker (co-chairs)	CC Ballot Comment w/ WG
ANS- 51. 10	Auxiliary Feedwater System for Pressurized Water Reactors	ANS-22	Earnestine Johnson	WG Writing Draft
ANS- 53. 1	Nuclear Safety Criteria and Safety Design Process for Modular Helium-Cooled Reactor Plants	ANS-28	Jim August	CC Ballot Comment w/ WG
ANS- 54. 1	General Safety Design Criteria for a Liquid Sodium Reactor Nuclear Power Plants	ANS-29	George Flanagan	PINS @ SB
ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	Jim Glover	WG Writing Draft
ANS- 57. 2	Design Requirements for Light Water Reactor Spent Fuel Facilities at Nuclear Power Plants	ANS-27	OPEN	CC Ballot Comment w/ WG
ANS- 57. 3	Design Requirements for New Fuel Storage Facilities at LWR Plants	ANS-27	OPEN	CC Ballot Comment w/ WG
ANS- 58. 2	Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	ANS-24	Jim Gilmer	PINS Development
ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	Patrick Salkeld	CC PINS Comment w/WG
ANS- 58. 14	Safety and Pressure Integrity Classification Criteria for Light Water Reactors	ANS-22	Mark Linn	CC Ballot Comment w/ WG
ANS- 58. 16	Safety Classification and Design Criteria for Non- Reactor Nuclear Facilities -- for NFSC approval 4/2010	ANS-22	Pranab Guha	CC PINS Comment w/WG

N16

ANS- 8 . 1	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	ANS-8	Nick Brown & Doug Bowen	WG Writing Draft
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	Shean Monahan	WG Writing Draft
ANS- 8 . 6	Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ	ANS-8	Bill Myers	CC Ballot Comment w/ WG
ANS- 8 . 10	Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement	ANS-8	Linda M. Farrell	WG Writing Draft
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	Debdas Biswas	WG Writing Draft
ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	Charles Rombough	WG Writing Draft
ANS- 8 . 19	Administrative Practices for Nuclear Criticality Safety	ANS-8	R.W. (Bill) Carson	WG Writing Draft
ANS- 8 . 20	Nuclear Criticality Safety Training	ANS-8	Ron Knief	PINS Development
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	David Erickson	WG Writing Draft
ANS- 8 . 22	Nuclear Criticality Safety Based on Limiting and Controlling Moderators	ANS-8	Michael Crouse	PINS Development

ANS- 8 . 25	Development of Nuclear Criticality Safety Related Postings	ANS-8	Gerard F. Couture	SB PINS Comments w/ WG
ANS- 8 . 28	Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety	ANS-8	Jerry McKamy	SB PINS Comments w/ WG

N17

ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	Ian Gauld	WG Writing Draft
ANS- 6 . 1 . 1	Neutron and Gamma-Ray Fluence-To-Dose Factors	ANS-6	Nolan Hertel	PINS Development
ANS- 6 . 1 . 2	Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	ANS-6	F. Arzu Alpan	WG Writing Draft
ANS- 6 . 3 . 1	Program for Testing Radiation Shields in Light Water Reactors (LWR)	ANS-6	Jennifer Tanner	PINS Development
ANS- 6 . 4 . 3	Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials	ANS-6	Jeffrey C. Ryman	PINS Development
ANS- 10. 3	Documentation of Computer Software	ANS-10	Ted Quinn	PINS Development
ANS- 10. 7	Non-Real Time, High Integrity Software for the Nuclear Industry	ANS-10	Charles Martin	WG Writing Draft
ANS- 15. 2	Quality Control for Plate-Type Uranium-Aluminum Fuel Elements	ANS-15	John Sease/Clinton Dana Cooper	WG Writing Draft
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	Sean O'Kelly	WG Writing Draft
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	Leo Bobek (will be resigning)	WG Writing Draft
ANS- 15. 19	Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactor	ANS-15	Les Foyto	WG Writing Draft
ANS- 15. 20	Criteria for the Reactor Control and Safety Systems of Research Reactors	ANS-15	Thomas Myers	PINS Development
ANS- 15. 21	Format and Content for Safety Analysis Reports for Research Reactors	ANS-15	Alexander Adams	WG Writing Draft
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	Bob Little	WG Writing Draft
ANS- 19. 3	Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors -- Slight change 2005 Added "Power"	ANS-19	Ben Rouben	WG Writing Draft
ANS- 19. 6 . 1	Reload Startup Physics Tests for Pressurized Water Reactors	ANS-19	Clarles T. Rombough	Ballot @ CC
ANS- 19. 9	Delayed Neutron Parameters for Light Water Reactors	ANS-19	Mikey Brady Raap	WG Writing Draft
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	Bob St. Clair	WG Writing Draft
ANS- 19. 12	Nuclear Data for the Production of Radioisotope	ANS-19	Robert Schenter	WG Writing Draft

RISC

ANS- 58. 22	Low Power and Shutdown PRA Methodology	RISC	Don Wakefield	CC Ballot Comment w/ WG
ANS- 58. 24	Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications	RISC	Mark Leonard	WG Writing Draft
ANS- 58. 25	Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications	RISC	Keith Woodard	WG Writing Draft

Delinquent Standards

10/19/2010

NFSC

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 2 . 2	Earthquake Instrumentation Criteria for Nuclear Power Plants	ANS-25	11/21/2002	12/31/2010	12/31/2010	WG Writing Draft	Approved as N18.5-1974; revised 1978; revised 5/3/88. Referenced in RG 1.12. Extended to 12/31/95. Second (maximum) extension to 12/31/98. Nuppsco ballot on revision closed 9/30/97. Public review closes 11/28/97. Consensus not resolved. ANSI admin withdrew the 1988 version of this stnd on 5/19/2000. 11/21/2002- ANSI approved revision. Per Mazzola 6/04 NFSC Report -- reaffirmation should be address in 2006. 11/22/05: Per Dennis Ostrom, this standard could be written for all nuclear facilities -- C. Mazzola suggested preparing a PINS in 2006 to revise for this direction. Looking for new chair. Extension granted until 12/31/2010. Farhang Ostadan appointed WGC 12/11/08 and will lead a revision. PIINS for RV submitted to ANSI 8/18/09.
ANS- 2 . 10	Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	ANS-21	4/14/2003	12/31/2011	12/31/2011	NONE	Approved in 1979. Under revision and ballot. Extended to 7/31/86; maximum extension to 12/31/89. ANSI withdrawn on 4/90. Re-ballot on 6/19/91. Substantive changes to draft. Ballot new draft. Re-ballot due 3/19/98. 2.01-this stnd has been transferred from ANS-25 subcommittee to ANS-21. 09/30/02- sent to third ballot to NFSC. ANSI Approved - April 14, 2003; Publication Delivered: June 1, 2004. Extension granted until 12/31/2011.
ANS- 3 . 4	Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	ANS-21	7/23/2002	7/1/2010	12/31/2010	PINS Development	Approved as N546 1976; revised 1983; reaffirmed 4/18/88; revised 2/7/96. Extension until 12/31/02. Reaffirmed-ANSI approved 7/23/02 (this RF also includes the new statement to the Fwd.). Per Mike Ruby at June 04 NFSC meeting, just lost WG Chair. Action Item 11/05-07 for Tim Dennis to find new chair. Extension granted until 12/31/2010. 1/2009: New Chair B. Stevens committed to project. Last ext. granted through 7/1/2010. WGC does not feel reaffirmation is appropriate. PINS in development.

ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	11/27/2002	12/31/2010	12/31/2010	WG Writing Draft	Approved 1981. Revised 1987. Was originally N45.4-1972 (ANS-7.60). Revised 1/20/87. Extended to 12/31/94. Revised 8/4/94. 11/27/2002- ANSI approved revision. Suggested at June 04 NFSC meeting to make next revision performanced based. J. Glover requested PINS form for revision via phone call 3-21-05. Per e-mail from J. Glover 3-21-05, this standard was made performanced based in the 2002 revision. Per 11/10/06 email: WG discussing proper direction for revision - PINS will be submitted before work on draft begins. Extension granted until 12/31/2010. WGC provided PINS to SCC T. Dennis. PINS sent to ANS-21 for approval 8/10/ 2007. PINS reviewed by SB, WGC resolving comments. PINS approved by SB and sent to ANSI 4/30/2010.
ANS- 57. 1	Design Requirements for Light Water Reactor Fuel Handling Systems	ANS-27	7/20/2005		7/20/2010	NONE	Approved 1980. Withdrawn on 3/20/91. Revised 07/28/1992. Reaffirmed 08/12/1998. Per Joe Cohen (4/25/02), Don (WG Chair) is currently in the Ukraine. (8/20/03) - ANSI granted extension until 12/31/2005. Don Gardner suggested reaffirmation & Don Spellman agreed. RF ballot sent to NFSC 1/31/05 -- due 3/31/05. Neg. vote regarding references satified with use of reaffirmation statement/label. WG will be to be formed to update references and possible changes to body. A few potential WGM identified. 9/29/10: List of potential WGMs sent to Don Eggett for consideration.
ANS- 57. 8	Fuel Assembly Identification	ANS-27	1/12/2005	12/31/2012	1/12/2010	NONE	Issued first as Published Draft July 1971, ANS-13.8, "Fuel Assembly Identification." Approved as N18.3-1972. Revised 1978. Reaffirmed 9/11/1987. Ref. in RG 5.1. Extended to 12/31/94. 2nd extension to 12/31/97. Revision approved 4/6/95. First extention to 12/31/03. 3/14/2003-ANSI granted LAST ext to 04/05/2005. At ballot for reaffirmation - ballot due 3/22/04. Ballot closed 4/23/04 - Sent ballot tally letter to Fred Pineau per his instructions. 10/04 --No WG Chair available at this time. Looking for new WGC to respond to comments. 12/16/04-Don Spellman gave OK to send to SB for Letter Ballot. 12/17/04 - Letter Ballot sent to Standards Board - due date is 1/4/2005. ANSI approved reaffirmation: 1/12/2005. Ext. granted until 12/31/2012.
ANS- 58. 6	Criteria for Remote Shutdown for Light Water Reactors	ANS-21	8/31/2001	8/31/2011	12/31/2009	NONE	Approved 1983. Reaffirmed 03/17/1989. Combination of ANS-51.9 and 52.5. Under MC-1 management. Extended to 12/31/96. Revised 02/07/96. Mike Wright requested ballot for reaffirmation. Reaffirmed 8/31/01. ANSI granted extension until 12/31/09. Action Item 11/05-07 for Tim Dennis to find new WGC. Ext granted until 8/31/11 -- last ext possible.

ANS- 58. 11	Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors	ANS-22	7/23/2002	7/1/2012	12/31/2010	NONE	Approved 5/10/83. Reaffirmed 02/02/1989. Under MC-1 Management. Extended to 12/31/96. SSC approves PC November 1992. Revised 7/10/95. First extension to 12/31/03. Reaffirmed 7/23/02 with new statement to the foreword. Transferred from ANS-21 to ANS-22 in 2007 NFSC restructuring. Extension granted until 12/31/2010. Open Action Item for D. Newton to find new WGC. Last extension granted through 7/1/2012.
ANS- 59. 3	Nuclear Safety Criteria for Control Air Systems	ANS-22	8/30/2002	8/1/2012	12/31/2010	NONE	Approved 1977. Revised 09/14/84. Extended to 12/31/92. Revised 7/28/92. Draft on file dated 9/1/83. Second extension to 7/28/02. At ballot RF ballot 2/23/02. ANSI withdrew on 7/26/2002. Reaffirmed 8/30/2002. Extension granted until 12/31/2010. Standard reviewed by R. Hill. Findings sent to D. Newton/M. Ruby for consideration if RF appropriate. Last extension approved through 8/1/2012.

N16

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	6/12/2003	6/12/2011	6/12/2011	WG Writing Draft	Approved as N16.2-1969. Revised 1979. Revised (and combined with N2.3) 1986; (ref. in RG 8.12). Revised 8/29/86. Revision to ANS-8 ballot 9/10/92; closes 10/12/92. Extended to 12/31/93. 2nd extension to 12/31/95. 3rd extension to 12/31/96. Withdrawn 12/31/1996. Revised 5/28/97. ISO 7753 in file for comparison. ANSI reaffirmed on 6/12/2003. According to N16 SB 11/2004 report, revision in works. Per 11/05 Minutes, PINS form in works for revision. Work has been underway for some time on the revision w/o a PINS form. Project is currently out of compliance with ANSI's PINS requirement. New WGC 9/2007: Shean Monahan. Sent email 5/20/08 to S. Monahan regarding PINS requirement. Extension granted until 6/12/2001. N16 approved PINS for RV on 3/17/2010. PINS gained SB approved 4/20/2010 and sent to ANSI same day.

ANS- 8 . 6	Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ	ANS-8	7/23/2001	7/23/2011	12/31/2009	CC Ballot Comment w/ WG	Approved at N16.3-1969. Revised 1975. Revised 5/16/83. Reaffirmed 11/30/88. Extended to 12/31/95. Reaffirmed 9/12/95. Looking to revise. First extension to 12/31/03. Reaffirmed 7/23/01. Per WGC (Valentine) e-mail of 5/12/05, he does not feel that a revision is needed. Per 11/05 minutes: no activty in WG but recommends keeping the standard alive as long as as there was someone interested. ANSI granted extension until 12/31/09. Tim Valentine retired as 8.6 WGC via email 5-7-07. Bill Meyers appointed new chair as of Sept 2007. 10/2008: Email sent to WGC to consider revision/reaffirmation/withdrawal. Last ext. granted until 7/23/2011. 07/19/2010 RF approved by ANS-8. 9/2010 RF approved by N16. LB to approved RF closed 10/29/10 & sent to ANSI for final approval.
ANS- 8 . 10	Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement	ANS-8	4/1/2005		4/1/2010	WG Writing Draft	Approved as N16.8-1975. Revised 9/14/83. Reaffirmed 11/30/88. First extension to 12/31/95. Second extension to 12/31/98. Reaffirmed 2/4/99. (7/21/03) - Requested extension from ANSI until 12/31/2004. (8/20/03) - ANSI granted extension until 12/31/2004. Second extensin granted until 12/31/07. Subcommittee reaffirmation ballot closed Sept. 16. Received verbal approval to sent reaffirmation to N16. Ballot sent to N16 10-28-04 due 12-17-04. BSR-8 sent to ANSI 10-29-04. Ballot extended to 1/15/05. Reaffirmation approved 4/1/05. PINS for revision approved and submitted to ANSI 1/31/06. Linda Farrell replaced Harry Felsher as WGC (some time before June 2007).
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	3/20/2002	12/31/2010	12/31/2010	WG Writing Draft	Published in 1978 (Ref. in RG 3.47). Being revised as ANS-8.12.1 with title change; see below. First extension to 12/31/01. (Rev. of ANS-8.12-1978). Revised 9/11/87. First extension to 12/31/94. Reaffirmed 2/17/93. 4/6/93: Project charter created for "its eventual revision." (Published version calls it "ANSI/ANS-8.12-1987. Reaffirmed 3/20/2002. 8/20/03-ANSI granted extension until 12/31/2007. New chair 6/1/06: Debdas Bixwas replaced Song Huang. Extension granted until 12/31/2010. PINS for revision submitted to ANSI 9/24/07. RF ballot issued to ANS-8 with due date of 7/14/2010. WG resolving comments. Once RF approved by ANSI, PINS will need to be resubmitted.
ANS- 8 . 14	Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	5/25/2004	12/31/2012	5/25/2009	NONE	Draft should be ready for 11/87 meeting of ANS-8. 4/30/2003- Schlesser said the scope is changing. 08/03-PINS was balloted at ANS8/N16 level and approved. ANSI approved this new standard on 5/25/04. Available for Sale 10/18/04. Per ANS-8 11/2005 minutes: WG has not meet since 2004 revision. Ext granted until 12/31/12.

ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	7/15/2005	7/15/2015	WG Writing Draft	Approved 1981. Reaffirmed 10/30/87. First extension to 12/31/94. Second extension to 12/31/97. Reaffirmed 9/12/95. First extension to 12/31/03. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted LAST extension until 9/11/2005. Per John Schlesser 5/04 report -- WG convened. Per John Schlesser e-mail - working group to develop a PINS for revision and provide draft for ANS-8 ballot by June 05. 11/1/04--John Schlesser sent PINS to WGC for revision. With not enough time to process PINS and ballot revision, it was decided to reaffirm this standard first. Reaffirmation ballot sent to N16 on 4/5/05 due 6/6/05. Ballot closed 6/6/05 w/ no comments. LB sent to SB 6/22/05 -- due 7/7/05. Reaffirmation received ANSI final approval 7/15/05. Per N. Pruvost, WG still working on PINS, but should have by end of 2005. From ANS-8 11/05 minutes: WG reviewing latest draft. PINS submitted to ANS-8 listing the nuclides explicitly addressed -- goal for draft to ANS-8 in 2006. Title changed slightly for RV. PINS submitted to ANSI 9/20/06. N. Pruvost retired as WGC in 2008. C. Rombough accepted WGC position. 8/23/10: Draft issued to ANS-8 for approval w/due date of 9/30/10. Subcommittee comments with WG for resolution.
ANS- 8 . 19	Administrative Practices for Nuclear Criticality Safety	ANS-8	5/16/2005	5/16/2010	WG Writing Draft	Approved 10/1/84. Reaffirmed 8/29/89. SSC approves November 1992. Extended to 12/31/96. Revised 4/17/96. 2/18/04 - requested extension from ANSI until 12/31/06. PINS for revision approved by N16 5/10/04. PINS approved by SB 6/15/04 and sent to ANSI 6/28/04. ANS-8.19-2005 rec'd ANSI approval 5/16/05. Per ANS-8 minutes 11/05: WG discussion revision to include addition of words describing the qualifications of a peer. Received email from WGC 5/19/06 regarding revision underway. PINS for RV submitted to ANSI 11/20/07.

ANS- 8 . 20	Nuclear Criticality Safety Training	ANS-8	9/16/2005		9/16/2010	PINS Development	Approved 5/20/91First extension to 12/31/98. Reaffirmed 9/20/99. 07/18/2003- Need new WG Chair. (7/21/03) - Requested extension from ANSI until 12/31/2004. (8/20/03) - ANSI granted extension until 12/31/2004. Second extension to 12/31/07 granted. Will be reviewed at 6/04 ANS meeting. 11/1/04 Ballot sent to ANS-8 for reaffirmation due 12/15/04. 12/20/04 Requested approval from SCC(McLaughlin) to send to N16. 1/13/05-Sent RF Ballot to N16 - Due Date: 3/23/05. Also sent BSR8 to ANSI. Ballot due date extended to 4/14/05. One neg vote rec'd by Bindinger. All comments sent to McLaughlin/Schlesser to resolve as no current working group chair. Ron Knief took over as chair and resolved comments. Reaffirmation approved by ANSI 9/16/2005. New PINS will be developed for revision. Per ANS-8 11/05 minutes: WG being reconstituted for revision -- meeting planned for Albuquerque in 2006. PINS issued to ANS-8 for approval 6/29/10. Comment with WG for resolution.
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	7/23/2001	12/31/2009	7/23/2011	WG Writing Draft	Approved 6/12/95. First extension to 12/31/03. Reaffirmed 7/23/01. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted extension until 12/31/2005. As 5th anny is not until 7/23/06, extension should not have been file. WG meeting at 11/04 ANS meeting. Per N16 SB report 11/2004 -- revising. Schlesser e -mail WGC 5/10/05 to recommend maintenance as 5th anny is approaching. ANSI granted extension until 12/31/09.May 2007. PINS for a revision of ANS-8.21 to incorporate a revision of ANS-8.5 approved w/o comment by SB -- submitted to ANSI 2/12/08. H. Toffer retired as WGC effective 12/1/08 - David E rickson took over as WGC same day.

N17

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History

ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	4/1/2005	4/1/2010	WG Writing Draft	1971 and 1973 drafts printed. Approved 1979. Errata sheet issued. Reaffirmed 7/17/85. Approved 8/23/94. ISO 10645 file for comparison. Requested 1st extension to 12/31/02. ANSI approved. At ballot for reaffirmation (8/01). According to SSC meeting in 11.01, this stnd was transferred to N17's ANS-19 around 1996. Therefore, the RF ballot under NFSC has been terminated. N17's ANS-19 is presently revising ANS-5.1. June 10-2003: Requested ext. to 12/04 from ANSI - ANSI approved extension until August 22, 2004 for this extension. Sent Dr. Brady-Rapp information regarding extension date - 6/13/03. PINS submitted to ANSI on 5/4/04 for revision of ANS-5.1-1994. BSR-8 submitted concurrently with N17 ballot on 10/5/04. ANSI approved 4/1/05. Per 6/2005 ANS-19 minutes: WGM working on "wish list" for next revision. Per 6/2005 minutes, WG to begin drafting a new revision. Noitified of new chair 6/2006 -- Ian Gauld replaced Mikey Brady Raap. PINS for RV of 2005 issue submitted to ANSI 2/26/08.
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	9/14/2005	9/14/2010	WG Writing Draft	Approved as N402-1976. Reaffirmed 12/15/1988. Ref. in RG 2.5. First extension to 12/31/93. Second extension to 12/31/95. Revised 9/12/95. Per Wade Richard's 1/9/03 letter: Sean O'Kelly performed a maintenance review of this standard. Sean will make the suggested revision to ANS-15.8 and send to the chair by 1/31/03. The chair will send the revised standard to ANS 15 for balloting by 3/7/03. First extension to 12/31/03. ANSI approved. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted LAST extension until 9/11/2005. Per Tawfik's 9/24/04 e-mail: current plans are to reaffirm and begin the revision process next year. Project will need PINS for revision. 1-19-05 Per phone conversation w/Wade R., he feels revision w/b approved before 9/12/05 sunset date. He will do a new PINS ASAP as not enough time to get PINS/draft approved before 10th anny. RF approved by ANSI 9/14/05. PINS for RV submitted to ANSI 1/11/07.
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	7/23/2002	7/23/2012	WG Writing Draft	Approved as N411-1975. Revised 7/2/83. Reaffirmed 3/3/89. First extension to 12/31/96. Second extension to 12/31/99. Revision balloted 2/18/00; comments being resolved. ANSI withdrawn 5/19/00. ANSI approved revision - July 23, 2002. Publication Delivered: June 1, 2004. Per 6/2005 ANS-19 minutes, existing standard was reviewed and determined to need revision. PINS approved by N17 & SB sent to ANSI 9/5/06. As of 6/2010 ANS-19, draft still in development.

ANS- 19. 3	Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors -- Slight change 2005 Added "Power"	ANS-19	9/16/2005		9/16/2010	WG Writing Draft	Approved as N412-1975. Revised 1983. Reaffirmed 3/3/89. First extension to 12/31/96. Revised 9/12/95. First extension to 12/31/03. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted LAST extension until 9/11/2005. ANSI approved revision 9/16/05. Published 1/2006. 10/30/07: current standard being reviewed and considered for revision. Per 2007 AAR report, revision started. N17 approved PINS for RV w/o comment. PINS for RV of 2005 issue sent to ANSI 9/24/09. Per D. Cokinos 7/28/10 email: a series of ANS-19.3 updates were made through July and the draft is ready for balloting by ANS-19. ANS-19.3-201x draft issued to ANS-19 10-2-2010 w/Due Date of 10-23-2010.
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	12/17/2002	12/31/2010	12/31/2010	WG Writing Draft	Approved 9/25/97. Publication in process and completed. ANSI granted extension until 12/31/2005. Reaffirmed 12/17/2002. (7/21/03) - Requested extension from ANSI until 12/31/2007. (8/20/03) - ANSI granted extension until 12/31/2007. Maintenance will be discussed at ANS-19 meeting -- 11/15/04. Per 6/2005 minutes, Mosteller will review and decide if reaffirmation or revision is appropriate. Per 6/2007ANS-19 minutes, Mosteller reported that there will be a revision but nothing major. Extension granted until 12/31/2010. PINS approved by N17 with title change. "Water Moderated Power Reactors" changed to "Pressurized Water Reactors." Approved PINS sent to ANSI 1/23/08. WGC Mosteller provided draft to D. Cokinos for subcommittee review 11-3-09. Per R. Mosteller on 7/26/2010, Bob St. Clair has taken over chair position for this standard. Per D. Cokinos e-mail update on 7/28: The final draft of ANS-19.11 was made available before the June meeting and it is now ready for a vote by ANS-19.

Status of Standards

10/19/2010

NFSC

Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 2 . 1	Guidelines for Determining the Vibratory Ground Motion for the Design of Earthquake for Nuclear Facilities	ANS-25	Inactive Project				NONE
ANS- 2 . 2	Earthquake Instrumentation Criteria for Nuclear Power Plants	ANS-25	Current ANSI/ANS	11/21/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 2 . 3	Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Facility Sites (7/10: changed per J. Stevenson)	ANS-25	Active Project				Ballot @ CC
ANS- 2 . 4	Guidelines for Determining Tsunami Criteria for Power Reactor Sites	ANS-25	Inactive Project				NONE
ANS- 2 . 5	Standard for Determining Meteorological Information at Nuclear Power Sites	ANS-25	Historical				NONE
ANS- 2 . 6	Guidelines for Estimating Present & Forecasting Future Population Distributions Surrounding Nuclear Facility Sites	ANS-25	Active Project				CC PINS Comment w/WG
ANS- 2 . 7	Guidelines for Assessing Capability for Surface Faulting at Power Reactor Sites	ANS-25	Historical				NONE
ANS- 2 . 8	Determining Design Basis Flooding at Power Reactor Sites	ANS-25	Active Project				PINS Development
ANS- 2 . 9	Evaluation of Ground Water Supply for Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 10	Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	ANS-21	Current ANSI/ANS	4/14/2003	12/31/2011	12/31/2011	NONE
ANS- 2 . 11	Guidelines for Evaluating Site-Related Geotechnical Parameters at Nuclear Power Sites	ANS-25	Historical				NONE
ANS- 2 . 12	Guidelines for Combining Natural and External Man-Made Hazards at Power Reactor Sites	ANS-21	Historical				NONE
ANS- 2 . 13	Evaluation of Surface-Water Supplies for Nuclear Power Sites	ANS-25	Active Project				PINS Development
ANS- 2 . 14	Determination of the Shape of Response Spectra for Use in Nuclear Facilities Design	ANS-25	Inactive Project				NONE
ANS- 2 . 15	Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities	ANS-24	Active Project				WG Writing Draft
ANS- 2 . 16	Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities	ANS-24	Active Project				WG Writing Draft
ANS- 2 . 17	Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants	ANS-25	Active Project				CC Ballot Comment w/ WG

ANS- 2 . 18	Standards for Evaluating Radionuclide Transport in Surface Water for Nuclear Power Sites	ANS-25	Active Project				PINS Development
ANS- 2 . 19	Guidelines for Establishing Site-Related Parameters for Site Selection and Design of an Independent Spent Fuel Storage Installation (Water Pool Type)	ANS-27	Historical				NONE
ANS- 2 . 20	Geology, Seismology, and Seismic Criteria (Tentative title)	ANS-25	Inactive Project				NONE
ANS- 2 . 21	Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	ANS-25	Active Project				CC Ballot Comment w/ WG
ANS- 2 . 22	Environmental Radiological Monitoring at Nuclear Facilities	ANS-25	Inactive Project				NONE
ANS- 2 . 23	Nuclear Plant Response to an Earthquake	ANS-21	Current ANSI/ANS	6/15/2009		6/15/2014	NONE
ANS- 2 . 24	Establishing Geotechnical Parameters for Evaluating Geologic Repositories for High-Level Nuclear Waste	ANS-27	Inactive Project				NONE
ANS- 2 . 25	Surveys of Terrestrial Ecology Needed to License Thermal Power Plants	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 26	Categorization of Nuclear Facility Structures, Systems, and Components For Seismic Design	ANS-22	Current ANSI/ANS	5/27/2010			NONE
ANS- 2 . 27	Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	ANS-25	Current ANSI/ANS	7/31/2008		7/31/2013	NONE
ANS- 2 . 28	Nuclear Material Facility Design Against Natural Phenomena	ANS-25	Inactive Project				NONE
ANS- 2 . 29	Probabilistic Seismic Hazard Analysis	ANS-24	Current ANSI/ANS	7/31/2008		7/31/2013	NONE
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 31	Standard for Estimating Extreme Precipitation at Nuclear Facility Sites (Unapproved)	ANS-25	Active Project				CC PINS Comment w/WG
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	Active Project	2/4/1999	2/4/2009		WG Writing Draft
ANS- 3 . 2	Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	ANS-21	Current ANSI/ANS	7/31/2006		7/31/2011	PINS @ CC
ANS- 3 . 3	Security for Nuclear Power Plants	ANS-26	Historical				NONE
ANS- 3 . 4	Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	ANS-21	Current ANSI/ANS	7/23/2002	7/1/2010	12/31/2010	PINS Development
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	Current ANSI/ANS	9/4/2009		9/4/2014	NONE
ANS- 3 . 6	Requirements for Preoperational and Startup Testing		Inactive Project				NONE
ANS- 3 . 7	Guide to Standard Format and Content of Emergency Plans for Nuclear Power Generating Facilities		Inactive Project				NONE
ANS- 3 . 7 . 1	Facilities and Medical Care for On-Site Nuclear Power Plant Radiological Emergencies	ANS-25	Active Project				PINS Development
ANS- 3 . 7 . 2	Emergency Control Centers for Nuclear Power Plants	ANS-26	Historical				NONE
ANS- 3 . 7 . 3	Radiological Emergency Preparedness Exercises for Nuclear Power Plants	ANS-26	Historical				NONE
ANS- 3 . 8	Criteria for Establishing Emergency Response Facilities	ANS-26	Inactive Project				NONE

ANS- 3 . 8 . 1	Criteria for Radiological Emergency Response Functions and Organizations	ANS-25	Active Project				SB PINS Comments w/ WG
ANS- 3 . 8 . 2	Criteria for the Functional and Physical Characteristics of Radiological Emergency Response Facilities	ANS-25	Active Project				SB PINS Comments w/ WG
ANS- 3 . 8 . 3	Criteria for Radiological Emergency Response Plans and Implementing Procedures	ANS-25	Active Project				SB PINS Comments w/ WG
ANS- 3 . 8 . 4	Criteria for Maintaining Radiological Emergency Response Capability	ANS-25	Historical				NONE
ANS- 3 . 8 . 5	Criteria for Emergency Radiological Field Monitoring, Sampling and Analysis	ANS-24	Historical				NONE
ANS- 3 . 8 . 6	Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response for Nuclear Power Plants	ANS-25	Active Project				SB PINS Comments w/ WG
ANS- 3 . 8 . 7	Criteria for Planning, Development, Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness	ANS-25	Active Project	1/30/1998	1/29/2008		SB PINS Comments w/ WG
ANS- 3 . 8 . 8	Criteria for Onsite Protective Actions During a Radiological Emergency	ANS-26	Inactive Project				NONE
ANS- 3 . 8 . 9	Criteria for Radiological Emergency Response Plans and Implementing Procedures for Permanently Defueled Commercial Nuclear Power Plants	ANS-23	Inactive Project				NONE
ANS- 3 . 8 . 10	Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities	ANS-24	Active Project				WG Writing Draft
ANS- 3 . 9	Criteria for Radiological Emergency Response Plans and Implementing Procedures for Permanently Defueled Commercial Nuclear Power Plants Management of Light Water Reactor Maintenance Programs		Inactive Project				NONE
ANS- 3 . 10	Human Factors Design in Nuclear Power Plants		Inactive Project				NONE
ANS- 3 . 11	Determining Meteorological Information at Nuclear Facilities	ANS-21	Current ANSI/ANS	12/22/2005		12/22/2010	NONE
ANS- 3 . 12. 1	Decommissioning of Nuclear Production and Utilization Facilities: - Defueled Security Plan	ANS-23	Inactive Project				NONE
ANS- 3 . 12. 2	Decommissioning of Nuclear Production and Utilization Facilities: - Defueled Safety Analysis Report and Emergency Plan	ANS-23	Inactive Project				NONE
ANS- 3 . 12. 3	Decommissioning of Nuclear Production and Utilization Facilities: Operator Training	ANS-21	Inactive Project				WG Writing Draft
ANS- 4	Criteria, Control and Dynamics		Inactive Project				NONE
ANS- 4 . 1	Design Basis Criteria for Safety Systems in Nuclear Power Generating Stations		Historical				NONE
ANS- 4 . 2	(No Assignment)		Inactive Project				NONE
ANS- 4 . 3	Functional Classification and Standards for Application Functions in Nuclear Power Generating Stations		Inactive Project				NONE
ANS- 4 . 3 . 1	Functional Classification for Digital Computers in Nuclear Power Generating Stations		Inactive Project				NONE
ANS- 4 . 3 . 3	Criteria for Beta Class Digital Computers Used in Critical Control and Monitoring Applications in Nuclear Power Plants		Inactive Project				NONE
ANS- 4 . 3 . 4	Criteria for the Application of Digital Computers in Non-Safety Related Functions for Nuclear Power Generating Stations		Inactive Project				NONE

ANS- 4 . 4	Functional Design of PWR Reactivity Control Systems		Inactive Project				NONE
ANS- 4 . 5	Criteria for Accident Monitoring Functions in Light-Water-Cooled Reactors	ANS-21	Historical				NONE
ANS- 4 . 6	Functional Criteria for Data Acquisition and Recording for Transient Reconstruction in Nuclear Power Plants		Inactive Project				NONE
ANS- 5 . 2	Standard Fission-Product Yields for 235U, 238U and 239PU		Inactive Project				NONE
ANS- 5 . 4	Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	ANS-24	Active Project				CC Ballot Comment w/ WG
ANS- 5 . 6 . 2	Post Accident Access Control and HP Facilities	ANS-21	Inactive Project				NONE
ANS- 5 . 7 . 2	Post Accident Monitoring	ANS-21	Inactive Project				NONE
ANS- 5 . 9	Design Criteria for Nuclear Power Plant Radiation Monitoring Systems	ANS-22	Inactive Project				NONE
ANS- 5 . 10	Airborne Release Fractions at Non-Reactor Nuclear Facilities	ANS-24	Current ANSI/ANS	11/6/2006		11/6/2011	NONE
ANS- 7 . 60	Leakage-Rate Testing of Containment Structures for Nuclear Reactors		Inactive Project				NONE
ANS- 16. 1	Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure	ANS-24	Current ANSI/ANS	8/4/2008		8/4/2013	NONE
ANS- 18. 1	Radioactive Source Term for Normal Operation of Light Water Reactors	ANS-24	Historical	9/21/1999	12/31/2007		WG Writing Draft
ANS- 18. 1 . 2	Radioactive Materials in Effluents from Light-Water-Cooled Nuclear Power Plants	ANS-24	Inactive Project				NONE
ANS- 18. 1 . 3	Monitoring of Radioactive Materials in Effluents from Light-Water-Cooled Nuclear Power Plants	ANS-24	Inactive Project				NONE
ANS- 18. 5	Surveys of Terrestrial Ecology Needed to License Thermal Power Plants	ANS-25	Historical				NONE
ANS- 29. 1	Operational Reactivity Management and Oversight at Light Water, Pressurized Water Power Reactors	ANS-29	Inactive Project				NONE
ANS- 40. 4	Storage of Bottled Gases		Inactive Project				NONE
ANS- 40. 11	Radioactive Waste Categories		Inactive Project				NONE
ANS- 40. 12	Radioactive Waste Categories		Inactive Project				NONE
ANS- 40. 21	Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds	ANS-25	Active Project				CC PINS Comment w/WG
ANS- 40. 22	Siting and Operating High-Level Waste Storage Areas		Inactive Project				NONE
ANS- 40. 23	Criteria for Acceptance of Radioactive Wastes at Federal Repositories		Inactive Project				NONE
ANS- 40. 35	Volume Reduction of Low-Level Radioactive Waste or Mixed Waste	ANS-27	Active Project				PINS Development
ANS- 40. 36	Measurement of Radionuclides in Low Level Solid Wastes	ANS-26	Inactive Project				NONE
ANS- 40. 37	Mobile Low-Level Radioactive Waste Processing Systems	ANS-27	Current ANSI/ANS	11/20/2009		11/20/2014	NONE
ANS- 41	Environmental Remediation of Radioactivity Contaminated Sites		Inactive Project				NONE

ANS- 41. 2	Criteria for Remote Sensing Techniques for Site Characterization in Environmental Remediation	ANS-23	Inactive Project			NONE
ANS- 41. 3	Determination of Soil Source Terms for Use in Risk Assessment	ANS-23	Inactive Project			NONE
ANS- 41. 4	Analytical Methods for In-Situ Y-Ray Emitters in Soil	ANS-23	Inactive Project			NONE
ANS- 41. 5	Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	ANS-24	Active Project			CC Ballot Comment w/ WG
ANS- 41. 6	Performance Tests to Evaluate Solid Waste Forms for LL Radioactive Waste and MW	ANS-23	Inactive Project			NONE
ANS- 41. 7	Performance Tests to Evaluate Waste Forms and Emissions for the Thermal Treatment of LL Radioactive and MW	ANS-23	Inactive Project			NONE
ANS- 41. 8	Performance Tests to Evaluate Criteria and Specifications for a Polymer or Cement Waste Form	ANS-23	Inactive Project			NONE
ANS- 41. 9	Performance Tests to Evaluate Criteria and Specifications for Treatment of Waste by Incineration	ANS-23	Inactive Project			NONE
ANS- 50. 1	Nuclear Safety Criteria for the Design of Stationary Light Water Reactor Plants	ANS-22	Inactive Project			NONE
ANS- 50. 2	HTGR Plant Solid Radwaste System (N204)		Inactive Project			NONE
ANS- 50. 3	LMFBR Gas Radwaste (N205)		Inactive Project			NONE
ANS- 50. 4	LMFBR Liquid Radwaste (N206)		Inactive Project			NONE
ANS- 50. 5	LMFBR Solid Radwaste (N207)		Inactive Project			NONE
ANS- 51	Pressurized Water Reactor Management Committee		Inactive Project			NONE
ANS- 51. 1	Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants	ANS-22	Historical			NONE
ANS- 51. 2	Safety Inspection System (N183)		Inactive Project			NONE
ANS- 51. 3	Residual Heat Removal System Design PWR (N185)		Inactive Project			NONE
ANS- 51. 4	Criteria for Safety Related Operator Actions (N660)		Inactive Project			NONE
ANS- 51. 5	Evaluation of Anticipated Transients Without Trip on Pressurized Water Reactor Plants (N661)		Inactive Project			NONE
ANS- 51. 6	Improved Reactor Shutdown Systems on Future PWR Plants (N662)		Inactive Project			NONE
ANS- 51. 7	Single Failure Criteria for PWR Fluid Systems	ANS-22	Historical			NONE
ANS- 51. 8	Revision and Addendum to Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants ANSI N18.2-1973		Historical			NONE
ANS- 51. 9	Criteria for Remote Shutdown of PWR Plants (N659)		Inactive Project			NONE
ANS- 51. 10	Auxiliary Feedwater System for Pressurized Water Reactors	ANS-22	Current ANSI/ANS	10/14/2008	10/14/2013	WG Writing Draft
ANS- 52	BWR Management Committee		Inactive Project			NONE

ANS- 52. 1	Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants	ANS-22	Historical	NONE
ANS- 52. 2	Boiling Water Reactor Standby Core and Containment Heat Removal System		Inactive Project	NONE
ANS- 52. 3	Criteria for Safety-Related BWR Operator Actions		Inactive Project	NONE
ANS- 52. 5	Criteria for Remote Shutdown for Boiling Water Reactors		Inactive Project	NONE
ANS- 53	High Temperature Gas-Cooled Reactor Management Committee	ANS-28	Inactive Project	NONE
ANS- 53. 1	Nuclear Safety Criteria and Safety Design Process for Modular Helium-Cooled Reactor Plants	ANS-28	Active Project	CC Ballot Comment w/ WG
ANS- 53. 2	Radioactive Gas Waste System for the Stationary Gas-Cooled Reactor Plant	ANS-28	Inactive Project	NONE
ANS- 53. 3	Gas Cooled Reactor Plant Reactor Core Assembly System	ANS-28	Inactive Project	NONE
ANS- 53. 4	Gas-Cooled Reactor Plant Containment System	ANS-28	Inactive Project	NONE
ANS- 53. 5	Gas-Cooled Reactor Plant Containment System	ANS-28	Inactive Project	NONE
ANS- 53. 6	Gas-Cooled Reactor Plant Reactivity Control System	ANS-28	Inactive Project	NONE
ANS- 53. 8	High Temperature Gas-Cooled Reactor Fuel Handling System Design	ANS-28	Inactive Project	NONE
ANS- 53. 9	Gas-Cooled Reactor Plant Containment Atmospheric Clean-Up System	ANS-28	Inactive Project	NONE
ANS- 53. 10	Gas-Cooled Reactor Plant Electric Power Systems	ANS-28	Inactive Project	NONE
ANS- 53. 11	Gas-Cooled Reactor Plant Protection System	ANS-28	Inactive Project	NONE
ANS- 53. 12	Gas-Cooled Reactor Plant Core Auxiliary Cooling System	ANS-28	Inactive Project	NONE
ANS- 53. 13	Stationary Gas-Cooled Reactor Plant Helium Purification System	ANS-28	Inactive Project	NONE
ANS- 53. 14	Gas-Cooled Reactor Plant Helium Storage System	ANS-28	Inactive Project	NONE
ANS- 53. 15	Design Criteria for the Reactor Cooling Water System of Gas-Cooled Reactor Plants	ANS-28	Inactive Project	NONE
ANS- 53. 16	Design Criteria for the Service Water System of Gas-Cooled Reactor Plants	ANS-28	Inactive Project	NONE
ANS- 53. 17	Gas-Cooled Reactor Plant New Fuel Storage System	ANS-28	Inactive Project	NONE
ANS- 53. 18	Gas-Cooled Reactor Plant Liquid Nitrogen System	ANS-28	Inactive Project	NONE
ANS- 53. 19	Gas-Cooled Reactor Plant Chilled Water System	ANS-28	Inactive Project	NONE
ANS- 53. 20	Gas-Cooled Reactor Plant Secondary Coolant Systems	ANS-28	Inactive Project	NONE
ANS- 53. 21	Gas-Cooled Reactor Plant Other Structures	ANS-28	Inactive Project	NONE
ANS- 53. 22	Gas-Cooled Reactor Plant Control Room	ANS-28	Inactive Project	NONE
ANS- 53. 23	Gas-Cooled Reactor Plant Multi-Unit Stations	ANS-28	Inactive Project	NONE

ANS- 53. 24	Gas-Cooled Reactor Plant Radioactive Liquid Waste Systems	ANS-28	Inactive Project			NONE
ANS- 54	Liquid Metal Fast Breeder Reactor (LMFBR)	ANS-22	Inactive Project			NONE
ANS- 54. 1	General Safety Design Criteria for a Liquid Sodium Reactor Nuclear Power Plants	ANS-29	Active Project			PINS @ SB
ANS- 54. 2	Design Bases for Facilities for LMFBR Spent Fuel Storage in Liquid Metal Outside the Primary Coolant Boundary	ANS-22	Historical			NONE
ANS- 54. 3	Principal Design Criteria for LMFBR Containments	ANS-22	Inactive Project			NONE
ANS- 54. 5	Requirements for Sustaining Safe Shutdown in Liquid Metal Cooled Fast Reactors	ANS-22	Inactive Project			NONE
ANS- 54. 6	LMFBR Safety Classification and Related Requirements	ANS-22	Inactive Project			NONE
ANS- 54. 7	Source Terms to be Used in Evaluation of Radiological Site Suitability for LMFBR Power Plants	ANS-22	Inactive Project			NONE
ANS- 54. 8	Liquid Metal Fire Protection in LMR Plants	ANS-22	Historical			NONE
ANS- 54. 9	Environmental Qualification of Safety Related Equipment in LMFBRs	ANS-22	Inactive Project			NONE
ANS- 54. 10	Risk Limit Criteria for LMFBR Design	ANS-22	Inactive Project			NONE
ANS- 54. 11	Application of Risk Limit Criteria for LMFBR Design	ANS-22	Inactive Project			NONE
ANS- 54. 12	Event Categorization Guidelines for LMFBR Design	ANS-22	Inactive Project			NONE
ANS- 54. 13	Requirements for Evaluating the Potential Radiological Consequences of LMFBR Radioactive Gas Process and Storage System Failures	ANS-22	Inactive Project			NONE
ANS- 55	Fuel and Radwaste		Inactive Project			NONE
ANS- 55. 1	Solid Radioactive Waste Processing System for Light-Water-Cooled Reactor Plants	ANS-22	Current ANSI/ANS	6/15/2009	6/15/2014	NONE
ANS- 55. 2	Liquid Radioactive Waste Processing System for Pressurized Water Reactor Plants		Historical			NONE
ANS- 55. 3	Boiling Water Reactor Liquid Radioactive Waste Processing Systems		Historical			NONE
ANS- 55. 4	Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants	ANS-22	Current ANSI/ANS	5/14/2007	5/14/2012	NONE
ANS- 55. 5	no title		Inactive Project			NONE
ANS- 55. 6	Liquid Radioactive Waste Processing System for Light Water Reactor Plants	ANS-22	Current ANSI/ANS	5/14/2007	5/14/2012	NONE
ANS- 56	Containment		Inactive Project			NONE
ANS- 56. 1	Containment Hydrogen Control	ANS-24	Inactive Project			NONE
ANS- 56. 2	Containment Isolation Provisions for Fluid Systems After a LOCA	ANS-22	Historical			NONE
ANS- 56. 3	Overpressure Protection of Low Pressure Systems Connected to the Reactor Coolant Pressure Boundary	ANS-22	Historical			NONE

ANS- 56. 4	Pressure and Temperature Transient Analysis for Light Water Reactor Containments	ANS-22	Historical				NONE
ANS- 56. 5	PWR and BWR Containment Spray System Design Criteria	ANS-22	Historical				NONE
ANS- 56. 6	Pressurized Water Reactor Containment Ventilation Systems	ANS-22	Historical				NONE
ANS- 56. 7	Boiling Water Reactor Containment Ventilation Systems	ANS-22	Historical				NONE
ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	Current ANSI/ANS	11/27/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 56. 9	Environmental Envelopes for Light Water Reactor Nuclear Power Plants	ANS-21	Inactive Project				NONE
ANS- 56. 10	Subcompartment Pressure and Temperature Transient Analysis in LWRs	ANS-24	Historical				NONE
ANS- 56. 11	Design Criteria for Protection Against the Effects of Compartment Flooding in LWR Plants	ANS-24	Historical				NONE
ANS- 56. 12	Environmental Qualifications of Mechanical Equipment for Nuclear Power Plants		Inactive Project				NONE
ANS- 57	Fuel Management Committee		Inactive Project				NONE
ANS- 57. 1	Design Requirements for Light Water Reactor Fuel Handling Systems	ANS-27	Current ANSI/ANS	7/20/2005		7/20/2010	NONE
ANS- 57. 2	Design Requirements for Light Water Reactor Spent Fuel Facilities at Nuclear Power Plants	ANS-27	Active Project				CC Ballot Comment w/ WG
ANS- 57. 3	Design Requirements for New Fuel Storage Facilities at LWR Plants	ANS-27	Active Project				CC Ballot Comment w/ WG
ANS- 57. 4	Failed Fuel Detection Systems	ANS-27	Inactive Project				NONE
ANS- 57. 5	Light Water Reactors Fuel Assembly Mechanical Design and Evaluation	ANS-27	Current ANSI/ANS	2/28/2006		2/28/2011	NONE
ANS- 57. 6	Quality Assurance Program Requirements for Design and Manufacture of Fuel for Nuclear Power Plants	ANS-27	Inactive Project				NONE
ANS- 57. 7	Design Criteria for an Independent Spent Fuel Storage Installation (Water Pool Type)	ANS-27	Historical	5/28/1997	5/27/2007		NONE
ANS- 57. 8	Fuel Assembly Identification	ANS-27	Current ANSI/ANS	1/12/2005	12/31/2012	1/12/2010	NONE
ANS- 57. 9	Design Criteria for an Independent Spent Fuel Storage Installation (Dry Type)	ANS-27	Historical				NONE
ANS- 57. 10	Design Criteria for Consolidation of LWR Spent Fuel	ANS-27	Current ANSI/ANS	7/6/2006		7/6/2011	NONE
ANS- 58. 1	Plant Design Against Missiles	ANS-21	Inactive Project				NONE
ANS- 58. 2	Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	ANS-24	Active Project				PINS Development
ANS- 58. 3	Physical Protection for Nuclear Safety-Related Systems and Components	ANS-22	Current ANSI/ANS	3/18/2008		3/18/2013	NONE
ANS- 58. 4	Criteria for Technical Specifications for Nuclear Power Stations	ANS-21	Historical				NONE
ANS- 58. 5	Probabilistic Risk Assessment	ANS-24	Inactive Project				NONE
ANS- 58. 6	Criteria for Remote Shutdown for Light Water Reactors	ANS-21	Current ANSI/ANS	8/31/2001	8/31/2011	12/31/2009	NONE

ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	Current ANSI/ANS	8/25/2008		8/25/2013	CC PINS Comment w/WG
ANS- 58. 9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	ANS-22	Current ANSI/ANS	2/24/2009		2/24/2014	NONE
ANS- 58. 10	Realistic Methods for LWR Event Analysis	ANS-24	Inactive Project				NONE
ANS- 58. 11	Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors	ANS-22	Current ANSI/ANS	7/23/2002	7/1/2012	12/31/2010	NONE
ANS- 58. 12	Criteria for Availability of AC Power at Light Water Reactor Power Plants	ANS-21	Inactive Project				NONE
ANS- 58. 14	Safety and Pressure Integrity Classification Criteria for Light Water Reactors	ANS-22	Active Project				CC Ballot Comment w/ WG
ANS- 58. 15	Criteria for Severe Accident Evaluation	ANS-24	Inactive Project				NONE
ANS- 58. 16	Safety Classification and Design Criteria for Non- Reactor Nuclear Facilities -- for NFSC approval 4/2010	ANS-22	Active Project				CC PINS Comment w/WG
ANS- 58. 20	Program for Collection of Reliability Data on Nuclear Power Plant Protection and Engineered Safety Systems and Components		Historical				NONE
ANS- 59			Inactive Project				NONE
ANS- 59. 1	Nuclear Safety Related Cooling Water Systems for Light Water Reactors	ANS-22	Historical				NONE
ANS- 59. 2	Safety Criteria for HVAC Systems Located Outside Primary Containment	ANS-22	Historical				NONE
ANS- 59. 3	Nuclear Safety Criteria for Control Air Systems	ANS-22	Current ANSI/ANS	8/30/2002	8/1/2012	12/31/2010	NONE
ANS- 59. 4	Generic Requirements for Light Water Nuclear Power Plant Fire Protection		Historical				NONE
ANS- 59. 6	Requirements for Fire Hazard Analysis at Light Water Nuclear Power Plants		Inactive Project				NONE
ANS- 59. 7	Control Room HVAC		Inactive Project				NONE
ANS- 59. 51	Fuel Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	Current ANSI/ANS	10/4/2007		10/4/2012	NONE
ANS- 59. 52	Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	Current ANSI/ANS	10/4/2007		10/4/2012	NONE
ANS- 59. 53	Starting Air Systems for Standby Diesel Generators	ANS-22	Inactive Project				NONE
ANS- 59. 54	Combustion Air Systems for Standby Diesel Generators	ANS-22	Inactive Project				NONE
ANS- 59. 55	Coolant System for Standby Diesel Generators	ANS-22	Inactive Project				NONE

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Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 8	Fissionable Materials Outside Reactors		Inactive Project				NONE
ANS- 8 . 1	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	ANS-8	Current ANSI/ANS	5/16/2007		5/16/2012	WG Writing Draft

ANS- 8 . 2	Proposed Standard on Computer Codes -- never named	ANS-8	Inactive Project				NONE
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	Current ANSI/ANS	6/12/2003	6/12/2011	6/12/2011	WG Writing Draft
ANS- 8 . 4	Proposed Standard on Shipping Containers -- not named	ANS-8	Inactive Project				NONE
ANS- 8 . 5	Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material	ANS-8	Current ANSI/ANS	5/14/2007		5/14/2012	NONE
ANS- 8 . 6	Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ	ANS-8	Current ANSI/ANS	7/23/2001	7/23/2011	12/31/2009	CC Ballot Comment w/ WG
ANS- 8 . 7	Nuclear Criticality Safety in the Storage of Fissile Materials	ANS-8	Current ANSI/ANS	9/12/2007		9/12/2012	NONE
ANS- 8 . 7 . 1	Storage of Fissile Material	ANS-8	Inactive Project				NONE
ANS- 8 . 8	Criticality Safety Limits for Special Applications	ANS-8	Inactive Project				NONE
ANS- 8 . 9	Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate	ANS-8	Historical				NONE
ANS- 8 . 9 . 1	Nuclear Criticality Safety Criteria for Steel-Pipe Intersections Containing Aqueous Solutions of Fissile Materials	ANS-8	Historical				NONE
ANS- 8 . 10	Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement	ANS-8	Current ANSI/ANS	4/1/2005		4/1/2010	WG Writing Draft
ANS- 8 . 11	Validation of Calculational Methods for Nuclear Criticality Safety	ANS-8	Historical				NONE
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	Current ANSI/ANS	3/20/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 8 . 13. 1	Criteria for Establishing and Applying a Solid Angle Method for Nuclear Criticality Safety		Inactive Project				NONE
ANS- 8 . 13. 2	Guide for Evaluating Interaction Between Units of Low Enriched Uranium Using the Surface Density Method		Inactive Project				NONE
ANS- 8 . 14	Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	Current ANSI/ANS	5/25/2004	12/31/2012	5/25/2009	NONE
ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	Current ANSI/ANS	7/15/2005		7/15/2015	WG Writing Draft
ANS- 8 . 16	Maximum Subcritical Limits for Slightly Enriched Uranium Compounds Processed in LWR Fuel Cycle	ANS-8	Inactive Project				NONE
ANS- 8 . 17	Criticality Safety Criteria for the Handling, Storage and Transportation of LWR Fuel Outside Reactors	ANS-8	Current ANSI/ANS	9/14/2009		9/14/2014	NONE
ANS- 8 . 18	Use of Chlorinated Polyvinyl Chloride (CPVC) as a Neutron Absorber	ANS-8	Inactive Project				NONE
ANS- 8 . 19	Administrative Practices for Nuclear Criticality Safety	ANS-8	Current ANSI/ANS	5/16/2005		5/16/2010	WG Writing Draft
ANS- 8 . 20	Nuclear Criticality Safety Training	ANS-8	Current ANSI/ANS	9/16/2005		9/16/2010	PINS Development
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	Current ANSI/ANS	7/23/2001	12/31/2009	7/23/2011	WG Writing Draft
ANS- 8 . 22	Nuclear Criticality Safety Based on Limiting and Controlling Moderators	ANS-8	Current ANSI/ANS	12/8/2006		12/8/2011	PINS Development
ANS- 8 . 23	Nuclear Criticality Accident Emergency Planning and Response	ANS-8	Current ANSI/ANS	3/23/2007		3/23/2012	NONE

ANS- 8 . 24	Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations	ANS-8	Current ANSI/ANS	3/16/2007	3/16/2012	NONE
ANS- 8 . 25	Development of Nuclear Criticality Safety Related Postings	ANS-8	Active Project			SB PINS Comments w/ WG
ANS- 8 . 26	Criticality Safety Engineer Training and Qualification Program	ANS-8	Current ANSI/ANS	6/20/2007	6/20/2012	NONE
ANS- 8 . 27	Burnup Credit for LWR Fuel	ANS-8	Current ANSI/ANS	8/14/2008	8/14/2013	NONE
ANS- 8 . 28	Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety	ANS-8	Active Project			SB PINS Comments w/ WG

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Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 1	Conduct of Critical Experiments	ANS-1	Current ANSI/ANS	10/11/2007		10/11/2012	NONE
ANS- 5	Energy and Fission Product Release, a management committee of NUPPSCO		Inactive Project				NONE
ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	Current ANSI/ANS	4/1/2005		4/1/2010	WG Writing Draft
ANS- 5 . 3	Fission Product Release to the Coolant of Light Water Reactors from Failed or Defective Fuel		Inactive Project				NONE
ANS- 5 . 6	Radiation Protection Design Criteria		Inactive Project				NONE
ANS- 5 . 6 . 1	Criteria for Accident Shielding		Inactive Project				NONE
ANS- 5 . 7 . 1	Post Accident Sampling		Inactive Project				NONE
ANS- 5 . 8	Delayed Neutron Data		Inactive Project				NONE
ANS- 6	Radiation Protection and Shielding	ANS-6	Inactive Project				NONE
ANS- 6 . 1 . 1	Neutron and Gamma-Ray Fluence-To-Dose Factors	ANS-6	Active Project				PINS Development
ANS- 6 . 1 . 2	Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	ANS-6	Current ANSI/ANS	2/23/2009		2/23/2014	WG Writing Draft
ANS- 6 . 2 . 1	Shielding Benchmark Problems	ANS-6	Inactive Project				NONE
ANS- 6 . 2 . 2	Benchmark Problems for Radiation Energy Spectra Unfolding		Inactive Project				NONE
ANS- 6 . 3 . 1	Program for Testing Radiation Shields in Light Water Reactors (LWR)	ANS-6	Current ANSI/ANS	4/20/2007		4/20/2012	PINS Development
ANS- 6 . 4	Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants	ANS-6	Current ANSI/ANS	9/29/2006		9/29/2011	NONE
ANS- 6 . 4 . 2	Specification for Radiation Shielding Materials	ANS-6	Current ANSI/ANS	9/28/2006		9/28/2011	NONE
ANS- 6 . 4 . 3	Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials	ANS-6	Active Project				PINS Development

ANS- 6 . 5	Glossary of Terms in Shielding and Dosimetry		Inactive Project			NONE
ANS- 6 . 6 . 1	Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants	ANS-6	Current ANSI/ANS	3/5/2007	3/5/2012	NONE
ANS- 6 . 6 . 2	Standard on Neutron Air Scattering		Inactive Project			NONE
ANS- 6 . 7 . 1	Radiation Zoning for Design of Nuclear Power Plants		Inactive Project			NONE
ANS- 6 . 7 . 2	Radiation Zoning of LWR Plants for Accident Conditions		Inactive Project			NONE
ANS- 6 . 8 . 1	Location and Design Criteria for Area Radiation Monitoring Systems for Light Water Nuclear Reactors (under ANS-5)	ANS-5	Historical			NONE
ANS- 6 . 8 . 2	Selection of and Design Criteria for Continuous Process and Effluent Radiation Monitors for Light Water Reactors (under ANS-5)	ANS-5	Inactive Project			NONE
ANS- 6 . 9	Designing for Post-Accident Radiological Conditions		Inactive Project			NONE
ANS- 6 . 9	Criteria for Post Accident Radiological Control	ANS-6	Inactive Project			NONE
ANS- 7 . 4 . 3	Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations		Historical			NONE
ANS- 10	Mathematics and Computation		Inactive Project			NONE
ANS- 10. 2	Portability of Scientific and Engineering Software	ANS-10	Current ANSI/ANS	8/14/2009	8/14/2014	NONE
ANS- 10. 3	Documentation of Computer Software	ANS-10	Active Project			PINS Development
ANS- 10. 4	Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry	ANS-10	Current ANSI/ANS	10/28/08	10/28/2013	NONE
ANS- 10. 5	Accommodating User Needs in Scientific and Engineering Computer Software Development	ANS-10	Current ANSI/ANS	4/17/2006	4/17/2011	NONE
ANS- 10. 6	Guidelines for Tailoring Computer Standards to the Creation and Control of Nuclear Industry Software		Inactive Project			NONE
ANS- 10. 7	Non-Real Time, High Integrity Software for the Nuclear Industry	ANS-10	Active Project			WG Writing Draft
ANS- 14	Fast Pulse Reactors	ANS-14	Inactive Project			NONE
ANS- 14. 1	Operation of Fast Pulse Reactors	ANS-14	Current ANSI/ANS	10/27/2009	10/27/2014	NONE
ANS- 15	Operations of Research Reactors	ANS-15	Inactive Project			NONE
ANS- 15. 1	The Development of Technical Specifications for Research Reactors	ANS-15	Current ANSI/ANS	4/20/2007	4/20/2012	NONE
ANS- 15. 2	Quality Control for Plate-Type Uranium-Aluminum Fuel Elements	ANS-15	Current ANSI/ANS	3/23/2009	3/23/2014	WG Writing Draft
ANS- 15. 3	Records and Reports for Research Reactors	ANS-15	Inactive Project			NONE
ANS- 15. 4	Selection and Training of Personnel for Research Reactors	ANS-15	Current ANSI/ANS	8/17/2007	8/17/2012	NONE
ANS- 15. 5	Never Titled		Inactive Project			NONE
ANS- 15. 6	Review of Experiments for Research Reactors		Inactive Project			NONE

ANS- 15. 7	Research Reactor Site Evaluation	ANS-15	Historical				NONE
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	Current ANSI/ANS	9/14/2005		9/14/2010	WG Writing Draft
ANS- 15. 9	Never Titled	ANS-15	Inactive Project				NONE
ANS- 15. 10	Decommissioning of Research Reactors	ANS-15	Historical				WG Writing Draft
ANS- 15. 11	Radiation Protection at Research Reactors	ANS-15	Current ANSI/ANS	10/8/2009		10/8/2014	NONE
ANS- 15. 12	Design Objectives for and Monitoring of Systems Controlling Research Reactor Effluents	ANS-15	Historical				NONE
ANS- 15. 14	Design Objectives for and Monitoring of Systems Controlling Research Reactor Effluents	ANS-15	Inactive Project				NONE
ANS- 15. 15	Criteria for the Reactor Safety Systems of Research Reactors	ANS-15	Historical				NONE
ANS- 15. 16	Emergency Planning for Research Reactors	ANS-15	Current ANSI/ANS	9/23/2008		9/23/2013	NONE
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	Active Project	5/3/2000	5/3/2010		WG Writing Draft
ANS- 15. 18	Administrative Controls for Research Reactors	ANS-15	Historical				NONE
ANS- 15. 19	Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactor	ANS-15	Active Project				WG Writing Draft
ANS- 15. 20	Criteria for the Reactor Control and Safety Systems of Research Reactors	ANS-15	Active Project				PINS Development
ANS- 15. 21	Format and Content for Safety Analysis Reports for Research Reactors	ANS-15	Current ANSI/ANS	9/29/2006		9/29/2011	WG Writing Draft
ANS- 19	Physics of Reactor Design	ANS-19	Inactive Project				NONE
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	Current ANSI/ANS	7/23/2002		7/23/2012	WG Writing Draft
ANS- 19. 2	Definitions of Reactor Physics Terms and Parameters	ANS-19	Inactive Project				NONE
ANS- 19. 2 . 1	Terms and Definitions for Breeder Reactor Systems	ANS-19	Inactive Project				NONE
ANS- 19. 3	Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors -- Slight change 2005 Added "Power"	ANS-19	Current ANSI/ANS	9/16/2005		9/16/2010	WG Writing Draft
ANS- 19. 3 . 4	The Determination of Thermal Energy Deposition Rates in Nuclear Reactors	ANS-19	Current ANSI/ANS	10/31/2008		10/31/2013	NONE
ANS- 19. 4	A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	ANS-19	Historical	5/3/2000	5/3/2010		NONE
ANS- 19. 5	Requirements for Reference Reactor Physics Measurements	ANS-19	Historical				NONE
ANS- 19. 6 . 1	Reload Startup Physics Tests for Pressurized Water Reactors	ANS-19	Current ANSI/ANS	11/29/2005		11/29/2010	Ballot @ CC
ANS- 19. 7	Calculation of Doppler Reactivity for Use in Thermal Light Water Reactor Safety Analysis (New)	ANS-19	Inactive Project				NONE
ANS- 19. 8	Fission Product Yields for 235U, 238U, and 239P	ANS-19	Active Project				NONE
ANS- 19. 9	Delayed Neutron Parameters for Light Water Reactors	ANS-19	Active Project				WG Writing Draft

ANS- 19. 10	Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals	ANS-19	Current ANSI/ANS	2/24/2009		2/24/2014	NONE
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	Current ANSI/ANS	12/17/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 19. 12	Nuclear Data for the Production of Radioisotope	ANS-19	Active Project				WG Writing Draft
ANS- 54. 4	Nonmetallic Thermal Insulation for Austenitic Stainless Steel in LMFBRs		Inactive Project				NONE
ANS- 58. 13	Design for Post-Accident Access External to LWR Primary Reactor Containments	ANS-5	Inactive Project				NONE

RISC

Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 58. 21	External-Events PRA Methodology	RISC	Historical	3/1/2007		3/1/2012	NONE
ANS- 58. 22	Low Power and Shutdown PRA Methodology	RISC	Active Project				CC Ballot Comment w/ WG
ANS- 58. 23	Fire PRA Methodology	RISC	Historical	11/20/2007			NONE
ANS- 58. 24	Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications	RISC	Active Project				WG Writing Draft
ANS- 58. 25	Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications	RISC	Active Project				WG Writing Draft

None

Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS-			Inactive Project				NONE
ANS-							NONE
ANS- 7 . 20	Proposed Guide for the Design of a Nuclear Pool Facility -- draft	ANS-7	Inactive Project				NONE
ANS- 9	Glossary of Terms in Nuclear Science and Technology		Historical				NONE
ANS- 9 . 1	Health Physics		Inactive Project				NONE
ANS- 9 . 2	Shielding		Inactive Project				NONE
ANS- 9 . 3	Regulatory Guide		Inactive Project				NONE
ANS- 9 . 4	Utility		Inactive Project				NONE
ANS- 9 . 5	Safeguards		Inactive Project				NONE

ANS- 9 . 6	Glossary Liaison	Inactive Project	NONE
ANS- 9 . 7	Special Activities	Inactive Project	NONE
ANS- 9 . 8	Fusion Term	Inactive Project	NONE
ANS- 10. 1	Nuclear Reactor Classification System	Historical	NONE
ANS- 11	Design Guides for Radioactive Materials Handling Facility and Specialized Equipment	Inactive Project	NONE
ANS- 11. 1	General Criteria for Design, Construction, Operation, Maintenance, and Decommissioning for Radioactive Materials Handling Facilities	Inactive Project	NONE
ANS- 11. 2		Inactive Project	NONE
ANS- 11. 3	Shielding Wall Service Penetrations	Inactive Project	NONE
ANS- 11. 4	Direct View Windows	Inactive Project	NONE
ANS- 11. 6	Direct Viewing/TV-Audio	Inactive Project	NONE
ANS- 11. 7	Access Doors and Transfer Devices for Personnel and Equipment	Inactive Project	NONE
ANS- 11. 8	Illumination	Inactive Project	NONE
ANS- 11. 9	Manipulators, Auxilliary Tools and Remote Handling Devices	Inactive Project	NONE
ANS- 11. 11		Inactive Project	NONE
ANS- 11. 12	Hot Cell Atmosphere Control Systems	Inactive Project	NONE
ANS- 11. 13	In-Cell Utility Requirements	Historical	NONE
ANS- 11. 13	Concrete Radiation Shields	Historical	NONE
ANS- 11. 14	Design Guide for Fire Prevention, Detection and Control for Radioactive Materials Handling Facilities	Inactive Project	NONE
ANS- 11. 15	Wall Finishes and Protective Coatings	Inactive Project	NONE
ANS- 11. 16	Gloveboxes	Inactive Project	NONE
ANS- 11. 17	Operations and Maintenance of Radioactive Materials Handling Facilities	Inactive Project	NONE
ANS- 11. 18	Decontamination and Decommissioning	Inactive Project	NONE
ANS- 13		Inactive Project	NONE
ANS- 16	Isotopes and Radiation	Inactive Project	NONE
ANS- 18	Environmental Impact Evaluation	Inactive Project	NONE
ANS- 18. 2	Environmental Monitoring and Data Evaluation	Inactive Project	NONE
ANS- 18. 2 . 1	Methods for Inferring Environmental Doses	Inactive Project	NONE

ANS- 18.2.2	Specific Environmental Monitoring Program to Assess Operational Dose from LWR Power Reactors	Inactive Project	NONE
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ANS- 18.3.2	Cold Shock: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms	Inactive Project	NONE
ANS- 18.3.3	Entrapment/Impingement: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms at Water Intake Structures	Inactive Project	NONE
ANS- 18.4	Aquatic Ecological Surveys Required for Siting, Design, and Operation of Thermal Power Plants	Inactive Project	NONE
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ANS- 40.32	Compaction of Wastes for Disposal at Disposal Sites	Inactive Project	NONE
ANS- 60	Power Plant Productivity Definitions	Inactive Project	NONE

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