

### **Members Present**

N. Prasad Kadambi, *Chair, NRC*  
Donald J. Spellman, *Vice Chair, ORNL*  
William E. Burchill, *RISC Chair, Texas A&M University*  
Dimitrios M. Cokinos, *Member at Large, BNL*  
Peter S. Hastings, *Member at Large, Duke Energy*  
Calvin M. Hopper, *N16 Chair, ORNL*  
Carl A. Mazzola, *NFSC Chair, Shaw Environmental and Infrastructure, Inc.*  
Tawfik M. Raby, *N17 Chair, NIST*  
R. Michael Ruby, *Member at Large, Constellation Energy-Ginna NPP*  
Patricia A. Schroeder, *Standards Administrator, American Nuclear Society*  
Stephen H. Shepherd, *Member at Large, Southern California Edison Company/SONGS*  
Steven L. Stamm, *Member at Large, Shaw Stone and Webster*  
R. Michael Westfall, *Member at Large, ORNL*  
Michael J. Wright, *Member at Large, Entergy*

### **Members Absent**

Chuck H. Moseley, *Member at Large, BWXT Y12*

### **Guests**

Jeffery R. Brault, *Shaw MOX Project*  
Mary Beth Gardner, *ANS Staff*  
Charles R. Martin, *Defense Nuclear Facilities Safety Board*  
Andrew O. Smetana, *Savannah River National Laboratory*

### **1. Call to Order**

Prasad Kadambi called the meeting to order and introductions were made.

### **2. Approve Agenda**

The agenda was approved without change.

### **3. Nuclear Risk Management Coordinating Committee (NRMCC)**

Prasad Kadambi reminded the Standards Board (SB) that Ken Balkey and Rick Grantom with ASME provided a presentation at the last meeting on the ASME Strategic Plan and the process established to prepare the Level 1 Integrated Standard. Kadambi explained that he was taking advantage of his past relationship with Balkey to work on the ASME/ANS joint effort. Kadambi further stated that standards efforts need to be ramped up. Combined Operating License was where the action was with the NRC. Primarily it's Reg. Guide 1.206 which was available on the web. Most of the accompanying Standard Review Plan was on the web as well.

Peter Hastings summarized that recent unapproved changes to 10 CFR Part 52 were inclusive of the PRA. He stated that it was always required but not as part of the licensing. Hastings said that most pending applications expected to use the design certification PRA and those regulations called for an update within one year of the PRA standards being approved. He felt that the industry would need a running start to make that work.

Kadambi explained that ANS had an agreement with ASME on the division of labor for the PRA standards. The Level 1 Integrated Standard with LERF including external events, fire, and low power shutdown was being led by ASME while the Level 2 and Level 3 PRA standards were being led by ANS. He stated that ANS is under considerable pressure to generate the standards.

The PRA standards alone are not enough as support standards are necessary. ANS standards would be very important to operational aspects. Collaboration with ASME in this effort would be beneficial. In Kadambi's opinion, ASME was ahead of ANS in gearing up for the needed standards. While ANS was a smaller society, we had strength in intellect.

Steve Stamm mentioned a presentation he attended the previous day that included a presentation by ASME on the Level 1 Integrated Standard. Stamm expressed his opinion that he was not in favor of combining the ANS Level 1 standards with the ASME Level 1 Standard. Kadambi explained that this agreement was approved by the SB a couple of years ago.

Mary Beth Gardner explained that the NRMCC was launched in late 2003 at which time ANS had two NRC grants to develop three PRA standards. Early NRMCC discussions did not involve integrating the four standards. Gardner believed that the discussion turned to bringing the standards together at the recommendation of the NRC as they felt the industry wanted one integrated standard.

Kadambi asked the utility members what advantage if any they saw in combining the four Level 1 standards. The sense of the SB was that an integrated standard would not make much difference. Some members expressed concerns about losing the ANS standards to ASME. Kadambi reminded the SB that ANS intends to continue maintaining each standard. Other members questioned certification and revisions to the separate standards affecting the Level 1 Integrated Standard. Kadambi explained that the integrated standard would carry the logos of both organizations and revenue would be shared. It had not been discussed how to indicate revisions in the integrated standard. Work on the logistical issues would continue.

Kadambi provided a handout (**Attachment A**) and explained that the NRMCC was the platform for the current collaboration between ANS and ASME on the PRA standards for operating plants. In the near term, we needed another platform for coordination of standards in other areas (i.e., safety classification of SSCs and QA). ASME currently had three activities – training current force, universities, and the K-12 educational system. To help support standards develop, ASME created a nonprofit, limited liability corporation to obtain funding.

Kadambi questioned the process of developing clarifications/interpretations associated with the ASME training. Spellman stated that it was not an NRMCC issue. Kadambi stressed that ANS needed to preserve the integrity of its standards. Andy Smetana interjected that each standards user was responsible for their interpretation of the standard. Kadambi stated that as part of the collaboration we should agree to support each other with providing instruction on our standards and appropriately provide the experts to support development of instructional material. It's possible ASME would give ANS the opportunity to be part of their team of instructors.

Bill Burchill informed the SB that a draft of Part I and II of the Integrated Standard was distributed to the RISC Committee for comment. He further stated that an agreement was developed for cross assigning members on to RISC and CNRM and was working through developing the consensus process for approving joint standards. The process includes RISC members joining CNRM as full members with one vote. These members would report back to the RISC. Kadambi stated that it was his view that the ANS members on CNRM would account for one balance of interest making sure that the RISC message was carried forward. Kadambi believes that this would give us enough protection in terms of representing ANS interest on the consensus level.

Burchill reminded the SB that the ground rules for the integration was that ASME would not add or delete any requirements. Working group members from the three ANS standards would be supporting the integration process. Kadambi asked that the SB be kept involved at every level of the process. Members questioned how clarifications would be handled. Burchill stated that clarifications had not been discussed yet, but he felt that it was logical to expect the originating

working group to respond to inquiries. Kadambi proposed that we stipulate each society maintains its standards independently. Spellman recommended that both ASME and ANS Standards Boards approve. Kadambi suggested that the SB approve formally and notify the BNCS by letter. Burchill reminded the SB that, as recently as last March, members of the NRMCC from ASME proposed that we not publish the ANS independent standards and agreed that the SB's position to maintain the individual standards should be documented. Kadambi accepted an action item to prepare the wording for a motion to document the SB's position on maintaining the ANS individual standards later during the meeting. (As time did not allow later in the meeting, the action item will be completed via electronic means after the meeting.)

Action Item 06/07-01: Prasad Kadambi to prepare a motion for Standards Board approval to maintain individual PRA standards.

#### NRC Request to Consider ANS/ASME Joint PRA Consensus Committee

Gardner addressed the SB explaining that at the March 16, 2007, NRMCC Meeting, Mary Drouin of the NRC, proposed that the ANS and ASME look at the possibility of combining the CNRM and the RISC into one committee. The proposal led to a discussion and an approved motion for both societies' staff to explore the pros and cons of a combined consensus committee and report back to the NRMCC. Kadambi reminded the SB that the motion was previously issued to them for their information and comment.

The SB was provided a handout with the background of the motion and the pros and cons anticipated by the ASME and ANS staff – **Attachment B**. After a brief discussion, the sense of the SB was that combining the RISC and CNRM was not a significant benefit. Burchill expressed concern with appearing more aggressive if put in writing. Spellman offered to verbally carry the ANS position to the NRMCC. Kadambi suggested for the motion to run its course and thanked the staff for completing the request.

#### Approval of Draft Process on Approving a Joint Standard

Pat Schroeder explained that ASME was looking for an approval of how ANS would handle approving the joint standard(s) and directed the SB to the draft process provided for consideration – **Attachment C**. Schroeder summarized the draft process pointing out the final review by the ANS SB of the ballot process and comment resolutions on the Integrated Level 1 Standard requiring a letter of permission for ASME to publish with the joint logo. Burchill stated that he felt the RISC would be satisfied with the SB's opportunity for a final approval but added that we needed to take it one step further to stipulate that the joint standard would not be published without ANS approval. Additionally, Burchill recommended that both societies approve identical processes. As members were unsure of the ANS authority to approve the process, Gardner was asked to research.

Action Item 6/07-02: Mary Beth Gardner research who is the right person/committee to formally approve by signature the process document for approving the joint ANS/ASME standard.

Action Item 6/07-03: ANS staff to revise ANS process document for releasing a joint PRA standard to add requirement that the joint standard would not be published without approval of both societies.

#### **4. Discuss and Resolve Action Items**

Open action items were discussed and closed as applicable. See the list of action items at the end of these minutes.

Action Item 11/05-06 related to developing alternative balance of interest categories was discussed at some length. Several consensus committee chairs expressed dissatisfaction with the current definitions. Calvin Hopper recommended moving from seven to nine categories of

interest. Pat Schroeder expressed concern with nine categories under the current rules and procedures that require consensus being reached within each category. She suggested eliminating the requirement for consensus within each category if the number of categories were increased. Schroeder added that the ASME procedures do not require consensus within each category of interest.

Tawfik Raby stated that approximately 25 years ago, the Standards Steering Committee (predecessor of the Standards Board) voted not to determine balance of interest by source of funding. Raby expressed his opinion that he felt it should be maintained. Schroeder was asked to review the minutes and report back to the SB.

Action Item 06/07-04: Pat Schroeder review Standards Steering Committee minutes for motion on determining consensus committee member's balance of interest disregarding funding and report back to the SB.

Raby questioned why our current balance of interest no longer accounts for a representative of ANS. He believed that each consensus committee should have an ANS representative. In the past, it was the consensus committee chair.

Kadambi asked Hopper to prepare a written proposal with revised balance of interest categories for the November 2007 meeting.

Action Item 06/07-05: Calvin Hopper to prepare a written proposal with revised balance of interest categories for the November 2007 meeting.

Kadambi asked Schroeder to send action item reminders to the SB.

Action Item 06/07-06: Pat Schroeder to send action item reminders to the SB.

## **5. ISO Standards Activities**

Dimitrios Cokinos reminded the SB that SC6 met in Ottawa, Canada, June 2006. At the time, he suggested three ANS standards to be considered for ISO standards. Cokinos would formally present these standards at the next meeting June 27, 2007. SC6 had developed one standard on technical specifications in the last five years. Prasad Kadambi asked whether it was more difficult to gain consensus on an international standard. Spellman stated that it was much more difficult to get a New Work Item Proposal (NWIP -- equivalent to our Project Initiation Notification Form - PINS) approved. Tawfik Raby stated that the decay heat standard was approved along with technical specifications standard. Don Spellman informed the SB that he will be offering the new standard on gas cooled reactors once completed.

Cokinos informed the SB of the PHYSOR 2008 International Conference on the Physics of Reactors scheduled for September 2008 in Switzerland. He invited all to submit a paper and attend the conference.

## **6. Standards Board Chair's Report**

### Report on International Standards Activities

Prasad Kadambi explained that he had tried to develop an association with the Canadian Nuclear Society through NFSC's Canadian liaison, Shami Dua. Kadambi stated that there was a lot of interest with India, and he would try to pursue. Kadambi recognized that there would be more activities in the gas cooled area involving a huge international standards effort. Peter Hastings stated that "Americanizing" of international designs had been found to be challenging because of regulatory requirements. Mike Westfall questioned how the NRC would view an ISO standard. Kadambi answered that the NRC had not undertaken the responsibility to endorse any ISO standard. He added that the Commission was currently wrestling with this item. Bill

Burchill asked whether ISO standards were accredited by ANSI. Pat Schroeder was asked to research.

Action Item 06/07-07: Pat Schroeder to contact ANSI to confirm whether ISO standards are ANSI accredited.

#### ANS Strategic Plan

Kadambi informed the SB that he attended a meeting with the ANS president. The emphasis of the meeting was the ANS Strategic Plan. He stated that it was important for the society to work together as a whole. Kadambi reported that he spoke with ANS Executive Director Harry Bradley and recommended the strategic plan to be easily accessible on the ANS Web site.

#### New Advance Reactor Rule

Kadambi stressed that it was important for everyone to become familiar with the needs for the new advance reactor rule. Through the NFSC, ANS provided input for incorporation into Reg. Guide 1.206. Kadambi asked that Carl Mazzola review RG 1.206 to see whether ANS standards were referenced as suggested.

Action Item 06/07-08: Carl Mazzola review RG 1.206 to confirm that ANS standards were referenced as suggested.

#### Use of ANS Logo

Kadambi informed the SB that he was made aware of an NFSC member using the ANS logo along with comments published in a newspaper. Kadambi reminded the SB that Standards Committee members should not use the ANS logo without proper consent. Members questioned whether there was a policy on the use of the ANS logo. While not confirmed, it was thought the guidance would be in the ANS Bylaws, Rules, and Procedures. Kadambi requested the consensus committee chairs to communicate to their respective members a sense of caution regarding use of the ANS logo with their personal communications or correspondence.

Action Item 06/07-09: Pat Schroeder to check ANS Bylaws for guidance on using the ANS logo.

Action Item 06/07-10: Consensus Committee Chairs to communicate to their committee members a sense of caution regarding use of the ANS logo with personal communication or correspondence.

### **7. Certification of Balance of Interest**

The balance of interest report was reviewed for each consensus committee – **Attachment D**. The reports for N16 and RISC were accepted as presented. Carl Mazzola questioned the categorization of Charles Brown and Andy Wehrenberg on the NFSC. While both members were employed by Southern Nuclear Operating Company, they were classified under different categories. Pat Schroeder stated that they had been classified this way since the interest categories were revised a few years ago. She believed that the initial thought was they had different roles. Additionally Mazzola questioned vote sharing by members from the same organization. Because of the uncertainty, Mazzola was asked to look into these issues.

Action Item 06/07-11: Carl Mazzola determine proper BOI placement for Brown/Wehrenberg as well as determine compliance with vote sharing policy for multiple representation.

With recent job changes of N17 members, the committee balance of interest was found to be minimally out of compliance. Tawfik Raby agreed to work on the balance of interest.

Action Item 06/07-12: Tawfik Raby to work on bringing the N17 Committee Balance of Interest into compliance.

Because of the outstanding issues on the balance of interest,

a **MOTION** was made, seconded, and passed without dissent that certification for the balance of interest of N16, N17, NFSC, and RISC would be achieved via email.

## **8. Standards Service Award**

### 2007 Recipient

Mike Wright announced that the Standards Service Award Ad Hoc Committee (Mike Wright – chair, Prasad Kadambi, Chuck Moseley) selected Dr. William Whittemore posthumously for the 2007 Standards Service Award.

A **MOTION** was made, seconded, and passed without dissent to accept the ad hoc committee's selection.

### 2008 Ad Hoc Committee Appointment

As one ad hoc member felt it necessary to decline as they were nominated, Mike Wright suggested waiting until nominations were received before determining the full ad hoc committee. The SB was reminded that the recipient of the award usually served as the next ad hoc chair. With the award being received posthumously, it was not an option.

A **MOTION** was made, seconded, and passed without dissent for the Standards Board Chair to appoint subsequent Standards Service Award Ad Hoc Committee Chairs.

### Policy Update on Nominations of Previous Recipients

Kadambi informed the SB that one of the nominees for the Standards Service Award had previously received the award nine years prior. The question was posed whether this individual should be eligible for the award. Kadambi proposed a motion be made to require at least 10 years before the award can be duplicated. Several members preferred that the option of repeat nomination be available to the ad hoc committee with SB approval.

A **MOTION** was defeated to add criterion for that the Standards Service Award be that it is not given to the same recipient within a 10 year period.

A **MOTION** was made, seconded, and passed without dissent for the Standards Service Award Ad Hoc Chair to select two additional Standards Board members to serve on the ad hoc committee after nominations are received.

## **9. Secretary's Reports**

The Secretary's Reports are **Attachments E, F, and G** to these minutes. Pat Schroeder informed the SB that she was approached by a staff member of Scientech about a project they called "Advantage." If agreements could be reached with all standards developing organizations, the program would be marketed as a subscriber service providing links to download all standards/documents referenced in the NRC's Standards Review Plan. ANS staff requested Scientech to provide a written proposal for consideration. The SB agreed that ANS needed to be responsive to users and would consider the proposal if and when presented.

## **10. Consensus Committee Reports**

### RISC – Bill Burchill, Chair (RISC Report – Attachment H)

Bill Burchill reported that since the last SB meeting ANSI/ANS-58.21-2007, "External-Events in PRA Methodology, was approved and published. All negative were able to be reversed.

Burchill explained that the Low Power Shutdown Standard (ANS-58.22) was being restructured. Nearly all comments were resolved with the remaining comment responses to be completed shortly. Burchill explained that new working group members would be appointed to prepare the qualitative assessment. He expects the draft standard would be ready for re-ballot in the third quarter of 2007 and submitted to the integrated process once consensus was determined. The SB was in agreement to wait until consensus was reached to insure the integrity of the work.

Burchill stated that the Fire PRA Standard (ANS-58.23) was much in demand by the industry. The draft was revised for re-ballot expeditiously. The re-ballot resulted in only one negative, not expected to be a problem but would require a recirculation ballot. Target completion date might change slightly because of the recirculation ballot.

Burchill reported that the Level 2 PRA Standard (ANS-58.24) was meeting in parallel with the SB meeting. The basic structure of capability categories were adapted from the Level 1 PRA standards. Some technical issues remain. Burchill stated that he was still working to secure funding for the Level 2 and Level 3 groups. The Level 3 PRA Standard (ANS-58.25) would be meeting the following day. There had been little progress since the last SB meeting. Burchill estimated that drafts for both projects could be completed within two years, but it was uncertain whether either would be ready for ballot at that time.

Peter Hastings questioned whether new reactors would be included in Level 2/Level 3 PRA standards. Burchill did not believe that either scope included new reactors. Pat Schroeder was asked to distribute the approved PINS of both projects to the SB for clarification.

Action Item 06/07-13: Pat Schroeder to distribute the approved PINS of ANS-58.24 and ANS-58.25 to the Standards Board.

Interfaces with the NRMCC:

Burchill stated that the NRC had placed a high priority on completion of the Level 1 Integrated Standard. Since the last SB meeting, the NRMCC had one full day meeting and one teleconference. Burchill reported that we had provided support to the integration effort by assigned integration liaisons. Burchill and ASME CNRM Chair, Rick Grantom, reviewed rosters and found six individuals with joint membership on ANS RISC and ASME CNRM. Burchill reported that two of these individuals on both committees had been selected as liaisons. He explained that he would have to step down as RISC Chair in order to assume his responsibilities as ANS Vice President/President Elect.

#### NFSC – Carl Mazzola – (NFSC Report – Attachment I)

Carl Mazzola reported that the NFSC held a meeting the previous day. The new INPO liaison, Rick Doremus, was able to attend. Peter Hastings agreed to represent NuStart. Mazzola explained the restructuring of NFSC was to better position the NFSC to develop standards for new reactors. A vice chair position was created for each subcommittee. The subcommittee on Emergency Preparedness and the subcommittee on Decommissioning & Site Remediation were eliminated. Standards assigned to these subcommittees were reassigned. Subcommittee ANS-29, chaired by Don Spellman, was established to develop standards for new initiatives. A list of proposed standards for the new subcommittee was in the works. The restructuring required about five drafts and was approved with one negative. It is felt that the NFSC structure was ready for the nuclear renaissance.

Calvin Hopper asked how Subcommittee ANS-24, Modeling & Analysis, felt about the PINS for new project, ANS-10.7, "Non-Real Time, High Integrity Software for the Nuclear Industry." Mazzola stated that he would have to check with the subcommittee chair.

Action Item 06/07-14: Carl Mazzola to consult with Andy Wehrenberg (ANS-24 Chair) for comments on the ANS-10.7 PINS.

Mazzola reported that there had been much industry interest in draft standards ANS-2.27, "Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments," and ANS-2.29, "Probabilistic Seismic Hazard Analysis." They are part of a four pack with ANSI/ANS-2.26-2004, "Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design," and ANSI/ASCE/SEI 43-05, "Seismic Design Criteria for Structures, Systems and Components in Nuclear Facilities." ANS-2.29 had just been sent out to ballot while ANS-2.27 was resolving ballot comments. Because of extenuating circumstances, both drafts were provided to two users with disclaimers. Prasad Kadambi suggested that a policy for these cases may be needed at some point, but for now, we would handle on a case by case basis. Additionally, Mazzola reported that new standard ANS-41.5, "Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation," was finishing comment resolutions, and two new PINS were recently submitted; ANS-2.6, "Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Power Reactor Sites," and & ANS-58.16, "Safety and Pressure Integrity Classification Criteria for Nuclear Facilities Other Than Large Nuclear Reactors."

#### N17 – Tawfik Raby (N17 Report – Attachment J)

Tawfik Raby stated that his committee remains very busy and provided a written report of activities. The report acknowledged the publication of ANSI/ANS-6.4-2007, "Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants," and ANSI/ANS-6.4.2-2007, "Specification for Radiation Shielding Materials." ANSI/ANS-15.1-2007, "The Development of Technical Specifications for Research Reactors," was in production to be published shortly. Additionally N17 approved four PINS and one draft currently resolving committee comments.

#### N16 – Calvin Hopper

Calvin Hopper reported that the N16 Committee held a meeting the previous day. N16 discussed 16 standards in terms of how the use of "shall" and "should" was applied. ANSI/ANS-8.24-2007, "Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations," ANSI/ANS-8.26-2007, "Criticality Safety Engineer Training and Qualification Program," as well as, revised standard ANSI/ANS-8.23-2007, "Nuclear Criticality Accident Emergency Planning and Response," were recently approved. New standard ANS-8.27, "Burnup Credit for LWR Fuel," was sent out for ballot. All communities had a different perspective how to handle. The standard attempted to unify. Hopper stated that N16 was nearing its last draft of its committee policies and procedures.

Hopper explained that ISO had an agreement with IAEA but that there had been no execution until recently. He reported that he was asked to oversee the nuclear criticality ISO/TC 85 collaboration with IAEA. Approvals would have to go through the member states but would not go through a consensus process. Hopper stated that ANS-8 standards were the most comprehensive documents on nuclear criticality safety and that we perhaps had an opportunity to work with IAEA.

#### **11. Liaison Reports**

Prasad Kadambi stated that as SB Chair he attended the President's Meeting along with the chairs of other standing committees and felt that this should be included under liaison reports. Discussions of interest to the Standards Committee included improvements to IT services and video conferencing.

Steve Stamm suggested that Kadambi could also serve as Operations & Power Division (OPD) liaison as well. Kadambi agreed and informed the SB of OPD's first pilot for a training track the



following day. He reported that Sandra Sloane with AREVA was chairing a session on licensing. The training tracks would be more developed by the November 2007 meeting when he would be providing a track on codes and standards with the hopes of getting more individuals interested in standards.

Stamm reported that he attended a session with discussion on the ASME codes & standards the previous day. ASME showed a table of how many certificates the US had in the heyday. While the number of certificates had recently grown, they were down considerably from the past.

## **12. Addenda, Supplements or Errata Sheets (Raby)**

Tawfik Raby explained that N17 had several standards with only a few changes and recommended a format of addendum or supplement be considered opposed to revising and reprinting the complete document. Prasad Kadambi stated that it was an issue we really needed to consider. Calvin Hopper suggested revising and issuing electronically. Pat Schroeder stated that regardless of the format, ANSI required that changes to standards go through the complete consensus process that included a PINS, ballot with public review, and final approval. Schroeder added that several other standards developing organizations issue addenda or supplements and that ANS would need to revise their procedures to follow suit.

A few of the members suggested an electronic change sheet with published announcements. The SB agreed that they would need to address the situation as we moved closer to a paperless society.

Schroeder offered a suggestion to ballot only the changes to revisions of current standards explaining that other societies use this to reduce the amount of text consensus committees had to review thus reducing the number of comments to be resolved.

Raby stated that his inquiry into addenda/supplements was initiated when several recent N17 PINS noted minor changes. Calvin Hopper recalled a few of these PINS where a single individual was responsible for the rewrite. The concern was that not enough expertise was available with only one writer. Hopper explained that he looked at the working group as having the subject matter expertise not necessarily available on the subcommittee or consensus committee.

## **13. Other Business**

### Reprocessing Facilities Technical Standards Committee

At the request of Carl Mazzola, Jeff Brault provided a brief presentation on the Reprocessing Facilities Technical Standards Committee under the new NFSC Subcommittee ANS-29 for new technology. Brault reported that the meeting held two days prior discussed front end facilities, spent fuel receipt, identification, storage, chemical processing facilities, MOX fuel fabrication facilities, and back end waste handling facilities. The new committee was seeking participation from other technical divisions and societies to have a broader source of input to develop standards. Spellman explained that NFSC members were asked to list needed standards under this new subcommittee. A defined scope would need to be developed for the subcommittee. Tawfik Raby recommended coordination with other consensus committees. Mazzola suggested inviting reps from other committees to the next meeting, November 2007 in DC.

### ANS-10.4/ANS-10.7 PINS

Kadambi introduced Charles (Chip) Martin, working group chair of ANS-10.4, "Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry," and ANS-10.7, "Non-Real Time, High Integrity Software for the Nuclear Industry." Martin explained that ANS-10.4 was a current standard while ANS-10.7 was a proposed standard. PINS for the revision of ANS-10.4 and proposed standard ANS-10.7 were out for comment with the Standards Board. Because of concerns that the scope of ANS-10.7 overlapped other

committees, Martin proposed to create a coordinating committee for software/quality assurance. Kadambi suggested letting the PINS process run its course.

#### NRC/NEI

Kadambi informed the SB that Jennifer Uhle was trying to get standards developing organizations together. This was a revival of an idea from the previous Standards Executive, Mike Mayfield. Uhle would like to draw attention to standards. The SB was favorable to the positive attention for consensus standards. Several members expressed concerns that the NRC gave NEI guidance documents the same weight as consensus standards. As NEI was not bound by the requirements of the consensus process, they were able to provide a guidance document very timely. Kadambi stated that we needed to show the ability to meet the need. He felt one way to help expedite the standards development process would be securing funding to help support travel expenses for working groups. Kadambi would discuss the possibility of establishing a limited partnership to secure funding with Mary Beth Gardner.

Action Item 06/07-15: Prasad Kadambi to contact Mary Beth Gardner to discuss establishing a limited partnership to solicit funds.

#### Utilization of Standards Committee Member Resources

Kadambi informed the SB that he asked Steve Shepherd to develop a plan to utilize resources of retired Standards Committee members. With retirement, many of our most knowledgeable members lose company support for standards work and are forced to refrain from participation. Shepherd suggested that utilization of electronic technology could eliminate travel and expedite the comment process. Kadambi stated that the application was broader than just retirees and asked Shepherd to take his plan further and talk to IT Manager Joe Koblich and ANS standards staff.

Action Item 06/07-16: Pat Schroeder to distribute Steve Shepherd's plan to utilize electronic technology to expedite the standards development process to the SB.

Shepherd solicited members to help develop the plan. Mike Wright suggested that an ad hoc committee be put together to determine strengths and how we can think forward and anticipate for future needs. Kadambi said that he would forward an email from Peter Hastings on our strengths/weaknesses to encourage thought.

Action Item 06/07-17: Prasad Kadambi to distribute Peter Hastings' email on strengths/weaknesses to the SB.

Action Item 06/07-18: Mike Wright to provide a white paper on the strengths and weaknesses of the ANS standards program.

It was the sense of the SB that the time was right to implement changes as the Standards Committee was in a good position with support on many levels.

#### Disclaimer in Foreword of ANS Standards

Schroeder explained that she was asked by a working group chair to change the statement in the foreword of standards that had been used for forty years. The statement included the words: "This Foreword is not a part of American National Standard." The working group chair felt that the statement was misleading in that the foreword, while it does not include requirements, was important to the standard and should be considered part of it. Schroeder added that technically, ANSI does not consider the foreword part of the standard which is why the statement was

included. After a brief discussion, the SB determined that there was not sufficient benefit to changing the text.

#### Tables in ANS-6.4.3

Schroeder reported that the new working group chair of ANS-6.4.3, "Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials," asked if ANS would be able to provide the tables from the standard in a computer-readable format. The purpose would be for users to copy the nearly 100 pages of tables into their software opposed to key in the data. Schroeder explained that she had concerns about the copyright of the standard. As new and revised standards are published, each was made available in paper or PDF format. While SB members agreed that the PDF version of the standard could already be copied if you had the right type of software, providing it in an easily transferable means could be asking for users to break the copyright agreement. The SB asked Schroeder to check with the ANS lawyer for liability and copyright information.

Action Item 06/07-19: Pat Schroeder to check with ANS lawyer on protection of copyrighted information provided to users on CD in a computer-readable format.
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#### **14. Adjourn**

The meeting was adjourned at 5:17 p.m.

**American Nuclear Society  
Standards Board Action Items from ANS June 2007 Meeting**

Action Item	Description	Responsibility	Status
06/07-01	Prasad Kadambi to prepare a motion for Standards Board approval to maintain individual PRA standards.	Prasad Kadambi	Open
06/07-02	Mary Beth Gardner research who is the right person/committee to formally approve by signature the process document for approving the joint ANS/ASME standard.	Mary Beth Gardner	Open
06/07-03	ANS staff to revise ANS process document for releasing a joint PRA standard to add requirement that the joint standard would not be published without approval of both societies.	Mary Beth Gardner/ Pat Schroeder	Open
06/07-04	Pat Schroeder review Standards Steering Committee minutes for motion on determining consensus committee member's balance of interest disregarding funding and report back to the SB.	Pat Schroeder	Open  (done)
06/07-05	Calvin Hopper to prepare a written proposal with revised balance of interest categories for the November 2007 meeting.	Calvin Hopper	Open
06/07-06	Pat Schroeder to send action item reminders to the SB.	Pat Schroeder	On-going
06/07-07	Pat Schroeder to contact ANSI to confirm whether ISO standards are ANSI accredited.	Pat Schroeder	Open (done)
06/07-08	Carl Mazzola review RG 1.206 to confirm that ANS standards were referenced as suggested.	Carl Mazzola	Open
06/07-09	Pat Schroeder to check ANS Bylaws for guidance on using the ANS logo.	Pat Schroeder	Open
06/07-10	Consensus Committee Chairs to communicate to their committee members a sense of caution regarding use of the ANS logo with personal communication or correspondence.	Consensus Committee Chairs	Open
06/07-11	Carl Mazzola determine proper BOI placement for Brown/Wehrenberg as well as determine compliance with vote sharing policy for multiple representation.	Carl Mazzola	Open
06/07-12	Tawfik Raby to work on bringing the N17 Committee Balance of Interest into compliance.	Tawfik Raby	Open
06/07-13	Pat Schroeder to distribute the approved PINS of ANS-58.24 and ANS-58.25 to the Standards Board.	Pat Schroeder	Open (done)
06/07-14	Carl Mazzola to consult with Andy Wehrenberg (ANS-24 Chair) for comments on the ANS-10.7 PINS.	Carl Mazzola	Open (done)
06/07-15	Prasad Kadambi to contact Mary Beth Gardner to discuss establishing a limited partnership to solicit funds.	Prasad Kadambi/ Mary Beth Gardner	Open
06/07-16	Pat Schroeder to distribute Steve Shepherd's plan to utilize electronic technology to expedite the standards development process to the SB.	Steve Shepherd/ Pat Schroeder	Open
06/07-17	Prasad Kadambi to distribute Peter Hastings' email on strengths/weaknesses to the SB.	Prasad Kadambi	Open (done)
06/07-18	Mike Wright to provide a white paper on the strengths and weaknesses of the ANS standards program.	Mike Wright	Open
06/07-19	Pat Schroeder to check with ANS lawyer on protection of copyrighted information provided to users on CD in a computer-readable format.	Pat Schroeder	Open
11/06-01	Prasad Kadambi develop framework for approval by ANS and ASME Boards regarding the activities called for in the discussions between ASME representatives and the ANS Board as recorded in these minutes.	Prasad Kadambi	Closed

11/06-02	Prasad Kadambi assign appropriate Standards Committee members to review and report back to SB on the information that ASME provides on System Based Codes.	Prasad Kadambi	Closed
11/06-03	Chuck Moseley to send Calvin Hopper ASME's definitions for balance of interest.	Chuck Moseley	Closed
11/06-06	Bill Burchill to check with Rick Grantom about a PINS form for the integrated standard.	Pat Schroeder	Open
11/06-08	Prasad Kadambi contact Dimitrios Cokinos and Mike Wright about serving on the 2007 SSA Nomination Committee.	Prasad Kadambi	Closed
6/06-06	Don Spellman with Prasad Kadambi develop letter to N17 with recommendation to recruit members from operating research reactors and the two national research reactors.	Don Spellman and Prasad Kadambi	Open
11/05-06	Calvin Hopper, chair ad hoc committee, to develop alternative balance of interest definitions (acceptable to ANSI) with Bill Burchill, Tawfik Raby, and Don Spellman.	Consensus Committee Chairs	Closed

## **ASME-ANS COLLABORATION**

Meeting on June 4, 2007: Ken Balkey, ASME  
Prasad Kadambi, ANS

### **Current**

Current collaboration covers PRA with NRMCC as the platform

### ***Currently Operating Plants***

1. Level 1 Integrated Standard
2. Level 2 Integrated Standard
3. Level 3 Integrated Standard

### **Current → Near Term**

Continue under NRMCC

### ***Advanced LWRs***

1. PRAs for design and construction
2. PRAs for safety analysis, operations (maintenance rule, significance determination process, 10 CFR 50.69)

ASME BNCS + ANS SB determine whether to continue under NRMCC

### ***Non-LWRs***

1. PRAs for design
2. PRAs for safety analysis

### ***Risk Applications***

1. Code Case N720 (Section III)
2. Load resistance factor design (Ralph Hill)

## **Near Term**

Move beyond NRMCC → to TBD platform

### ***Application standards***

### **Existing Activities**

1. Safety classification → ANS-58.14, currently deterministic
2. Quality assurance → ASME NQA-1 (design)  
ANS-3.2 (Operations)  
(Risk-informed evolution, Marion Smith, STP)

## **New Activities**

ANS will need new structures to match ASME activities to capitalize on collaborative efforts

### ***Education***

### **Existing ASME Activities**

Projects under way:

1. Training current force
2. Universities
3. K-12

## NRC REQUEST TO CONSIDER ANS/ASME JOINT PRA CONSENSUS COMMITTEE

### BACKGROUND

At its March 16, 2007 Nuclear Risk Management Coordinating Committee (NRMCC), the NRC provided information to the committee that addressed the current NRC support provide to the ASME CNRM and the ANS RISC. Mary Drouin, NRC and member of the NRMCC, indicated that there is substantial NRC support for all levels of PRA activity being conducted by ASME and ANS. However, she pointed out that resources are being stretched. As a result of the extensive effort being provided by the NRC, Drouin proposed that ANS and ASME look at the possibility of combining the CNRM and the RISC into one committee. This would help minimize the workload and perhaps promote more efficient processes to reach earlier success. After discussion, the following motion was made:

*That the ANS and ASME staff liaisons (Ennis and Gardner) explore the option of RISC and CNRM being combined into a single committee, co-chaired by both societies. The staffs' evaluation would identify the pros and cons and how the effort could be accomplished.*

The staffs were requested to report back to the NRMCC by May 18, 2007.

### ANS RESPONSE

In April 2007, ANS staff informed the Standards Board Chair, Prasad Kadambi, of the motion, and requested guidance. Kadambi, in turn, felt it appropriate to notify the ANS Standards Board (SB) of the NRMCC request, and sent an email to the SB on April 28, 2007. The memo is provided as reference:

"I requested Pat to forward the e-mail even though no action is required by the Board because I felt that the issues raised reached into areas that may not even be appropriate for the NRMCC to address as a coordinating body. I gather that support staff (Mary Beth and Kevin) have been charged with developing pros and cons on a matter that I do not think they can be expected to be thoroughly knowledgeable.

I spoke with Mary Beth, but did not ask her how she expected to go about meeting the task assigned by NRMCC. My instinct was that it could be a huge waste of time that we should not impose on ANS staff. We keep them sufficiently busy, I think you will agree. I do not know how ASME views this. One way to handle the matter, I thought, is for the ANS Board to say that the kind of radical action envisioned by this motion is outside the scope of NRMCC. If the rest of the Board members agree with this position, I am willing to schedule a conference call with Ken Balkey and say that ANS thinks that the NRMCC should drop this matter. If ASME believes that the information described by Mary Beth should be developed before reaching that conclusion, I'd say that somebody other than support staff should do it. Your views ASAP, please." Signed by Prasad Kadambi



As a result of the above, Gardner did not provide a response to the motion at the follow-up NRMCC conference call meeting, held on May 22. When the NRMCC addressed the motion again as Old Business, Gardner reported that preliminary discussion occurred with the ANS Standards Board Chair, and that the ANS SB Chair hoped to discuss this item with the ASME BNCS Chair, Ken Balkey. No discussion had occurred up to this time.

The NRMCC again asked for both staffs to prepare a document for discussion, not with the assumption that a combined committee will occur, but just to see what the pros and cons of such an effort might be.

## DISCOVERY

ANS staff gathered the following information in an effort address the motion:

### ANSI Position on Joint Consensus Committee

- ANSI does not address jointly developed standards in its ANSI Essential Requirements—ANSI would treat such a standards group as a new organization
- ANSI has no preference on the format used to produce a joint standard, but it must be developed by an accredited body
- Several organizations have develop joint standards. Those organizations have used a variety of methods to develop them. Some chose one or the other's accredited procedures, and some chose to develop the standard using both SDO's procedures
- The ANSI J-STD-0XX-200X joint numbering system is still used by a few SDOs but it is not recommended as it is believed that users prefer the designation of the standard to have the acronym of the developing society.

### Steps in Creating a Joint Consensus Committee

- Must receive approval of each Society's Board of Directors
- Must determine the joint committee scope
- Must investigate how to handle any liability issues should they arise, e.g, who is responsible should a member of the "public" sue the joint committee? Who is legally responsible?
- Need to determine if joint consensus committee would impact ANS 501(c)3 non-for-profit status
- Agreements on revenue sharing, production/printing, copyrights, recordkeeping, meeting arrangements and associated costs, ANSI submittals, ANSI audits, etc. must occur

- Membership of the joint committee must be determined (50% each organization?) How do you gain consensus with equal society representation?
- Leadership of the joint committee must be determined. A charter and bylaws are recommended
- Membership would need to be approved by each society's Standards Board
- Designation of standards to be developed needs to be determined (who's acronym or what acronym to be used?)
- Procedures would need to be written, approved, and accredited by ANSI.

#### Advantages to Forming a Joint Consensus Committee

- Potential savings of staff resources for the SDOs, although it could potentially result in additional staff time as an additional committee will require additional time/support and will have unique/new rules and procedures, creating greater attention to detail for supporting and managing two administrative processes
- Potential savings of volunteer resources for those individuals who have dual memberships on both consensus committees

#### Disadvantages to Forming a Joint Consensus Committee

- Significantly increased lead time to establish a new accredited committee
- Compromise on all issues required for consensus may not be possible
- Added difficulties could occur due to the requirement to maintaining the balance of interest with a shared membership
- Gaining consensus as a joint consensus could take more time due to differing viewpoints
- Additional costs to be incurred as membership fees for a joint committee would be required by ANSI, and audit fees would be additional as separate audit would be required

Also attached is a draft document prepared by Kevin Ennis, ASME staff, that identifies various methods to develop a joint standard. (Attachment 1).

#### REQUEST

ANS staff has been asked to respond to the NRMCC motion after discussion with its Standards Board in June.

## **FROM ASME**

Methods to develop a joint standard

### **One joint standard – two standards (consensus) committees**

In this method, each society establishes and maintains a standards committee charged with developing a joint standard.

**Advantages:** Each Society follows its normal practice and accredited procedures for developing standards.

**Disadvantages:** Inefficient use of resources in that each Society must establish and support a standards committee i.e., two different groups of volunteers and staff to support the development of one standard.

Unless both Societies are very, very similar in culture and style, there is a high probability that technical issues will be held up due to editorial style issues.

Unless the two Societies have a complimentary meeting/approval schedules, there is a high probability that conflicting schedules will delay approval e.g., if there is insufficient time between the meeting of the two committees, then items approved by one committee will not be considered by the second committee in a timely manner.

### **One joint standard – one standards (consensus) committees**

In this method, each society establishes and maintains the same standards committee charged with developing a joint standard.

**Advantages:** Each Society follows its normal practice and accredited procedures for developing standards.

**Disadvantages:** Unless both Societies are very, very similar in culture, policy and procedures, there is a high probability that the single committee will be unable to satisfy both Society's accredited procedures.

### **One joint standard – one standards (consensus) committees**

In this method, each society establishes and maintains the same standards committee charged with developing a joint standard. However, rather than using both Society's policies and procedures, a single set of policies and procedures are developed specifically for the joint standards committee. In this scenario, the joint standards committee would become an ANSI accredited committee.

Advantages: Allows a stream lined approach with each Society having maximum input.

Disadvantages: Requires a long lead time to establish the stand alone accredited committee.

The use of special policies and procedures disrupts the normal practices of both Societies.

### **One joint standard – one standards (consensus) committees**

In this method, one Society establishes and maintains a standards committee charged with developing a joint standard. The other Society acting in a supportive role provides technical experts and review of all proposals.

Advantages: Allows a stream lined approach for developing a standard.

Allows for a larger, more diverse pool of volunteers to support the activity than either Society could provide if acting independently.

Minimizes the impact of procedural and other non-technical issues.

Disadvantages: May cause the volunteers of the supporting Society to feel “left out” of the process.

**DRAFT**

**ANS PROCESS FOR RELEASING A JOINT PRA STANDARD**  
(Level 1 Integrated Standard – ASME Lead)

1. ANS identifies 2-4 individuals who would be the RISC champions on ASME CNRM.
2. The RISC Secretary will coordinate the development and communication of RISC comments.
3. The RISC champions will be the point person for the ANS comments on CNRM.
4. After resolution of comments, the comments and CNRM responses will be submitted to the ANS SB for review and approval.
5. If ANS Standards Board agrees that there was sufficient effort to resolve the ANS RISC comments/objections, then ANS SB would vote to approve moving forward with publication.
6. With ANS SB approval, a letter would be issued to ASME granting permission for ASME to use the ANS logo on the Level 1 integrated standard.

## **DRAFT**

### **ANS DUE PROCESS FOR RELEASING A JOINT PRA STANDARD (PRA Level 2 & 3 – ANS Lead)**

When the working group determines that a draft standard is ready for balloting, the following steps are taken:

1. ANS staff issues the draft standard to the RISC Committee for ballot with concurrent public review. (RISC Committee would now include 2-4 members from ASME CNRM as full members.)
2. ANS also provides draft to CNRM for distribution.
3. Ballot votes and comments are coordinated by the RISC Secretary.
4. The responsible working group responds to all comments and attempts to resolve all negative ballots.
5. After all comments have been responded to, the RISC Chair determines whether a re-ballot (or possibly recirculation ballot in the case of standing negatives) is necessary.
6. Responses provided from CNRM comments to ASME BNCS. With satisfaction of comment responses, BNCS to provide letter of permission to use their logo on the joint standard.
7. With determination of consensus and no substantive changes, the RISC Chair issues a release to the secretary permitting a letter ballot to be issued to the Standards Board for certification.
8. The consensus process is reviewed by ANSI's Board of Standards Review, and if satisfied, certifies that due process has been completed, permitting the standard to be issued as ANSI-certified.
9. Upon ANSI certification, the standard is published\*.

\*With the exception of the timing of public review, a near identical procedure would be required for the joint standard produced by ASME.

**DRAFT**

Attachment D1

**American Nuclear Society  
N16, NUCLEAR CRITICALITY SAFETY  
BALANCE OF INTEREST BY CATEGORY  
2007**

**Individuals (1)**

George H. Bidinger

**Government (5)**

Melanie A. Galloway, U.S. NRC  
Calvin M. Hopper, Oak Ridge National Lab.  
Burton Rothleder, U.S. DOE  
R. Michael Westfall, Oak Ridge National Lab.  
Robert E. Wilson, U.S. DOE

**Service Provide (2)**

Raymond L. Reed, Washington Safety Management Solutions  
Richard G. Taylor, INM Nuclear Safety Services

**SDOs/Industry Organizations (3)**

Robert S. Eby, AIChE Representative (Employed by MWH)  
Ronald Knief, Institute of Nuclear Materials Management (Employed by XE Corp.)  
Scott P. Murray, Health Physics Society (Employed by GE)

**University and Research Organizations (2)**

Robert D. Busch, University of New Mexico  
Ronald E. Pevey, University of Tennessee

**Vendors (3)**

Calvin D. Manning, AREVA-NP  
W. Randy Shackelford, Nuclear Fuel Services  
Larry L. Wetzel, BWX Technologies, Inc.

Total = 16 votes

<u>VoteSummary</u>	
Individuals	1
Government	5
Service Providers	2
SDO/Org	3
Univ. & Res.	2
Vendors	<u>3</u>
TOTAL	16

Revised 4-17-07

**DRAFT 4**

**AMERICAN NUCLEAR SOCIETY  
N17, RESEARCH REACTORS, REACTOR PHYSICS,  
RADIATION SHIELDING & COMPUTATIONAL METHODS  
BALANCE OF INTEREST BY CATEGORY  
2007**

Attachment D2

**Individuals (8)**

Robert E. Carter  
Brian K. Grimes  
William Holt  
William C. Hopkins  
Laurence Kopp  
Jack Olhoeft  
Seymour Weiss  
Abraham Weitzberg

**Government (7)**

Dimitrios Cokinos, Brookhaven National Lab.  
Matthew A Hutmaker, Jr., U.S. DOE  
Patrick Madden, U.S. NRC  
Tawfik Raby, National Institute of Standards & Technology  
Wade Richards, National Institute of Standards & Technology  
Theodore Schmidt, Sandia National Lab.  
Andrew Smetana, Savannah River National Lab.

**Owner/Operators (1)**

Ray Tsukimura, Aerotest Operations, Inc.

**SDOs/Industry Organizations (3)**

William H. Bell, AICE (Employed by South Carolina Electric & Gas Co.)  
Brian Dodd, HPS, IAEA (Employed by BD Consulting)  
James Miller, IEEE (GAMMA-METRICS) (Employed by James F. Miller Consulting Services)

**University and Research Organizations (1)**

Nolan Hertel, Georgia Institute of Technology

**Vendors (1)**

Anthony Veca, GA Technologies, Inc.

Total = 21 members

<u>Vote Summary:</u>	
Individuals	8
Government	7
Owner/Operator	1
SDOs/Org	3
Univ. & Res	1
Vendors	1
TOTAL	21



**American Nuclear Society  
Nuclear Facilities Standards Committee - NFSC  
Balance of Interest by Category  
2007**

**Individual (5)**

Timothy Dennis  
Tom Thomas  
William Reuland  
Robert Scott, Scott Enterprises  
John Stevenson, Stevenson & Associates

**Government (4)**

Richard Englehart, U.S. DOE  
N. Prasad Kadambi, U.S. NRC  
Sheila Lott, Los Alamos National Laboratory  
Donald Spellman, Oak Ridge Natl. Lab.

**Owner/operator (7)**

William Bell, South Carolina Electric & Gas Co.  
Charles Brown, Southern Nuclear Operating Co.  
Robert Bryan, Jr., Tennessee Valley Authority  
Richard Hall, Exelon Generation  
Peter Hastings, NuStart (Employed by Duke Energy)  
R. Michael Ruby, Constellation Energy  
Michael Wright, Entergy Nuclear South

**Service Provider (12 members w/11 votes)**

James August, CORE Inc.  
Jeffery Brault, Shaw MOX Project  
\*Kevin Bryson, Shaw Environmental & Infrastructure, Inc.  
\*Carl Mazzola, Shaw Environmental & Infrastructure, Inc.  
Donald Eggett, AES Engineering  
Richard Hill, ERIN Engineering and Research, Inc.  
Evan Lloyd, Exitech Corporation  
Jesse Love, Bechtel Power Corp.  
Donald Reynerson, Phoenix Index, Inc  
James Saldarini, Bechtel SAIC Company, LLC  
Steven Stamm, Shaw Stone & Webster  
Andy Wehrenberg, Southern Nuclear Operating Company

**SDOs/Industry Organizations (1)**

Charles Moseley, ASME NQA Liaison (Employed by BWXT Y-12)

**Vendors (5)**

Malcom LaBar, General Atomics  
Eric Loewen, General Electric  
Robert McFetridge, Westinghouse Electric Company  
Dennis Newton, AREVA-NP  
W. Norman Prillaman, AREVA-NP

Total = 34 members with 33 committee votes  
(\*shares one vote)

Vote Summary:

Individuals	5
Government	4
Owner/operator	7
Service Provider	11
SDOs/Org	1
Vendors	5
TOTAL	33

AMERICAN NUCLEAR SOCIETY  
RISK INFORMED STANDARDS CONSENSUS COMMITTEE (RISC)  
BALANCE INTEREST BY CATEGORY  
2007

**Individual (1)**

M.K. (Ravi) Ravindra, ABS Consulting, Inc. - retired

**Government (6 members with 5 votes)**

- Robert Bari, Brookhaven National Laboratory
- Richard Black, U. S. DOE, Office of Nuclear Safety Policy and Standards
- Robert J. Budnitz, Lawrence Livermore National Laboratory
- Allen Camp, Sandia National Laboratories
- \*Mary Drouin, U.S. NRC, Office of Nuclear Regulatory Research
- \*Mark Rubin, U.S. NRC, Office of Nuclear Reactor Regulation

**Owner/operator (3)**

- John P. Gaertner, Electric Power Research Institute
- Kenneth Kiper, FPL Energy Company
- Daniel W. (Bill) Stillwell, South Texas Project Nuclear Operating Company

**Service Provider (4)**

- Paul Amico, SAIC
- Rick A. Hill, ERIN Engineering and Research, Inc
- Gene Hughes, ETRANCO
- Jean Savy, Risk Management Solutions

**SDOs/Industry Organizations (2)**

- Biff Bradley, Nuclear Energy Institute
- Wayne Holmes, NFPA Liaison (Employed by HSB Professional Loss Control)

**University (2)**

- William Burchill, Texas A&M University
- Yehia F. Khalil, Yale University

**Vendor (4 members with 3 votes)**

- \*Frederick Emerson, General Electric
- \*Dennis Henneke, General Electric
- David Finnicum, Westinghouse (Combustion Engineering)
- Stanley Levinson, AREVA-NP

**Total = 22 members with 20 votes** (\*shares one vote: Drouin/Rubin for NRC, Emerson/Henneke for GE)

Vote Summary:

Individual	1
Government	5
Owner/Operator	3
Service Provider	4
SDOs	2
University	2
Vendor	3
 Total	 20

## Staff Report June 2007

Attachment E

### Standards Development (11/15/06 – 6/8/07)

Standard Proposals: Eight Project Initiation Notification System (PINS) forms were recently submitted to ANSI. Proposed standards include revisions to four current standards, three revisions of withdrawn standards, and one new standard.

Projects at Ballot: Eighteen ballots have been administered since the last meeting that included ten reaffirmations, five revisions, and three new standards. Eleven of these ballots are either currently open or involved in resolving ballot comments. Five ballots remain open from previous periods resolving numerous/negative comments. The 18 ballots represent a significant increase over past periods.

ANSI Approvals: The American National Standards Institute granted final approval as an American National Standard to eight reaffirmations, three revised standards, and one new standard. The following standards are in production and should be available for purchase July 2007:

- ANSI/ANS-8.23-2007, "Nuclear Criticality Accident Emergency Planning and Response" (revision of ANSI/ANS-8.23-1997)
- ANSI/ANS-15.1-2007, "The Development of Technical Specifications for Research Reactors" (revision of ANSI/ANS-15.1-1990; R1999)

The following standards have recently been published:

- ANSI/ANS-3.2-2006, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants" (revision of ANSI/ANS-3.2-1994; R1999)
- ANSI/ANS-6.4-2006, "Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants" (revision of ANSI/ANS-6.4-1997; R2004)
- ANSI/ANS-6.4.2-2006, "Specification for Radiation Shielding Materials" (revision of ANSI/ANS-6.4.2-1984; R1997; R2004)
- ANSI/ANS-8.24-2007, "Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations" (new standard)
- ANSI/ANS-58.21-2007, "External Events PRA Methodology" (revision of ANSI/ANS-58.21-2003)

### Standards Committee Open Clarifications:

The Standards Committee has the following open clarifications:

- ANS-3.5-1985 – NFSC Subcommittee ANS-21, Inquiry received 12/12/05
- ANS-6.6.1-1991 – N17 Subcommittee ANS-6, Inquiry received 4/3/07
- N18.1-1971/ANS-3.1 – NFSC Subcommittee ANS-21, Inquiry received 2/1/06
- ANS-56.8-2002 – NFSC Subcommittee ANS-21, Inquiry received 10/19/06
- ANS-57.1-1992 (R2005) – NFSC Subcommittee ANS-27, Inquiry received 1/8/07
- ANS-58.2-1988 – NFSC Subcommittee ANS-24, Inquiry received 11/28/05  
-- errata open from 2004 completed clarification

### Annual Activities Report

The 2006 Standards Committee Report of Annual Activities has been published. The Report is available on the Standards Resource page of the ANS Web site.

### Online Volunteer Database

Work has begun on the set-up of the online standards volunteer database. The database will provide interested individuals the ability to submit their volunteer form on-line and choose subcommittees of interest to them. A notice of interest will be sent directly to the responsible subcommittee chair and the Standards Department when a volunteer form is submitted. Existing Standards Committee members will be provided information to create password protected access to update their information. Many details will need to be worked out. Standards staff will meet with the IT department to discuss needs.

### Department Remodel

During the month of February the Standards Department was temporarily relocated for a scheduled remodel. The remodel was the perfect opportunity to “clean house” and reorganize the department. The remodel went smoothly, and we are enjoying the new digs.

### ANSI

Standards staff attended the April 2007 ANSI Organizational Membership Meeting at the American Dental Association in Chicago, IL. Staff from about 25 SDOs attended the meeting. Of specific interest was a presentation from Kavi on electronic balloting, record keeping, and comments. The Kavi product is high end. Standards staff will research other electronic balloting software for consideration.

### ICONS/NSN

Six of the eight remaining ICONS members renewed their membership for 2006. A new promotional brochure has been drafted and a mailing is anticipated in the September/October time frame. NSN retained eight of its ten subscribers. This year the newsletter was available to subscribers electronically by completing an online agreement form. It is hoped that the industry renaissance will increase membership in both programs.

### Standards Sales

The current sales report shows nearly \$40,000 of gross sales. This represents a very good period attributed partly to a 20% across the board increase in individual purchase prices and several newly published standards adding to the bottom line.

### Proposed Scientech “Advantage” Program

A representative from Scientech approached standards staff with a new service they called “Advantage.” The service would provide links to download all standards/documents referenced in the NRC’s Standards Review Plan to subscribers. In order to implement this service, Scientech would need agreements from all SDOs to provide electronic links to referenced standards/documents. Standards staff asked Scientech to provide a written proposal for consideration.

### Microsoft Word Documents of Standards

As of nearly two years ago, Word documents of all newly published standards are retained by the Standards Department. The Word documents are provided by our typesetter after editorial changes and formatting have been completed and are available upon request. The Word documents should reduce working group efforts in revising a standard.

### Teleconference Services

While previously announced, few ANS Standards Committee groups have made use of the free teleconferencing services available through ANS. The service remains available to small groups for ANS related work by contacting the Standards Department staff.

# Project Activity Report

6/11/2007

Attachment F

## NFSC

ANS- 2 . 3	Determining Tornado and Other Extreme Wind Characteristics at Nuclear Facility Sites	ANS-25	John D. Stevenson	WG Writing Draft
ANS- 2 . 6	Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Power Reactor Sites	ANS-25	Barbara Mohrman	PINS Development
ANS- 2 . 9	Evaluation of Ground Water Supply for Nuclear Facilities	ANS-25	James S. Bollinger	WG Writing Draft
ANS- 2 . 15	Criteria for Modeling and Calculating Atmospheric Transport of Routine Releases from Nuclear Facilities	ANS-24	Doyle Pittman & Cliff Glantz	WG Writing Draft
ANS- 2 . 16	Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities	ANS-24	Doyle Pittman / Cliff Glantz (co-chairs)	WG Writing Draft
ANS- 2 . 17	Evaluation of Radionuclide Transport in Ground Water for Nuclear Facilities	ANS-25	James Bollinger	WG Writing Draft
ANS- 2 . 21	Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	ANS-25	Doyle Pittman & Cliff Glantz (co-chairs)	WG Writing Draft
ANS- 2 . 22	Environmental Radiological Monitoring at Nuclear Facilities	ANS-25	Peter Fledderman	WG Writing Draft
ANS- 2 . 27	Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	ANS-25	Kathryn L. Hanson	CC Ballot Comment w/ WG
ANS- 2 . 29	Probabilistic Seismic Hazard Analysis	ANS-24	Jean Savy	WG Writing Draft
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	Joe Litehiser	WG Writing Draft
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	Timothy Dennis	WG Writing Draft
ANS- 3 . 7 . 1	Facilities and Medical Care for On-Site Nuclear Power Plant Radiological Emergencies	ANS-21	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 1	Criteria for Radiological Emergency Response Functions and Organizations	ANS-25	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 2	Criteria for the Functional and Physical Characteristics of Radiological Emergency Response Facilities	ANS-21	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 3	Criteria for Radiological Emergency Response Plans and Implementing Procedures	ANS-25	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 4	Criteria for Maintaining Radiological Emergency Response Capability	ANS-21	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 5	Criteria for Emergency Radiological Field Monitoring, Sampling and Analysis	ANS-24	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 6	Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response for Nuclear Power Plants	ANS-25	Patricia (Trish) Milligan	PINS Development
ANS- 3 . 8 . 10	Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities	ANS-24	Doyle Pittman & Cliff Glantz (co-chairs)	WG Writing Draft
ANS- 3 . 12. 3	Decommissioning of Nuclear Production and Utilization Facilities: Operator Training	ANS-21	Don Eggett	WG Writing Draft
ANS- 5 . 4	Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	ANS-24	Carl E. Beyer	WG Writing Draft
ANS- 18. 1	Radioactive Source Term for Normal Operation of Light Water Reactors	ANS-24	Jim Sejvar	WG Writing Draft

ANS- 40. 21	Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds	ANS-25	Daniel Hang	PINS Development
ANS- 40. 35	Volume Reduction of Low-Level Radioactive Waste or Mixed Waste	ANS-27	Dennis Ferrigno	PINS Development
ANS- 40. 37	Mobile Low-Level Radioactive Waste Processing Systems	ANS-27	Clint Miller	CC Ballot Comment w/ WG
ANS- 41. 5	Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	ANS-24	Saleem Salaymeh	CC Ballot Comment w/ WG
ANS- 53. 1	Nuclear Safety Criteria for the Design of Modular Helium-Cooled Reactor Plants	ANS-28	Malcolm LaBar (Jim August - VChair)	WG Writing Draft
ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	Jim Glover	PINS Development
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. 3	Physical Protection for Nuclear Safety-Related Systems and Components	ANS-22	John Stevenson	Ballot @ CC
ANS- 58. 14	Safety and Pressure Integrity Classification Criteria for Light Water Reactors	ANS-22	Mark Linn	WG Writing Draft
ANS- 58. 16	Safety and Pressure Integrity Classification Loads and Behavior Criteria for Nuclear Facilities Other Than Large Nuclear Reactors	ANS-22	John D. Stevenson	CC PINS Comment w/WG
ANS- 59. 51	Fuel Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	OPEN	Ballot @ CC
ANS- 59. 52	Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	OPEN	Ballot @ CC

## **N16**

ANS- 8 . 1	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	ANS-8	Nick Brown & Doug Bowen (co-chairs)	PINS Development
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	Davis A. Reed	PINS Development
ANS- 8 . 7	Nuclear Criticality Safety in the Storage of Fissile Materials	ANS-8	Calvin M. Hopper	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	Dr. Debdas Biswas (effective 6/1/06)	PINS @ CC
ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	Norm L. Pruvost	WG Writing Draft
ANS- 8 . 19	Administrative Practices for Nuclear Criticality Safety	ANS-8	R.W. (Bill) Carson	PINS Development
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	Hans Toffer	PINS Development
ANS- 8 . 25	Development of Nuclear Criticality Safety Related Postings	ANS-8	Gerard F. Couture	CC PINS Comment w/WG
ANS- 8 . 26	Criticality Safety Engineer Training and Qualification Program	ANS-8	James A. Morman	Letter Ballot @ SB
ANS- 8 . 27	Brunup Credit for LWR Fuel	ANS-8	Dale Lancaster	CC Ballot Comment w/ WG

## N17

ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	Ian Gauld	PINS Development
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 (PhD)	PINS Development
ANS- 6 . 6 . 1	Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants	ANS-6	John C. Wagner	PINS Development
ANS- 10. 4	Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry	ANS-10	Charles (Chip) R. Martin	PINS @ SB
ANS- 10. 7	Non-Real Time, High Integrity Software for the Nuclear Industry	ANS-10	Dr. Charles Martin (Chip)	PINS @ SB
ANS- 15. 2	Quality Control for Plate-Type Uranium-Aluminum Fuel Elements	ANS-15	John Sease/Clinton Dana Cooper (co-chair	WG Writing Draft
ANS- 15. 4	Selection and Training of Personnel for Research Reactors	ANS-15	Tom Myers (per W. Richards email 10/10/06)	CC Ballot Comment w/ WG
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	Sean O'Kelly	WG Writing Draft
ANS- 15. 10	Decommissioning of Research Reactors	ANS-15	Sean O'Kelly	WG Writing Draft
ANS- 15. 11	Radiation Protection at Research Reactors (changed on 2006 PINS)	ANS-15	Steve Miller	WG Writing Draft
ANS- 15. 16	Emergency Planning for Research Reactors	ANS-15	Max Gildner	WG Writing Draft
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	Leo Bobek	WG Writing Draft
ANS- 15. 19	Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactors (Changed on 2006 PINS)	ANS-15	Charles McKibben	Ballot @ CC
ANS- 15. 20	Criteria for the Reactor Control and Safety Systems of Research Reactors	ANS-15	R.C. Nelson	PINS Development
ANS- 15. 21	Format and Content for Safety Analysis Reports for Research Reactors	ANS-15	Alexander Adams	SB PINS Comments w/ WG
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	Bob Little	WG Writing Draft
ANS- 19. 6 . 1	Reload Startup Physics Tests for Pressurized Water Reactors	ANS-19	C.T. Rombough	WG Writing Draft
ANS- 19. 9	Delayed Neutron Parameters for Light Water Reactors	ANS-19	Mikey Brady Raap	WG Writing Draft
ANS- 19. 10	Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals	ANS-19	Lambros Lois	WG Writing Draft

## RISC

ANS- 58. 22	Low Power and Shutdown PRA Methodology	RISC	Don Wakefield	CC Ballot Comment w/ WG
ANS- 58. 23	Standard on Methodology for Fire PRA	RISC	Dennis Henneke	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





# Status of Standards

6/11/2007

## 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	10/21/2002		11/21/2007	NONE
ANS- 2 . 3	Determining Tornado and Other Extreme Wind Characteristics at Nuclear Facility Sites	ANS-25	Active Project				WG Writing Draft
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 and Forecasting Future Population Distributions Surrounding Power Reactor Sites	ANS-25	Active Project				PINS Development
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	Historical				NONE
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		4/14/2008	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	Historical				NONE
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 Transport of Routine 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 Radionuclide Transport in Ground Water for Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 18	Standards for Evaluating Radionuclide Transport in Surface Water for Nuclear Power Sites	ANS-25	Active Project				NONE

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				WG Writing Draft
ANS- 2 . 22	Environmental Radiological Monitoring at Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 23	Nuclear Plant Response to an Earthquake	ANS-21	Current ANSI/ANS	5/6/2002		5/6/2007	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	Historical				NONE
ANS- 2 . 26	Categorization of Nuclear Facility Structures, Systems, and Components For Seismic Design	ANS-22	Current ANSI/ANS	12/02/2004			NONE
ANS- 2 . 27	Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	ANS-25	Active Project				CC Ballot Comment w/ WG
ANS- 2 . 28	Nuclear Material Facility Design Against Natural Phenomena	ANS-25	Inactive Project				NONE
ANS- 2 . 29	Probabilistic Seismic Hazard Analysis	ANS-24	Active Project				WG Writing Draft
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	Current ANSI/ANS	2/4/1999	12/31/2007	12/31/2007	NONE
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	NONE
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		7/23/2007	NONE
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	Current ANSI/ANS	4/15/1998	4/14/2008	4/15/2008	WG Writing Draft
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-21	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				PINS Development
ANS- 3 . 8 . 2	Criteria for the Functional and Physical Characteristics of Radiological Emergency Response Facilities	ANS-21	Active Project				PINS Development

ANS- 3 . 8 . 3	Criteria for Radiological Emergency Response Plans and Implementing Procedures	ANS-25	Active Project					PINS Development
ANS- 3 . 8 . 4	Criteria for Maintaining Radiological Emergency Response Capability	ANS-21	Active Project					PINS Development
ANS- 3 . 8 . 5	Criteria for Emergency Radiological Field Monitoring, Sampling and Analysis	ANS-24	Active Project					PINS Development
ANS- 3 . 8 . 6	Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response for Nuclear Power Plants	ANS-25	Active Project					PINS Development
ANS- 3 . 8 . 7	Criteria for Planning, Development, Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness	ANS-25	Current ANSI/ANS	1/30/1998	1/29/2008	1/29/2008		NONE
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	Active 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					WG Writing Draft
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	7/7/2003		7/7/2008		NONE
ANS- 18. 1	Radioactive Source Term for Normal Operation of Light Water Reactors	ANS-24	Current ANSI/ANS	9/21/1999	12/31/2007	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- 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					PINS Development
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	Active Project					CC Ballot Comment w/ WG
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	7/25/2002		7/25/2007	NONE
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 for the Design of Modular Helium-Cooled Reactor Plants	ANS-28	Active Project	WG Writing Draft
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 Metal Reactor Nuclear Power Plant	ANS-21	Historical	NONE

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. 4	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	6/7/2000	12/31/2008	12/31/2008		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		11/27/2007	PINS Development
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	Withdrawn	5/28/1997	5/27/2007		NONE
ANS- 57. 8	Fuel Assembly Identification	ANS-27	Current ANSI/ANS	1/12/2005		1/12/2010	NONE
ANS- 57. 9	Design Criteria for an Independent Spent Fuel Storage Installation (Dry Type)	ANS-27	Current ANSI/ANS	6/7/2000	12/31/2008	12/31/2008	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	10/28/1998		10/28/2008	Ballot @ CC
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	12/31/2009	12/31/2009	NONE
ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	Current ANSI/ANS	7/23/2001	12/31/2009	12/31/2009	NONE
ANS- 58. 9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	ANS-22	Current ANSI/ANS	8/14/2002		8/14/2007	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		7/23/2007	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				WG Writing Draft
ANS- 58. 15	Criteria for Severe Accident Evaluation	ANS-24	Inactive Project				NONE
ANS- 58. 16	Safety and Pressure Integrity Classification Loads and Behavior Criteria for Nuclear Facilities Other Than Large Nuclear Reactors	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		8/30/2007	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	10/23/1997	10/22/2007	10/22/2007	Ballot @ CC
ANS- 59. 52	Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	Current ANSI/ANS	4/15/1998	4/14/2008	4/14/2008	Ballot @ CC
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

## **N16**

<b>Designation</b>	<b>Title</b>	<b>Subcommittee</b>	<b>Status</b>	<b>ANSI Approval Date</b>	<b>Extension Date</b>	<b>Action Needed By</b>	<b>Project Activity</b>
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	PINS Development
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		6/12/2008	PINS Development
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	12/31/2009	12/31/2009	NONE
ANS- 8 . 7	Nuclear Criticality Safety in the Storage of Fissile Materials	ANS-8	Current ANSI/ANS	12/2/1998	12/1/2008	12/1/2008	CC Ballot Comment w/ WG
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	12/31/2007	12/31/2007	PINS @ CC
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		5/25/2009	NONE
ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	Current ANSI/ANS	7/15/2005		7/15/2010	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	11/03/2004		11/3/2009	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	PINS Development
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	12/31/2009	PINS Development
ANS- 8 . 22	Nuclear Criticality Safety Based on Limiting and Controlling Moderators	ANS-8	Current ANSI/ANS	12/8/2006		12/8/2011	NONE
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				CC PINS Comment w/WG
ANS- 8 . 26	Criticality Safety Engineer Training and Qualification Program	ANS-8	Active Project				Letter Ballot @ SB

**N17**

<b>Designation</b>	<b>Title</b>	<b>Subcommittee</b>	<b>Status</b>	<b>ANSI Approval Date</b>	<b>Extension Date</b>	<b>Action Needed By</b>	<b>Project Activity</b>
ANS- 1	Conduct of Critical Experiments	ANS-1	Current ANSI/ANS	3/23/2000	12/31/2008	12/31/2008	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	PINS Development
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	2/11/1999	2/10/2009	2/10/2009	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	PINS Development
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	Criteria for Post Accident Radiological Control	ANS-6	Inactive Project				NONE
ANS- 6 . 9	Designing for Post-Accident Radiological Conditions		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	12/20/2000	12/31/2008	12/31/2008	NONE
ANS- 10. 3	Documentation of Computer Software	ANS-10	Historical				NONE
ANS- 10. 4	Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry	ANS-10	Current ANSI/ANS	8/12/1998	8/11/2008	8/11/2008	PINS @ SB
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				PINS @ SB
ANS- 14	Fast Pulse Reactors	ANS-14	Inactive Project				NONE
ANS- 14. 1	Operation of Fast Pulse Reactors	ANS-14	Current ANSI/ANS	4/23/2004		4/23/2009	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	3/11/1999	12/31/2007	12/31/2007	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	7/12/1999	7/12/2009	12/31/2007	CC Ballot Comment w/ WG
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	Active Project				WG Writing Draft
ANS- 15. 11	Radiation Protection at Research Reactors (changed on 2006 PINS)	ANS-15	Current ANSI/ANS	5/27/2004		5/27/2009	WG Writing Draft

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	5/3/2000	12/31/2008	12/31/2008		WG Writing Draft
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	Current ANSI/ANS	5/3/2000	12/31/2008	12/31/2008		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 Reactors (Changed on 2006 PINS)	ANS-15	Active Project					Ballot @ CC
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		SB PINS Comments w/ WG
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		7/23/2007		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		NONE
ANS- 19. 3 . 4	The Determination of Thermal Energy Deposition Rates in Nuclear Reactors	ANS-19	Current ANSI/ANS	4/15/2002		4/15/2007		NONE
ANS- 19. 4	A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	ANS-19	Current ANSI/ANS	5/3/2000	12/31/2008	12/31/2008		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		WG Writing Draft
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	Active Project					WG Writing Draft
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Water Moderated Power Reactors	ANS-19	Current ANSI/ANS	12/17/2002	12/31/2007	12/31/2007		NONE
ANS- 19. 12	??Benchmark Project??	ANS-19	Inactive Project					NONE
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
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## RISC

Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 58. 21	External-Events PRA Methodology	RISC	Current ANSI/ANS	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	Standard on Methodology for Fire PRA	RISC	Active Project				CC Ballot Comment w/ WG
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
ANS- 18. 3 . 1	Entrainment: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms	Inactive Project	NONE
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
ANS- 18. 6	Discharge of Thermal Effluents into Surface Waters	Inactive Project	NONE
ANS- 18. 7	Control and Monitoring of the Discharge of Chemicals	Inactive Project	NONE
ANS- 18. 8	Guidelines for Environmental and Economic Analysis of the Regional Effects of Power Facilities	Inactive Project	NONE
ANS- 40. 6	Design Guide for a Radioisotope Laboratory (Type B)	Inactive Project	NONE
ANS- 40. 31	Collection and Storage of Waste for Disposal at Disposal Sites	Inactive Project	NONE
ANS- 40. 32	Compaction of Wastes for Disposal at Disposal Sites	Inactive Project	NONE
ANS- 60	Power Plant Productivity Definitions	Inactive Project	NONE



# Delinquent Standards

6/11/2007

## NFSC

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 2 . 23	Nuclear Plant Response to an Earthquake	ANS-21	5/6/2002		5/6/2007	NONE	Nuppsco ballot closed 9/30/97. Public review closed 11/28/97. ANSI approved standard on 5/6/2002.
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	2/4/1999	12/31/2007	12/31/2007	NONE	Approved as N18.1 1971; revised in 1978; second revision in 1981; third revision approved 5/19/87. Errata issued (pages 5 and 6) 5/88. Revision approved 4/23/93. Reaffirmed - ANSI approved 2/4/99. ANS-3.1-1981 and the 1988 version were referenced in Reg Guide 1.8. Requested extension from ANSI to 12/31/2004. (8/20/03) - ANSI granted extension until 12/31/2004. Requested 2nd extension from ANSI until 12/31/2007. Action Item 11/05-07 for Tim Dennis to find new WGC. Action Item 06/06-02: Mike Ruby to talk with Tim Dennis regarding ANSI/ANS-3.1-1999 to determine a path forward to keep current - closed at Nov 2006 meeting.
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	4/15/1998	4/14/2008	4/15/2008	WG Writing Draft	Approved 1979. Revised in 1981. Referenced in RG 1.149. Revised 10/25/85. Extended to 12/31/92 with new draft by 9/1/90. Revision approved 3/29/93. Revised 4/15/98. March 2002-Clarification submitted and completed; published in March 2002 Nuclear News. 3/24/03-WG is revising std. 03/13/03-ANSI granted ext. to 4/15/2005. NFSC PINS vote closed. WG preparing comment resolutions. ANSI granted last extension to 4/14/08. PINS sent to ANSI 6/29/06. Draft balloted by SC and comments being resolved before distribution to NFSC.

ANS- 3 . 8 . 7	Criteria for Planning, Development, Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness	ANS-25	1/30/1998	1/29/2008	1/29/2008	NONE	Proposed charter not approved at 3/89 meeting. Project charter approved June 1990. As of 1/97, the negative ballots have been withdrawn, but a determination of whether or not substantive changes have been made is needed. Approved 1/30/98. 3/31/03-ANSI granted last ext. to 12/31/2005. (7/21/03) - Requested extension from ANSI until 12/31/2008. (8/20/03) - ANSI granted LAST extension until 1/29/2008. Being considered for reaffirmation. Action Item 06/06-06: Charles Brown/Evan Lloyd to coordinate review of ANSI/ANS-3.8.7 to determine acceptability for reaffirmation. Transferred from ANS-26 Subcommittee to ANS-25 Subcommittee during 2007 NFSC restructuring -- ANS-26 eliminated.
ANS- 18 . 1	Radioactive Source Term for Normal Operation of Light Water Reactors	ANS-24	9/21/1999	12/31/2007	12/31/2007	WG Writing Draft	Approved as N237-1976. (Under ANS-5 management). Referenced in RG 1.112. Revised 12/31/84. Second extension to 12/31/93. Third extension to 12/31/94. (maximum extension). ANSI Withdrawn 2/13/95. Revised 9/21/99. (7/21/03) - Requested extension from ANSI until 12/31/07. (8/20/03) - ANSI granted extension until 12/31/2007. It was suggested for Andy Wehrenberg to contact Steve Stamm if he needed suggestions for new 18.1 chair at the June 2004 NFSC meeting. Per 11/11/04 e-mail from Andy Wehrenberg, Jim Seljvar has agreed to chair next revision. E-mail sent to Kadambi/Hill requesting GE/NRC member support - 11/24/04. Inquiry received June 2004 determined to be a clarification. Clarification issued 12/2004 resulting in need for errata. Errata issued 12/2005. PINS sent to ANSI 3/24/06. WG has been inactive over the last year plus due to lack of information on source term data. Jack Roe accepted action item to assist w/info through Ralph Anderson. 7/7/07: Email sent to Roe following up on data for WG.
ANS- 51 . 10	Auxiliary Feedwater System for Pressurized Water Reactors	ANS-22	7/25/2002		7/25/2007	NONE	Approved 1979. MC-1 suggests revision at 4/87 meeting; will be extensive working group meeting 11/17/87-NYPA. Extended to 12/31/89. 1979 standard withdrawn by ANSI 4/90. Revision approved 5/10/91. Extended to 12/31/98. ANSI admin withdrew on 5/7/2001, while standard was up for RF. ANSI approved RF on 07/25/2002.
ANS- 55 . 1	Solid Radioactive Waste Processing System for Light-Water-Cooled Reactor Plants	ANS-22	6/7/2000	12/31/2008	12/31/2008	NONE	Approved 1979. Referenced in RG 1.143. 5 year maintenance under way; 2nd extension to 12/31/89. 1979 version withdrawn by ANSI in 4/90. ANSI/ANS-55.1 approved 7/28/92. Reaffirmation sent to ANSI w/ 2 negatives on 4/18/00. Reaffirmed by ANSI on 6/7/00. (7/21/03) - Requested extension from ANSI until 12/31/05. (8/20/03) - ANSI granted extension until 12/31/2005. Second extension until 12/31/08. WGC (Don Gardner currently not active.)

ANS- 57. 9	Design Criteria for an Independent Spent Fuel Storage Installation (Dry Type)	ANS-27	6/7/2000	12/31/2008	12/31/2008	NONE	Approved 12/31/84. NUPPSCO ballot on revision close 10/19/88; awaiting resolution of negatives; extended to 12/31/90. Second extension to 12/31/91. Revised 05/14/92. Reaffirmed 6/7/2000. (7/21/03) - Requested extension from ANSI until 12/31/05. (8/20/03) - ANSI granted extension until 12/31/2005. Second extension until 12/31/08.
ANS- 58. 3	Physical Protection for Nuclear Safety-Related Systems and Components	ANS-22	10/28/1998		10/28/2008	Ballot @ CC	Approved 1977. 1997 version withdrawn 3/31/89. Revised 8/6/92. This revision includes draft material of 58.1 as Appendix B. Reaffirmed 10/28/98. First extension to 12/31/2005. 6/18/02-PINS to revise this std is in the works. (7/21/03) - Requested extension from ANSI until 12/31/05. (8/20/03) - ANSI granted extension until 12/31/2005. PINS submitted to ANSI for revision 6/10/03. John Stevenson agreed to be new WG Chair at June 04 NFSC meeting. Action Item 06/06-01: NFSC Members (especially vendors) send John Stevenson recommendations for ANS-58.3 Working Group Members. Standards transferred from Subcommittee ANS-21 to ANS-22 in 2007 restructuring. 6/5/07: J. Stevenson recommended reaffirmation for 58.3 and RF ballot distributed to NFSC with a due date of 8/6/07.
ANS- 58. 6	Criteria for Remote Shutdown for Light Water Reactors	ANS-21	8/31/2001	12/31/2009	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.
ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	7/23/2001	12/31/2009	12/31/2009	NONE	Approved 9/14/84. Combination of ANS-51.4 and 52.3. Under MC-1 Management; MC-1 met 9/28/88 to discuss future action. Extended to 12/31/93. Second extension to 12/31/94 (maximum extension). Revised 8/23/94. First extension to 12/31/02. Reaffirmed 7/23/01. Discussion at NFSC June 2004 meeting felt no new data available to warrant revision. ANSI granted extension until 12/31/09.
ANS- 59. 51	Fuel Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	10/23/1997	10/22/2007	10/22/2007	Ballot @ CC	N195-1976. Ref. in RG 1.137. 1976 version withdrawn 3/31/89. Revised 10/27/89. SSC approves PC June 1993. Extended to 12/31/96. Second extension to 12/31/99. Revised 10/23/97. Extension from ANSI until 12/31/2005. (7/21/03) - Requested extension from ANSI until 12/31/07. (8/20/03) - ANSI granted LAST extension until 10/22/2007. Action Item 06/06-04: Dennis Newton to coordinate review of ANSI/ANS-59.51-1997 and ANSI/ANS-59.52-1998 for reaffirmation with Mike Wright and Mike Ruby.

ANS- 59. 52 Lubricating Oil Systems for Safety- ANS-22 4/15/1998 4/14/2008 4/14/2008 Ballot @ CC  
 Related Emergency Diesel Generators

Drafts on file: 59.52-1990 Lube Oil Systems for Emergency Diesel Generators; August 1993 - (New) Lubricating Oil Systems for Emergency Diesel Generators for Light Water Reactors; August 1995 Lubricating Oil Systems for Safety Related Emergency Diesel Generators for Light Water Reactors. Working group meeting 5/92. Trying to complete draft for MC-1 for 4/93. Comments on responses sent 3/4/94. Ballot closed 5/5/94. Public review closed 7/12/94. Approved 4/15/98. Published 4/00. Requesting extension until 12/31/2005 from ANSI. ANSI approved extension until 12/31/2005. (7/21/03) - Requested extension from ANSI until 12/31/08. (8/20/03) - ANSI granted LAST extension until 4/14/2008. Action Item 06/06-04: Dennis Newton to coordinate review of ANSI/ANS-59.51-1997 and ANSI/ANS-59.52-1998 for reaffirmation with Mike Wright and Mike Ruby.

## N16

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 8 . 6	Safety in Conducting Subcritical Neutron-Multiplication Measurements in Situ	ANS-8	7/23/2001	12/31/2009	12/31/2009	NONE	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 activity in WG but recommends keeping the standard alive as long as there was someone interested. ANSI granted extension until 12/31/09. Tim Valentine retired as 8.6 WGC via email 5-7-07.
ANS- 8 . 7	Nuclear Criticality Safety in the Storage of Fissile Materials	ANS-8	12/2/1998	12/1/2008	12/1/2008	CC Ballot Comment w/ WG	Approved as N16.5-1975. Reaffirmed 1982. Reaffirmed 5/13/1987. (Ref. in RG 3.43). First extension to 12/31/94. Second extension to 12/31/97. Revised 12/2/98. (7/21/03) - Requested extension from ANSI until 12/31/2008. (8/20/03) - ANSI granted LAST extension until 12/1/2008. Per 11/05 minutes: No WG activity but Hopper looking for replacement for revision. RF ballot sent to N16 11/28/06 - due 1/31/07. C. Hopper resolving negative RF ballot comments.

ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	3/20/2002	12/31/2007	12/31/2007	PINS @ CC	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. PINS for revision in approval process - due from N16 7/11/07.
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	7/23/2001	12/31/2009	12/31/2009	PINS Development	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. Schlessers 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 revision currently at ANS-8.

## N17

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 1	Conduct of Critical Experiments	ANS-1	3/23/2000	12/31/2008	12/31/2008	NONE	Approved as N405-1975; reaffirmed & redesignated as ANS-1 in 1981; revised 6/24/87; reaffirmed 3/6/92. Revised-ANSI approved 3/23/2000. Extension requested from ANSI. (8/20/03) - ANSI granted first extension until 12/31/2005. 2nd extension until 12/31/08 granted.
ANS- 6 . 1 . 2	Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	ANS-6	2/11/1999	2/10/2009	2/10/2009	WG Writing Draft	Approved 8/19/83. Revised 12/12/89. Extended to 12/31/96. Second extension to 12/31/99. Revision approved 2/11/99. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI approved extension until 12/31/2005. 2/1/05-New WG Chair: Arzu Alpan (per Bill Hopkins). ANSI granted last extension to 2/10/09. PINS for revisions submitted. SB PINS comment resolutions due 5/27/06. PINS submitted to ANSI 5/25/06
ANS- 10. 2	Portability of Scientific and Engineering Software	ANS-10	12/20/2000	12/31/2008	12/31/2008	NONE	Approved originally as ANS-STD. 3-1971. Revised 1982. Revised 4/18/88. First extension to 12/31/95. Second extension to 12/31/98. Revised 12/20/00. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted extension until 12/31/2005. Second extension granted until 12/31/08. Portions of this standard will be incorporated into ANS-10.4, WGC/SCC deciding if this standard should be reaffirmed or allowed to be withdrawn per 11/02/05 email for AAR.

ANS- 10. 4	Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry	ANS-10	8/12/1998	8/11/2008	8/11/2008	PINS @ SB	Approved 5/13/87. First extension to 12/31/94. Second extension to 12/31/97. ANS-8 may take over as new project ANS-8.24. Reaffirmed 8/12/98. 7/19/02-PINS received to revise std. 02/07/03-PINS Notification in ANSI's publication on this date. (7/21/03) - Requested an extension from ANSI until 12/31/2004. (8/20/03) - ANSI granted extension until 12/31/2004. Per 2/2/06 email from C. Martin: Draft nearly done but WG questioning scope change and may submit new PINS -- may also consider reaffirmation. Last extension until 8/11/08. RV PINS submitted for scope change. June 2007: PINS w/SB.
ANS- 15. 2	Quality Control for Plate-Type Uranium-Aluminum Fuel Elements	ANS-15	3/11/1999	12/31/2007	12/31/2007	WG Writing Draft	Ref. in RG 2.3. Approved as N398-1974. Reaffirmed 1982. First extension to 12/31/89. Revised 3/30/90. First extension 12/31/98. Revised 3/11/99. Per Wade Richard's 1/9/03 letter: I asked John Sease to work on revising ANS 15.2. John will have a first revision of the standard to the chair by 8/1/03. The chair will send the draft to the committee for their review by 8/4/03. (7/21/03) - Requested extension from ANSI until 12/31/07. (8/20/03) - ANSI granted extension until 12/31/2007. PINS for rev of 1999 standard sent to ANSI 1/11/07. Ballot with revised standard distributed to N17 on 5/1/07 was withdrawn 6/4/07 due to comments received on draft that it was not ready.
ANS- 15. 4	Selection and Training of Personnel for Research Reactors	ANS-15	7/12/1999	7/12/2009	12/31/2007	CC Ballot Comment w/ WG	Approved 1977. Revised 6/9/88. First extension to 12/31/95. Second extension to 12/31/98. Hope to have draft of revision by 6/97 and get draft to N17 by 10/97. Reaffirmed 7/12/99. Per Wade Richard's 1/9/03 letter: Tawfik will have the standard ready to send to N17 by 6/30/03.(7/21/03) - Requested extension from ANSI until 12/31/2004. (8/20/03) - ANSI granted extension until 12/31/2004. Numerous regulatory issues had to be resolved. Draft nearly done. One last WG meeting in summer '04 and hopefully draft will be ready for N17. ANSI granted 2nd extension until 12/31/07. Draft ready to go, waiting for N17 to finish review of 5.1. Although verbal told extension was granted, no confirmation was received. Second request for extension made 11/9/04 and granted same day. 1995 PINS nullified by 1999 reaffirmation. New PINS submitted to ANSI 10/5/05. Draft approved by ANS-15. Ballot at N17 due 12/22/06. Notified of new working group chair by Wade Richards 10/10/06. Tawfik Raby replaced by Tom Myers. N17 Ballot closed 1/9/07 but WG still resolving comments as of 6/7/07.

ANS- 15. 16	Emergency Planning for Research Reactors	ANS-15	5/3/2000	12/31/2008	12/31/2008	WG Writing Draft	Approved 1978. Revised 1982. Reaffirmed 4/18/88. Ref. in RG 2.6. First extension to 12/31/95. Second extension to 12/31/98. Reaffirmed 5/3/00. Per Wade Richard's 1/9/03 letter: Max Gildner will incorporate the committees comments and send to the chair by 1/31/03. The chair will send the standard to the ANS 15 committee for balloting by 3/4/03.(7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted extension until 12/31/2005. 2nd extension until 12/31/08. Per ANS-15 4/04 meeting minutes, draft in at ballot in SC. PINS for RV submitted to ANSI 1/11/07. Draft provided to ANS 4/2006 but on hold until PR clears & Tawfik approval to administer ballot of N17.
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	5/3/2000	12/31/2008	12/31/2008	WG Writing Draft	Approved 1981. Reaffirmed 4/3/87. First extension to 12/31/94. Second extension to 12/31/97. Reaffirmed 5/3/00. Per Wade Richard's 1/9/03 letter: Leo will send a draft to the chair by 1/31/03. the chair will send the standard to ANS 15 for balloting by 5/5/03. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted extension until 12/31/2005. Second extension granted until 12/31/08. PINS sent to ANSI 10/1/04.
ANS- 19. 3 . 4	The Determination of Thermal Energy Deposition Rates in Nuclear Reactors	ANS-19	4/15/2002		4/15/2007	NONE	Approved as N676-1976. Reaffirmed 1983. Reaffirmed 3/3/89. First extension to 12/31/96. Second extension to 12/31/99. ANSI withdrawn 8/19/2000. ANSI approved request for first extension to 12/31/03. Revised 3/20/2002. -- final approval by ANSI 4/15/02. Per 6/04 meeting minutes, Perry retired as WGC, Cokinos looking for new chair.
ANS- 19. 4	A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	ANS-19	5/3/2000	12/31/2008	12/31/2008	NONE	Approved as N652-1976. Reaffirmed 1983. Reaffirmed 3/3/89. First extension to 12/31/96. Second extension to 12/31/99. Reaffirmed 5/3/00. (7/21/03) - Requested extension from ANSI until 12/31/05. (8/20/03) - ANSI approved extension until 12/31/2005. Second extension granted until 12/31/08. Per ANS-19 minutes 6/04 -- Cokinos looking for new chair. Per 6/2005 minutes, still looking for chair and planning to combine with ANS-19.5.

**STANDARDS SALES REPORT**  
**Report Date: 11/01/2006 to 5/31/07**

Attachment G

<b>Designation &amp; Title of Standard</b>	<b># Of Paper/Electronic Copies Sold</b>	<b>Total Price</b>
<b>ANS-1-2000</b> , Conduct of Critical Experiments	3	85.00
<b>ANS-2.2-2002</b> , Earthquake Instrumentation Criteria for Nuclear Power Plants (RV of 2.2-1988)	3 / 1	156.80
<b>ANS-2.3-1983;W1993</b> , Standard for Estimating for Extreme Wind Characteristics at Nuclear Power Plants	2	104.00
<b>ANS-2.8-1981;W1992</b> , Determining Design Basis Flooding at Power Reactor Sites	1	113.40
<b>ANSI/ANS-2.8-1992; W2002</b> , Determining Design Basis Flooding at Power Reactor Sites	1	152.00
<b>ANS-2.10-2003</b> , Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	3 / 2	166.80
<b>ANS-2.23-2002</b> , Nuclear Plant Response to an Earthquake	4 / 1	459.30
<b>ANS-2.26-2004</b> , Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design	11 / 2	1,059.00
<b>ANS-3.1-1993;R1999</b> , Selection, Qualification Training of Personnel for Nuclear Power Plants	6	382.80
<b>ANS-3.2-1994;R1999</b> , Administrative Controls & Quality Assurance for the Operational Phase of Nuclear Power Plants	4	426.00
<b>ANS-3.2-2006</b> , Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	31 / 4	3,541.00
<b>ANS-3.3-1988;W1992</b> , Security for Nuclear Power Plants	1	54.00
<b>ANS-3.4-1996;R2002</b> , Medical Certification and Monitoring of Personnel Requiring Operator LTC	3	112.00
<b>ANS-3.5-1993;W1998</b> , Nuclear Power Plant Simulators for Use in Operator Training & Examination	1	66.00
<b>ANS-3.5-1998</b> , Nuclear Power Plant Simulators for Use in Operator Training and Examination	7	551.60
<b>ANS-3.8.4-1995;W2005</b> , Criteria for Maintaining Radiological Emergency Response Capability	1	36.00
<b>ANS-3.8.7-1998</b> , Criteria for Planning, Development, Conduct and Evaluation of Drills and Exercises for Emergency Preparedness	2	88.00
<b>ANS-3.11-2005</b> , Determining Meteorological Information at Nuclear Facilities	7	661.30
<b>ANS-5.1-1994;W2004</b> , Decay Heat Power in Light Water Reactors	4	342.00
<b>ANS-5.1-2005</b> , Decay Heat Power in Light Water Reactors	11 / 3	1,448.75
<b>ANS-5.4-1982;W1993</b> , Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	2	64.80
<b>ANS-5.10-1998</b> , Airborne Release Fractions at Non-Reactor Nuclear Facilities	1	74.70
<b>ANS-6.1.1-1977; W1989 (N666)</b> , Neutron & Gamma-Ray Flux-to-Dose-Rate Factors	1	36.00
<b>ANS-6.1.1-1991;W2001</b> , Neutron and Gamma-Ray Fluence-To-Dose Factors	2	156.00
<b>ANS-6.1.2-1999</b> , Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	1	22.50
<b>ANS-6.3.1-1987;R1998</b> , Program for Testing Radiation Shields in Light Water Reactors	1	60.00
<b>ANS-6.4-1997;R2004</b> , Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants (RV of 6.4-1985)	2	271.00
<b>ANS-6.4-2006</b> , Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants	20 / 2	3,136.50
<b>ANS-6.4.2-1985;R1997;R2004</b> , Specification for Radiation Shielding Materials	1	105.30
<b>ANS-6.4.2-2006</b> , Specification for Radiation Shielding Materials	21 / 4	1,380.00
<b>ANS-6.4.3-1991;W2001</b> , Gamma-Ray Attenuation Coefficients and Buildup Factors for Engineering Materials	1	168.00
<b>ANS-6.6.1-1987;R1998</b> , Calculation & Measurement Direct & Scattered Gamma Radiation from LWR Nuclear Power Plants	1	107.00



**STANDARDS SALES REPORT**  
**Report Date: 11/01/2006 to 5/31/07**

<b>ANSI/ANS/HpSSC-6.8.1-1981; W1992</b> , Location and Design Criteria for Area Radiation Monitoring Systems for Light Water Nuclear Reactors	1	54.00
<b>ANS-8.1-1983;R1988, W1998</b> , Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	1	55.00
<b>ANS-8.1-1998</b> , Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors (RV of ANS-8.1-1983;R1988)	10 / 1	716.40
<b>ANS-8.3-1986;W1996</b> , Criticality Accident Alarm Systems	1	54.00
<b>ANS-8.3-1997;R2003</b> , Criticality Accident Alarm Systems (RF of ANS-8.3-1997)	11 / 1	850.20
<b>ANS-8.5-1996;R2002</b> , Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material	6	239.20
<b>ANS-8.6-1983;R1988;R1995;R2001</b> , Safety in Conducting Subcritical Neutron-Multiplication	3	66.00
<b>ANS-8.7-1998</b> , Guide for Nuclear Criticality Safety in the Storage of Fissile Materials	12	685.30
<b>ANS-8.9-1987;R1995;W2000</b> , Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate	2	84.00
<b>ANS-8.10-1983;R1988;R1999;R2005</b> , Criteria for Nuclear Criticality Safety Controls	4	135.00
<b>ANS-8.12-1987;R1993;R2002</b> , Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	6	394.80
<b>ANS-8.14-2004</b> , Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	3	93.00
<b>ANS-8.15-1981;R1987;R1995;R2005</b> , Nuclear Criticality Control of Special Actinide Elements	6	368.50
<b>ANS-8.17-2004</b> , Criticality Safety Criteria for the Handling, Storage and Transportation of LWR Fuel Outside Reactors	7 / 1	257.40
<b>ANS-8.19-2005</b> , Administrative Practices for Nuclear Criticality Safety	13	418.20
<b>ANS-8.20-1991;R1999</b> , Nuclear Criticality Training	8	221.50
<b>ANS-8.21-1995;R2001</b> , Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	6	188.40
<b>ANS-8.22-1997</b> , Nuclear Criticality Safety Based on Limiting & Controlling Moderators	9	347.90
<b>ANS-8.23-1997</b> , Nuclear Criticality Accident Emergency Planning and Response	6 / 2	263.40
<b>ANS-10.2-2000</b> , Portability of Scientific and Engineering Software	1	32.40
<b>ANS-10.3-1995</b> , Documentation Of Computer Software	2	79.80
<b>ANS-10.4-1987;R1998</b> , Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs in the Nuclear Industry	4 / 1	477.30
<b>ANS-10.5-2006</b> , Accommodating User Needs in Scientific and Engineering Computer Software Development	5 / 1	229.60
<b>ANS-14.1-2004</b> , Operation of Fast Pulse Reactors (RV of 14.1-1975;R1982;R1989;R2000)	2	57.00
<b>ANS-15.1-1990;R1999</b> , Development of Technical Specifications for Research Reactors	5	261.00
<b>ANS-15.4-1988;R1999</b> , Selection and Training of Personnel for Research Reactors	2	88.00
<b>ANS-15.8-1995</b> , Quality Assurance Program Requirements for Research Reactors	3	128.00
<b>ANS-15.11-1993</b> , Radiation Protection at Research Reactor Facilities	2	169.00
<b>ANS-15.16-1982;R1988;R2000</b> , Emergency Planning for Reactors	3	126.00
<b>ANS-15.17-1981;R1987;R2000</b> , Fire Protection Program Criteria for Research Reactors	2	72.00
<b>ANS-15.21-1996</b> , Format and Content for Safety Analysis Reports for Research Reactors	2	196.00
<b>ANS-16.1-2003</b> , Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure	6	627.00

**STANDARDS SALES REPORT**  
**Report Date: 11/01/2006 to 5/31/07**

<b>ANS-18.1-1984, W1994</b> , Radioactive Source Term for Normal Operation of Light Water Reactors	6	297.00
<b>ANS-18.1-1999</b> , Radioactive Source Term for Normal Operation of Light Water Reactors	3	216.00
<b>ANS-19.1-2002</b> , Nuclear Data Sets for Reactor Design Calculations (RV of 19.1-1983;R1989)	3	144.00
<b>ANS-19.3-2005</b> , Determination of Study-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors	2	159.80
<b>ANS-19.3.4-2002</b> , The Determination of Thermal Energy Deposition Rates in Nuclear Reactors (RV of 3.4-76;R83;R89)	2 / 1	114.80
<b>ANS-19.4-1976;R1983;R1989;R2000</b> , A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	1	60.00
<b>AND-19.5-1995</b> , Requirements for Reference Reactor Physics Measurements	1	24.00
<b>ANS-19.6.1-2005</b> , Reload Startup Physics Tests for Pressurized Water Reactors	7	540.75
<b>ANS-19.11-1997;R2002</b> , Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Water Moderated Power Reactors	2	124.80
<b>ANS-40.35-1991;W2001</b> , Volume Reduction of Low-Level Radioactive Waste or Mixed Waste	1	84.00
<b>ANS-40.37-1993</b> , Mobile Radioactive Waste Processing Systems	3	312.00
<b>ANS-51.1-1983;R1988;W2000</b> , Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants	11	1456.10
<b>ANS-52.1-1983;R1988;W2001</b> , Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants	1	152.00
<b>ANS-51.10-1991;R2002</b> , Auxiliary Feedwater System for Pressurized Water Reactors	2	145.60
<b>ANS-54.1-1989;W1999</b> , General Safety Design Criteria for a Liquid Metal Reactor Nuclear Power Plant	2	99.00
<b>ANS-54.2-1985;W1995</b> , Design Bases for Facilities for LMFBR Spent Fuel Storage in Liquid Metal Outside the Primary Coolant Boundary	2	89.10
<b>ANS-54.8-1988;W1998</b> , Liquid Metal Fire Protection in LMR Plants	2	99.00
<b>ANS-55.1-1992;R2000</b> , Solid Radioactive Waste Processing System for Light-Water-Cooled Reactor Plants (RV of 55.1-1979)	4	448.00
<b>ANS-55.4-1993;R1999</b> , Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants	1	97.00
<b>ANS-55.6-1993;R1999</b> , Liquid Radioactive Waste Processing System for Light Water Reactor Plants	2	183.00
<b>ANS-56.8-1994;W2002</b> , Containment System Leakage Testing Requirements	3	280.50
<b>ANS-56.8-1987;W1994</b> , Containment System Leakage Testing Requirements	1	93.00
<b>ANS-56.8-2002</b> , Containment System Leakage Testing Requirements	5	467.50
<b>ANS-56.10-1982;R1987;W1997</b> , Subcompartment Pressure & Temperature Transient Analysis in Light Water Reactors	2	178.00
<b>ANS-56.11-1988;W2000</b> , Design Criteria for Protection Against the Effects of Compartment Flooding in LWR Plants	1	40.50
<b>ANS-57.1-1992;R1998</b> , Design Requirements for Light Water Reactor Fuel (RV of 57.1-1980)	7	297.00
<b>ANSI/ANS-57.2-1983; W1993</b> , Design Requirements for Light Water Reactor Spent Fuel Facilities at Nuclear Power Plants	8	616.60
<b>ANS-57.3-1983;W1993</b> , Design Requirements for New Fuel Storage Facilities at LWR Plants	1	43.20
<b>ANS-57.5-1996</b> , Light Water Reactors Fuel Assembly Mechanical Design and Evaluation	3	180.40
<b>ANS-57.7-1988;R1997</b> , Design Criteria for an Independent Fuel	3	285.30

**STANDARDS SALES REPORT**  
**Report Date: 11/01/2006 to 5/31/07**

Storage Installation (Water Pool Type)		
<b>ANS-57.8-1995;R2005</b> , Fuel Assembly Identification	7	192.00
<b>ANS-57.9-1992;R2000</b> , Design Criteria for an Independent Spent Fuel Storage Installation (Dry Storage Type)	2	205.20
<b>ANS-57.10-1996; R2006</b> , Design Criteria for Consolidation of LWR Spent Fuel	1	85.00
<b>ANS-58.2-1988;W1998</b> , Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	17	1934.40
<b>ANS-58.3-1992;R1998</b> , Physical Protection for Nuclear Safety-Related Systems & Components	6	469.80
<b>ANS-58.6-1996;R2001</b> , Criteria for Remote Shutdown for Light Water Reactors	9	303.80
<b>ANS-58.8-1994;R2001</b> , Time Response Design Criteria for Safety-Related Operator Actions	11	591.80
<b>ANS-58.9-1981;R1987;R2002</b> , Single Failure Criteria for Water Reactor Safety-Related Fluid Systems	9	257.40
<b>ANS-58.11-1995;R2002</b> , Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors	9	377.10
<b>ANS-58.14-1993</b> , Safety and Pressure Integrity Classification Criteria for LWR	5	715.00
<b>ANS-58.21-2003</b> , External-Events PRA Methodology	9 / 1	1,139.40
<b>ANS-58.21-2007</b> , External-Events PRA Methodology	6 / 2	1,326.00
<b>ANS-59.3-1992;R2002</b> , Nuclear Safety Criteria for Control Air Systems (RV of 59.3-1984)	6	189.00
<b>ANS-59.51-1976 (N195)</b> , Fuel Oil Systems for Safety-Related Emergency Diesel Generators	1	48.00
<b>ANS-59.51-1997</b> , Fuel Oil Systems for Safety-Related Emergency Diesel Generators	3	164.00
<b>ANS-59.52-1998</b> , Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	1	45.00
<b>Standards Historical Review Sales Drafts</b>	14	978.00

**TOTAL SALES**

**\$39,971.70**

RISC Report to ANS Standards Board  
6/26/07

1. Meetings: 11/15/06 all day in Albuquerque, NM during ANS Winter Meeting  
6/27/07 all day in Boston, MA during ANS Annual Meeting
2. Status of Standards under Development

ANS 58.21, Rev. 1 External Events PRA Standard

- Ad hoc Resolution Committee (RC) appointed 4/5/06 to recommend resolution of 4 negative ballots (closed 1/4/06)
- 11/15/06 RC presented recommendations to RISC; recommendations accepted
- 11/21/06 Draft ANS 58.21, Rev. 1 submitted to ASME/CNRM for integrated PRA standard
- 2/9/07 all negative ballots had been converted to positive ballots
- 2/11/07 RISC Chair declared consensus based on vote of
  - ⇒ 15 approved
  - ⇒ 2 approved with comments
  - ⇒ 3 no response
  - ⇒ 20 total votes (85% response with 100% approval)
- 3/1/07 ANSI/ANS-58.21-2007 approved by ANSI
- 3/28/07 ANSI/ANS-58.21-2007 published

ANS 58.22, LPSD PRA Standard

- 10/6/06 Don Wakefield appointed to be WG Chair
- Standard is being restructured per RISC 11/15/05 direction
- 6/20/07 WG has responded to 253 of 298 comments; to complete by July 15
- New WG members being appointed
  - ⇒ Edward Chow new member from NRC
  - ⇒ New WG subgroup (or WG) to prepare qualitative requirements
- WG to meet late July or early August
- Reballot in 3Q07 or 4Q07
- Submit ANS 58.22 to ASME/CNRM for integrated PRA standard if reballot indicates consensus

ANS 58.23, Fire PRA Standard

- 5/14/07 consensus re-ballot closed (9 months after initial consensus ballot closed)
  - ⇒ 11 approved
  - ⇒ 6 approved with comments
  - ⇒ 1 not approved
  - ⇒ 2 no response
  - ⇒ 20 total ballots (90% response with 94% approval)
- NRC commented *This latest version of the Fire PRA Standard is a substantial improvement over the first version released for public review and comment, and*

*the writing group is to be commended for addressing the comments provided by NRC and others.*

- 6/15/06 WG met in Denver, CO to resolve comments
- RISC Chair to interpret whether resolutions involve substantive changes
- Response to negative ballot are likely to reject associated comments
- Target schedule to submit to Standards Board for approval is mid-July
- Submit ANS 58.23 to ASME/CNRM for integrated PRA standard shortly after RISC meeting

#### ANS 58.24, Level 2 PRA Standard

- WG meeting today at ANS Annual Meeting
- Basic structure of Capability Categories adapted from Level 1 PRA Standards
- Requirements being written in 9 topical areas
  - ⇒ Lead author for each area is assigned
  - ⇒ Format parallels other PRA standards
- Issues to be resolved
  - ⇒ Technical: defining requirements to evaluate containment structural failure
  - ⇒ Administrative: funding for WG members' travel to meetings
- Presently no schedule for completion

#### ANS 58.25, Level 3 PRA Standard

- WG meeting tomorrow during ANS Annual Meeting at MIT
- WG has prepared technical outline and assigned lead authors
- Lead authors are preparing first draft of HLRs
- Issue of funding WG members' travel to meetings
- Presently no schedule for completion

### 3. Interface with NRMCC

#### Co-authored ASME/ANS joint letters to NRC on standards development

- Letters dated 3/14/06, 8/9/06, & 11/7/06 state development schedules
- Respond to NRC priority on integrated PRA standards

#### Represented ANS on NRMCC

- Member of nominating committee for new NRMCC co-chairs
- 3/16/07 meeting and 6/1/07 telecon

#### Provided support to integrated PRA standards development

- Released ANSI/ANS-58.21-2007 to ASME/CNRM integration team
- Nominated RISC and WG members to ASME/CNRM integration team
- Assigned two RISC members to be integration liaisons to CNRM
- Assigned two CNRM members to be integration liaisons to RISC
- Commented on draft ANS/ASME integration process documentation

### 4. RISC Chair succession – new Chair to be voted by RISC tomorrow, 6/27/07

**NFSC Chairman's Report  
ANS June 2007 Meeting  
Boston, Massachusetts**

Attachment I
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**I. NFSC Subcommittee restructuring**

With a need to place the NFSC structure more in line with the nuclear renaissance licensing structure and the upcoming Advanced Fuel Cycle Initiatives (AFCI) associated with the Global Nuclear Energy Partnership (GNEP), subcommittee restructuring of NFSC was undertaken and approved by the NFSC in March 2007.

The attached table shows the seven subcommittees and the standards/standards projects that each subcommittee is responsible for. Each subcommittee now has a chairman and vice-chairman. NFSC is now well-positioned to undertake the challenge of meeting the nuclear standards requirements of a revitalized nuclear industry.

**II. Standards approved for reaffirmation**

Standard	SC
<b>ANSI/ANS 55.4, 1993; R1999; R2007</b>	ANS-22
<b>ANSI/ANS 55.6, 1993; R1999; R2007</b>	ANS-22
<b>ANSI/ANS 5.10, 1998; R2006</b>	ANS-24

**III. Standards and draft standards at ballot or comment resolution**

Standard	Status	SC
<b>ANSI/ANS-58.3-1992; R1998</b> , Physical Protection for Nuclear Safety-Related Systems and Components	reaffirmation @ ballot	ANS-22
<b>ANSI/ANS-59.51-1997</b> , Fuel Oil Systems for Safety-Related Emergency Diesel Generators	reaffirmation @ ballot	ANS-22
<b>ANSI/ANS-59.52-1998</b> , Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	reaffirmation @ ballot	ANS-22
<b>ANS-2.29</b> , Probabilistic Seismic Hazard Analysis	new standard @ ballot	ANS-24
<b>ANS-41.5</b> , Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	new standard	ANS-24
<b>ANS-2.27</b> , Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	new standard	ANS-25
<b>ANS-40.37</b> , Mobile Low-Level Radioactive Waste Processing Systems	historical revision	ANS-27

**IV. PINS forms reviewed**

Standard	Status	SC
<b>ANS-58.16</b> , Safety and Pressure Integrity Classification Loads and Behavior Criteria for Nuclear Facilities Other Than Large Nuclear Reactors	new standard	ANS-22

# **N17 Progress Report June 2007**

Attachment J

## **Published**

ANSI/ANS-6.4-2006, "Nuclear Analysis & Design of Concrete Radiation Shielding for Nuclear Power Plants," (revision of ANSI/ANS-6.4-1997; R2004)

ANSI/ANS-6.4.2-2006, "Specification for Radiation Shielding Materials," [revision of ANSI/ANS-6.4.2-1985 (R2004)]

## **Approved by ANSI**

ANS-15.1, "The Development of Technical Specifications for Research Reactors," (revision of ANSI/ANS-15.1-1990; R1999)

## **N17 Action Completed**

ANS-15.4, "Selection and Training of Personnel for Research Reactors," [revision of ANSI/ANS-15.4-1988 (R1999)] -- Draft at Ballot

## **In N17 Ballot/Vote**

ANS-15.19, "Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactors," (historical revision of ANSI/ANS-15.19-1991; W2001)

## **PINS Approved**

ANS-10.4, "Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry," (revision of ANSI/ANS-10.4-1987; R1998)

ANS-10.7, "Non-Real Time, High Integrity Software for the Nuclear Industry," (new standard)

ANS-15.21, "Format and Content for Safety Analysis Reports for Research Reactors," (revision to ANSI/ANS-15.21- 1996; R2006)

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