American Nuclear Society
Standards Board (SB) Minutes
Reno, Nevada
November 11, 2008

Members Present
N. Prasad Kadambi, *Standards Board Chair, U.S. NRC*
Allen L. Camp, *RISC Chair*, *Sandia National Laboratories*
Dimitrios M. Cokinos, *Member at Large, Brookhaven National Laboratory*
Carl A. Mazzola, *NFSC Chair, Shaw Environmental and Infrastructure, Inc.*
Calvin M. Hopper, *N16 Chair, ORNL*
R. Michael Ruby, *Member at Large, Constellation Energy-Ginna NPP*
Patricia A. Schroeder, *Standards Administrator, American Nuclear Society*
Steven L. Stamm, *Member at Large, Shaw Nuclear Services*
R. Michael Westfall, *Member at Large, ORNL*
Michael J. Wright, *Member at Large, Entergy*

Members Absent
Peter S. Hastings, *Member at Large, Duke Energy*
Charles H. (Chuck) Moseley, *Member at Large, Individual*
Tawfik M. Raby, *N17 Chair, NIST*
Donald J. Spellman, *Standards Board Vice Chair, ORNL*

Guests
James August, *CORE, Inc.*
Robert J. Budnitz, *Lawrence Berkeley National Laboratory*
Gene Carpenter, *U.S. NRC*
Timothy Dennis, *Individual*
Mary Beth Gardner, *ANS Staff*
Ben Holtzmen, *University of Illinois – Student*
John Kelly, *SNL*
James Mallay, *Individual*
Kurshad Muftuoglu, *GE Hitachi Nuclear Energy*
Craig Peircy, *ANS DC Office*
Loyd Wright*, SCE*

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

2. Approve Agenda
Prasad Kadambi noted that a quorum may be lost in the afternoon, and he asked for the latitude to move items requiring a vote if necessary. The agenda was approved as presented.

3. Standards Board Chair's Report

BOD Report – Attachment A
The Standards Committee Report to the Board of Directors was provided to the Standards Board (SB). The report acknowledged the approval of the first joint ANS/ASME combined Probabilistic Risk Assessment (PRA) standard and Addendum A. Carl Mazzola questioned if the American Nuclear Society (ANS) had a mechanism to coordinate quality assurance (QA) standards with the American Society of Mechanical Engineers (ASME). Jim Mallay stated that there was serious discussion with ASME about coordinating QA standards in the past. He noted that coordination of the QA standards were well-received by all but two members of the ASME Board of Nuclear

Codes and Standards. Mazzola was asked to follow up with Chuck Moseley on progress to discuss coordination of QA standards with ASME.

Action Item 11/08-01: Carl Mazzola to follow up with Chuck Moseley on work with coordinating QA standards with ASME.

ANS Washington Representative

Prasad Kadambi introduced Craig Piercy as the ANS Washington Representative. Piercy explained that he lobbied on behalf of the ANS by trying to line up the right people to whom appropriate information needed to be presented. He explained that he was new to the standards process but understood the need to focus on support for standards. Piercy stated that in seeking funds it would be beneficial to correlate standards with national security. Jim August suggested that there was significant benefit to straightening out QA standards for the construction of new nuclear power plants. August explained that the emphasis would shift to QA as soon as construction began. Mike Ruby expressed his opinion that construction would not go forward if a plan did not exist for waste disposal. Piercy summarized that he felt there was an opportunity to solicit funding for standards development and asked for members to summarize specific needs into talking points that he could use. Kadambi suggested that Piercy coordinate his efforts through Mary Beth Gardner at ANS Headquarters.

Report on NRC Developments

Prasad Kadambi informed the SB that Mike Case was the new Standards Executive at the U.S. Nuclear Regulatory Commission (NRC). Kadambi felt that Case was enthusiastic about standards. Gene Carpenter stated that the NRC was trying to get more involved with standard development organizations (SDOs) and was planning to schedule more SDO meetings. Pat Schroeder was asked to provide consensus committee chairs with information on future SDO meetings.

Action Item 11/08-02: Pat Schroeder to make sure that consensus committee chairs get notices of SDO meetings sponsored by the NRC.

Report on SDO Meetings (NRC and NEI sponsored)

Prasad Kadambi stated that there were two separate standards meetings in July 2008. One was sponsored by the NRC and the other by Nuclear Energy Institute (NEI). The NRC meeting was described above. Regarding the NEI meeting, Allen Camp explained that there was discussion on the role of standards and some discussion on future activities. Guidance documents were also discussed. NEI believed that it was their role to provide guidance documents for the industry.

ANS Initiative to Gain NRC Endorsement of ANS Standards

Prasad Kadambi informed the SB that a new procedure was recently established. The procedure formally notified NRC and DOE regarding reaffirmed, new, or revised standards that were approved by the American National Standards Institute (ANSI). Copies of the standards were provided to both NRC and DOE with a request to review and consider endorsement/adoption.

ANS Rep on INMM Committee (cooperation of N16/N17)

Prasad Kadambi informed the SB that Calvin Hopper agreed to support the Institute of Nuclear Materials Management (INMM) N15 Committee activities on behalf of ANS. Kadambi noted that at times it could be appropriate to coordinate activities and reviews with the N17 Committee.

4. Nuclear Risk Management Coordinating Committee (NRMCC)

Progress Update

Allen Camp reported on the last NRMCC meeting held October 29, 2008, in Washington DC. He stated that he accepted an action item to follow up on ANS education and training activities.

Camp received suggestions to contact the ANS Education & Training Professional Division and the ANS Public Information Department to get information about student workshops. Prasad Kadambi asked for Camp to forward this information to the Standards Board through Pat Schroeder.

Action Item 11/08-03: Allen Camp to provide update on NRMCC action item to follow up on education and training with ANS Education & Training Professional Division and ANS Student Workshops to the Standards Board through Pat Schroeder.

Camp stated that the ASME/ANS combined standard would be published before the end of the year. Additionally he stated that the first addendum had reached consensus and details would be provided to the SB with a request for approval.

Proposal on Joint RISC/Committee on Nuclear Risk Management (CNRM) Committee
Allen Camp reported that the RISC would discuss preliminary options for a joint RISC/CNRM Committee but that no decision would be made as more work needed to be done to research the implications of the options and to determine a recommendation.

Bob Budnitz explained that there were a few members of ASME/CNRM that thought the concept of a joint committee was more of an absorption of the ANS RISC verses a merger. He stated that this sentiment had changed.

5. Risk Informed Standard for Liquid Metal Reactors
Bob Budnitz informed the SB that the U.S. Department of Energy (DOE) was currently involved in gap analysis of standards and that it would be completed in a few months. A need for standards on liquid metal reactors had already been identified. Budnitz felt that funding would be available if supported politically. He asked that the SB to approve the following motion:

> **MOTION**: The Standards Board commits to developing liquid metal-related standards (i.e., reinvigorate/develop) with the understanding that these efforts would have DOE funding support.

The motion was approved unanimously.

Kadambi reiterated that the SB was fully supportive.

6. ANS Standards' Strengths and Weaknesses – Attachment B
Mike Wright provided the SB a revised white paper on ANS Standards' Strengths and Weaknesses. The SB discussed the white paper and made a few comments. They felt that standards were more rigorous than other guidance documents and provided an outcome of much higher quality. It was suggested that the availability of funding to expedite development should be added to improvement initiatives. Wright was asked to revise the white paper to include the SB comments.

Action Item 11/08-04: Mike Wright to incorporate Standards Board comments into Standards' Strengths, and Weaknesses White Paper.

Some members questioned the use of the term "historic" and "withdrawn" standards. Prasad Kadmabi explained that when a standard was declared historical, it did not necessarily mean that it was not appropriate for a specific use. Mike Ruby stated that the industry continued to use historic standards that were approved in licensing. Jim Mallay added that industry may use any public document provided that they justify the use. Wright stated that owners were responsible to verify that the standards they used remained acceptable. Kadambi added that there were a lot of useful standards developed over the years that provide much useful information.

Kadambi stated that he felt it important for consensus committee chairs to communicate with the NRC and DOE standards executives. He suggested for each chair to meet with the NRC/DOE standards executives when in Washington, DC.

7. Standards Committee Rules & Procedures

Approved Balance of Interest (BOI) Categories & New Membership Classifications
Pat Schroeder explained that the approved, new BOI categories were not submitted to ANSI for approval yet. This was because another change to the rules and procedures was identified. With the new associate membership category, a recommendation was made to include membership classifications in the rules and procedures. A new section for membership classification would have to be written and approved before the revised Standards Committees Rules and Procedures could be submitted to the ANSI for accreditation.

Jim Mallay applauded the initiative to add an associate membership classification for young members. Mallay explained that he was a member of a working group for several years before joining a subcommittee and had felt reluctant to add his opinion for some time. He suggested caution to set any hard and fast rules about incorporating an associate member on a specific timetable. Mallay recommended leaving a timetable ambiguous.

Prasad Kadambi explained that an associate member would not change the BOI as they had no ballot rights. Existing procedures would be used to bring associate members up through the ranks. Mike Wright added that he felt it was important to have perspective starting with the working group and learning the process. Kadambi accepted an action item to draft membership category definitions.

Action Item 11/08-05: Prasad Kadambi to draft new section of ANS Standards Committee Rules and Procedures to include membership categories (i.e., member, alternate, associate member, alternate, liaison).

Action Item 11/08-06: Prasad Kadambi to formally respond to the ANS Young Members Group (YMG) on Standards Board incorporation of the associate membership category.

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

Nuclear Criticality Safety (N16) Report -- Attachment C
Calvin Hopper reported that three Project Initiation Notification System (PINS) forms were developed, six standards were in development, and ANSI/ANS-8.27-2008, “Burnup Credit for LWR Fuel,” had just been published. Pat Schroeder was asked to prepare a draft letter for NRC and DOE requesting their review of ANSI/ANS-8.27-2008 with consideration for endorsement/adoption.

Action Item 11/08-07: Pat Schroeder to draft letter for Calvin Hopper to NRC and DOE requesting review and consideration of ANSI/ANS-8.27-2008 for endorsement/adoption.

Hopper informed the SB that N16 had two standards involved in training; ANSI/ANS-8.20-1991; R1999;R2005, “Nuclear Criticality Safety Training,” and ANSI/ANS-8.26-2007, “Criticality Safety Engineer Training and Qualification Program.” Prasad Kadambi asked Allen Camp to consider whether a similar standard could be developed for PRA analysis.

Action Item 11/08-08: Allen Camp to consider the potential for developing a standard for training PRA analysis similar to ANSI/ANS-8.20-1991;R1999;R2005 and ANSI/ANS-8.26-2007.

Hopper stated that N16 Rules & Procedures were going through a third revision, and he expected to finalize within a few months.

Hopper reminded the SB that he had submitted an inquiry on ANSI/ANS-8.1-1998 (R2007), "Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors," last year and wrote it to be very specific. He recused himself and asked that Mike Westfall step in to fulfill responsibilities of the N16 Chair, as needed. Westfall explained that he felt it was important to get the concurrence of N16 to determine if the inquiry should be declared a clarification or interpretation. The determination was significant in how the rules and procedures would be applied. N16 offered what they came up with for the working group to utilize or change. As significant time had transpired, it was felt that a letter should be sent to the ANS-8.1 Co-chairs requesting a schedule to respond to the inquiry.

Action Item 11/08-09: Prasad Kadambi to prepare a letter to the ANS-8.1 Co-chairs requesting a schedule for response to Calvin Hopper's inquiry on ANSI/ANS-8.1-1998 (R2007).

Hopper informed the SB that ANS-8 would be holding a poster session during the ANS Winter meeting in Reno.

Research Reactors, Reactor Physics, Radiation Shielding and Computational Methods (N17) – Attachment D
An N17 written report was provided.

Nuclear Facilities Standards Committee (NFSC) Report – Attachment E
Carl Mazzola reported that ANSI/ANS-2.27-2008, "Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments," and ANSI/ANS-2.29-2008, "Probabilistic Seismic Hazard Analysis," had been approved and would be published shortly. Over the year, three standards were reaffirmed, five standards were resolving comments, two new standards approved, and five PINS were resolving comments.

As discussed previously, members felt that gaps would be identified in QA standards once construction began on nuclear power plants. It was felt it would be beneficial to identify gaps before construction and determine needs for new QA standards. The SB asked Mazzola to have the NFSC prepare a gap analysis on QA standards.

The following motion was made:

MOTION: The NFSC to move forward in preparing a gap analysis on QA standards.

The motion approved unanimously.

Action Item 11/08-10: Carl Mazzola to work with the NFSC to prepare a gap analysis on QA standards.

Risk Informed Standards Committee (RISC) Report – Attachment F
Camp reported that the reballot of the low power and shutdown (LPSD) draft received nearly 50% negatives. He explained that one controversial issue was that the draft standard included a qualitative approach in the standard along with quantitative methods. Camp expected vigorous debate at the November 12, 2008, RISC meeting about this issue. He explained that the writing group preferred to keep both methods in the standard. The discussion indicated that the SB felt that the qualitative and quantitative methods should be retained together in the LPSD standard, unless the RISC felt there was a compelling reason to change.

Camp stated that the work on the Level 2 and Level 3 standards projects were moving along, although slowly, partly due to the lack of funding for working group member travel. Camp offered RISC support for other consensus committees involved in risk-informed standards.

9. Discuss and Resolve Action Items
See the list of action items at the end of these minutes. The following items were discussed at length:

Prasad Kadambi explained that he held off on completion of Action Item 06/08-01 to write a letter to the ANS Executive Director about current standards challenges in need of additional resources. With the change in ANS Executive Director effective October 2008, Kadambi felt it was best to put this on hold temporarily.

The SB decided it was best to close Jack Roe's Action Item 06/08-06 related to NRC endorsement and let each SDO handle individually.

With the retirement of Steve Shepherd, Kadambi planned to ask Don Spellman to replace Shepherd on the ad hoc committee to examine restructuring the standards effort through alternate ways per Action Item 11/07-02.

Action Item 11/08-11: Prasad Kadambi request Don Spellman to replace Steve Shepherd on the ad hoc committee to examine restructuring the standards effort through alternate ways per Action Item 11/07-02.

10. Secretary's Reports – Attachments G, H, & I
Pat Schroeder provided the Staff Report, Sales Report and the standards reports including Activity, Delinquent, and Status. The reports were summarized for the SB. No new PINS Forms or Letter Ballots were open for approval.

11. Liaison Reports

<u>ANS President's Meeting</u>
Prasad Kadambi informed the SB of the discussion at the ANS President's Meeting. Kadambi explained that ANS President William Burchill spoke of the value of international standards and recognized the struggle to encourage American involvement.

Kadambi explained that Bob Little spoke at the ANS President's meeting. Little asked chairs to bring to their committees a request to consider nominating deserving members for ANS awards. A list would be provided so that SB members may consider nominating deserving members within the Standards Committee.

Action Item 11/08-12: Prasad Kadambi to provide Standards Board members the list of ANS awards to consider nomination deserving Standards Committee members.

<u>Operations & Power Division</u>
Kadambi reported that the YMG was planning a congress at the 2009 ANS Winter Meeting in Washington, DC. He suggested that the SB consider including standards involvement.

<u>Nuclear Energy Institute</u>
Kadambi explained that Jack Roe's responsibilities had been changed, and he was being replaced as NEI liaison to the Standards Board.

<u>International Organization of Standardization (ISO) (Cokinos, Hopper, Spellman, and Raby) – TC 85/SC 5 Report Attachment J</u>

Calvin Hopper informed the SB that he served as the Overall Advisor for the ISO Technical Committee (TC) 85 Subcommittee (SC) 5 on Nuclear Fuel Technology and Working Group (WG) 8 Convener. He reported that SC 5 met June 20, 2008, during the ISO TC 85 Meeting in Orlando, Florida. Hopper explained that restructuring of the WGs had been approved. WGs 1, 3, and 12 had been merged into WG 1; WG 5 was expanded to include waste management; WG 8 on criticality control of nuclear fuel cycle remained unchanged; WGs 4 and 9 were merged into WG 4 for transportation of radioactive materials; and a new WG was under evaluation to address decommissioning issues for non-reactor facilities.

Mike Westfall reported that SC 2 on radiation protection also held a meeting in June 2008 during the ISO TC 85 Meeting. He stated that the meeting was well attended. Westfall noted that SC 6 held planning sessions during the June 2008 meeting. He felt that the Nuclear Technical Advisory Group sponsored meeting was very successful.

Dimitrios Cokinos acknowledged that the deadline was missed to submit a draft for the decay heat standard. A new deadline had been set. Cokinos reported that the French submitted a proposal for a code or standard on decayed heat. A lukewarm response was received to a few standards developed by the ANS-19 Subcommittee. Cokinos stated that SC 6 Chair Wade Richards suggested formalizing by submitting New Work Item Proposals. Cokinos stated that ANS-19.12, "Nuclear Data for the Production of Radioisotopes," was being considered for an ISO standard. Pat Schroeder questioned the benefit to ANS for "giving" one of our standards to ISO particularly a new standard like ANS-19.12. SB members felt that it was important to contribute to international standardization and influence international standards even though there may not be a monetary benefit.

IEEE/NPEC
No report provided.

12. Other Business
Loyd Wright addressed the SB informing members that he was coordinating utility participation in standards activities. He stated that he would be preparing a letter to liaisons encouraging support. Mike Wright explained that he was developing of list of priority standards that may be of interest to him.

Action Item 11/08-13: Mike Wright to provide Loyd Wright the list of NFSC priority standards once completed.

Kurshad Muftuoglu with GE Hitachi Nuclear Energy introduced himself. He stated that a meeting was recently held with the NRC that included several vendors. Muftuoglu explained that the NRC was interested in a framework for statistical analysis. It was determined that a neutral platform, as provided by a voluntary consensus standard, would be beneficial. Mutfuoglu clarified that the standard was not to be PRA. Prasad Kadambi felt that the standard would be of interest to the Standards Committee and asked that Mutfuoglu provide more details in writing. Kadambi explained that the potential standard may benefit from funding.

Calvin Hopper asked for a clarification to the policy on clarifications and interpretations. Kadambi suggested for Hopper to prepare a suggested change.

Action Item 11/08-14: Calvin Hopper to draft a suggested revision of the policy on clarifications and interpretations to clarify the process.

13. Adjourn
The meeting was adjourned at 4:30 p.m.

American Nuclear Society
Standards Board Action Items from ANS November 2008 Meeting

Action Item	Description	Responsibility	Status
11/08-01	Carl Mazzola to follow up with Chuck Moseley on work with coordinating QA standards with ASME.	Carl Mazzola, Chuck Moseley	On-going
11/08-02	Pat Schroeder to make sure that consensus committee chairs get notices of SDO meetings sponsored by the NRC.	Pat Schroeder	On-going
11/08-03	Allen Camp to provide update on NRMCC action item to follow up on education and training with ANS Education & Training Professional Division and ANS Student Workshops to the Standards Board through Pat Schroeder.	Allen Camp	June 2009 (done)
11/08-04	Mike Wright to incorporate Standards Board comments into Standards, Strengths, and Weaknesses White Paper.	Mike Wright	June 2009 (done)
11/08-05	Prasad Kadambi to draft new section of ANS Standards Committee Rules and Procedures to include membership categories (i.e., member, alternate, associate member, alternate, liaison).	Prasad Kadambi	June 2009
11/08-06	Prasad Kadambi to formally respond to the ANS YMG on Standards Board incorporation of the associate membership category.	Prasad Kadambi	January 2009 (done)
11/08-07	Pat Schroeder to draft letter for Calvin Hopper to NRC and DOE requesting review and consideration of ANSI/ANS-8.27-2008 for endorsement/adoption.	Pat Schroeder	December 2008 (done)
11/08-08	Allen Camp to consider the potential for developing a standard for training PRA analysis similar to ANSI/ANS-8.20-1991; R1999;R2005 and ANSI/ANS-8.26-2007.	Allen Camp	June 2009
11/08-09	Prasad Kadambi to prepare a letter to the ANS-8.1 Co chairs requesting a schedule for response to Calvin Hopper's inquiry on ANSI/ANS-8.1-1998 (R2007).	Prasad Kadambi	December 2008 (done)
11/08-10	Carl Mazzola to work with the NFSC to prepare a gap analysis on QA standards.	Carl Mazzola	June 2009
11/08-11	Prasad Kadambi request Don Spellman to replace Steve Shepherd on the ad hoc committee to examine restructuring the standards effort through alternate ways per Action Item 11/07-02.	Prasad Kadambi	December 2008 (done)
11/08-12	Prasad Kadambi to provide Standards Board members the list of ANS awards to consider nomination deserving Standards Committee members.	Prasad Kadambi	January 2009 (done)
11/08-13	Mike Wright to provide Loyd Wright the list of NFSC priority standards once completed.	Mike Wright	February 2009 (done)
11/08-14	Calvin Hopper to draft a suggested revision of the policy on clarifications and interpretations to clarify the process.	Calvin Hopper	June 2009
06/08-01	Prasad Kadambi to write a letter to the ANS Executive Director about current challenges in standards in need of additional resources.	Prasad Kadambi	Open
06/08-03	Mike Wright to revise white paper to reflect comments of the Standards Board.	Mike Wright	Open (done)
06/08-04	Pat Schroeder to work with consensus committee chairs to assure that a letter to the NRC Standards Executive is prepared to provide notification and to request NRC	Pat Schroeder and Consensus Committee	Closed

	endorsement for every standard that is reaffirmed or newly issued.	Chairs	
06/08-05	Don Spellman to bring sentiment of the Standards Board on working with NRC on writing standards to the SDO meeting.	Don Spellman	Closed
06/08-06	Jack Roe to help facilitate meeting with NRC, not necessarily involving the Standards Board, to discuss concerns related to endorsement.	Jack Roe	Closed
06/08-08	Associate Member Ad Hoc Committee (Steve Stamm, Calvin Hopper, Jack Roe) to look into how the Associate Member program affects the Standards Committee Rules and Procedures.	Calvin Hopper, Jack Roe, and Steve Stamm	Closed
06/08-10	John Abrefah to see if ASTM had set up an LLC to secure funding and improve efficiency of standards development.	John Abrefah	Open
06/08-12	Mike Wright to lead 2009 Standard Service Award Ad Hoc Committee with Chuck Moseley and Steve Stamm.	Mike Wright, Chuck Moseley, and Steve Stamm	Open (done)
11/07-02	Prasad Kadambi, Carl Mazzola, and Don Spellman ~~Steve Shepherd~~ to form an ad hoc committee to examine restructuring the standards effort through alternate ways and report back to the Standards Board at the June 2008 meeting.	Prasad Kadambi, Carl Mazzola, Don Spellman ~~Steve Shepherd~~	Open

ANS Standards Board Report

- The joint ANS and ASME Nuclear Risk Management Coordinating Committee continues to be an effective forum for cooperation on PRA standards. We are cautiously responding to calls for broadening this cooperation. Funding is critical.

- The first ASME/ANS joint PRA standard ASME/ANS RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," will be published before the end of the calendar year. A revision is already being finalized.

- We are working with the Professional Divisions committee to broaden and deepen the engagement of ANS technical divisions in standards activities. We will look for help from them (such as with definitions of nuclear technology terms) or assist them as requested (such as by FCWM Division) to generate needed standards.

- ANS maintains 76 current standards of which 19 are in the process of being revised. Additionally, 25 new standards are in development.

- In 2008, ANSI granted approval of four new standards, one revision, and five reaffirmations.

- We continue to improve coordination with other standards developing organizations (SDOs), stakeholders, and regulators. We are taking advantage of new opportunities (such as NRC organized forums with SDOs) as they arise to ensure an ANS presence.

*The ASME/ANS combined PRA standard includes American National Standards "Probabilistic Risk Assessment for Nuclear Power Plant Applications," ASME RA-S-2002 including all addenda; "External-Events PRA Methodology," ANSI/ANS-58.21-2007; and ANSI/ANS-58.23-2007, "Fire PRA Methodology." "Low Power and Shutdown PRA Methodology," ANS-58.22, will be incorporated into the Combined Standard once approved as an American National Standard.

ANS Standards Strengths and Improvement Opportunities

This document lists the perceived Strengths and Improvement Opportunities of ANS Standards and identifies several initiatives that will be used to enhance the viability of the our program. Some of these same strengths and weaknesses, in general, apply to all U.S. standards development organizations. They are not felt to be completely detrimental to the proper operation of a national consensus standards program but rather are just the process of doing this business. What is being proposed here is that these strengths and weaknesses be recognized by all the supporting organizations for the U.S. and international nuclear industry and a method be developed whereby they can be overcome by cooperation of the Standards Development Organizations (SDO) and other non-consensus document developers such that the industry can be served in both a timely and professional manner.

The ANS primary responsibility for standards for the nuclear industry lies in facility and system design, operations, site evaluations, fuel cycle and waste management, and emergency planning.

Strengths:

- ANS Standards are developed through the American Nuclear Standards Institute certified consensus process and thus represent Industry accepted technical and administrative requirements. The consensus process ensures a wide representation of Industry interests in the development of the standards. Each of the standards is published for public comment, and a very comprehensive, formalized process is used to ensure that all parties are represented and comments appropriately satisfied using a balance-of-interest consensus body.
- ANS Standards are appropriate for endorsement through the NRC Regulatory Guides and provide a means for the licensee to understand how to meet the criteria of those guides. ANS Standards as ANSI certified Standards, have gained special recognition through OMB Circular A 119 which directs the use of voluntary consensus standards in lieu of government unique standards, except where inappropriate. This expectation was further communicated by the NRC Commission to the staff through Management Directive 6.5.
- ANS Standards are applicable to both reactor and non-reactor nuclear facilities including power reactors, research reactors, fuel fabrication and storage facilities, and defense related facilities.
- ANS Standards are endorsed by the American National Standards Institute (ANSI) and are recognized as providing an appropriate basis for safe design, construction, operation, and decommissioning of nuclear facilities.
- ANS Standards are recognized as presenting exceptional and well founded technical positions for a wide range of issues based on many years of experience of those volunteers who make up the working groups for development and maintenance of standards.

Improvement Opportunities:

- ANS Standards generally take a long time to develop and reach consensus approval.
- Other Industry groups such as the Nuclear Energy Institute and the International Atomic Energy Agency are able to develop industry positions on key issues using a more timely non consensus based process.
- The benefits of the consensus process are not completely recognized to be more important than developing an Industry position on a fast track. At least in part, the long period required to develop a consensus standard is a result of the voluntary nature of the standards committee members.
- In the case of NEI, each effort to develop an industry position begins with the expectation that each utility will embrace the Industry position at the completion of the effort. Adoption of a particular revision of a standard is at the discretion of the user and is generally made on a cost/benefit basis in relation to the impact a new version of a standard will have on operations and safety of the facility.
- ANS Standards are usually written with the idea that they will be adopted through NRC Regulatory guides as an appropriate way of meeting a regulatory requirement. The participation of NRC committee members does not ensure the ultimate adoption of the standards. Other Industry groups take a more active role in engaging the NRC management in a dialogue that leads to the identification of acceptable approaches during development the Industry position. This approach is very effective when the Industry position involves non-technical issues.
- The clarification process for standards is lengthy and sometimes, when a clarification is requested many years after that standard was approved, the resolution ends in an inability to provide a position on the question due to the breakup of the members of the original working group.

Standards Improvement Initiatives: Future initiatives to improve the any standards process should include the following elements:

- Improve the interface with other Industry groups to reinforce recognition of the technical relevance of Standards. ANS and NEI should discuss areas where ANS should be responsible for develop of specific standards within their areas of responsibility to ANSI. Other SDOs should also be included for their particular expertise.
- ANS should develop focus areas where standards could be developed in concert with the fast track approach of industry groups to support industry initiatives such as new generation plants, different reactor technologies, decommissioning, upcoming defense industry needs, etc. The sector that benefits from these standards development effort should be approached for project funding to reduce the personal impact on volunteers.
- Encourage standards committees to engage the technical and management personnel at NRC during the standards development phase to better guarantee adoption of the standard through the regulatory guide process. This effort should include notification of the NRC Standards Executive for newly issued, reaffirmed, and revised standards, with a request for NRC endorsement where appropriate.

Affected NRC office directors, such as NRO, should be included in the notifications.

- Establish an NEI interface to facilitate utility support for critical Standards development needs.
- Establish a project management approach on a pilot basis for selected NFSC standards. The project management approach would include clear timelines and responsibilities for the key aspects of the standards development effort.
- Establish performance expectations for answering all requests for clarification and interpretation within 3 months. If original committee members are not available to render a technical opinion, the management committee should identify other area resident experts from the society members data base who will be able to render an appropriate position for the society.

N16 Progress Report
November 2008

PINS in Development

ANS-8.3, “Criticality Accident Alarm System,” (revision of ANSI/ANS-8.3-1997; R2003)

ANS-8.20, “Nuclear Criticality Safety Training,” (revision of ANSI/ANS-8.20-1991; R1999; R2005)

ANS-8.28, NCS & NDA Needs/Applications Standard – title to be defined (new standard)

PINS in Approval Process/Resolving Comments

ANS-8.25, “Development of Nuclear Criticality Safety Related Postings,” (new standard)

Standards in Development

ANS-8.1, “Nuclear Criticality Safety in Operations With Fissionable Materials Outside Reactors,” (revision of ANSI/ANS-8.1-1998; R2007)

ANS-8.10, “Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement,” (revision of ANSI/ANS-8.10-1983; R1988; R1999; R2005)

ANS-8.12, “Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors,” (revision of ANSI/ANS-8.12-1987; R1993; R2002)

ANS-8.15, “Nuclear Criticality Control of Selected Actinide Nuclides,” (revision of ANSI/ANS-8.15-1981; R1987; R1995; R2005)

ANS-8.19, “Administrative Practices for Nuclear Criticality Safety,” (revision of ANSI/ANS-8.19-2005)

ANS-8.21, “Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors,” (revision of ANSI/ANS-8.21-1995; R2001)

Published Standard

ANSI/ANS-8.27-2008, “Burnup Credit for LWR Fuel,” (new standard)

Other Issues

- N16 Rules & Procedures
- ANS-8.1 Clarification/Interpretation regarding ¶ 4.1.2 Process Analysis, ¶ 4.2.4 Double Contingency Principle, and Appendix A relationships and meanings/intents and seeming inconsistencies.
- Resolution of an outstanding Clarification of ANS-8.19 regarding ¶ 8.4 “"Before the start of operation, there shall be an **independent review** that confirms the adequacy of the nuclear criticality safety evaluation." – What type of independent review (e.g., technical peer review, committee review, outside independent review) ?

- Progress of long-outstanding PINS & Standard development of a posting standard.

N17 Progress Report
November 2008

Approved by ANSI

ANSI/ANS-10.4-2008, "Verification and Validation of Non-Safety Related Scientific and Engineering Computer Programs for the Nuclear Industry," (revision of ANSI/ANS-10.4-1987; R1998)

ANSI/ANS-15.16-2008, "Emergency Planning for Research Reactors," (revision of ANSI/ANS-15.16-1982; R1988; R2000)

ANSI/ANS-19.3.4-2002 (R200x), "The Determination of Thermal Energy Deposition Rates in Nuclear Reactors," (reaffirmation of ANSI/ANS-19.3.4-2002)

N17 Action Completed

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

ANS-15.16, "Emergency Planning for Research Reactors," (revision of ANSI/ANS-15.16-1982; R1988; R2000)

ANSI/ANS-19.3.4-2002 (R200x), "The Determination of Thermal Energy Deposition Rates in Nuclear Reactors," (reaffirmation of ANSI/ANS-19.3.4-2002)

In N17 Ballot/Vote (or resolving comments)

ANSI/ANS-6.1.2-1999 (R200x), "Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants" (reaffirmation of ANSI/ANS-6.1.2-1999)

ANS-15.11-200x, "Radiation Protection at Research Reactors," (revision of ANSI/ANS-15.11-1993; R2004)

ANS-15.19-200x, "Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactors," (historical revision of ANSI/ANS-15.19-1991; W2001)

ANS-19.10-200x, "Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals," (new standard)

PINS Submitted to ANSI

ANS-15.21-200x, "Format and Content for Safety Analysis Reports for Research Reactors"

N17 Membership Changes

Brian Dodd retired and was replaced with Richard Brey as HPS Representative. William Holt and Stephen Shepherd both in the individual category retired from the committee. General Electric representative, Edward Ehrlich, also retired from the committee. A replacement will be sought.

NFSC Chairman's Report
ANS November 2008 Meeting
Reno, Nevada

I. Standards approved (5)

Standard	Status	SC
ANSI/ANS-2.27-2008, Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments (new standard)	Approved by ANSI 7/31/08	ANS-25
ANSI/ANS-2.29-2008, Probabilistic Seismic Hazard Analysis (new standard)	Approved by ANSI 7/31/08	ANS-24
ANSI/ANS-16.1-2003 (R2008), Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure (reaffirmation)	Approved by ANSI 8/4/08	ANS-24
ANSI/ANS-51.10-1991 (R2008), Auxiliary Feedwater System for Pressurized Water Reactors (reaffirmation)	Approved by ANSI 10/14/08	ANS-22
ANSI/ANS-58.8-1994 (R2008), Time Response Design Criteria for Safety-Related Operator Actions (reaffirmation)	Approved by ANSI 8/25/08	ANS-22

II. Standards and draft standards at ballot or comment resolution (5)

Standard	Status	SC
ANS-3.5, Nuclear Power Plant Simulators for Use in Operator Training and Examination (revision of ANSI/ANS-3.5-1998)	resolving comments/revising draft	ANS-21
ANS-41.5, Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation (new standard)	resolving comments	ANS-24
ANS-40.37, Mobile Low-Level Radioactive Waste Processing Systems (reinvigoration of historic standard)	out for reballot	ANS-27
ANS-53.1, Nuclear Safety Criteria for the Design of Modular Helium-Cooled Reactor Plants (preliminary review of new standard)	resolving comment from preliminary review	ANS-28
ANSI/ANS-58.9-2002, Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	resolving comments	ANS-22

III. PINS forms in approval process (5)

Standard	Status	SC
ANS-2.6, Guidelines for Estimating Present & Forecasting Future Population Distributions Surrounding Nuclear Facility Sites (new standard)	resolving comments	ANS-25
ANS-2.25, Surveys of Terrestrial Ecology Needed to License Thermal Power Plants (reinvigoration of historic standard)	resolving comments	ANS-25
ANS-29.1, Operational Reactivity Management and Oversight at Light Water, Pressurized Water Power Reactors (new standard)	resolving comments	ANS-29
ANS-40.21, Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds (new standard)	resolving comments	ANS-25
ANS-56.8, Containment System Leakage Testing Requirements	resolving comments	ANS-21

IV. PINS in preparation (4)

Standard	Status	SC
ANS-2.8, Determining Design Basis Flooding at Power Reactor Sites (reinvigoration of historic standard)	to be drafted by WG	ANS-25
ANS-40.35, Volume Reduction of Low-Level Radioactive Waste or Mixed Waste (reinvigoration of historic standard)	to be drafted by WG	ANS-27
ANS-58.2, Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture (reinvigoration of historic standard)	to be drafted by WG	ANS-24
ANS-58.8, Time Response Design Criteria for Safety-Related Operator Actions	to be drafted by WG	ANS-24

RISC Progress Report
November 2008

Publication

The publication of ANSI/ASME/ANS-RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," has been delayed until December 2008.

Action Completed

The RISC was provided an opportunity to comment on four ASME ballots for the first addendum to ANSI/ASME/ANS-RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications." ANSI approval of the first addendum is expected by the end of the year with publication the beginning of 2009.

In RISC Ballot/Vote (or resolving comments)

ANS-58.22-200x, "Low Power Shutdown PRA Methodology"

- Writing group led by Don Wakefield
- Reballot issued due to substantive changes
- Reballot closed October 2008 with 674 committee comments and 116 public comments
- Significant comments will be discussed at the RISC meeting to provide the working group direction in resolving and determining a path forward

Standards in Progress

ANS-58.24-200x, "Severe Accident Progression and Radiological Release (Level 2) PRA Methodology to Support Nuclear Installation Applications"

- Writing group led by Mark Leonard
- PINS approved
- Progress hampered by lack of grant funds
- Ballot date to be determined

ANS-58.25-200x, "Standard for Radiological Accident Offsite Consequence Analysis (Level 3 PRA) to Support Nuclear Installation Applications"

- Writing group led by Keith Woodard
- PINS approved
- Progress hampered by lack of grant funds
- Ballot date to be determined

Other Issues

- Committee consensus on qualitative standards
- Status of NRC grant
- Coordination with NRMCC and CNRM
- Combining ANS RISC with ASME CNRM

Staff Report
November 2008

Standards Development

Project Initiation Notification System (PINS) forms were submitted to ANSI in 2008 announcing initiation of six standards projects that include five revisions to current standards and one proposed new standard. These include:

- ANS-5.1, "Decay Heat Power in Light Water Reactors," (revision)
- ANS-8.1, "Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors," (revision)
- ANS-8.21, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors," (revision)
- ANS-15.21, "Format and Content for Safety Analysis Reports for Research Reactors," (revision)
- ANS-19.11, "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors," (revision)
- ANS-58.16, "Safety and Pressure Integrity Classification for Non-Reactor Nuclear Facilities," (new)

Year to date, 13 ballots have been administered which include two revision, five reaffirmations, and six new standards. The American National Standards Institute granted final approval as American National Standards to five reaffirmations, one revision, and five new standards.

The first joint ASME/ANS PRA standard ASME/ANS-RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," was approved by ANSI on April 9, 2008, and is scheduled to be published December 2008. This joint standard combines ASME RA-S-2002, "Probabilistic Risk Assessment for Nuclear Power Plant Applications (PRA)," ANSI/ANS-58.21-2007, "External-Events in PRA Methodology," and ANSI/ANS-58.23-2007, "Fire PRA Methodology." Work has already begun on an addendum to the standard.

Committee News

The Nuclear Facilities Standards Committee (NFSC), the N16 Nuclear Criticality Safety, and the Risk Informed Standards Committee (RISC) are all scheduled to meet at the upcoming ANS Winter Meeting in Reno, Nevada, along with the Standards Board and numerous working groups. Several consensus committees and working group conference calls were held since June 2008 taking advantage of conferencing capabilities through the ANS phone system. The calls were used to follow progress of action items and ballots.

Clarification

The ANS Standards Committee received an inquiry on ANSI/ANS-57.1-1992 (R2005), "Design Requirements for Light Water Reactor Fuel Handling Systems." The response was issued and published in the August 2008 issue of *Nuclear News*. Recently issued clarifications are publicly available under related sections in the ANS On-line Store under standards. (http://www.ans.org/standards/clarifications/)

The Standards Committee currently has the following open inquiries:

- ANS-3.5-1985: Inquiry received December 12, 2005, determined to be a request for clarification. A response has been drafted and is out for subcommittee review and

approval. (ANS-21 Subcommittee Chair Tim Dennis/ANS-3.5 Working Group Chair Timothy Dennis)

- ANS-8.1-1998: Inquiry received October 27, 2007, determined to be a request for clarification and interpretation. Initially the inquiry was evaluated by N16 before being provided to the working group on June 17, 2008. The working group drafted a response in July 2008, but rescinded the response as they felt the working group needed to deliberate the issue. (ANS-8 Subcommittee Chair Tom McLaughlin/ANS-8.1 Working Group Co-chairs Doug Bowen and Nick Brown)

- ANS-8.19-2005: Inquiry received August 20, 2008, determined to be a request for clarification. A response has been drafted and provided to the ANS-8 Subcommittee Secretary for ANS-8 review and approval. (ANS-8 Subcommittee Chair Tom McLaughlin/ANS-8.19 Working Group Chairs Bill Carson)

- ANS-56.8-2002: Inquiry received October 19, 2006, determined to be a request for clarification. A response has been drafted and is out for subcommittee review and approval. (ANS-21 Subcommittee Chair Tim Dennis/ANS-56.8 Working Group Chair Jim Glover)

- ANS-58.2-1988: Inquiry received November 26, 2005, determined to be a request for clarification. An initial draft response was completed in December 2005 but was found to be incomplete. No additional progress has been made. (ANS-24 Subcommittee Chair Andy Wehrenberg/ANS-58.2 Working Group Chair Jim Gilmer)

Delinquent Standards

As ANSI requires that maintenance be performed on standards within five years of approval, standards that have not been reaffirmed or revised are considered delinquent. In this regard, a review was conducted of all delinquent standards and appropriate chairs were made aware. The list includes a total of 24 delinquent standards of our current 76 standards. Eight of these standards are currently in revision with a number of others being considered for reaffirmation.

Older Historic Standards List

Due to a significant increase of interest in historical documents, a list of older historical standards and published drafts were added to the ANS Web site. The list includes standards and published drafts dating back to the 1960s. All of the documents on the list are available for purchase and can be found at http://www.ans.org/standards/docs/addhistorical.pdf.

New On-Line Volunteer Database

The new on-line volunteer database has been temporarily put on hold until completion of the ANS Web site redesign. The standards section should be one of the first section brought over which will enable the completion of the on-line volunteer form and database. Once up and running, individuals interested in participation within the Standards Committee will be able to submit their information through a web-based form and upload their resume which will be electronically transmitted to the appropriate chair for review and consideration. Furthermore, the information will be maintained in a password-protected database with searchable capabilities for Standards Committee chairs when forming standards groups.

STANDARDS SALES REPORT
Report Date: 5/15/08 – 10/15/08

Designation & Title of Standard	# Of Paper/Electronic Copies Sold	Total Price
ANS-1-2000;R2007, Conduct of Critical Experiments	5	143.90
ANS-2.2-2002, Earthquake Instrumentation Criteria for Nuclear Power Plants	2	75.60
ANS-2.3-1983;W1993, Standard for Estimating for Extreme Wind Characteristics at Nuclear Power Plants	2	124.00
ANSI/ANS-2.8-1992; W2002, Determining Design Basis Flooding at Power Reactor Sites	1	136.00
ANS-2.9-1980;R1989;W2000, Evaluation of Ground Water for Nuclear Power Sites	1	75.00
ANS-2.10-2003, Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	2	73.00
ANS-2.11-1978;R1989; W2000, Guidelines for Evaluating Related Geotechechnical Parameters at Nuclear Power Sites	1	104.00
ANS-2.23-2002, Nuclear Plant Response to an Earthquake	3	276.60
ANS-2.26-2004, Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design	8/5	1163.80
ANS-3.1-1993;R1999, Selection, Qualification Training of Personnel for Nuclear Power Plants	10	676.20
ANS-3.5-1998, Nuclear Power Plant Simulators for Use in Operator Training and Examination	3	258.00
ANS-3.8.7-1998;W2008, Criteria for Planning, Development, Conduct and Evaluation of Drills and Exercises for Emergency Preparedness	1	50.00
ANS-3.11-2005, Determining Meteorological Information at Nuclear Facilities	6/1	701.20
ANS-5.1-1994;W2004, Decay Heat Power in Light Water Reactors	1	120.00
ANS-5.1-2005, Decay Heat Power in Light Water Reactors	2/5	792.60
ANS-5.10-1998;R2006, Airborne Release Fractions at Non-Reactor Nuclear Facilities	1	104.00
ANS-6.1.1-1991;W2001, Neutron and Gamma-Ray Fluence-To-Dose Factors	3	226.80
ANS-6.1.2-1999, Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	1	27.90
ANS-6.4-2006, Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants	8	1235.40
ANS-6.4.2-2006, Specification for Radiation Shielding Materials	3	186.00
ANS-6.4.3-1991;W2001, Gamma-Ray Attenuation Coefficients and Buildup Factors for Engineering Materials	3	536.00
ANS-6.6.1-1987;R1998;R2007, Calculation & Measurement Direct & Scattered Gamma Radiation from LWR Nuclear Power Plants	2	208.30
ANS/HpSSC-6.8.1-1981; W1992, Location and Design Criteria for Area Radiation Monitoring Systems for Light Water Nuclear Reactors	1	56.00
ANS/IEEE-7.4.3.2-1982;R1990;W1993, Standards Criteria for Digital Computers in Safety Systems of nuclear Power Plants	1	50.00
ANS-8.1-1983;R1988, W1998, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	3	225.00
ANS-8.1-1998;R2007, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	39	2265.75
ANS-8.3-1997;R2003, Criticality Accident Alarm Systems	5	393.90
ANS-8.5-1996;R2002, Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material	4	193.00
ANS-8.6-1983;R1988;R1995;R2001, Safety in Conducting Subcritical Neutron-Multiplication	4	96.50
ANS-8.7-1998;R2007, Guide for Nuclear Criticality Safety in the Storage of Fissile Materials	9	578.10
ANS-8.9-1987;R1995;W2000, Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate	1	42.00
ANS-8.10-1983;R1988;R1999;R2005, Criteria for Nuclear Criticality Safety Controls	1	37.00
ANS-8.12-1987;R1993;R2002, Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	3	225.00

ANS-8.14-2004, Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	1/1	74.00
ANS-8.15-1981;R1987;R1995;R2005, Nuclear Criticality Control of Special Actinide Elements	2	138.00
ANS-8.17-2004, Criticality Safety Criteria for the Handling, Storage and Transportation of LWR Fuel Outside Reactors	2	73.00
ANS-8.19-1996;W2005, Administrative Practices for Nuclear Criticality Safety	18/1	474.65
ANS-8.20-1991;R1999;R2005, Nuclear Criticality Training	4	141.00
ANS-8.21-1995;R2001, Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	2/1	110.00
ANS-8.22-1997;R2006, Nuclear Criticality Safety Based on Limiting & Controlling Moderators	2	86.00
ANS-8-23-2007, Nuclear Criticality Accident Emergency Planning and Response	9/1	928.60
ANS-8.24-2007, Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations	5/1	479.10
ANS-8.26-2007, Criticality Safety Engineer Training and Qualification Program	4/1	140.90
ANS-8.27-2007, Burnup Credit for LWR Fuel	1	33.30
ANS-10.2-2000, Portability of Scientific and Engineering Software	1	36.00
ANS-10.3-1995, Documentation Of Computer Software	3	128.00
ANS-10.4-1987;R1998;W2008, Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs in the Nuclear Industry	7	700.90
ANS-10.5-2006, Accommodating User Needs in Scientific and Engineering Computer Software Development	1	42.00
ANS-15.1-2007, The Development of Technical Specifications for Research Reactors	4/1	350.70
ANS-15.4-2007, Selection and Training of Personnel for Research Reactors	5/1	323.90
ANS-16.1-2003;R2008, Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure	1/1	203.30
ANS-19.6.1-2005, Reload Startup Physics Tests for Pressurized Water Reactors	2/1	272.60
ANS-51.1-1983;R1988;W2000, Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants	2	321.00
ANS-54.1-1989;W1999, General Safety Design Criteria for a Liquid Metal Reactor Nuclear Power Plant	1	62.10
ANS-55.1-1992;R2000, Solid Radioactive Waste Processing System for Light-Water-Cooled Reactor Plants	2	222.30
ANS-55.4-1993;R1999;R2007, Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants	3	295.80
ANS-55.6-1993;R1999;R2007, Liquid Radioactive Waste Processing System for Light Water Reactor Plants	4	395.20
ANS-56.2-1984;R1989;W1999, Containment Isolation Provisions for Fluid Systems After a LOCA	2	271.70
ANS-56.4-1983;R1988;W1998, Pressure and Temperature Transient Analysis for Light Water Reactor Containments	1	98.10
ANS-56.5-1979;R1987;W2000 (Errata Issued), PWR and BWR Containment Spray System Design Criteria	1	91.80
ANS-56.6-1986;W1996, Pressurized Water Reactor Containment Ventilation Systems	1	81.00
ANS-56.8-2002, Containment System Leakage Testing Requirements	4/3	701.70
ANS-56.10-1982;R1987;W1997, Subcompartment Pressure & Temperature Transient Analysis in Light Water Reactors	1	91.80
ANS-57.1-1992;R1998;R2005, Design Requirements for Light Water Reactor Fuel	4	207.20
ANSI/ANS-57.2-1983; W1993, Design Requirements for Light Water Reactor Spent Fuel Facilities at Nuclear Power Plants	4	382.10
ANS-57.5-1996;R2006, Light Water Reactors Fuel Assembly Mechanical Design and Evaluation	1	69.00
ANS-58.2-1988;W1998, Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	2	286.90

STANDARDS SALES REPORT
Report Date: 5/15/08 – 10/15/08

ANS-58.3-1992;R1998;R2007, Physical Protection for Nuclear Safety-Related Systems & Components	2	202.60
ANS-58.8-1994;R2001;R2008, Time Response Design Criteria for Safety-Related Operator Actions	5	342.00
ANS-58.9-1981;R1987;R2002, Single Failure Criteria for Water Reactor Safety-Related Fluid Systems	1	32.40
ANS-58.14-1993,W2003, Safety and Pressure Integrity Classification Criteria for LWR	3	429.00
ANS-58.21-2003, External-Events PRA Methodology	2	301.30
ANS-58.21-2007, External-Events PRA Methodology	3	459.00
ANS-58.23-2007, Fire PRA Methodology	17/1	2788.50
ANS-59.2-1985;W1995, Safety Criteria for HVAC Systems Located Outside Primary Containment	1	96.00
ANS-59.51-1997;R2007, Fuel Oil Systems for Safety-Related Emergency Diesel Generators	2	115.80
ANS-59.52-1998;R2007, Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	2	104.40
GRAND TOTAL SALES		**24641.20**

Project Activity Report

10/27/2008

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 & Forecasting Future Population Distributions Surrounding Nuclear Facility Sites	ANS-25	Barbara Mohrman	CC PINS Comment w/WG
ANS- 2 . 8	Determining Design Basis Flooding at Power Reactor Sites	ANS-25	OPEN	PINS Development
ANS- 2 . 9	Evaluation of Ground Water Supply for Nuclear Facilities	ANS-25	James S. Bollinger	WG Writing Draft
ANS- 2 . 13	Evaluation of Surface-Water Supplies for Nuclear Power Sites	ANS-25	Lance Vail	PINS Development
ANS- 2 . 15	Criteria for Modeling and Calculating Atmospheric Transport of Routine Releases from Nuclear Facilities	ANS-24	John Ciolek & Cliff Glantz - VC	WG Writing Draft
ANS- 2 . 16	Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities	ANS-24	John Ciolek / Cliff Glantz - VC	WG Writing Draft
ANS- 2 . 17	Evaluation of Radionuclide Transport in Ground Water for Nuclear Facilities	ANS-25	James Bollinger	WG Writing Draft
ANS- 2 . 18	Standards for Evaluating Radionuclide Transport in Surface Water for Nuclear Power Sites	ANS-25	Angelos Findikakis	PINS Development
ANS- 2 . 21	Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	ANS-25	Steve Vigeant / Cliff Glantz - VC	WG Writing Draft
ANS- 2 . 22	Environmental Radiological Monitoring at Nuclear Facilities	ANS-25	Peter Fledderman	WG Writing Draft
ANS- 2 . 25	Surveys of Terrestrial Ecology Needed to License Thermal Power Plants	ANS-25	Chris Guggino	CC PINS Comment w/WG
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	Joe Litehiser	WG Writing Draft
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	Jack Roe	PINS Development
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	Timothy Dennis	CC Ballot Comment w/ W C
ANS- 3 . 7 . 1	Facilities and Medical Care for On-Site Nuclear Power Plant Radiological Emergencies	ANS-21	OPEN	PINS Development
ANS- 3 . 8 . 1	Criteria for Radiological Emergency Response Functions and Organizations	ANS-25	OPEN	PINS Development
ANS- 3 . 8 . 2	Criteria for the Functional and Physical Characteristics of Radiological Emergency Response Facilities	ANS-21	OPEN	PINS Development
ANS- 3 . 8 . 3	Criteria for Radiological Emergency Response Plans and Implementing Procedures	ANS-25	OPEN	PINS Development
ANS- 3 . 8 . 4	Criteria for Maintaining Radiological Emergency Response Capability	ANS-21	OPEN	PINS Development
ANS- 3 . 8 . 5	Criteria for Emergency Radiological Field Monitoring, Sampling and Analysis	ANS-24	OPEN	PINS Development
ANS- 3 . 8 . 6	Criteria for the Conduct of Offsite Radiological Assessment for Emergency Response for Nuclear Power Plants	ANS-25	OPEN	PINS Development
ANS- 3 . 8 . 10	Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities	ANS-24	John Ciolek & Cliff Glantz - V C	WG Writing Draft

ANS- 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- 29. 1	Operational Reactivity Management and Oversight at Light Water, Pressurized Water Power Reactors	ANS-29		PINS Development
ANS- 40. 21	Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds	ANS-25	Daniel Hang	CC PINS Comment w/WG
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/ W G
ANS- 41. 5	Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	ANS-24	Saleem Salaymeh	Ballot @ CC
ANS- 51. 10	Auxiliary Feedwater System for Pressurized Water Reactors	ANS-22	David Murphy	PINS Development
ANS- 53. 1	Nuclear Safety Criteria for the Design of Modular Helium-Cooled Reactor Plants	ANS-28	Jim August	CC Ballot Comment w/ W G
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	Rob Tucker (?)	CC Ballot Comment w/ W G
ANS- 57. 3	Design Requirements for New Fuel Storage Facilities at LWR Plants	ANS-27	Rob Tucker (?)	CC Ballot Comment w/ W G
ANS- 58. 2	Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	ANS-24	Jim Gilmer	PINS Development
ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	Rick Hill	PINS Development
ANS- 58. 9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	ANS-22	Leroy E. "Rocky" Kreider **eff.9/03**	CC Ballot Comment w/ W G
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 for Non-Reactor Nuclear Facilities	ANS-22	OPEN	WG Writing Draft

N16

ANS- 8 . 1	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	ANS-8	Nick Brown & Doug Bowen	WG Writing Draft
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	Shean Monahan	PINS Development
ANS- 8 . 10	Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement	ANS-8	Linda M. Farrell	WG Writing Draft
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	Debdas Biswas	WG Writing Draft
ANS- 8 . 15	Nuclear Criticality Control of Selected Actinide Nuclides	ANS-8	Norm L. Pruvost	WG Writing Draft
ANS- 8 . 19	Administrative Practices for Nuclear Criticality Safety	ANS-8	R.W. (Bill) Carson	WG Writing Draft
ANS- 8 . 20	Nuclear Criticality Safety Training	ANS-8	Ron Knief	PINS Development
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	Hans Toffer	WG Writing Draft

ANS- 8 . 22	Nuclear Criticality Safety Based on Limiting and Controlling Moderators	ANS-8	Michael Crouse	PINS Development
ANS- 8 . 23	Nuclear Criticality Accident Emergency Planning and Response	ANS-8	James S. Baker	PINS Development
ANS- 8 . 25	Development of Nuclear Criticality Safety Related Postings	ANS-8	Gerard F. Couture	SB PINS Comments w/ WG
ANS- 8 . 28	NCS & NDA Needs/Applications Standard	ANS-8	Jerry McKamy	PINS Development

N17

ANS- 1	Conduct of Critical Experiments	ANS-1	Ted Schmidt	PINS Development
ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	Ian Gauld	WG Writing Draft
ANS- 6 . 1 . 1	Neutron and Gamma-Ray Fluence-To-Dose Factors	ANS-6	Nolan Hertel	PINS Development
ANS- 6 . 1 . 2	Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	ANS-6	F. Arzu Alpan	Ballot @ CC
ANS- 6 . 3 . 1	Program for Testing Radiation Shields in Light Water Reactors (LWR)	ANS-6	Jennifer Tanner	PINS Development
ANS- 6 . 4 . 3	Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials	ANS-6	Jeffrey C. Ryman	PINS Development
ANS- 6 . 6 . 1	Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants	ANS-6	OPEN	PINS Development
ANS- 10. 3	Documentation of Computer Software	ANS-10	Ted Quinn	PINS Development
ANS- 10. 7	Non-Real Time, High Integrity Software for the Nuclear Industry	ANS-10	Charles Martin	WG Writing Draft
ANS- 15. 2	Quality Control for Plate-Type Uranium-Aluminum Fuel Elements	ANS-15	John Sease/Clinton Dana Cooper	WG Writing Draft
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	Sean O'Kelly	WG Writing Draft
ANS- 15. 10	Decommissioning of Research Reactors	ANS-15	Sean O'Kelly	WG Writing Draft
ANS- 15. 11	Radiation Protection at Research Reactors	ANS-15	Steve Reese	Ballot @ CC
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 Reactor	ANS-15	Charles McKibben	CC Ballot Comment w/ W G
ANS- 15. 20	Criteria for the Reactor Control and Safety Systems of Research Reactors	ANS-15	Thomas Myers	PINS Development
ANS- 15. 21	Format and Content for Safety Analysis Reports for Research Reactors	ANS-15	Alexander Adams	WG Writing Draft
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	Bob Little	WG Writing Draft
ANS- 19. 3	Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors -- Slight change 2005 Added "Power"	ANS-19	Ben Rouben	PINS Development
ANS- 19. 4	A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	ANS-19	Dimitrios Cokinos	PINS Development
ANS- 19. 6 . 1	Reload Startup Physics Tests for Pressurized Water Reactors	ANS-19	C.T. Rombough	WG Writing Draft
ANS- 19. 8	Fission Product Yields for 235U, 238U, and 239P	ANS-19	OPEN	PINS Development

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	CC Ballot Comment w/ W C
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	Russ Mosteller	WG Writing Draft
ANS- 19. 12	Nuclear Data for the Production of Radioisotope	ANS-19	Marc Garland / Robert Schenter	WG Writing Draft

RISC

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

Delinquent Standards

10/27/2008

NFSC

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
ANS- 2 . 2	Earthquake Instrumentation Criteria for Nuclear Power Plants	ANS-25	10/21/2002	12/31/2010	12/31/2010	NONE	Approved as N18.5-1974; revised 1978; revised 5/3/88. Referenced in RG 1.12. Extended to 12/31/95. Second (maximum) extension to 12/31/98. Nuppsco ballot on revision closed 9/30/97. Public review closes 11/28/97. Consensus not resolved. ANSI admin withdrew the 1988 version of this stnd on 5/19/2000. 11/21/2002- ANSI approved revision. Per Mazzola 6/04 NFSC Report -- reaffirmation should be address in 2006. 11/22/05: Per Dennis Ostrom, this standard could be written for all nuclear facilities -- C. Mazzola suggested preparing a PINS in 2006 to revise for this direction. Looking for new chair. Extension granted until 12/31/2010. Under consideration for reaffirmation.
ANS- 2 . 10	Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	ANS-21	4/14/2003	12/31/2011	12/31/2011	NONE	Approved in 1979. Under revision and ballot. Extended to 7/31/86; maximum extension to 12/31/89. ANSI withdrawn on 4/90. Re-ballot on 6/19/91. Substantive changes to draft. Ballot new draft. Re-ballot due 3/19/98. 2.01-this stnd has been transferred from ANS-25 subcommittee to ANS-21. 09/30/02- sent to third ballot to NFSC. ANSI Approved - April 14, 2003; Publication Delivered: June 1, 2004. Extension granted until 12/31/2011.
ANS- 2 . 23	Nuclear Plant Response to an Earthquake	ANS-21	5/6/2002	12/31/2010	12/31/2010	NONE	Nuppsco ballot closed 9/30/97. Public review closed 11/28/97. ANSI approved standard on 5/6/2002. Extension granted until 12/31/2010. 8/13/07: Per WGC Bob Kassawara, he expects the standard to be used in the immediate future at the Kashiwazaki plant and will be able to assess whether a revision/reaffirmation is appropriate at that time. WGC provided RF statement which was sent to T. Dennis for approval 8/28/2008.

ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	2/4/1999	2/4/2009	2/4/2009	PINS Development	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. Final extension granted by ANSI until 2/24/2009. Three volunteers (Shingler, Axinn, Stiles) provided for consideration as WGC/WGM. Shingler asked to chair -but turned down. Jack Roe accepted chair position 1/2008 to lead revision; WG is forming. Received email from ANSI on 9/24/08 notifying us of 2/1/09 administrative withdrawal. (Not candidate for RF.)
ANS- 3 . 4	Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	ANS-21	7/23/2002	12/31/2010	12/31/2010	NONE	Approved as N546 1976; revised 1983; reaffirmed 4/18/88; revised 2/7/96. Extension until 12/31/02. Reaffirmed-ANSI approved 7/23/02 (this RF also includes the new statement to the Fwd.). Per Mike Ruby at June 04 NFSC meeting, just lost WG Chair. Action Item 11/05-07 for Tim Dennis to find new chair. Extension granted until 12/31/2010. 12/10/07: T. Dennis sent offer to L. Kubec-Krause with offer to chair RV but no response. A few other names for potential WGMs provided to T. Dennis.
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. Per 11/11/04 e-mail from Andy Wehrenberg, Jim Seljvar has aggred to chair next revision. 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. 10/2007: WGC provided needed contacts to get data so that revision can be completed. WG Meeting being held during ANS Annual meeting June 2008. Rec'd email from ANSI on 9/24/08 that this standard will be administratively withdrawn on 9/18/2009.

ANS- 55. 1	Solid Radioactive Waste Processing System for Light-Water-Cooled Reactor Plants	ANS-22	6/7/2000	6/7/2010	6/7/2010	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-22 SCC Dennis Newton agreed to initiate a RV of this standard in order to resolve comment on RF ballot of ANS-55.6. RV to be iniated. New WGC needed. Extension granted until 6/7/2010. RF statement being prepared by D. Newton.
ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	11/27/2002	12/31/2010	12/31/2010	PINS Development	Approved 1981. Revised 1987. Was originally N45.4-1972 (ANS-7.60). Revised 1/20/87. Extended to 12/31/94. Revised 8/4/94. 11/27/2002- ANSI approved revision. Suggested at June 04 NFSC meeting to make next revision performanced based. J. Glover requested PINS form for revision via phone call 3-21-05. Per e-mail from J. Glover 3-21-05, this standard was made performanced based in the 2002 revision. Per 11/10/06 email: WG discussing proper direction for revision - PINS will be submitted before work on draft begins. Extension granted until 12/31/2010. WGC provided PINS to SCC T. Dennis. PINS sent to ANS-21 for approval 8/10/ 2007. As of 5/08: no word from SCC regarding subcommittee approval.
ANS- 57. 9	Design Criteria for an Independent Spent Fuel Storage Installation (Dry Type)	ANS-27	6/7/2000	6/7/2010	6/7/2010	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. Action Item 11/07-13: Jeff Brault to facilitate a review of ANSI/ANS-57.9-1992; R2000 prior to next meeting (6/08) to determine if revision or reaffirmation applicable. Names to help w/review provided to J. Brault by Wright, Roe, & Hill. Extension granted until 6/7/2010.
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. 9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	ANS-22	8/14/2002	12/31/2010	8/14/2007	CC Ballot Comment w/ W C	Approved 1981. Reaffirmed 09/11/1987. Combination of ANS-51.7 and 52.4. Under MC-1 Management. Extended to 12/31/94. 10/94 draft to working group for approval. 2nd extension to 12/31/97. Reaffirmed 08/14/02. New statement to foreword was added.There are 2 drafts on file: March, 1994 (Action: Revision) Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems; and January, 1995 (Action: Revision) Application of the Single Failure Criterion for Light Water Reactor Safety-Related Rluid Systems. ANSI/ANS-58.9-1981;R1987 was withdrawn but reapproved as new standard -- technically is ANSI/ANS-58.9-2002. Transferred from ANS-21 to ANS-22 in 2007 NFSC restructuring. Extension granted by ANSI until 12/31/10. RF ballot issued w/due date of 9/22/08. Ballot closed 10/1/08 & comments sent to WGC same day. CRs due 12/12/08.
ANS- 58. 11	Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors	ANS-22	7/23/2002	12/31/2010	12/31/2010	NONE	Approved 5/10/83. Reaffirmed 02/02/1989. Under MC-1 Management. Extended to 12/31/96. SSC approves PC November 1992. Revised 7/10/95. First extension to 12/31/03. Reaffirmed 7/23/02 with new statement to the foreword. Transferred from ANS-21 to ANS-22 in 2007 NFSC restructuring. Extension granted until 12/31/2010. Open Action Item for D. Newton to find new WGC.
ANS- 59. 3	Nuclear Safety Criteria for Control Air Systems	ANS-22	8/30/2002	12/31/2010	12/31/2010	NONE	Approved 1977. Revised 09/14/84. Extended to 12/31/92. Revised 7/28/92. Draft on file dated 9/1/83. Second extension to 7/28/02. At ballot RF ballot 2/23/02. ANSI withdrew on 7/26/2002. Reaffirmed 8/30/2002. Extension granted until 12/31/2010. Standard reviewed by R. Hill. Findings sent to D. Newton/M. Ruby for consideration if RF appropriate.

N16

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

ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	6/12/2003	9/9/2008	9/9/2008	PINS Development	Approved as N16.2-1969. Revised 1979. Revised (and combined with N2.3) 1986; (ref. in RG 8.12). Revised 8/29/86. Revision to ANS-8 ballot 9/10/92; closes 10/12/92. Extended to 12/31/93. 2nd extension to 12/31/95. 3rd extension to 12/31/96. Withdrawn 12/31/1996. Revised 5/28/97. ISO 7753 in file for comparison. ANSI reaffirmed on 6/12/2003. According to N16 SB 11/2004 report, revision in works. Per 11/05 Minutes, PINS form in works for revision. Work has been underway for some time on the revision w/o a PINS form. Project is currently out of compliance with ANSI's PINS requirement. New WGC 9/2007: Shean Monahan. Sent email 5/20/08 to S. Monahan regarding PINS requirement. Extension granted until 6/12/2001.
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 activty in WG but recommends keeping the standard alive as long as as there was someone interested. ANSI granted extension until 12/31/09. Tim Valentine retired as 8.6 WGC via email 5-7-07. Bill Meyers appointed new chair as of Sept 2007. 10/2008: Email sent to WGC to consider revision/reaffirmation/withdrawal.
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	3/20/2002	12/31/2010	12/31/2010	WG Writing Draft	Published in 1978 (Ref. in RG 3.47). Being revised as ANS-8.12.1 with title change; see below. First extension to 12/31/01. (Rev. of ANS-8.12-1978). Revised 9/11/87. First extension to 12/31/94. Reaffirmed 2/17/93. 4/6/93: Project charter created for "its eventual revision." (Published version calls it "ANSI/ANS-8.12-1987. Reaffirmed 3/20/2002. 8/20/03-ANSI granted extension until 12/31/2007. New chair 6/1/06: Debdas Bixwas replaced Song Huang. Extension granted until 12/31/2010. PINS for revision submitted to ANSI 9/24/07.
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	7/23/2001	12/31/2009	12/31/2009	WG Writing Draft	Approved 6/12/95. First extension to 12/31/03. Reaffirmed 7/23/01. (7/21/03) - Requested extension from ANSI until 12/31/2005. (8/20/03) - ANSI granted extension until 12/31/2005. As 5th anny is not until 7/23/06, extension should not have been file. WG meeting at 11/04 ANS meeting. Per N16 SB report 11/2004 -- revising. Schlesser e -mail WGC 5/10/05 to recommend maintenance as 5th anny is approaching. ANSI granted extension until 12/31/09.May 2007. PINS for a revision of ANS-8.21 to incorporate a revision of ANS-8.5 approved w/o comment by SB -- submitted to ANSI 2/12/08.

N17

Designation	Title	Subcommittee	ANSI Approval Date	Extension Date	Action Needed By	Project Activity	History
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	Ballot @ CC	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. 5/19/08: with < 9 months before standard w/b reaffirming. ANS-6 Chair agreed and reffirmation w/b initiated once ANS-6 approves. PINS form will then be re-submitted to ANSI for revision. RF Ballot issued to N17 8/22/08 w/due date of 10/21/08. Rec'd email from ANSI on 9/24/08 stating that standard w/b administratively withdrawn on 2/8/09. This applies only if reaffirmation not completed before withdrawal date.
ANS- 10. 2	Portability of Scientific and Engineering Software	ANS-10	12/20/2000	12/20/2010	12/20/2010	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. Extension granted until 12/20/2010. 10/2008 Determining if candidate for RF.

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	Initially approved as USAS N8.1-1967. Approved as N398-1974. Ref. in RG 2.3. 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 fist 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. 9/2007: WGC (Cooper) agreed and suggested that revision be put on hold due to expected progress on the new high power LEU conversion fuel. Revision to be re-initiated when the new LEU fuel development is completed. Received email from ANSI that this standard will be administratively withdrawn on 3/8/09. This applies only if the revision is not completed by that date. If revision not completed in time, it will be considered a new standard vs. revision of current standard.
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	5/3/2000	5/3/2010	5/3/2010	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. 10/2008 Draft ready for subcommittee review. Email sent to W. Richards for status & to see if ANS-15.17 is ready for N17 ballot.
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	7/23/2002		7/23/2012	WG Writing Draft	Approved as N411-1975. Revised 7/2/83. Reaffirmed 3/3/89. First extension to 12/31/96. Second extension to 12/31/99. Revision balloted 2/18/00; comments being resolved. ANSI withdrawn 5/19/00. ANSI approved revision - July 23, 2002. Publication Delivered: June 1, 2004. Per 6/2005 ANS-19 minutes, existing standard was reviewed and determined to need revision. PINS approved by N17 & SB sent to ANSI 9/5/06.

ANS- 19. 3 . 4	The Determination of Thermal Energy Deposition Rates in Nuclear Reactors	ANS-19	3/20/2002	12/31/2010	12/31/2010	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. Revision approve by ANSI 3/20/2002. Per 6/04 meeting minutes, Perry retired as WGC, Cokinos looking for new chair. Extension granted until 12/31/2010. Per 11/07 ANS-19 Minutes: D. Cokinos will act as temporary chair to initiate a reaffirmation. RF ballot closed 8/27/08 w/one comment sent to D. Cokinos same day for consideration. SB LB due 10/9/08.
ANS- 19. 4	A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification	ANS-19	5/3/2000	5/3/2010	5/3/2010	PINS Development	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. Per ANS-19 11/07 minutes: D. Cokinois agreed to chair revision. WG to be formed -- WG will consider combining with historical RV of ANS-19.5. Extension granted until 5/3/2010.
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	12/17/2002	12/31/2010	12/31/2010	WG Writing Draft	Approved 9/25/97. Publication in process and completed. ANSI granted extension until 12/31/2005. Reaffirmed 12/17/2002. (7/21/03) - Requested extension from ANSI until 12/31/2007. (8/20/03) - ANSI granted extension until 12/31/2007. Maintenance will be discussed at ANS-19 meeting -- 11/15/04. Per 6/2005 minutes, Mosteller will review and decide if reaffirmation or revision is appropriate. Per 6/2007ANS-19 minutes, Mosteller reported that there will be a revision but nothing major. Extension granted until 12/31/2010. PINS approved by N17 with title change. "Water Moderated Power Reactors" changed to "Pressurized Water Reactors." Approved PINS sent to ANSI 1/23/08.

Status of Standards

10/27/2008

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	12/31/2010	12/31/2010	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 & Forecasting Future Population Distributions Surrounding Nuclear Facility Sites	ANS-25	Active Project				CC PINS Comment w/WG
ANS- 2 . 7	Guidelines for Assessing Capability for Surface Faulting at Power Reactor Sites	ANS-25	Historical				NONE
ANS- 2 . 8	Determining Design Basis Flooding at Power Reactor Sites	ANS-25	Active Project				PINS Development
ANS- 2 . 9	Evaluation of Ground Water Supply for Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 2 . 10	Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation	ANS-21	Current ANSI/ANS	4/14/2003	12/31/2011	12/31/2011	NONE
ANS- 2 . 11	Guidelines for Evaluating Site-Related Geotechnical Parameters at Nuclear Power Sites	ANS-25	Historical				NONE
ANS- 2 . 12	Guidelines for Combining Natural and External Man-Made Hazards at Power Reactor Sites	ANS-21	Historical				NONE
ANS- 2 . 13	Evaluation of Surface-Water Supplies for Nuclear Power Sites	ANS-25	Active Project				PINS Development
ANS- 2 . 14	Determination of the Shape of Response Spectra for Use in Nuclear Facilities Design	ANS-25	Inactive Project				NONE
ANS- 2 . 15	Criteria for Modeling and Calculating Atmospheric 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				PINS Development

ANS- 2 . 19	Guidelines for Establishing Site-Related Parameters for Site Selection and Design of an Independent Spent Fuel Storage Installation (Water Pool Type)	ANS-27	Historical				NONE
ANS- 2 . 20	Geology, Seismology, and Seismic Criteria (Tentative title)	ANS-25	Inactive Project				NONE
ANS- 2 . 21	Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	ANS-25	Active Project				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	12/31/2010	12/31/2010	NONE
ANS- 2 . 24	Establishing Geotechnical Parameters for Evaluating Geologic Repositories for High-Level Nuclear Waste	ANS-27	Inactive Project				NONE
ANS- 2 . 25	Surveys of Terrestrial Ecology Needed to License Thermal Power Plants	ANS-25	Active Project				CC PINS Comment w/WG
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	Current ANSI/ANS	7/31/2008		7/31/2013	NONE
ANS- 2 . 28	Nuclear Material Facility Design Against Natural Phenomena	ANS-25	Inactive Project				NONE
ANS- 2 . 29	Probabilistic Seismic Hazard Analysis	ANS-24	Current ANSI/ANS	7/31/2008		7/31/2013	NONE
ANS- 2 . 30	Assessing Capability for Surface Faulting at Nuclear Facilities	ANS-25	Active Project				WG Writing Draft
ANS- 3 . 1	Selection, Qualification, and Training of Personnel for Nuclear Power Plants	ANS-21	Current ANSI/ANS	2/4/1999	2/4/2009	2/4/2009	PINS Development
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	12/31/2010	12/31/2010	NONE
ANS- 3 . 5	Nuclear Power Plant Simulators for Use in Operator Training and Examination	ANS-21	Active Project				CC Ballot Comment w/ W G
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	Historical	1/30/1998	1/29/2008		PINS Development
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	8/4/2008		8/4/2013	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- 29. 1	Operational Reactivity Management and Oversight at Light Water, Pressurized Water Power Reactors	ANS-29	Active Project				PINS Development
ANS- 40. 4	Storage of Bottled Gases		Inactive Project				NONE
ANS- 40. 11	Radioactive Waste Categories		Inactive Project				NONE
ANS- 40. 12	Radioactive Waste Categories		Inactive Project				NONE
ANS- 40. 21	Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds	ANS-25	Active Project				CC PINS Comment w/WG
ANS- 40. 22	Siting and Operating High-Level Waste Storage Areas		Inactive Project				NONE
ANS- 40. 23	Criteria for Acceptance of Radioactive Wastes at Federal Repositories		Inactive Project				NONE
ANS- 40. 35	Volume Reduction of Low-Level Radioactive Waste or Mixed Waste	ANS-27	Active Project				PINS Development
ANS- 40. 36	Measurement of Radionuclides in Low Level Solid Wastes	ANS-26	Inactive Project				NONE
ANS- 40. 37	Mobile Low-Level Radioactive Waste Processing Systems	ANS-27	Active Project				CC Ballot Comment w/ W G
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			Ballot @ CC
ANS- 41. 6	Performance Tests to Evaluate Solid Waste Forms for LL Radioactive Waste and MW	ANS-23	Inactive Project			NONE
ANS- 41. 7	Performance Tests to Evaluate Waste Forms and Emissions for the Thermal Treatment of LL Radioactive and MW	ANS-23	Inactive Project			NONE
ANS- 41. 8	Performance Tests to Evaluate Criteria and Specifications for a Polymer or Cement Waste Form	ANS-23	Inactive Project			NONE
ANS- 41. 9	Performance Tests to Evaluate Criteria and Specifications for Treatment of Waste by Incineration	ANS-23	Inactive Project			NONE
ANS- 50. 1	Nuclear Safety Criteria for the Design of Stationary Light Water Reactor Plants	ANS-22	Inactive Project			NONE
ANS- 50. 2	HTGR Plant Solid Radwaste System (N204)		Inactive Project			NONE
ANS- 50. 3	LMFBR Gas Radwaste (N205)		Inactive Project			NONE
ANS- 50. 4	LMFBR Liquid Radwaste (N206)		Inactive Project			NONE
ANS- 50. 5	LMFBR Solid Radwaste (N207)		Inactive Project			NONE
ANS- 51	Pressurized Water Reactor Management Committee		Inactive Project			NONE
ANS- 51. 1	Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants	ANS-22	Historical			NONE
ANS- 51. 2	Safety Inspection System (N183)		Inactive Project			NONE
ANS- 51. 3	Residual Heat Removal System Design PWR (N185)		Inactive Project			NONE
ANS- 51. 4	Criteria for Safety Related Operator Actions (N660)		Inactive Project			NONE
ANS- 51. 5	Evaluation of Anticipated Transients Without Trip on Pressurized Water Reactor Plants (N661)		Inactive Project			NONE
ANS- 51. 6	Improved Reactor Shutdown Systems on Future PWR Plants (N662)		Inactive Project			NONE
ANS- 51. 7	Single Failure Criteria for PWR Fluid Systems	ANS-22	Historical			NONE
ANS- 51. 8	Revision and Addendum to Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants ANSI N18.2-1973		Historical			NONE
ANS- 51. 9	Criteria for Remote Shutdown of PWR Plants (N659)		Inactive Project			NONE
ANS- 51. 10	Auxiliary Feedwater System for Pressurized Water Reactors	ANS-22	Current ANSI/ANS	10/14/2008	10/14/2013	PINS Development
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	CC Ballot Comment w/ W C
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	6/7/2010	6/7/2010	NONE
ANS- 55. 2	Liquid Radioactive Waste Processing System for Pressurized Water Reactor Plants		Historical				NONE
ANS- 55. 3	Boiling Water Reactor Liquid Radioactive Waste Processing Systems		Historical				NONE
ANS- 55. 4	Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants	ANS-22	Current ANSI/ANS	5/14/2007		5/14/2012	NONE
ANS- 55. 5	no title		Inactive Project				NONE
ANS- 55. 6	Liquid Radioactive Waste Processing System for Light Water Reactor Plants	ANS-22	Current ANSI/ANS	5/14/2007		5/14/2012	NONE
ANS- 56	Containment		Inactive Project				NONE
ANS- 56. 1	Containment Hydrogen Control	ANS-24	Inactive Project				NONE
ANS- 56. 2	Containment Isolation Provisions for Fluid Systems After a LOCA	ANS-22	Historical				NONE
ANS- 56. 3	Overpressure Protection of Low Pressure Systems Connected to the Reactor Coolant Pressure Boundary	ANS-22	Historical				NONE
ANS- 56. 4	Pressure and Temperature Transient Analysis for Light Water Reactor Containments	ANS-22	Historical				NONE
ANS- 56. 5	PWR and BWR Containment Spray System Design Criteria	ANS-22	Historical				NONE

ANS- 56. 6	Pressurized Water Reactor Containment Ventilation Systems	ANS-22	Historical				NONE
ANS- 56. 7	Boiling Water Reactor Containment Ventilation Systems	ANS-22	Historical				NONE
ANS- 56. 8	Containment System Leakage Testing Requirements	ANS-21	Current ANSI/ANS	11/27/2002	12/31/2010	12/31/2010	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/ W C
ANS- 57. 3	Design Requirements for New Fuel Storage Facilities at LWR Plants	ANS-27	Active Project				CC Ballot Comment w/ W C
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	6/7/2010	6/7/2010	NONE
ANS- 57. 10	Design Criteria for Consolidation of LWR Spent Fuel	ANS-27	Current ANSI/ANS	7/6/2006		7/6/2011	NONE
ANS- 58. 1	Plant Design Against Missiles	ANS-21	Inactive Project				NONE
ANS- 58. 2	Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture	ANS-24	Active Project				PINS Development
ANS- 58. 3	Physical Protection for Nuclear Safety-Related Systems and Components	ANS-22	Current ANSI/ANS	3/18/08		3/18/2013	NONE
ANS- 58. 4	Criteria for Technical Specifications for Nuclear Power Stations	ANS-21	Historical				NONE
ANS- 58. 5	Probabilistic Risk Assessment	ANS-24	Inactive Project				NONE
ANS- 58. 6	Criteria for Remote Shutdown for Light Water Reactors	ANS-21	Current ANSI/ANS	8/31/2001	12/31/2009	12/31/2009	NONE
ANS- 58. 8	Time Response Design Criteria for Safety-Related Operator Actions	ANS-22	Current ANSI/ANS	8/25/2008		8/25/2013	PINS Development
ANS- 58. 9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	ANS-22	Current ANSI/ANS	8/14/2002	12/31/2010	8/14/2007	CC Ballot Comment w/ W C

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	12/31/2010	12/31/2010	NONE
ANS- 58. 12	Criteria for Availability of AC Power at Light Water Reactor Power Plants	ANS-21	Inactive Project				NONE
ANS- 58. 14	Safety and Pressure Integrity Classification Criteria for Light Water Reactors	ANS-22	Active Project				WG Writing Draft
ANS- 58. 15	Criteria for Severe Accident Evaluation	ANS-24	Inactive Project				NONE
ANS- 58. 16	Safety and Pressure Integrity Classification for Non-Reactor Nuclear Facilities	ANS-22	Active Project				WG Writing Draft
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	12/31/2010	12/31/2010	NONE
ANS- 59. 4	Generic Requirements for Light Water Nuclear Power Plant Fire Protection		Historical				NONE
ANS- 59. 6	Requirements for Fire Hazard Analysis at Light Water Nuclear Power Plants		Inactive Project				NONE
ANS- 59. 7	Control Room HVAC		Inactive Project				NONE
ANS- 59. 51	Fuel Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	Current ANSI/ANS	10/4/2007		10/4/2012	NONE
ANS- 59. 52	Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	ANS-22	Current ANSI/ANS	10/4/2007		10/4/2012	NONE
ANS- 59. 53	Starting Air Systems for Standby Diesel Generators	ANS-22	Inactive Project				NONE
ANS- 59. 54	Combustion Air Systems for Standby Diesel Generators	ANS-22	Inactive Project				NONE
ANS- 59. 55	Coolant System for Standby Diesel Generators	ANS-22	Inactive Project				NONE

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Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 8	Fissionable Materials Outside Reactors		Inactive Project				NONE
ANS- 8 . 1	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	ANS-8	Current ANSI/ANS	5/16/2007		5/16/2012	WG Writing Draft
ANS- 8 . 2	Proposed Standard on Computer Codes -- never named	ANS-8	Inactive Project				NONE
ANS- 8 . 3	Criticality Accident Alarm System	ANS-8	Current ANSI/ANS	6/12/2003	9/9/2008	9/9/2008	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	9/12/2007		9/12/2012	NONE
ANS- 8 . 7 . 1	Storage of Fissile Material	ANS-8	Inactive Project				NONE
ANS- 8 . 8	Criticality Safety Limits for Special Applications	ANS-8	Inactive Project				NONE
ANS- 8 . 9	Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate	ANS-8	Historical				NONE
ANS- 8 . 9 . 1	Nuclear Criticality Safety Criteria for Steel-Pipe Intersections Containing Aqueous Solutions of Fissile Materials	ANS-8	Historical				NONE
ANS- 8 . 10	Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement	ANS-8	Current ANSI/ANS	4/1/2005		4/1/2010	WG Writing Draft
ANS- 8 . 11	Validation of Calculational Methods for Nuclear Criticality Safety	ANS-8	Historical				NONE
ANS- 8 . 12	Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	ANS-8	Current ANSI/ANS	3/20/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 8 . 13. 1	Criteria for Establishing and Applying a Solid Angle Method for Nuclear Criticality Safety		Inactive Project				NONE
ANS- 8 . 13. 2	Guide for Evaluating Interaction Between Units of Low Enriched Uranium Using the Surface Density Method		Inactive Project				NONE
ANS- 8 . 14	Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	Current ANSI/ANS	5/25/2004		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	WG Writing Draft
ANS- 8 . 20	Nuclear Criticality Safety Training	ANS-8	Current ANSI/ANS	9/16/2005		9/16/2010	PINS Development
ANS- 8 . 21	Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	ANS-8	Current ANSI/ANS	7/23/2001	12/31/2009	12/31/2009	WG Writing Draft
ANS- 8 . 22	Nuclear Criticality Safety Based on Limiting and Controlling Moderators	ANS-8	Current ANSI/ANS	12/8/2006		12/8/2011	PINS Development
ANS- 8 . 23	Nuclear Criticality Accident Emergency Planning and Response	ANS-8	Current ANSI/ANS	3/23/2007		3/23/2012	PINS Development
ANS- 8 . 24	Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations	ANS-8	Current ANSI/ANS	3/16/2007		3/16/2012	NONE
ANS- 8 . 25	Development of Nuclear Criticality Safety Related Postings	ANS-8	Active Project				SB PINS Comments w/ WG

ANS- 8 . 26	Criticality Safety Engineer Training and Qualification Program	ANS-8	Current ANSI/ANS	6/20/2007		6/20/2012	NONE
ANS- 8 . 27	Burnup Credit for LWR Fuel	ANS-8	Current ANSI/ANS	8/14/2008		8/14/2013	NONE
ANS- 8 . 28	NCS & NDA Needs/Applications Standard	ANS-8	Active Project				PINS Development

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Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS- 1	Conduct of Critical Experiments	ANS-1	Current ANSI/ANS	10/11/2007		10/11/2012	PINS Development
ANS- 5	Energy and Fission Product Release, a management committee of NUPPSCO		Inactive Project				NONE
ANS- 5 . 1	Decay Heat Power in Light Water Reactors	ANS-19	Current ANSI/ANS	4/1/2005		4/1/2010	WG Writing Draft
ANS- 5 . 3	Fission Product Release to the Coolant of Light Water Reactors from Failed or Defective Fuel		Inactive Project				NONE
ANS- 5 . 6	Radiation Protection Design Criteria		Inactive Project				NONE
ANS- 5 . 6 . 1	Criteria for Accident Shielding		Inactive Project				NONE
ANS- 5 . 7 . 1	Post Accident Sampling		Inactive Project				NONE
ANS- 5 . 8	Delayed Neutron Data		Inactive Project				NONE
ANS- 6	Radiation Protection and Shielding	ANS-6	Inactive Project				NONE
ANS- 6 . 1 . 1	Neutron and Gamma-Ray Fluence-To-Dose Factors	ANS-6	Active Project				PINS Development
ANS- 6 . 1 . 2	Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants	ANS-6	Current ANSI/ANS	2/11/1999	2/10/2009	2/10/2009	Ballot @ CC
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	Designing for Post-Accident Radiological Conditions		Inactive Project				NONE
ANS- 6 . 9	Criteria for Post Accident Radiological Control	ANS-6	Inactive Project				NONE
ANS- 7 . 4 . 3	Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations		Historical				NONE
ANS- 10	Mathematics and Computation		Inactive Project				NONE
ANS- 10. 2	Portability of Scientific and Engineering Software	ANS-10	Current ANSI/ANS	12/20/2000	12/20/2010	12/20/2010	NONE
ANS- 10. 3	Documentation of Computer Software	ANS-10	Active Project				PINS Development
ANS- 10. 4	Verification and Validation of Non-Safety Related Scientific and Engineering Computer Programs for the Nuclear Industry	ANS-10	Historical				NONE
ANS- 10. 5	Accommodating User Needs in Scientific and Engineering Computer Software Development	ANS-10	Current ANSI/ANS	4/17/2006		4/17/2011	NONE
ANS- 10. 6	Guidelines for Tailoring Computer Standards to the Creation and Control of Nuclear Industry Software		Inactive Project				NONE
ANS- 10. 7	Non-Real Time, High Integrity Software for the Nuclear Industry	ANS-10	Active Project				WG Writing Draft
ANS- 14	Fast Pulse Reactors	ANS-14	Inactive Project				NONE
ANS- 14. 1	Operation of Fast Pulse Reactors	ANS-14	Current ANSI/ANS	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	8/17/2007		8/17/2012	NONE
ANS- 15. 5	Never Titled		Inactive Project				NONE
ANS- 15. 6	Review of Experiments for Research Reactors		Inactive Project				NONE
ANS- 15. 7	Research Reactor Site Evaluation	ANS-15	Historical				NONE
ANS- 15. 8	Quality Assurance Program Requirements for Research Reactors	ANS-15	Current ANSI/ANS	9/14/2005		9/14/2010	WG Writing Draft
ANS- 15. 9	Never Titled	ANS-15	Inactive Project				NONE

ANS- 15. 10	Decommissioning of Research Reactors	ANS-15	Active Project				WG Writing Draft
ANS- 15. 11	Radiation Protection at Research Reactors	ANS-15	Current ANSI/ANS	5/27/2004		5/27/2009	Ballot @ CC
ANS- 15. 12	Design Objectives for and Monitoring of Systems Controlling Research Reactor Effluents	ANS-15	Historical				NONE
ANS- 15. 14	Design Objectives for and Monitoring of Systems Controlling Research Reactor Effluents	ANS-15	Inactive Project				NONE
ANS- 15. 15	Criteria for the Reactor Safety Systems of Research Reactors	ANS-15	Historical				NONE
ANS- 15. 16	Emergency Planning for Research Reactors	ANS-15	Current ANSI/ANS	9/23/2008		9/23/2013	NONE
ANS- 15. 17	Fire Protection Program Criteria for Research Reactors	ANS-15	Current ANSI/ANS	5/3/2000	5/3/2010	5/3/2010	WG Writing Draft
ANS- 15. 18	Administrative Controls for Research Reactors	ANS-15	Historical				NONE
ANS- 15. 19	Shipment and Receipt of Special Nuclear Material (SNM) by Research Reactor	ANS-15	Active Project				CC Ballot Comment w/ W C
ANS- 15. 20	Criteria for the Reactor Control and Safety Systems of Research Reactors	ANS-15	Active Project				PINS Development
ANS- 15. 21	Format and Content for Safety Analysis Reports for Research Reactors	ANS-15	Current ANSI/ANS	9/29/2006		9/29/2011	WG Writing Draft
ANS- 19	Physics of Reactor Design	ANS-19	Inactive Project				NONE
ANS- 19. 1	Nuclear Data Sets for Reactor Design Calculations	ANS-19	Current ANSI/ANS	7/23/2002		7/23/2012	WG Writing Draft
ANS- 19. 2	Definitions of Reactor Physics Terms and Parameters	ANS-19	Inactive Project				NONE
ANS- 19. 2 . 1	Terms and Definitions for Breeder Reactor Systems	ANS-19	Inactive Project				NONE
ANS- 19. 3	Determination of Steady-State Neutron Reaction-Rate Distributions and Reactivity of Nuclear Power Reactors -- Slight change 2005 Added "Power"	ANS-19	Current ANSI/ANS	9/16/2005		9/16/2010	PINS Development
ANS- 19. 3 . 4	The Determination of Thermal Energy Deposition Rates in Nuclear Reactors	ANS-19	Current ANSI/ANS	3/20/2002	12/31/2010	12/31/2010	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	5/3/2010	5/3/2010	PINS Development
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				PINS Development
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				CC Ballot Comment w/ W C
ANS- 19. 11	Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors (for RV of 1997 issue)	ANS-19	Current ANSI/ANS	12/17/2002	12/31/2010	12/31/2010	WG Writing Draft
ANS- 19. 12	Nuclear Data for the Production of Radioisotope	ANS-19	Active Project				WG Writing Draft

ANS- 54. 4	Nonmetallic Thermal Insulation for Austenitic Stainless Steel in LMFBRs		Inactive Project				NONE
ANS- 58. 13	Design for Post-Accident Access External to LWR Primary Reactor Containments	ANS-5	Inactive Project				NONE

RISC

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

None

Designation	Title	Subcommittee	Status	ANSI Approval Date	Extension Date	Action Needed By	Project Activity
ANS-							NONE
ANS-			Inactive Project				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	Concrete Radiation Shields	Historical	NONE
ANS- 11. 13	In-Cell Utility Requirements	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

REPORT for ISO TC85/SC5
(Nuclear Fuel Technology)

Calvin Hopper

Prior to the 20 June 2008 ISO TC85 Plenary Meeting, SC5 was comprised of 7 working groups:

1) WG1 - Measurement methods for chemical and physical characterization of UF6, UO2 and UO_2/Gd_2O_3 – *SIS Convener*
2) WG3 - Measurement methods for determination and characterization of input and end products of reprocessing plants – *AFNOR Convener*
3) WG4 - Standardization for transport containers for UF_6– *BSI Convener*
4) WG5 - Standardization of measurement methods for the characterization of solid and solidified waste forms, and for the corrosion of their primary containers – *AFNOR Convener*
5) WG8 - Standardization of calculations, procedures and practices related to criticality safety– ANSI Convener, Calvin Hopper
6) WG9 - Trunnions for spent fuel element shipping casks– *AFNOR Convener*
7) WG12 - Measurement methods for chemical and physical characterization of MOX pellets– *BSI Convener*

ISO TC85 and SC5 has recently acknowledged the shift in non-reactor nuclear facility needs and emphases from the standardization of fuel chemistry, accountability, and fabrication to the needs for standardization of waste management issues, general packaging and transportation, decommissioning, and further standardization in the areas of nuclear criticality safety.

At the 20 June 2008 ISO TC85 Plenary Meeting in Orlando, Florida the ISO TC85 SC5 Chair presented the newly approved working group structure for SC5.

- Working Groups 1, 3 and 12 have been merged into Working Group 1 and titled Analytical methodology in nuclear fuel cycle – Convenor Mike James (BSI).
- WG 5 has been expanded to include Waste management – Convenor B Amerkraz (AFNOR)
- WG 8 remains unchanged - Criticality control of nuclear fuel cycle – Convenor Calvin Hopper (ANSI)
- Working Groups 4 and 9 have been merged into Working Group 4 and titled Transportation of Radioactive Materials – Convenor Pierre Malesys (AFNOR) and a Co-Convenor R Pollard (BSI)
- A new Working Group (not presently numbered) is under evaluation for addressing Decommissioning issues for non-reactor nuclear facilities – Convenor R Yetts (BSI)

Progress of SC5 during the first half of 2008 included:

- the approval of four ISO standards
  1) ISO 18213-4:2008 – Nuclear fuel technology -- Tank calibration and

volume determination for nuclear materials accountancy -- Part 4: Accurate determination of liquid height in accountancy tanks equipped with dip tubes, slow bubbling rate

2) ISO 18213-5:2008 – Nuclear fuel technology -- Tank calibration and volume determination for nuclear materials accountancy -- Part 5: Accurate determination of liquid height in accountancy tanks equipped with dip tubes, fast bubbling rate
3) ISO 18213-6:2008 – Nuclear fuel technology -- Tank calibration and volume determination for nuclear materials accountancy -- Part 6: Accurate in-tank determination of liquid density in accountancy tanks equipped with dip tubes
4) ISO 22875:2008 – Nuclear energy -- Determination of chlorine and fluorine in uranium dioxide powder and sintered pellets

and

- the continuing development of fifteen ISO standards
  1) ISO/PRF 9278 – Nuclear energy - Uranium dioxide pellets -- Determination of density and volume fraction of open and closed porosity
  2) ISO/DIS 9463 – Nuclear energy -- Nuclear fuel technology -- Determination of plutonium in nitric acid solutions by spectrophotometry
  3) ISO/DIS 10276 – Nuclear energy -- Fuel technology -- Trunnions for packages used to transport radioactive material
  4) ISO/AWI 11311 – Nuclear fuel technology -- Criticality safety -- Critical values for homogeneous plutonium - Uranium oxide fuel mixtures outside of reactors
  5) ISO/NP 11320 – Nuclear fuel technology -- Criticality safety -- Emergency prepardness and response
  6) ISO/DIS 13465 – Nuclear energy -- Nuclear fuel technology -- Determination of neptunium in nitric acid solutions by spectrophotometry
  7) ISO/DIS 15646 – Nuclear fuel technology -- Resintering test for UO_2, $(U,Gd)O_2$ and $(U,Pu)O_2$ pellets
  8) ISO/PRF 18213-3 – Nuclear fuel technology -- Tank calibration and volume determination for nuclear materials accountancy -- Part 3: Statistical methods
  9) ISO/DIS 21483 – Determination of solubility in nitric acid of plutonium in unirradiated mixed-oxide fuel pellets (U, Pu) O_2
  10) ISO/PRF 21484 – Nuclear fuel technology -- Determination of the O/M ratio in MOX pellets -- Gravimetric method
  11) ISO/PRF 21614 – Determination of carbon content of UO_2, (U, Gd)O_2 and (U, Pu)O_2 powders and sintered pellets -- Combustion in a high-frequency induction furnace -- Infrared absorption spectrometry
  12) ISO/DIS 22765 – Sintered (U, Pu)O_2 pellets -- Guidance for ceramographic preparation for microstructure examination
  13) ISO/DIS 26062 – Nuclear technology -- Nuclear fuels -- Procedures for

the measurement of elemental impurities in uranium- and plutonium-based materials by inductively coupled plasma mass spectrometry

14) ISO/FDIS 27467 – Nuclear criticality safety -- Analysis of a postulated criticality accident
15) ISO/CD 27468 – Nuclear fuel technology -- Criticality evaluation methodology for PWR burn up credit (BUC)

Calvin Hopper remains as the US NTAG Overall Advisor for SC5. Additionally, continuing Deputy Advisors for SC5 include: Charles Pietri for Working Group 1, Analytical methodology in nuclear fuel cycle; Ron Knief for Working Group 5, Waste characterization, containers, and management, Working Group 8 Nuclear criticality safety, and the developing Working Group on Decommissioning; and Rick Rawl for Working Group 4, Transportation of radioactive materials.