American Nuclear Society (ANS)
STANDARDS BOARD (SB) Meeting Minutes
Omni Shoreham Hotel, Washington, D.C.
November 12, 2013

Members Present:
Donald J. Spellman, *Standards Board Chair, Oak Ridge National Laboratory*
Steven L. Stamm, *Standards Board Vice Chair, Individual*
Robert J. Budnitz, *JCNRM Co-Chair*, *Lawrence Berkeley National Laboratory*
Robert D. Busch, *N16 Chair, University of New Mexico*
Donald R. Eggett, *FWDCC Chair, AMES, Inc.*
George Flanagan, *RARCC Chair, Oak Ridge National Laboratory*
N. Prasad Kadambi, *RP3C Chair*, *ISO & ANSI Liaison, Individual*
James O'Brien, *NRNFCC Chair, U.S. Department of Energy*
Herbert W. Massie, *Member at Large, Defense Nuclear Facilities Safety Board*
Carl A. Mazzola, *ESCC Chair, Shaw Project Group Services*
Charles (Chuck) H. Moseley, *Member at Large, Individual*
Mathew M. Panicker, *Member at Large, U.S. Nuclear Regulatory Commission*
William Reuland, *LLWRCC Chair, Individual*
James Riley, *Liaison, Nuclear Energy Institute*
R. David Sachs, *Member at Large, Individual*
Andrew Smetana, *SRACC Chair, Savannah River National Laboratory*
Patricia (Pat) A. Schroeder, *Standards Board Secretary, American Nuclear Society*
Tina Taylor, *EPRI Liaison, Electrical Power Research Institute*
William M. Turkowski, *Member at Large, Westinghouse*
Edward Wallace, *Member at Large*, *NuScale Power Inc.*

Members Absent:
James K. August, *Member at Large, CORE, Inc.*
Walter M. Justice*, Member at Large, Individual*
R. Michael Ruby, *Member at Large, Individual*

Guests:
Kenneth Balkey, *ASME Standards & Certification Senior Vice President, Westinghouse*
William H. Bell, *South Carolina Electric and Gas*
C. Rick Grantom, *South Texas Nuclear Operating Plant*
Peter S. Hastings, *B&W Generation mPower*
Donald R. Hoffman, *ANS President, Excel Services Corporation*
Calvin M. Hopper, *Individual*
David Johnson, *ABS Consulting*
Timothy Meneely, LLWRCC Vice Chair, *Westinghouse*
Carol Moyer, *U.S. Nuclear Regulatory Commission*
Pamela F. Nelson, *National Autonomous University of Mexico*
Maryanne Stasko, *Duke Energy*

1. Welcome and introductions - Introduction of new liaison member
Standards Board Chair Donald Spellman called the meeting to order at 9:01 a.m. and welcomed all. Introductions were made. Spellman introduced Tina Taylor as a new member of the Standards Board (SB) to provide liaison services with the Electrical Power Research Institute (EPRI).

2. Approval of agenda

The revised agenda was approved as presented.

3. Old Business

A. Status of American Nuclear Society (ANS)/Nuclear Energy Institute (NEI) Memorandum of Understanding (MOU) / Attachment 1 -- draft MOU
Donald Spellman informed members that he had discussions with James Riley regarding the ANS/NEI MOU. Discussions led to a recommendation to incorporate the substance of the MOU into a letter. Riley explained that he thought a letter would be received more positively. Members recalled previous issues that led to the creation of the action item. When asked, Riley felt his participation insured coordination. Stamm was acceptable with issuing a letter provided that it incorporated all points in the MOU and requested confirmation. Reuland suggested including the positive effects of coordination through the NEI liaison be included. This action item was closed with the following new action item assigned.

Action Item 11/13-01: Donald Spellman to prepare a letter to NEI capturing points from the ANS/NEI MOU and send to the SB for review. DUE: March 31, 2014

B. Overview of major topics
Standards Board Chair Donald Spellman noted the following topics that would be discussed today:

- Small modular reactors (SMRs)
- SB Strategic Plan
- Component classification
- Progress in the Nuclear Energy Standards Coordination Collaborative (NESCC)
- Standards Committee Reorganization

C. Discussion of current action items
A status report of action items was provided to members showing the majority of action items from the previously meeting had been completed. A record of these action items is provided at the end of these minutes. Discussions of action items are provided below.

Action item 6/13-11 for a societal MOU with the American Society of Mechanical Engineers (ASME) was discussed. The sentiment of the committee was that the MOU would serve no purpose. Donald Spellman suggested that the vehicle be a letter instead of a MOU. Riley suggested that this issue be addressed with a dialog through the NESCC. Steven Stamm suggested better communication with ASME to keep abreast of new projects. Robert Budnitz questioned the need for an MOU or letter. Budnitz made the following motion:

> **MOTION:** Action Item 6/13-11 should be dropped.

The discussions led to a request from Budnitz to drop his motion for the motion to be amended. The request was approved. The following amended motion was made:

> **AMENDED MOTION:** ANS to work with the NESCC to develop an interface management program that defines how societies developing nuclear standards work together.
>
> The above motion was amended and approved unanimously with the word “program” replaced with “protocol.”

In response to Action Item 11/12-07, Stamm reported that he held discussions with Corey McDaniels. McDaniels offered his support to distribute the pamphlet internationally. The action item was closed. David Sachs stated that he had completed all of Spellman's corrections to the pamphlet and that the number of

email addresses for distribution had reached 555. Sachs provided the revised pamphlet to Spellman who would review before professional editing and design work by ANS.

Action Item 11/13-02: Donald Spellman to review revised standards pamphlet for international distribution and give ANS staff direction to have edited and professionally designed.
DUE: January 31, 2014

D. Update on standards information technology (IT) requests
Patricia Schroeder reported that there had been positive progress in the area of IT requests for the Standards Committee. All were reminded that a business case for a standards e-balloting system and committee workspace had been approved by the ANS Finance Committee and would go before the Board of Directors (BOD) for approval later that week on Thursday. Donald Spellman would be attending the ANS BOD meeting to present the standards business case. The product in consideration was created by the Kavi Company and called the Kavi Workspace. The product would support electronic balloting including comment submission and resolution, document management, and provide each committee its own work area to track assignments and action items and house a document library. The Society was also upgrading its Association Management System (AMS) for membership records, accounting, and order processing. The AMS would have some similar capabilities to support committee work. It was possible that the requested volunteer database could use the AMS to build from. The AMS will take up to a year to implement. After this time, the ANS IT Department will analyze what would be necessary to create a volunteer database through the AMS. The issue of digital right management (DRM) had been put on hold for now due to user complaints with this technology. DRM technology would be followed and revisited in the future.

Steven Stamm suggested that Schroeder use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members.

Action Item 11/13-03: Schroeder to use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members.
DUE: As needed.

E. SB Special Committee chairs membership as ex officio / Attachment 2 -- proposed change to ANS Rule
Donald Spellman explained that he thought it was important to have the discretion to include chairs of SB Special Committees as ex officio members to the SB if deemed necessary. Members were directed to the proposed revision to the ANS Rule for membership on the SB. Once the change was approved by the SB, it would be sent to the ANS Bylaws and Rules Committee for approval and then on to the ANS BOD for concurrence. The change would then be incorporated into the ANS Standards Committee Rules and Procedures and sent to the American National Standards Institute (ANSI) for approval. Members asked for a two-week review through a formal ballot.

Action Item 11/13-04: Pat Schroeder to issue the proposed membership change to the ANS “Rule” for a two-week formal ballot. (Proposed change to include SB Special Committee Chairs as ex officio members of the SB if appropriate.)
DUE: January 31, 2014

F. Standards Committee reorganization update report - Transition Plan / Attachment 3 -- Transition Plan
Stamm reminded members that the six new consensus committees (CCs) and their chair were approved at the last meeting. Vice chairs have since been selected, organizational charts have been prepared, as well as scopes drafted. Balance of interest for all CCs would be certified later in the agenda. Spellman explained that he reviewed the ANS scope on file with ANSI and suggested that it be reviewed to make sure all areas were covered. Stamm offered to review scopes and confirm. The scopes will then be issued for ballot to the SB for approval.

Action Item: 11/13-05: Steven Stamm to review draft CC scopes against the Standards Committee scope to insure that all areas are covered.
DUE: January 31, 2014

Action Item 11/13-06: Pat Schroeder to issue the scopes for SB approval via ballot after Steven Stamm's review of the ANS Standards Committee scope.
DUE: January 31, 2014

Members were questioned if training had been prepared for new chairs and members. Schroeder stated that she committed to updating a presentation for a web training. The presentation would include the organizational structure and scopes. Once the scopes were approved, the presentation could be completed. Schroeder offered to help with the presentation, but felt it would be helpful to have an experienced chair to provide additional insight.

Mathew Panicker questioned the placement of decommissioning standards in the new structure and whether there were any standards on this topic. Donald Eggett, chair of the Fuel, Waste, and Decommissioning (FWD) CC, confirmed that we currently didn't have any ANS standards in this area. Spellman suggested that this area be considered for new standards. He added that all CCs had been tasked with reviewing their scope and determining whether new standards were needed. Spellman recalled that a priority list of proposed new standards was prepared and sent to Sally Seitz of ANSI a while back. He offered to provide the list to Carol Moyer.

Action Item 11/13-07: Donald Spellman to provide Carol Moyer the priority list of proposed new standards.
DUE: December 31, 2013

G. Discussion of placement of SMR standards / Attachment 4 -- SMR Flowchart
George Flanagan led a discussion on the placement of standards on SMRs. He suggested that there should be consideration on placement on a case-by-case basis as a standard may apply to light water reactors (LWRs) and SMRs. In that case, the standard may be better placed under the Large Light Water Reactor (LLWR) CC instead of the Research and Advanced Reactors (RAR) CC. The provided flow chart (Attachment 4) delegated that all SMR standards originate in the RAR and gave them the discretion to determine if it should be reassigned to the LLWR.

Robert Budnitz informed members that the joint standard was written to apply to SMRs and LWRs. He was questioned on how the JCNRM decided on whether to separate or combine risk application to SMRs with or separate from large LWRs. Budnitz offered to provide this information to members after the meeting.

Action Item 11/13-08: Robert Budnitz to report back to the SB on how the JCNRM approached the decision on whether to separate or combine risk application to SMRs with or separate from large LWRs.
DUE: November 30, 2013

Steven Stamm reminded members why SMRs were assigned to one CC. The intent was to take a look at what the iSMRs used as it is quite varied and find the best method.

Prasad Kadambi added that the subject of writing ANS-50.1 for SMRs was addressed at yesterday's Risk-informed, Performance-based Principles and Policy Committee (RP3C) meeting. Peter Hastings added that he did not have a concern about the placement. He stated that he would be addressing this issue in the strategic plan later today. David Johnson, an ANS-50.1 Working Group member, asked for direction on behalf of the working group. Spellman stated that the direction would come from collaboration between the RAR and LLWR chairs through their CCs. Johnson asked that a decision be made on the customer for ANS-50.1. Reuland noted that an older EPRI document, "PSA Application Guide" could be helpful to working groups looking to risk-inform a standard. Reuland offered to distribute the guide.

Action Item 11/13-09: William Reuland to send Pat Schroeder the EPRI "PSA Application Guide" for distribution to the Standards Board for their information.
DUE: November 30, 2013

Stamm thought the worst thing that could happen would be to delay ANS-50.1 while decisions were being made. Spellman reiterated that this direction should come from the chairs of RAR and LLWR.

The committee also discussed NRC General Design Criteria (GDC) for PWRs.

H. ASME Standards & Certification Senior Vice President report

Kenneth Balkey, ASME Standards & Certification Senior Vice President addressed the Standards Board. He explained that he was responsible for all standards developed by ASME. Balkey stated that he wanted to address the request to make all standards publically available for free and a university program that incorporated standards in the curriculum to attract young professionals into standards.

Balkey explained the premise of the request for standards to be made publically available stems from the required use of standards that become law through incorporation by reference (IBR) in the Code of Federal Regulations. Language was inserted in a pipeline document that all IBR standards had to be publically available for free. An amendment was recently approved and strikes out the text requiring IBR standards to be publically available. The Office of the Federal Register worked with several agencies. The National Archives and Record Administration (NARA) recently issued a position statement regarding public availability of standards for comment. ASME was currently determining how to respond. Balkey stated that Westinghouse put together a letter recommending that standards NOT be made publically available for free as it would have serious consequences. The aerospace industry was determining how to handle as well. Pat Schroeder was asked to locate and provide the position statement from NARA and provide to the SB chair and vice chair to determine the appropriate action.

Action Item 11/13-10: Pat Schroeder to find the recent Federal Register Notice from the National Archives and Records Administration on Incorporation by Reference and provide to Donald Spellman and Steven Stamm for review and potential comment submittal.
DUE: November 30, 2013

Members were informed that ANSI has created a read-only portal for standards IBR free of charge to members. Several standards development organizations had provided their IBR standards for inclusion in the portal. Balkey was not aware of ANSI's IBR portal but felt that ASME would not be interested as they felt that IBR standards should not be publically available.

Balkey reported that ASME continued to work with Japan on post-Fukushima issues. ASME reviewed two Japanese guidance documents and offered comments but did not certify. ASME recommended that issues should be dealt with globally to work towards a common goal. Robert Budnitz informed the SB that he was involved with ASME's review of the Japanese guidance documents and made sure to inform them of the external events standard. Public confidence level on nuclear power in Japan and many countries had dropped due to issues resulting from the Fukushima earthquake and subsequent tsunami. Budnitz added that he was also part of the new Japan Nuclear Safety Organization.

Balkey explained that a university program was initiated to show students how valuable standards were. Standards from many organizations were used in the curriculum including standards from ANS. Carol Moyer provided insight to students on how the U.S. Nuclear Regulatory Commission (NRC) used and incorporated standards. Self-study programs for use at other universities as extra credit had been created. Balkey stated that they have found that faculty had been very open to incorporating standards in their curriculum. He recently learned of an undergraduate program at the National Autonomous University of Mexico that that used nuclear standards. Lastly, Balkey informed members of a free, on-line nuclear class that was highly successful.

I. Development of ANS Consensus Committee Procedures

Donald Spellman reminded members that the draft CC procedures – the ANS "Standards Committee Procedures Manual for Consensus Committees"—were provided to members ahead of the meeting for advanced review. Robert Busch questioned whether the procedures provided guidance on the appointment of subcommittee members. While there was agreement on how subcommittee membership was appointed, he asked that subcommittee membership be clarified in the CC procedures. Additionally, Busch asked that the procedures would not require CC meetings (remotely or physically) twice a year. He asked that the requirement be reduced to once a year. Members asked that the changes be made and the revised procedures be sent out via ballot for a final review.

Action Item 11/13-11: "Standards Committee Procedures Manual for Consensus Committees" to be revised as requested and distributed via ballot for approval.
DUE: November 30, 2013

J. Revision to the Policy Manual for the ANS Standards Committee

The revision to the Policy Manual for the ANS Standards Committee was deferred until after the ANS Standards Committee Procedures Manual for Consensus Committees was approved.

K. Risk-Informed and Performance-Based Principles Policy Committee—RP3C

Prasad Kadambi reported that a second physical meeting was held yesterday and a teleconference was conducted in between the two meetings. He explained that the vision statement, "to provide leadership and facilitate incorporation of risk-informed and performance-based insights into ANS standards," was the first step at creating a Risk-Informed and Performance-Based Plan. Kadambi informed the SB that an action item was assigned at the RP3C meeting to develop a roadmap or process for risk informing a standard. Members agreed that this guidance would be helpful. Budnitz reminded all that the Joint Committee on Nuclear Risk Management (JCNRM) created a subcommittee to provide assistance with probabilistic risk assessment (PRA). After much consideration, the JCNRM felt that it would not be possible to write guidance on writing a PRA but could provide guidance on a case-by-case basis. Budnitz suggested that the RP3C contact all working groups to inform them of their existence with an offer of assistance and concentrate their efforts on this task. Robert Busch asked for a simple explanation of what is risk informed and what is not. In response, Budnitz explained a performance requirement for his car to run at 65 miles an hour for two hours as an example of performance based. Donald Spellman asked that the RP3C Plan be completed and provided to the members in advance of the next SB meeting for review with the intent of its approval at the meeting.

> **MOTION:** For the plan to be completed and circulated to the membership in advance of the June 2014 meeting for approval at the meeting.

The motion was unanimously approved.

Action Item 11/13-12: The RP3C to complete the Risk-Informed and Performance-Based Plan and circulate to the SB in advance of the June 2014 meeting for approval at the meeting.
DUE: April 30, 2014

L. SB Strategic Plan

A discussion on the SB Strategic Plan was deferred.

M. Standards Committee Glossary update / Attachment 5 -- Glossary Presentation

Steven Stamm reported that Robert McFetridge and Timothy Meneely updated the Nuclear Facilities Standards Committee Glossary with definitions of new ANS standards. The document was now 250 pages long. An action item had been assigned for a task group to select a preferred definition for terms with multiple or similar definitions. An initial review as completed by the task group. The material was then consolidated and redistributed for a second peer review. The second review was underway and should be

completed before the end of the year. The next step would be to incorporate definitions from standards developed by other CCs.

Stamm clarified that the intent of the glossary was not to change definitions in existing standards. The glossary was merely a compilation of definitions in published ANS standards. Noting preferred terms would be helpful to future working groups in developing ANS standards. Stamm suggested that the foreword of the glossary could clarify the purpose of the glossary.

Action Item 11/13-13: Steven Stamm to update the foreword of the glossary to include its intent/purpose to help working groups. DUE: March 31, 2014

Stamm reported that the Sales Task Group (TG) considered whether there was benefit of making the glossary available to the public. The TG's sentiment was that the glossary would be of interest to the public and could be sold to create additional income. After some discussion, the majority of SB felt the glossary should be publically available without charge.

N. Certification of consensus committee membership and balance of interest / Attachment 6 – All CC Balance of Interest (BOI) Reports
The balance of interest (BOI) reports (Attachment 6) for each CC were reviewed. Discussion and approval for each is provided below.

Large Light Water Reactor (LLWR) CC
A question was raised whether Westinghouse should have two votes on the LLWR. William Reuland, LLWR Chair, expressed his preference for Westinghouse to retain two votes – one for operating plants, the second for new plants. The majority of members in attendance agreed (8 for, 3 opposed) that Westinghouse should be permitted two votes. The LLWR BOI was approved as presented.

Research and Advanced Reactors (RAR) CC
Chair George Flanagan informed members that William Charles Schuster was no longer with the National Institute of Standards and Technology and should be removed from the report. He added that he invited Eric Loewen to join the committee. The BOI report was approved as amended. A request was made by Steven Stamm for RAR to solicit additional participation from vendors.

Action Item 11/13-14: George Flanagan to solicit additional vendor participation for the RAR. DUE: April 30, 2014

Non Reactor Nuclear Facilities (NRNF) CC
NRNF Chair James O'Brien reviewed the membership of committee. He informed members that David Lawson was reassigned to another CC and should be removed from the report. O'Brien requested that the U.S. Department of Energy (DOE) be permitted two votes. Stamm questioned the prudence of this action when looking at the heavy participation of national labs as they too follow DOE procedures. After a brief discussion, the amended BOI was approved with the request to solicit additional membership from industry.

Action Item 11/13-15: James O'Brien to solicit additional membership from industry to the NRNF. DUE: April 30, 2014

Safety and Radiological Analyses (SRA) CC
Andrew Smetana, SRA Chair, reviewed the committee's BOI and asked that Michaele Brady-Raap be moved from the "Academic" category to the "National Laboratories" category. The amended BOI report was approved with the request that additional membership from industry be solicited.

Action Item 11/13-16: Andrew Smetana to solicit additional membership from industry on the SRA.

DUE: April 30, 2014

Nuclear Criticality Safety (NCS) CC
The BOI report for the NCS was reviewed and approved as presented.

Joint Committee on Nuclear Risk Management (JCNRM) CC
The BOI report for the JCNRM was reviewed and approved as presented.

Environmental and Siting (ES) CC
The BOI report for the ES was reviewed and approved as presented.

Fuel, Waste, and Decommissioning Management (FWD) CC
FWD Chair Donald Eggett reviewed his membership and recognized that solicitation of additional members particularly in government were needed. The BOI report was approved as presented with the recognition that additional membership from government would be sought.

Action Item 11/13-17: Donald Eggett to solicit additional membership from government on the FWD.
DUE: April 30, 2014

4. Consensus committee chair reports

A. Large Light Water Reactors (LLWR) / Attachment 7 -- LLWR Report
William Reuland addressed areas that he would be working on which included active subcommittee leadership, consideration of new standards, and needed time frame. Spellman asked for a priority list of standards to be revised and or developed from all CCs.

Action Item 11/13-18: All CC chairs to provide Donald Spellman a list of priority standards to be revised and or developed within their CC.
DUE: December 31, 2014

Prasad Kadambi asked for Reuland to let his working groups know about the resources available through the RP3C and encourage that they consider using risk-informed and performance-based insights (RIPB) insights in standards. Additionally, if RIPB insights are not to be used, the reason why should be provided.

Action Item 11/13-19: William Reuland to inform his committee of RP3C and request consideration of using RIPB in their standards with an explanation if a decision is made not to use RIPB.
DUE: April 30, 2014

B. Research and Advanced Reactors (RAR) / Attachment 8 -- RAR Report
George Flanagan summarized his written report. He explained that they held a discussion on the placement of ANS-50.1, “Nuclear Safety Criteria for the Design of Stationary Light Water Reactor Plants,” that was resolved.

C. Non-Reactor Nuclear Facilities (NRNF) / Attachment 9 -- NRNF Report
James O’Brien reviewed the three projects currently active under the NRNF. He recognized that ballot comments needed to be resolved on the draft of ANS-58.16, “Safety Classification and Design Criteria for Non-Reactor Nuclear Facilities.” Steven Stamm confirmed that the ballot process for ANS-58.16 needed to be completed under NFSC. Robert Busch expressed concern with ANS-57.11, “Integrated Safety Assessments for Fuel Cycle Facilities,” containing nuclear criticality elements. O’Brien offered to allow NCS an opportunity to comment on the draft when available.

D. Safety and Radiological Analyses (SRA) / Attachment 10 -- SRA Report

Andrew Smetana reported that the committee would be meeting tomorrow. There were no current issues of concern to report. The distributed written report provides the status of activities for the committee.

E. Joint Committee on Nuclear Risk Management (JCNRM) / Attachment 11 -- JCNRM Report
Robert Budnitz reported that Addenda B (for ANSI/ASME/ANS RA-S) had been released. Addenda A addressed format and consistency issues. Addenda B addressed some crossing issues; other cross cutting issues will be addressed in the next edition already in development. Five new standards should be released soon. The non LWR standard was expected to be published within a month. The low power and shutdown standard was out for ballot. The next two would be the Level 2 and 3 PRA standards. In each case, all will be issued for trial use before seeking ANSI approval. The advanced LWR standard was held to cover LWRs that are small (iSMRs) but is expected to be released in the second or third quarter of next year. Budnitz stated that the JCNRM was considering a new PRA standard on spent fuel pool risk. A decision to initiate this new standard should be up for consideration at the next JCNRM meeting scheduled for February 2014. Rick Grantom added that the JCNRM had a project schedule. The JCNRM had created several subcommittees to monitor development, maintenance, inquiries, and support other committees on incorporating PRA in a standard. Several pilots on the trial use standards would be conducted and findings would be incorporated into the standard.

Budnitz reminded members that the ANS/ASME business agreement for the JCNRM had not yet been completed. At present, ANS was waiting to hear back from ASME.

F. Nuclear Criticality Safety (NCS) / Attachment 12 -- NCS Report
Members were directed to the provided, written report to acknowledge NCS accomplishments.

G. Environmental and Siting (ES) / Attachment 13 -- ES Report
Carl Mazzola reported on the CC structure and subcommittee leadership. He recognized the committees 10 current standards, 11 active projects, and 16 projects in consideration. Mazzola added that future plans would be discussed at tomorrow's ES meeting.

H. Fuel Cycle, Decommissioning, and Waste Management Consensus Committee (FFWD) / Attachment 14 -- FWD Report
Donald Spellman informed members that a discussion at the FCDWM meeting lead to a decision to change the CCs name from Fuel Cycle, Waste and Decommissioning to the Fuel Cycle, Decommissioning, and Waste Management Consensus Committee. FCDWM Chair Donald Eggett highlighted the committee's activities. He reported that several PINS were in development and would be reviewed by the committee. Eggett planned to appoint a committee member as secretary to help with the workload. Subcommittee chairs and vice chairs would be solicited. A list of future plans for the committee was reviewed. Eggett added that he would report on the progress of these plans at the next meeting. Prasad Kadambi asked that Eggett review the new PINS in development and consider whether the new projects should be risk informed and let them know that RP3C was available to help.

Action Item 11/13-20: Donald Eggett to inform FWD about RP3C and to review any new PINS developed and consider if RIPB insights should be incorporated. DUE: April 30, 2014

5. Standards Board Task Group (TG) reports / Attachment 15 -- Updated Liaison List
No SB TG reports were presented. An updated list of liaisons was provided in advance by the External Communications TG. Other TG activities were reported through action item reports.

6. Liaison reports

Nuclear Risk Management Coordinating Committee (NRMCC) / Attachment 16 -- NRMCC Report

Chuck Moseley, NRMCC co-chair for ANS, reported on NRMCC activities. He stated that the NRMCC met last September in conjunction with the JCNRM. An extra session was held to work on an integrated roadmap of all RIPB activities of nuclear SDOs and industry. Moseley reported that he anticipated that the upcoming February 2014 meeting would be his last after six plus years and asked members to consider taking on this position. He explained that the JCNRM felt strongly that the coordination or PRA activities at a higher level such as provided by the NRMCC remained an important need. Donald Spellman questioned whether SB members agreed that the NRMCC remained needed as he personally felt that the NESCC now fulfilled this role. Robert Budnitz added that the NRMCC scope was specific to risk, and he didn't feel that the NESCC had the expertise. Additionally, Budnitz believed that the NESCC scope was too large to focus on risk. Rick Grantom agreed and added that the NRMCC was instrumental in the progress of soliciting organizations to pilot PRA standards. Participation by the pressurized water reactor and boiling water reactor owners' groups on the NRMCC had been influential in acquiring plants to pilot the PRA standards. Carol Moyer explained that she had been involved with the NESCC from the start. She clarified that NESCC task groups were established to accomplish a task in a specific time period but was not intended for a standing committee. Prasad Kadambi suggested that better communication with the NESCC in the PRA area was needed. The sentiment of SB members was that the NESCC would not at this time be in a position to fulfill the responsibilities of the NRMCC and that an action to find a replacement for Moseley as the ANS co-chair of the NRMCC should be initiated.

Action Item 11/13-21: Donald Spellman and Chuck Moseley to solicit a new NRMCC co-chair to represent the ANS.
DUE: December 31, 2013

7. Other business

A. Standards Service Award

Donald Spellman informed members that he accepted Chuck Moseley's offer to serve as chair of the Standards Service Award Ad hoc Committee for the selection of the 2014 recipient. At the request of Spellman, Robert Budnitz and Carl Mazzola agreed to serve as members of the ad hoc committee. Moseley committed to drafting procedures for the solicitation and selection of candidates for the Standards Service Award.

Action Item 11/13-22: Chuck Moseley to serve as chair of the 2014 Standards Service Award Ad hoc Committee with Robert Budnitz and Carl Mazzola as members. Award Nomination
DUE: May 1, 2014

Action Item 11/13-23: Chuck Moseley to develop procedures for the solicitation and selection of candidates for the Standards Service Award. DUE: January 1, 2014

B. Staff/secretary's report, sales report / Attachment 17 & 18 – Sales & Secretary reports

With limited time, members were directed to the provided reports available as Attachment 17 and 18.

C. Action items from this meeting

Due to time constraints, action items from the meeting were not reviewed.

D. Open discussion

Steven Stamm suggested the formation of a specific ANS TG on GDC. He felt that this issue was significant to our design standards and could be provided to the NRC. George Flanagan suggested contacting Craig Welling with the DOE to determine opportunity to comment on the NRC GDC.

Action Item 11/13-24: Donald Spellman to contact Craig Welling for the possibility of submitting ANS comments on the NRC General Design Criteria (GDC). DUE: April 30, 2014

E. ANS President Address

Donald Hoffman announced that all Society activities were being reevaluated. Many initiatives had been started. He asked that all volunteers take their role seriously. Hoffman would like to make ANS the organization for all nuclear professionals. He informed members that a meeting was held last week with the owners' groups, NEI, EPRI, and the Institute of Nuclear Power Operations. The subject of a lack of utility representation in standards and abundance of lab representation was discussed. Hoffman feels that a robust standards program was essential. Members agreed that more utility representation would be beneficial but disagreed with the thought that the ANS Standards Committee had too much lab participation. Hoffman asked for Donald Spellman to provide him a list of consensus committees (and/or areas) that needed additional participation from utilities within two weeks.

Action Item 11/13-25: Donald Spellman to provide Donald Hoffman a list of consensus committees (and/or areas) that could benefit from more utility participation within two weeks. DUE: November 26, 2013

F. Next meeting

The next SB meeting was planned for Tuesday, June 17, 2014, at the Grand Sierra Resort in Reno, Nevada.

8. Adjourn

The meeting was adjourned.

November 2013 Action Items

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

Action Item	Description	Responsibility	Status/Comments/Reassignme
11/13-01	Donald Spellman to prepare a letter to NEI capturing points from the ANS/NEI MOU and s to the SB for review. DUE: March 31, 2014	Donald Spellman	OPEN
11/13-02	Donald Spellman to review revised standards pamphlet for international distribution and give ANS staff direction to have edited and professionally designed. DUE: January 31, 2014	Donald Spellman	OPEN (completed)
11/13-03	Schroeder to use the ANS LinkedIn Group to disseminate standards volunteer position openings to a wide range of ANS members. DUE: As needed.	Pat Schroeder	OPEN (on-going)
11/13-04	Pat Schroeder to issue the proposed membership change to the ANS "Rule" for a two-week formal ballot. (Proposed change t include SB Special Committee Chairs as ex officio members of the SB if appropriate.) DUE: January 31, 2014	Pat Schroeder	OPEN (completed)
11/13-05	Steven Stamm to review draft CC scopes against the Standards Committee scope to insure that all areas are covered. DUE: January 31, 2014	Steven Stamm	OPEN (completed)
11/13-06	Pat Schroeder to issue the scopes for SB approval via ballot after Steven Stamm's review of the ANS Standards Committee scope. DUE: January 31, 2014	Pat Schroeder	OPEN (complete)
11/13-07	Donald Spellman to provide Carol Moyer the priority list of proposed new standards. DUE: December 31, 2013	Donald Spellman	OPEN (completed)
11/13-08	Robert Budnitz to report back to the SB on how the JCNRM approached the decision on whether to separate or combine risk application to SMRs with or separate from large LWRs. DUE: November 30, 2013	Robert Budnitz	OPEN (completed)
11/13-09	William Reuland to send Pat Schroeder the EPRI "PSA Application Guide" for distribution t Standards Board for their information. DUE: November 30, 2013	William Reuland, Pat Schroeder	OPEN (completed)
11/13-10	Pat Schroeder to find the recent Federal Register Notice from the National Archives and Records Administration on Incorporation b Reference and provide to Donald Spellman and Steven Stamm for review and potential comment submittal. DUE: November 30, 2013	Donald Spellman Steven Stamm Pat Schroeder	OPEN (completed)

11/13-11	"Standards Committee Procedures Manual for Consensus Committees" to be revised as requested and distributed via ballot for approval. DUE: November 30, 2013	Pat Schroeder	OPEN (completed)
11/13-12	The RP3C to complete the Risk-Informed and Performance-Based Plan and circulate to the SB in advance of the June 2014 meeting for approval at the meeting. DUE: April 30, 2014	Prasad Kadambi	OPEN
11/13-13	Steven Stamm to update the foreword of the glossary to include its intent/purpose to help working groups. DUE: March 31, 2014	Steven Stamm	OPEN
11/13-14	George Flanagan to solicit additional vendor participation for the RAR. DUE: April 30, 2014	George Flanagan	OPEN
11/13-15	James O'Brien to solicit additional membership from industry to the NRNF. DUE: April 30, 2014	James O'Brien	OPEN
11/13-16	Andrew Smetana to solicit additional membership from industry on the SRA. DUE: April 30, 2014	Andrew Smetana	OPEN
11/13-17	Donald Eggett to solicit additional membership from government on the FWD. DUE: April 30, 2014	Donald Eggett	OPEN
11/13-18	All CC chairs to provide Donald Spellman a list of priority standards to be revised and or developed within their CC. DUE: December 31, 2014	ANS CC Chairs	OPEN
11/13-19	William Reuland to inform his committee of RP3C and request consideration of using RIPB in their standards with an explanation if a decision is made not to use RIPB. DUE: April 30, 2014	William Reuland	OPEN (completed)
11/13-20	Donald Eggett to inform FWD about RP3C and to review any new PINS developed and consider if RIPB insights should be incorporated. DUE: April 30, 2014	Donald Eggett	OPEN
11/13-21	Donald Spellman and Chuck Moseley to solicit a new NRMCC co-chair to represent the ANS. DUE: December 31, 2013	Donald Spellman, Chuck Moseley	OPEN (completed)
11/13-22	Chuck Moseley to serve as chair of the 2014 Standards Service Award Ad hoc Committee v Robert Budnitz and Carl Mazzola as members Award Nomination DUE: May 1, 2014	Chuck Moseley, Robert Budnitz Carl Mazzola	OPEN
11/13-23	Chuck Moseley to develop procedures for the solicitation and selection of candidates for the Standards Service Award. DUE: January 1, 2014	Chuck Moseley	OPEN (completed)

11/13-24	Donald Spellman to contact Craig Welling for the possibility of submitting ANS comments on the NRC General Design Criteria (GDC). DUE: April 30, 2014	Donald Spellman	OPEN
11/13-25	Donald Spellman to provide Donald Hoffman a of consensus committees (and/or areas) that could benefit from more utility participation within two weeks. DUE: November 26, 2013	Donald Spellman	OPEN
6/13-01	Standards Board Chair to provide Donald Hoffman with specific details on the need and benefit for each of the six IT resources requested within 30 days. Due: July 18, 2013	Donald Spellman	CLOSED
6/13-02	New consensus committee chairs to finalize consensus committee titles, vice chairs, membership, subcommittee organizational chart, and standards assignments. Due: September 30, 2013	New Consensus Committee chairs	CLOSED
6/13-03	Reorganization committee to prepare an implementation plan with actionable, achievable goals. (Steven Stamm lead) Date: November 2013	Reorganization Committee	CLOSED
6/13-04	SB Chair Donald Spellman to invite new consensus committee chairs to attend the SB meeting in Washington, D.C. Due: July 2013	Donald Spellman	CLOSED
6/13-05	Steven Stamm to finalize the draft Policy on Specifying Requirements in ANS Standards for Patricia Schroeder to issue for SB ballot. Due: July 2013	Steven Stamm	CLOSED
6/13-06	Robert Busch to provide Patricia Schroeder the standards presentation that was prepared last year for use in guidance. Due: July 2013	Robert Busch	CLOSED
6/13-07	The Sales TG to review the revised NFSC Glossary and determine if it is acceptable to be released for sale. Due: November 2013	Sales TG	CLOSED
6/13-08	Patricia Schroeder to distribute the draft ANS/NEI MOU to SB members for comment. Due: June 2013	Patricia Schroeder SB Members	CLOSED
6/13-09	Patricia Schroeder to distribute the NFSC list of 23 standards that could be considered to support post-Fukushima issues for SB comment. Due: June 2013	Patricia Schroeder SB Members	CLOSED
6/13-10	Patricia Schroeder to distribute members a copy of ASME's Paper on Forging a New Nuclear Construct for reference. Due: June 2013	Patricia Schroeder	CLOSED

6/13-11	Prasad Kadambi to prepare a basis document for a societal agreement with ASME. Due: October 2013	Prasad Kadambi	CLOSED
6/13-12	Patricia Schroeder to send Steven Stamm ANS Policy Statement #51 for review and selection of a review committee	Patricia Schroeder, Steven Stamm	CLOSED
11/12-03	Robert Budnitz to temporarily serve as the WENRA liaison.	Robert Budnitz	On-going
11/12-04	Donald Spellman to begin development of one or more grants for ANS support. Due: On Hold	Donald Spellman	On Hold (grant proposals not currently being accepted)
11/12-09	Donald Eggett to provide the SB the DID white paper when available. (Draft white paper to be provided to Gene Carpenter and Steven Stamm for review before distribution to the SB.)	William Reuland, Donald Eggett	OPEN ***Originally assigned at an NFSC meeting and has been elevated to the SB.***
11/12-17	Prasad Kadambi to prepare a business case for initiating an ANS conformity assessm program. Due: June 2014	Prasad Kadambi	OPEN
6/12-04	Donald Spellman to review the “Toolkit” for potential improvements as suggested by David Sachs. Due: June 2014	Donald Spellman	OPEN

Attachment 1

Memorandum of Understanding
Nuclear Energy Institute and American Nuclear Society Standards Committee

Background

For many years, the Nuclear Energy Institute (NEI) and the American Nuclear Society (ANS) have each made positive contributions to the welfare and objectives of the civilian nuclear industry in different manners and timeframes. Our efforts have been coordinated to some extent through an NEI liaison to the ANS Standards Committee that has enhanced our collective efforts. The purposes of this Memorandum of Understanding (MOU) is to more clearly define a synergistic working relationship between NEI and ANS that focuses on meeting the short-term and long-term needs of the nuclear power industry while avoiding duplication of effort and unintentional conflict.

NEI Role

NEI's Statement of Purpose states that it is to foster and encourage the continued safe utilization and development of nuclear energy to meet the nation's power, environmental and economic goals and to support the nuclear power industry. NEI provides policy direction on critical issues, including regulation, legislation, congressional awareness/acceptance, waste, transportation and other critical activities, and a unified nuclear power industry approach to address and resolve nuclear regulatory issues and related technical matters to facilitate high levels of reliability and economic efficiency in nuclear power plant operations. Its staff advocates and sometimes represents the nuclear power industry before Congress, executive branch agencies, regulatory bodies and state policy forums; providing accurate and timely information to policy makers, the public and other constituencies to promote acceptance and recognition of nuclear ~~energy's~~ power's role in the nation's supply of safe, secure, dependable and economic electric power. Lastly, it provides assistance to the nuclear power industry with regard to state issues such as environmental considerations and rates; and encouragement to educational institutions to promote education in nuclear energy disciplines.

In its implementation of this purpose, NEI supports regulatory coordination of the commercial nuclear power industry at upper management levels; providing prompt and timely solutions to emerging issues through direct communication with the Nuclear Regulatory Commission (NRC) and industry Chief Nuclear Officers. Through sponsorship of committees populated with utility, reactor suppliers and support organization subject matter experts, it provides a cohesive response to resolve emerging issues within a timeframe that may positively affect regulatory outcomes that enhance safety and minimize economic impact.

ANS Standards Committee Role

The ANS Standards Committee is responsible for the development and maintenance of consensus standards that meet ANSI~~/ISO~~ requirements that address the design, analysis, and operation of components, systems, and facilities related to the application of nuclear science and technology. The scope of the ANS Standards ~~Committee~~ Program includes the development and maintenance of standards on the following subjects and ~~closely~~ similarly related activities: (1) Definitions of terminology used in nuclear science and technology; (2) Siting requirements for nuclear facilities; (3) Nuclear facility design and operations, including safety criteria for facilities, operator selection, and training for power production reactors, research reactors and critical facilities, nuclear fuel production, handling, and storage facilities, and facilities for handling radioactive isotopes, including remote handling of radioactive materials; (3) Remediation and restoration of sites used for nuclear facilities; (4) Emergency preparedness; (5) Nuclear criticality safety; (6) Reactor physics and radiation shielding; (7) Computational analysis programs used in the nuclear field; (8) Probabilistic risk assessment, risk management, and risk criteria; (9) Fission product behavior; and, (10) Radioactive waste management.

Memorandum of Understanding
Nuclear Energy Institute and American Nuclear Society Standards Committee

In its implementation of its purpose, ANS, as a Standards Developing Organization under the American National Standards Institute (ANSI), supports the design and safety requirements of the commercial nuclear industry, Federal agencies such as the Department of Energy, national laboratories and universities. ANS commissions technical writing groups that produce Voluntary Consensus Standards ~~which~~that comply with the requirements established and audited by ANSI. The 1995 National Technology Transfer and Advancement Act and Office of Management and Budget Circular A-119 recognized the value to the Federal Government and industry provided by these standards. The schedule for the development of ANS standards is subject to the consensus requirements inherent in the standards development process. Due to the schedule requirements of the national consensus process, ANS is not ~~organized~~able to provide prompt solutions to emerging regulatory and safety issues on a short~~er schedule~~schedule, as NEI is capable of doing. Therefore, it is logical to coordinate these two important expert responses to ensure the safety of the industry and the public is protected.

NEI/ ANS Coordination

Both NEI and ANS have been successful in supporting commercial nuclear power industry needs, and have a record of cooperation. Each organization draws on technical resources from similar, but not the same sources with different and complementary skills and knowledge.

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NEI reports and guidance documents assist the civilian nuclear power industry in a prompt coordinated response to emerging regulatory issues and requirements, resulting in significant cost savings to the utilities from potential overregulation. ANS standards provide a long-term foundation for design bases and licensing positions of nuclear facilities and issues. NEI documents and ANS standards sometime overlap since similar technical matters are being addressed by both organizations for the nuclear power industry. Moreover, the required technical expertise to develop these often comes from common sources (e.g., utility staff, universities, other public agencies, manufacturers, vendors).

Both ANS and NEI recognize the opportunity for greater effectiveness and efficiency through greater cooperation in the planning and execution of their programs.

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Agreed Actions

Accordingly, in order to ensure that both ANS and NEI collaborate in a coordinated manner for the success of the nuclear power industry, each organization agrees to cooperate through open communication and mutual assistance, where practical, to facilitate meeting the short and long term purposes, goals and objectives of both organizations.

ANS and NEI will strive to enhance the role of mutual cooperation through the following activities conducted through the NEI representative to the Standards Board;

1. ANS Standards Committee will identify a representative when invited by NEI who will serve on selected NEI task forces or working groups ~~to work~~ on areas of mutual interest to provide additional bilateral coordination and technical support; NEI will likewise provide support to the ANS Standards Committee when available.
2. Schedule meetings and teleconferences as necessary between NEI Project Managers and ANS Standards Board Chair or Vice-Chair when areas of mutual interest are identified to coordinate strategies, schedule needs and resources for addressing emerging and existing industry issues; and,
3. Establish a list of items that will be subjects of the teleconferences and committee memberships discussed above.

Attachment 2

ANS Standards Board Proposed Revision to ANS Bylaw, Rules, and Procedures

ANS Rules
B7 - STANDING AND SPECIAL COMMITTEES
B7.1 - Standing Committees
~~28~~R7.1.4 - Scope and Composition
Page R19

ANS Standards Board - The Standards Board (SB)~~66~~ provides policy and procedural direction for the standards activities of the Society in accordance with the ANS policies for standing committees.

The SB~~66~~ shall be composed of~~60~~ not fewer than six (6) nor more than ~~twelve~~ ten (10~~2~~) voting members recommended by the Chair of the Standards Board and approved by the President of ANS. ~~(Fellows, Members, Student, Emeritus, or Honorary Life Members).~~~~61~~ These appointed~~60~~ members~~60~~ shall have substantial interest and experience in the development and use of standards for the application of nuclear science and engineering. Additional voting members of the Standards Board shall consist of the Chair of each of the Consensus Committees and any temporary voting member appointed by the Chair of the Standards Board for a specific purpose and period of time.

~~These a~~Appointed members shall serve a three (3) year term, with the terms of approximately one third (1/3) of the members expiring at the close of each ~~A~~ANS annual ~~M~~meeting. No SB~~66~~ member shall be a member of the ANS Board of Directors nor an ANS officer while serving on the SB~~66~~, consistent with ANSI policy, which specifies that the SB~~66~~ be kept separate from society governance.

The SB~~66~~ is ~~also~~ expected to establish liaison relationships with other standards-developing and nuclear organizations for the purpose of communication and coordination of activities of mutual interest; these liaison personnel from outside ANS serve on the SB~~66~~ as non-voting members.~~61~~

A~~n~~ non-voting Administrative Secretary of the SB~~66~~, appointed by the Executive Director, shall be responsible for the administration of the standards activities of the Society.

The Standards Committee is composed of all persons engaged in standards development for the Society (i.e., the SB, its consensus committees, ~~standings~~special committees, subcommittees, and working groups). ~~Under the supervision and control of the SB~~66~~, a standards committee conducts all aspects of standards activities and interests within the Society and represents the SB~~66~~ in activities with other organizations engaged in similar work~~. ~~The S~~standards ~~C~~committee is composed of all persons engaged in standards development for the Society (i.e., the SB, its consensus committees, standing committees, subcommittees, and working groups).~~ The chair and vice chair of the SB~~66~~ shall be the officers of the S~~s~~tandards C~~c~~ommittee.

~~There are also~~ ~~C~~consensus committees are established within the ~~S~~s~~s~~tandards ~~C~~c~~c~~ommittee under the SB[66] to develop and ensure consensus as a basis for approval of proposed standards, ~~and to~~ to manage the development of proposed standards, and to represent the SB[66] in activities with other organizations engaged in similar work. ~~StandingFrom time to time, Special Committees of the SB are established to support long-term needs of the Standards Committee.~~ The chairs of each of the consensus committees ~~and the chairs of each of the StandingSpecial Committees of the SB~~ shall serve as ex-officio members of the SB[66], whose terms are concurrent with those of the offices from which they serve ~~or for terms as appointed by the SB. With the exception of the SB, committees within the SThe standards Ccommittee and the consensus committees are not ANS Sstanding committees Committees under these by-laws and rules~~. From time to time, Special Committees of the SB are established to support long-term needs of the Standards Committee. The Chair of the Standards Board may appoint the chair of any special committee as a voting member of the SB during the term of the special committee.

The guidance and approval of the ANS Board of Directors shall be obtained on all matters of policy that may affect overall Society endeavors, and on the advisability of initiating work in new areas. The SB[66] shall confirm annually to the Board of Directors that members of the S~~s~~tandards C~~c~~ommittee are adequately qualified for their respective positions and that the membership of each consensus committee has an appropriate balance of representation in accordance with the accredited Rules and Procedures established by the ANS Standards[66] Board[67].

Attachment 3

ANS Standards Committee Transition Plan

1.0 Assignment of Standards

The standards assigned to each consensus committee (CC) are those listed in Appendix A. Each CC chair shall assign all of the standards assigned to their CC to subcommittees including inactive and historical standards. A standard may be moved between CCs or deleted with concurrence of the affected CC chairs and the Standards Board (SB) vice chair. A review will be conducted of all inactive standards in the next year to reach agreement on a course of action for each.

2.0 Assignment of Vice Chairs

CC chairs shall select CC vice chairs. Vice chairs other than those already approved by the SB shall be submitted to the SB for approval.

3.0 Assignment of People and Personal / Corporate Commitments

CC chairs shall select CC members starting with personnel on the preliminary assignment list (Appendix B). The numbers of personnel should be developed considering the guidance in Appendix C. Any personnel preliminarily assigned to other CCs or multiple CCs may be reassigned to a different CC with agreement of the affected CC chairs. Individuals should be assigned to only one CC unless approved by the SB chair. If additional personnel are needed, they may be chosen by the CC chair. The SB vice chair shall be notified of any changes from the preliminary assignment list. The proposed CC membership list shall be provided to the SB for approval via the standards administrator. Letters shall be sent to each CC member by the CC chair soliciting commitments from that member. Letters requesting organizational commitments shall be sent to the member's senior management as applicable and with the concurrence of the member. The standards administrator will provide sample letters for invitation of CC and subcommittee members.

4.0 Balance of Interest Certification/New CC Membership Approved by SB

A balance of interest form shall be prepared and submitted to the SB for approval in accordance with the SB "*Policy on the Certification of Consensus Committee Membership (Balance of Interests).*" The membership approval discussed in item 1.0 may be combined with this certification.

5.0 Development of CC scopes and finalization of CC name

Each CC chair will develop a title and scope of coverage for their CC for approval by the SB.

6.0 Creation of web pages for new CCs (leadership to be listed with generic email)

The standards administrator shall work with ANS IT to create a revised CC webpage containing the following information: CC names and scopes, subcommittees, CC chair, CC vice chair and subcommittee chair names and a generic ANS email address for each. This will allow the standards administrator to track required actions.

7.0 Standards Activities

The new CCs may start standards activities as soon as the CC chair determines that the CC is ready to do so. However, formal standards action ballots shall not be valid until the balance of interest forms have been certified by the SB.

Standards actions which have been balloted by the old CCs will be completed by the old CCs and responsibility for that standard transferred to the new CC after the standard actions are completed (e.g. approved and sent to ANSI). Project Initiation Notification System (PINS) Forms shall be approved by the new CCs. This includes newly generated and revisions to existing PINS except that PINS Forms that have been submitted to the SB prior to September 1, 2013, and were not approved should be completed by the old CCs.

Meetings – CC chairs should consider having one physical meeting a year at the ANS annual meeting with additional teleconference/ web-ex meetings as needed.

8.0 Policies and Procedures

The CCs will adhere to the "Policy Manual for the ANS Standards Committee."

A standard set of CC procedures will be developed by the SB rather than have each CC develop individual procedures. It is intended to use the NFSC procedures as a base for these new procedures. If it is determined that some procedures need to be CC specific; the CCs will be notified and shall develop those procedures.

Until the standard CC procedures are approved, the new CCs shall operate in accordance with the current NFSC policies and procedures. Deviations from the CC procedures shall be subject to SB chair approval.

9.0 Training

9.1 CC and Subcommittee Chairs, Vice Chairs and Members

An online training course will be developed for CC chairs, vice chairs, members, and subcommittee chairs and vice chairs. All CC and subcommittee chairs and vice chair shall participate in this course. Other CC and subcommittee members may participate in these courses as well.

9.2 WG Chairs and WG Members

An online training course will be developed for WG chairs and vice chairs. All WG chairs and vice chairs shall participate in this course early in the standards development phase. Other WG members may participate in these courses as well.

10.0 ANS SB Membership

The new CC chairs will become members of the SB after approval of the balance of interest and membership of the new CCs.

11.0 Interface with Other CCs

Given the greater number of CCs, it is anticipated that there will need to be increased interfacing between the CCs. There shall be a primary CC for each standard. Only that CC is required to formally ballot that standard. The PINS Form shall reflect those areas of common interest between CCs and address the methods that will be utilized to reach agreement between CCs for these areas. These may consist of having members on the WG from both CCs and/or having the supporting CC members submit comments, but they shall not have approval rights.

12.0 Interface with Other SDOs and Industry Organization

The primary interface between ANS SC and other SDOs and industry organizations will be at the SB level. This includes selecting liaison personnel and issuing formal correspondence. It is intended not to overtax particular SDO and Industry organizations by requesting that they supply liaison personnel for multiple CCs unless there is a very strong need and benefit to doing so. CCs that have existing personnel that can serve a liaison purpose may have that person fulfill a liaison function. In addition, CC chairs may request SB approval to add a liaison person to their CC.

13.0 CC Secretaries/ ANS Standards Administrator

The standards administrator will continue to function as the secretary for the SB and all CCs. However, each CC will appoint a secretary pro tem whose duties will include preparation of meeting agenda, assembly of meeting notes, assembly of teleconference notes, and recording of ballot results as necessary. All meeting notes and other records shall be forwarded to the standards administrator after approval. If available, the standards administrator may attend CC meetings. The standards administrator shall coordinate meeting space and equipment for all CCs that meet during the national ANS meetings.

14.0 Transition Schedule

ACTIVITY	REQUIRED COMPETION	RESPONSIBILITY
ANS SB roster updated to reflect addition of new CC chairs	7/30/2013	Standards Administrator
Temporary reliance of NFSC procedures for new CCs	8/1/2013	New CC Chairs
Revision of policies needed to start new CC	9/1/2013	SB Chair
Transition PINS and standards responsibilities except those at ballot	9/1/2013	Old/New CC Chairs

ACTIVITY	REQUIRED COMPETION	RESPONSIBILITY
Assignment of people to CCs and subcommittees and personal / corporate commitments including CC vice chairs, and subcommittee chairs and submittal to SB	9/30/3013	New CC Chairs
Assignment of standards to new CCs and subcommittees	9/30/2013	New CC Chairs
Submittal of CC names and scopes	9/30/2013	New CC Chairs
Balance of interest submittals to standards administrator	9/30/2013	New CC Chairs
Training of CC chairs CC vice chairs, and subcommittee chairs and vice chairs	10/15/2013	TBD
SB approval of balance of interest submittals	10/15/2013	SB Chair
SB approval of policies needed to start new CCs	10/30/2013	SB Chair
Development of immediately needed new CC procedures	10/30/2013	SB Chair
WG chair/member training course developed and 1st session completed	10/30/2013	TBD
New CCs certified to ballot and conduct business	11/1/2013	SB Chair
Development and submittal of long term CC plans	12/1/2013	All CC Chairs

APPENDICES

Appendix A - Assignment of Standards to CCs (Separate file)

Appendix B - CC Personnel Assignment Matrix (Separate file)

Appendix C - Reorganization Staffing Goals

Appendix C

Reorganization Staffing Goals

The following are suggested as goals for the ANS SC reorganization:

ITEM	NUMERICAL GOALs
Number of Standards per Subcommittee including Inactive Standards	5 to 10
Number of Subcommittees per Consensus Committee	3 to 6
Number of Consensus Committees	5 to 8
Number of Standards under Consensus Committee including Inactive Standards	6 to 12
Number of person on a Subcommittee	15 to 40
Number of Persons on a Consensus Committee	10 to 20

Attachment 4

Consensus Committee Placement of SMRs

Bill Reuland asked

A question remains concerning the consensus committee under which SMRs should be placed. The issue is not size but is the similarities with existing PWRs and the AP 1000. We also have to consider how many of the requirements found in the necessary standards have already been developed outside of ANS consensus committees and/or have already been approved by the NRC. It may be also be desirable for some requirements/standards to be developed into ANS standards.

Don Spellman has requested that we have a recommendation for the Standards Board meeting at the November 12th meeting. Not being involved in SMR installations or licensing, I would not feel comfortable coming up with a recommendation without your input. However, I think standards covering SMR requirements can be done by the LLWR committee. These requirements may be covered in existing standards or in new ones.

Peter Hastings

Evaluation of existing LWR standards for applicability to near-term iPWRs

"Disposition" of existing design-phase LWR standards for near-term iPWRs (e.g., possibility of near-term revisions or global exceptions, but more likely individual vendors/applicants "on their own" to reconcile because of status of design efforts relative to ability to revise or prepare new standards)

Schedule updates of existing ops-phase LWR standards for near-term iPWRs (no reason I can think of that this couldn't/shouldn't be done under the umbrella of the LLWR committee; it will take substantial SMR subject-matter expertise, but I'm not sure there will be enough of that expertise to constitute a separate, stand-alone committee)

Evaluation of mid- to long-term non-LWR SMRs and assessment of need for updated or new standards – I'd guess this would most properly fall into the committee that's handling Gen IV stuff, although we should keep an eye on potential synergies between the non-LWR SMRs and iPWRs for those areas where size-related issues govern

Ed Wallace

I think there are two phases of activities for SMR standards. The first you have already noted below, ie, understand what standards, guidelines, technical approaches etc have been developed already for LLWRs or SMRs inside or outside of ANS that are appropriate to bring into ANS standards space. My belief is that there are some LLWR standards that are useful to SMRs as they stand or with modifications, however, each must be confirmed as applicable as is or necessary changes identified. It is in the latter step that SMR knowledge is necessary since the design and safety paradigms are different enough to need a careful scrub by people knowledgeable of both before implementation for SMRs.

Keeping the distinctions clear and separated, ie, where LLWR requirements don't fit the SMR needs may require different standards even if quite similar in order to avoid confusion. The assignment to existing LLWR committees or other committees should be self-evident after the work above is done. The other part of the opportunity is what to do if new standards are needed and whether they can be developed in a timely way that enhances or supports the deployment of SMRs into the next decade. These may have more of an operational flavor vs design in part because several of the fundamental designs are being established now without the benefit of additional supporting standards that might come along in a few years or more. Timing should be an important factor in any decision. The other is whether a SMR standard is generic enough to support non-LWR reactors that may come along in the future as well as the range of variations represented in the current iPWR designs.

Steve Stamm

I feel very strongly that the SMR standard needs to be separate for two very important reasons:

1. Someone really needs to look at the base requirements from an SMR point of view to see if they can be made more cost effective.

2. SMR standards are not under LLWR CC. This was approved by the standards board to allow a more dedicated focus on SMR Standards. It makes no sense for [LLWR]to write the high level requirements that would hamstring detailed SMR standards.

There is a lot more behind each of these items.

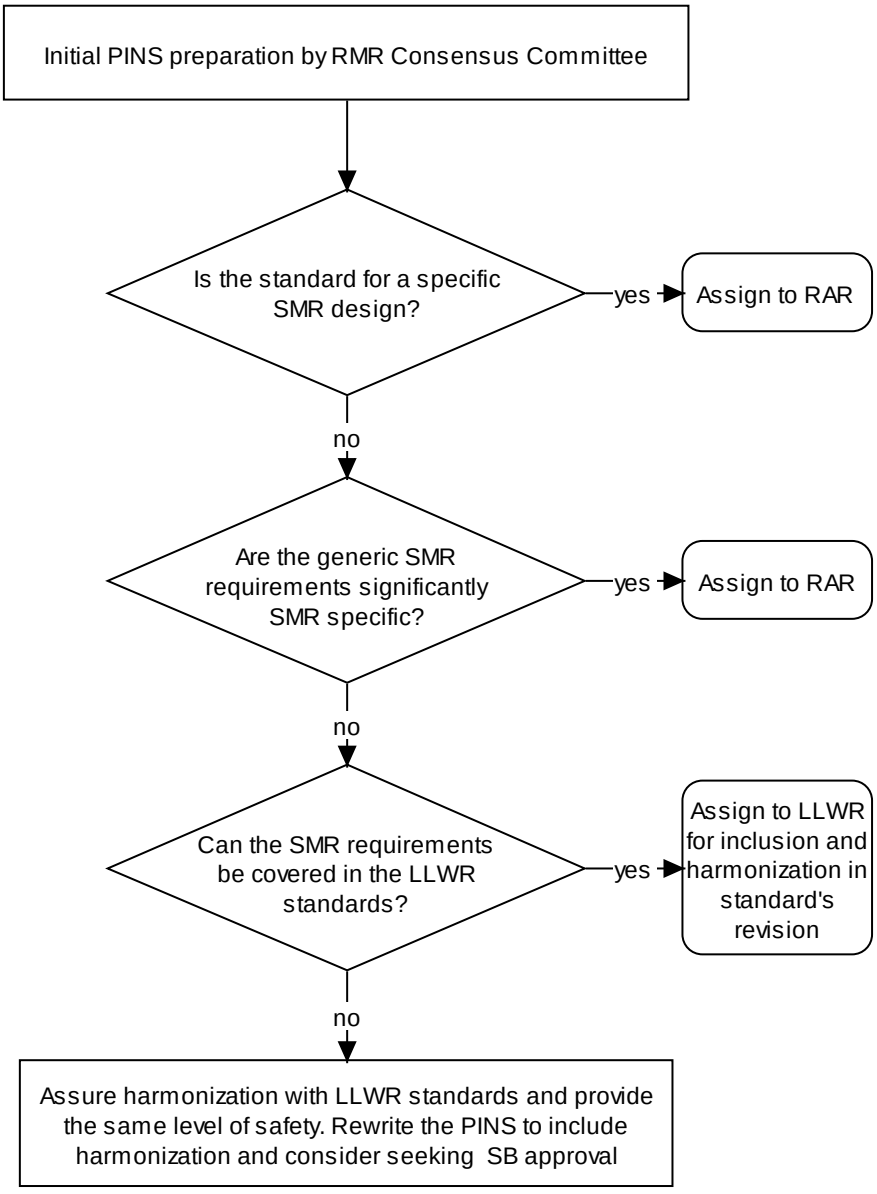
George Flanagan

The discussion here only relates to one form of SMR iPWRs. There are other SMR designs being considered that are not light water based and therefore will require new standards and clearly fall within the scope of RAR consensus committee.

Process

The following process flow chart shows a possible process for employing all of the above comments. Of course, there other things to be addressed before launching on a new standard.

SMR Standards Consensus Committee Selection Process



Attachment 5

Glossary Update 11/12/2013

- Goals
  - Duplicate definitions – specify the most recent, highest document definition as primary
  - Similar Terms – specify most commonly used term as primary and recommend not using others
- Schedule
  - 6/12/13 - NFSC Task Group assigned to specify primary definitions where multiples exist
  - 8/19/13 - Updated -new & revised NFSC standards (Stamm, Spellman, Eggett and Stevenson)
  - 9/25/13 - Duplicate definitions review guideline issued
  - 10/29/13 - Initial review completed
  - 12/31/13 - Independent review complete
  - 1/31/14 - Results consolidated and ready for ANS editor review
  - 4/1/14 - Publishing

Glossary Update 11/12/2013

Issue	Recommendations
Non-preferred definitions?	Keep all definitions in document
Make available for sale?	Yes, as an ANS document not as an ANSI standard -Very useful for students and new engineers, world-wide -Foreword must be tailored prior to issue for sale
Expansion to all ANS standards	1. Create a standing glossary task group with a member from each CC. 2. Perform annual updates. The recently updated glossary would be this year's update after the action items from June SB meeting are completed. 3. Each CC member would review the standards issued by his or her CC and incorporate new and revised definitions. 4. We should include JCNRM definitions for new terms but not include conflicting definitions***. (requires discussion)***

Attachment 6

American Nuclear Society
Large Light Water Reactor (LLWR) Consensus Committee
Balance of Interest by Category (2013)

Owners (3 votes)
William Bell, South Carolina Electric & Gas Company
Charles Brown, Southern Nuclear Operating Company
James Florence, Nebraska Public Power District

Vendors (5 votes)
Darrell Gardner, Generation mPower, LLC
Eric Loewen, General Electric Company
Robert McFetridge, Westinghouse Electric Company (existing reactors)
Timothy Meneely, Westinghouse Electric Company (new reactors)
Dennis Newton, AREVA-NP

Architect-Engineers (3 members w/2 votes)
*Earnestine Johnson-Turnipseed/James Saldarini, Bechtel Corporation
Leroy Kreider, Engineering Planning & Management, Inc.

Consultants (3 votes)
James Glover, Graftel, Inc.
Evan Lloyd, Exitech Corporation
Ronald Markovich, Contingency Management Consulting

Government Agencies (3 votes)
Gene Carpenter, U.S. Nuclear Regulatory Commission
Herb Massie, Defense Nuclear Facilities Safety Board
Pranab Guha, U.S. Department of Energy

National Laboratories (2 votes)
Mark Linn, Oak Ridge National Laboratory
Robert Little, Los Alamos National Laboratory

Academic / Laboratory (0 vote)

Societies (1 vote)
Charles Moseley, ASME NQA Liaison

Individuals (3 votes)
William Reuland
R. Michael Ruby
Steven L. Stamm

TOTAL = 23 members with 22 committee votes

*2 Bechtel Corporation members share 1 vote

Vote Summary:	
Owners	3
Vendors	5
Architect-Engineers	2
Consultants	3
Government Agencies	3
National Laboratories	2
Academic / Laboratory	0
Societies	1
Individuals	3
TOTAL	22

Revised 11-5-2013

WESTINGHOUSE VOTES

Mail Message

From: "Mazzola, Carl" <carl.mazzola@shawgrp.com>
To: Pat Schroeder, mcfetrrh@westinghouse.com
CC: Mary Beth Gardner, meneeltk@westinghouse.com, corletmm@westinghouse.com
Date: Tuesday - May 6, 2008 3:30 PM
Subject: Re: Westinghouse Votes on NFSC
Mime.822 (7714 bytes) [View] [Save As]

I concur with Bob's assessment.

Sent remotely from Carl Mazzola's BlackBerry. Have a blessed day filled with His grace!

----- Original Message -----
From: McFetridge, Robert H. <mcfetrrh@westinghouse.com>
To: Pat Schroeder <PSchroeder@ans.org>; Mazzola, Carl
Cc: Mary Beth Gardner <mgardner@ans.org>; Meneely, Timothy K. <meneeltk@westinghouse.com>; Corletti, Michael M. <corletmm@westinghouse.com>
Sent: Tue May 06 14:20:53 2008
Subject: RE: Westinghouse Votes on NFSC

Pat and Carl,

This is to formally document that Bob McFetridge and Tim Meneely serve completely different functions within the Westinghouse Electric Company organization.

Bob McFetridge is a Consulting Engineer in Nuclear Services organization which is under the direction of Senior Vice President, Ric Perez with responsibilities associated with the operation and performance enhancements to the Westinghouse designed fleet of operating Commercial Nuclear Power Plants.

Tim Meneely is a Fellow Engineer in the Nuclear Power Plant organization which is under the direction of Senior Vice President, Dan Lipman with responsibilities for the design and construction of "new" Commercial Nuclear Power Plants. This includes the AP1000 as well as other advanced designs.

The first common member of Westinghouse Management in Bob and Tim's chain of reporting is Steve Tritch the President and Chief Executive Office of the Westinghouse Electric Company.

Bob's expertise is directed primarily at advancing the ANS Standards to enhance operations of the operating fleet of nuclear plants.

Tim's expertise is focused on the development and application of ANS Standards to be applied to Generation III and IV new construction commercial nuclear power plants.

Their roles and functions represent the diversity within the

Westinghouse Electric Company organization and as such should both be provided with a vote on the ANS Nuclear Facilities Standards Committee.

If you require any additional input, please feel free to contact either Bob McFetridge or Tim Meneely.

Thanks,

Bob McFetridge and Tim Meneely

-----Original Message-----
From: Pat Schroeder [mailto:PSchroeder@ans.org]
Sent: Tuesday, April 29, 2008 5:17 PM
To: McFetridge, Robert H.
Cc: Mary Beth Gardner; Meneely, Timothy K.
Subject: Westinghouse Votes on NFSC

Hi Bob,

The vote was due yesterday to approve Tim as an NFSC member. As expected, his membership was well received. In order to finalize, I need the statement explaining your differing responsibilities you both serve for Westinghouse and why it is appropriate for each of you to carry your own vote. We talked about this awhile ago, but just let me know if you have any questions. Once NFSC Chair Carl Mazzola approves the statement, I will adjust the NFSC balance of interest and ballot tallies to incorporate the extra Westinghouse vote.

Regards,
Pat

Patricia Schroeder
Standards Administrator
American Nuclear Society
555 North Kensington Avenue
LaGrange Park, Illinois
60526 USA

Tel: 708/579-8269
Fax: 708/352-6464
E-mail: pschroeder@ans.org

American Nuclear Society
Research and Advanced Reactor (RAR) Consensus Committee
Balance of Interest by Category (2013)

Owners (1 vote)
Gary Adkins, Tennessee Valley Authority

Vendors (0 vote)

Architect-Engineers (2 votes)
Tony Grenci, CBI
Mark Peres, Fluor Enterprises Inc.

Consultants (1 vote)
James August, CORE, Inc.

Government Agencies (6 members w/3 votes)
*Alexander Adams/Thomas Kevern. U.S. Nuclear Regulatory Commission
David Lawson, Department of Energy
**Thomas Myers/D. Sean O'Kelly/William Charles Schuster, National Institute of Standards & Technology

National Laboratories (3 members w/2 vote)
***George Flanagan/Bruce Bevard, Oak Ridge National Laboratory
Mayra Morrison, Idaho National Laboratory

University (3 votes)
Edward Blandford, University of New Mexico
Leslie Foyto, University of Missouri
Steven Reese, Oregon State University

Individuals (2 vote)
Robert Carter
Theodore Schmidt

TOTAL = 18 members with 14 committee votes

*2 U.S. Nuclear Regulatory Commission members share 1 vote
** 3 National Institute of Standards & Technology members share 1 vote
*** 2 Oak Ridge National Laboratory members share 1 vote

Vote Summary:	
Owners	1
Vendors	0
Architect-Engineers	2
Consultants	1
Government Agencies	3
National Laboratories	2
University	3
Individuals	2
TOTAL	14

Revised 10 -28-2013

American Nuclear Society
Non-Reactor Nuclear Facilities (NRNF) Consensus Committee
Balance of Interest by Category (2013)

Owners (votes)

Vendors (2 votes)
James Miller, SABIA
Jennifer Wheeler, Nuclear Fuel Services, Inc.

Architect-Engineers (2 votes)
Mukesh Gupta, URS
Robert Eble, Shaw Areva

Consultants (0 votes)

Government Agencies (4 members w/3 votes)
*David Lawson/James O'Brien, U.S. Department of Energy
Jerry Hicks, U.S. Department of Energy / NNSA
Herb Massie, Defense Nuclear Facilities Safety Board

National Laboratories (2 votes)
Donald Spellman, Oak Ridge National Laboratory
Robert Bari, Brookhaven National Laboratory

University (1 vote)
Mohammed Modarres, University of Maryland

Individuals (1 vote)
Jeffery Brault

TOTAL = 12 members with 11 committee votes

*U.S. Department of Energy members share 1 vote

Vote Summary:	
Owners	0
Vendors	2
Architect-Engineers	2
Consultants	0
Government Agencies	3
National Laboratories	2
University	1
Individuals	1
TOTAL	11

Revised 10 -28-2013

Non-Reactor Nuclear Facilities Consensus Committee

Rationale for Multiple Representation from the U.S. Department of Energy

The below rationale is for Jerry Hicks with the National Nuclear Security Administration (NNSA) to carry a vote under the Government category for the U.S. Department of Energy (DOE) in addition to James O'Brien.

Jerry Hicks works in Albuquerque, New Mexico, in NNSA supporting field implementation of the requirements DOE as well as supplemental guidance put out by NNSA. NNSA activities and interests are similar to the interests of other DOE branches, but substantially different in many respects. Reviewing the list of standards indicates several areas where NNSA will have a vested interest, and other areas where NNSA will have lesser interest and DOE branches such as Science and Nuclear Energy will have a stronger interest.

The NNSA is a semi-autonomous agency within the DOE which was established in March 2000 for the management and operation of the nation's nuclear weapons complex, naval reactors, and nuclear nonproliferation activities.

I would consider his role separate and unique warranting its own vote.

Submitted by
James O'Brien, chair
Non-Reactor Nuclear Facilities Consensus Committee

American Nuclear Society
Safety and Radiological Analysis (SRA) Consensus Committee
Balance of Interest by Category (2013)

Owners (votes)

Vendors (1 vote)
Arzu Alpan, Westinghouse Electric Company

Consultants (3 votes)
Richard Amato, Bechtel Bettis, Inc.
Mukesh Gupta, URS Safety Management Solutions
Charles Rombough, CTR Technical Services, Inc.

Government Agencies (1 vote)
Charles Martin, Defense Nuclear Facilities Safety Board

National Laboratories (3 votea)
Donald Dudziak, Los Alamos National Laboratory
Dimitrios Cokinos, Brookhaven National Laboratory
Andrew Smetana, Savannah River National Laboratory

Academic / Laboratory (3 votes)
Michaele Brady-Rapp, Battelle – Northwest Division
Nolan Hertel, Georgia Institute of Technology
Charlotta Sanders, University of Nevada - Las Vegas

Society (1 vote)
Michael Corradini, NCRP (Employed by University of Wisconsin – Madison)

Individuals (2 votes)
Robert Carter
Abe Weitzberg

TOTAL = 14 members with 14 committee votes

Vote Summary:	
Owners	0
Vendors	1
Consultants	3
Government Agencies	1
National Laboratories	3
University	3
Society	1
Individuals	2
TOTAL	14

Revised 9 -26-2013

AMERICAN NUCLEAR SOCIETY (ANS)/AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
JOINT COMMITTEE ON NUCLEAR RISK MANAGEMENT (JCNRM)
BALANCE OF INTEREST BY CATEGORY (2013)

Owners (6)
Victoria K. Anderson, Nuclear Energy Institute (AO)
C. Rick Grantom, South Texas Project NOC (AO)
H. Alan Hackerott, Omaha Public Power District (AO)
Kenneth L. Kiper, FPL Energy Company/NextEra Energy (AO)
Gregory A. Krueger, Exelon Nuclear (AO)
Stuart R. Lewis, Electric Power Research Institute (AO)

Architect- Engineers (1)
Gilbert L. Zigler, Enercon Services (AB)

Vendors (5)
David Finnicum, Westinghouse (Combustion Engineering) (AK)
Dennis W. Henneke, General Electric (AK)
Stanley H. Levinson, AREVA-NP (AK)
Raymond E. Schneider, Westinghouse Electric Co., LLC (AK)
James W. Young, General Electric (AK)

Consultants (6)
Paul J. Amico, SAIC (AU)
James R. Chapman, Scientech (AU)
Eugene A. Hughes, ETRANCO (AU)
Barry D. Sloane, ERIN Engineering and Research, Inc. (AU)
Douglas E. True, ERIN Engineering and Research, Inc. (AU)
Donald J. Wakefield, ABS Consulting (AU)

Government Agencies (2)
Mary Drouin, U.S. NRC (AT)
Richard H. ("Chip") Lagdon, U.S. DOE (AT)

National Laboratories (4)
Robert A. Bari, Brookhaven National Laboratory (AI)
Robert J. Budnitz, Lawrence Berkeley National Laboratory (AI)
Jeffrey L. Lachance, Sandia National Laboratories (AI)
Martin B. Sattison, Idaho National Laboratory (AI)

Universities (1)
Pamela F. Nelson, National Autonomous University of Mexico (AI)

Societies (0)

Individuals (5)
Sidney A. Bernsen (AF)
Karl N. Fleming, KNF Consulting Services (AF)
Shigeo Kojima, Kojima Risk Institute, Inc. (AU)
Mayasandra K. (Ravi) Ravindra, MKRavindra Consulting (AF)
Ian B. Wall (AF)

TOTAL = 30 members

Vote Summary:	
Owners	6
Architect-Engineers	1
Vendors	5
Consultants	6
Government Agencies	2
National Laboratories	4
Universities	1
Individuals	5
TOTAL	30

Revised 5-15-2013

American Nuclear Society
NUCLEAR CRITICALITY SAFETY (NCS) CONSENSUS COMMITTEE
BALANCE OF INTEREST BY CATEGORY (2013)

Vendors (4)
William L. Doane, AREVA-NP
Lon Paulson, GE Hitachi Nuclear Energy†
W. Randy Shackelford, Nuclear Fuel Services, Inc.
Larry L. Wetzel, Babcock & Wilcox Nuclear Operations Group

Consultants (2)
Raymond L. Reed, URS Safety Management Solutions, LLC
Richard G. Taylor, INM Nuclear Safety Services

Government Agencies (3)
Lawrence Berg, U.S. Department of Energy
Thomas Marenchin, U.S. Nuclear Regulatory Commission
Robert E. Wilson, U.S. Department of Energy

National Laboratories (1)
R. Michael Westfall, Oak Ridge National Lab.

Universities (2)
Robert D. Busch, University of New Mexico
Ronald E. Pevey, University of Tennessee

Societies (3)
Robert S. Eby, AIChE Representative (Employed by USEC)
Ronald Knief, Institute of Nuclear Materials Management (Employed by SNL)
Scott P. Murray, Health Physics Society (Employed by GE)

Individuals (2)
George H. Bidinger
Calvin M. Hopper

TOTAL = 17 members/votes

†denotes subcommittee chair (Ex Officio member)

Vote Summary	
Vendors	4
Consultants	2
Government Agencies	3
National Laboratories	1
Universities	2
Societies	3
Individuals	2
TOTAL	17

Revised 5-15-2013

From: "Calvin M. Hopper" <hoppercm@comcast.net>
To: "'Pat Schroeder'" <pschroeder@ans.org>
CC: "'Mary Beth Gardner'" <mgardner@ans.org>, "'Prasad Kadambi'" <praskadamb...
Date: 6/18/2010 7:54 PM
Subject: RE: N16 Balance of Interest

The rationale is that Bob Wilson works for DOE Environmental Management (an operational office of DOE) in Denver Colorado and Burt Rothleder works for DOE Health and Safety (the regulatory development office) in Washington, DC. The two individuals have different responsibilities and perspectives regarding standards development.

-----Original Message-----
From: Pat Schroeder [mailto:pschroeder@ans.org]
Sent: Friday, June 18, 2010 5:54 PM
To: Calvin M. Hopper
Cc: Mary Beth Gardner; Prasad Kadambi
Subject: Re: N16 Balance of Interest

Calvin,

Thanks for confirming the accuracy of the N16 BOI Report. My notes from the SB meeting show that an action item was assigned for you to provide a rationale for having multiple representation from DOE that allow each member to have a vote. I believe that Prasad was looking for a brief statement to be kept on record. Perhaps I misunderstood so I included Prasad on copy.

Regards,
Pat

>>> "Calvin M. Hopper" <hoppercm@comcast.net> 6/15/2010 4:39 PM >>>
Hello Prasad,

I have reviewed the 2010 Balance of Interest (BOI) for N16 that Pat Schroeder included in the June 15, 2010, ASB Meeting.

I certify that the BOI for N16 is appropriately distributed.

Please contact me if you should have questions regarding the BOI.

Best regards,

Calvin

Calvin M. Hopper

218 Powder Mill Lane

Clinton, TN 37716-5341

email: hoppercm@comcast.net

phone: 865-599-5098

American Nuclear Society
Environmental and Siting (ES) Consensus Committee
Balance of Interest by Category (2013)

Owners (1 vote)
Jennifer Call, Tennessee Valley Authority

Vendors (1 vote)
Yan Gao, Westinghouse Electric Company

Architect-Engineers (3 members w/2 votes)
Carl Mazzola, Shaw Project Services Group, Inc.
*John Downing/Steven Vigeant, Chicago Bridge & Iron Federal Services, Inc.

Consultants (2 votes)
Lisa Brandon, Geosyntech Consultants, Inc.
John Stevenson, John D. Stevenson & Associates

Government Agencies (5 members w/3 votes)
Thomas Bellinger, Y-12 National Security Complex
**Robert Carpenter/R. Brad Harvey/Leah Parks, U.S. Nuclear Regulatory Commission
Gerald Meyers, U.S. Department of Energy

National Laboratories (1 vote)
Quazi Hossain, Lawrence Livermore National Security

University (1 vote)
Todd Rasmussen, University of Georgia

Individuals (2 votes)
Kevin Bryson
Jean Savy

TOTAL = 16 members with 13 committee votes

*2 Chicago Bridge & Iron Federal Services, Inc. members share 1 vote
**3 NRC members share 1 vote

Vote Summary:	
Owners	1
Vendors	1
Architect-Engineers	2
Consultants	2
Government Agencies	3
National Laboratories	1
University	1
Individuals	2
TOTAL	13

Revised 9 -27-2013

American Nuclear Society
Fuel Cycle, Waste & Decommissioning (FCWD) Consensus Committee
Balance of Interest by Category (2013)

Owners (2 votes)
Coleman Miller, Pacific Gas & Electric Company
Maryanne Stasko, Duke Energy

Vendors 3 members (2 votes)
*Timothy Ake/Sven Bader, AREVA Federal Services, LLC
Mitchell Sanders, Westinghouse Electric Company

Architects/Engineers (2 votes)
Donald Lewis, Chicago Bridge & Iron
Steven Schilthelm, B & W mPower Group, Inc.

Consultants (1 vote)
Donald Eggett, Automated Engineering Services Corp

Government Agencies (0 vote)

National Laboratories (2 votes)
Sheila Lott, Los Alamos National Laboratory
Donald Spellman, Oak Ridge National Laboratory

Academic / Laboratory (0 vote)

Society (0 vote)

Individuals (1 vote)
Jeffery Brault

TOTAL = 11 members with 10 committee votes

*2 AREVA Federal Services, LLC members share 1 vote

Vote Summary:	
Owners	2
Vendors	2
Architects/Engineers	2
Consultants	1
Government Agencies	0
National Laboratories	2
University	0
Society	0
Individuals	1
TOTAL	10

Revised 11-5-13

Attachment 7

Large Light Water Reactor (LLWR) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

Projects in need of support (chair/members) to be initiated (4)

- ANS-56.1, "Containment Hydrogen Control" (reinvigoration of withdrawn project)
- ANS-58.2, "Design Basis for Protection of Light Water Nuclear Power Plants Against the Effects of Postulated Pipe Rupture" (reinvigoration of historical standard ANSI/ANS-58.2-1988)
- ANS-58.11, "Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors" (reinvigoration of historical standard ANSI/ANS-58.11-1995 (R2002))
- ANS-59.3, "Nuclear Safety Criteria for Control Air" (reinvigoration of historical standard ANSI/ANS-59.3-1992 (R2002))

PINS in Development (1)

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

PINS in Approval (1)

- ANS-3.13 "Nuclear Plant Reliability Assurance Program (RAP) Development Guidance for Design, Construction, and Operation" (new standard)

Standards in Development – Approved PINS (7)

- ANS-3.5, "Nuclear Power Plant Simulators for Use in Operator Training and Examination" (revision of ANSI/ANS-3.5-2009)
- ANS-3.8.7, "Properties of Planning, Development Conduct, and Evaluation of Drills and Exercises for Emergency Preparedness at Nuclear Facilities" (revision of historical standard ANSI/ANS-3.8.7-1998) ****Once ANS-3.8.7 is completed, a path forward for completing the remaining emergency preparedness standards will be determined. This includes ANS-3.8.1, ANS-3.8.2, ANS-3.8.3, and ANS-3.8.6.****
- ANS-18.1, "Radioactive Source Term for Normal Operation of Light Water Reactors" (revision of historical standard ANSI/ANS-18.1-1999)
- ANS-50.1, "Nuclear Safety Criteria for the Design of Stationary Light Water Reactor Plants" (new standard)
- ANS-51.10, "Auxiliary Feedwater System for Pressurized Water Reactors" (revision of ANSI/ANS-51.10-1991 (R2008))
- ANS-56.8, "Containment Leakage Testing Requirements" (revision of ANSI/ANS-56.8-2002 (R2011))
- ANS-58.8, "Time Response Design Criteria for Safety-Related Operator Actions" (revision of ANSI/ANS-58.8-1994 (R2008))

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

- ANSI/ANS-51.10-1991 (R2008) "Auxiliary Feedwater System for Pressurized Water Reactors" (revision initiated)
- ANSI/ANS-58.3-1992 (R2008), "Physical Protection for Nuclear Safety-Related Systems and Components" (inactive)
- ANSI/ ANS-58.8-1994 (R2008), "Time Response Design Criteria for Safety-Related Operator Actions" (revision initiated)
- ANSI/ANS-59.51-1997 (R2007), "Fuel Oil Systems for Safety-Related Emergency Diesel Generators" (inactive)
- ANSI/ANS-59.52-1998 (R2007), "Lubricating Oil Systems for Safety-Related Emergency Diesel Generators" (inactive)

Responses to Inquiries in Development (1)

- An inquiry was received on ANSI/ANS-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination," on 4/3/12. A response was drafted and issued to the NFSC for approval resulting in significant comments currently being addressed by the working group.

Future Plans

Due to our first meeting being held the day after the SB meeting, future plans have not been discussed by the LLWR. However, we plan to discuss the following:

- Targeting our resources to standards most needed that can be accomplished in time to be effective
- Providing the best approaches to particular design interfaces
- Completing the assignment of subcommittee chairs and vice chairs
- Revisiting standards for response to Fukushima
- Application EPRI TR 105396 in standards

Attachment 8

Research & Advanced Reactors (RAR) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

PINS in Development (1)

- ANS-15.15, "Criteria for the Reactor Safety Systems of Research Reactors" (revision of historical standard ANSI/ANS-15.15-1978 (R1986))

PINS in Approval (1)

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

Standards in Development – Approved PINS (5)

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

Delinquent Standards (5+ years since ANSI approval) (7)

- ANSI/ANS-15.4-2007, "Selection and Training of Personnel for Research Reactors" (revision initiated)
- ANSI/ANS-15.16-2008, "Emergency Planning for Research Reactors" (revision being initiated)

Responses to Inquiries in Development (0)

The committee has not received any inquiries on standards.

Attachment 9

Non Reactor Nuclear Facilities (NRNF) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

PINS in Approval Process/Resolving Comments (1)

- ANS-3.14, "Process for Aging Management and Life Extension of Non-Reactor Nuclear Facilities" (new standard)

Standards in Development – Approved PINS (1)

- ANS-57.11, "Integrated Safety Assessments for Fuel Cycle Facilities" (new standard)

Standards at Ballot/Resolving Comments (1)

- ANS-58.16, "Safety Categorization and Design Criteria for Non-Reactor Nuclear Facilities" (new standard)

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

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

Future Plans

The consensus committee will be focused on:

- Supporting development of final draft for ANS-57.11
- Supporting establishment of working group for ANS-3.14
- Addressing any actions need to support ANS-58.16 following balloting
- Analyzing inactive standards and potential benefits for re-activating them and developing any needed papers justifying reactivating the standards (and including path forward to accomplish this).

Attachment 10

Safety & Radiological Analyses (SRA) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

PINS in Development (1)

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

PINS in Approval (1)

- ANS-6.6.1, "Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants" (revision of ANSI/ANS-6.6.1-1987 (R2007))

Standards in Development – Approved PINS (8)

- ANS-5.1, "Decay Heat Power in Light Water Reactors" (revision of ANSI/ANS-5.1-2005)
- ANS-6.4.2, "Specification for Radiation Shielding Materials" (revision of ANSI/ANS-6.4.2-2006)
- ANS-6.4.3, "Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering Materials" (reinvigoration of historical standard ANSI/ANS-6.4.3-1991)
- ANS-10.8," Non-Real Time, High-Integrity Software for the Nuclear Industry: User Requirements" (new standard)
- ANS-19.1, "Nuclear Data Sets for Reactor Design Calculations" (revision of ANSI/ANS-19.1-2002 (R2011))
- ANS-19.9, "Delayed Neutron Parameters for Light Water Reactors" (new standard)
- ANS-19.11, "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for Pressurized Water Reactors" (revision of ANSI/ANS-19.11-1997 (R2011))
- ANS-19.12, "Nuclear Data for the Production of Radioisotope" (new standard)

Standards Approved (1)

- ANSI/ANS-6.1.2-2013, "Group-Averaged Neutron and Gamma-Ray Cross Sections for Radiation Protection and Shielding Calculations for Nuclear Power Plants" (revision of ANSI/ANS-6.1.2-1999 (R2009))

Delinquent Standards (5+ years since ANSI approval (7)

- ANSI/ANS-5.1-2005, "Decay Heat Power in Light Water Reactors" (revision initiated)
- ANSI/ANS-6.3.1-1997 (R2007), "Program for Testing Radiation Shields in Light Water Reactor (LWR)" (chair needed)
- ANSI/ANS-6.4-2006, "Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants" (chair needed)
- ANSI/ANS-6.4.2-2006, "Specification for Radiation Shielding Materials" (revision initiated)
- ANSI/ANS-6.6.1-1987 (R2007), "Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants" (revision being initiated)
- ANSI/ANS-10.4-2008, " Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry"
- ANSI/ANS-19.3.4-2002 (R2008) "The Determination of Thermal Energy Deposition Rates in Nuclear Reactors" (chair needed)

Responses to Inquiries in Development (0)

The committee has not received any inquiries on standards.

Future Plans

- Seek owner (utility) member for the CC.
- With subcommittee chairs to find WG chairs for outstanding projects.

Attachment 11

JCNRM Chairman's Report to the Standards Board
June 18, 2013, Meeting ● Washington, D.C

Standard Published

A new addenda to the JCNRM's main "flagship" PRA methodology standard for LWR PRA was approved and has been published. This "addenda" known colloquially as "Addenda B" and formally designated as ASME/ANS RA-b-2013, contains changes that are mostly of a clarifying or consistency-across-the-standard nature, plus bringing many citations and other things up to date. Work on the next revision, which the JCNRM will call a "new edition", is already underway. This new version is expected to contain many substantive changes based on feedback from recent users of the standard, along with extensive re-formatting and the like. The schedule for this next version is not yet clear, but is expected to be complete by mid-2015.

Standards in Development

NOTE #1: This list includes both standards being developed by the JCNRM that began under ANS-RISC before the ANS-ASME merger, and those being developed under JCNRM that began under ASME before the merger.

NOTE #2: Please note that the numerical designators below (like ANS 58.22, etc.) are the old numbers. The JCNRM will provide new designators when each of the standards below finally goes out for final approval.

NOTE #3: The JCNRM has decided that each of these new standards will be released initially for Trial Use and Pilot Application – not for approval as an American National Standard by the American National Standards Institute.

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

- Working group is led by Don Wakefield, underway since 1999.
- After several ballots and comment resolutions, the WG has completed a final draft that was issued for a 60-day ballot closing 11/16/13.

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

- Writing group is led by Ed Burns, underway since 2005. Burns took over as chair from Mark Leonard in early 2013. Leonard had led the WG since its inception.
- After several ballots and comment resolutions, the WG has completed a final draft and it is being prepared for submittal to the JCNRM for final ballot. We expect that the draft will be issued for another ballot in the second quarter of 2014.

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

- Working group is led by Keith Woodard, underway since 2005.
- After several ballots and comment resolutions, the WG has completed a final draft and it is being prepared for submittal to the JCNRM for final ballot. We expect that this ballot will occur in the second quarter of 2014.

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

- Working group is led by Karl Fleming, underway since 2007.
- A final JCNRM ballot was held in spring 2013, and the ballot was successful. This standard is now in the editing process at ANS, and should be publically available at the end of November 2013.

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

- Working group is led by Jim Chapman, underway since 2007.

- A final JCNRM ballot was held in spring 2013, and it was approved by the JCNRM. Final comment resolution is now under way. Additional changes are being made to the draft, in part to accommodate applicability to SMRs (small modular reactors) that use light-water coolant. We expect that the final draft will be ready for ballot by the JCNRM in the first quarter of 2014.

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

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

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

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

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

Standards Inquiries and Delinquent Standards

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

Future Plans

The JCNRM's Executive Committee has been meeting more-or-less bi-weekly by conference call to plan the next two years' activities. The main effort is to develop the next version of the main PRA Combined Standard, which is planned now for early 2015. This next version, which we will call a "new edition" instead of an "addendum," is expected to have substantial changes to the format as well as to the content, based largely on feedback received in the past 2-3 years as this standard has been used by the commercial nuclear power operating fleet and by the NRC. During this period of use, many areas have been identified where inconsistencies exist between different parts of the large PRA standard, mostly due to variable interpretations, although a few other problems have been discovered during use. A number of what the JCNRM has called "cross cutting issues" have also been identified, each of which is being evaluated and worked on by one of several *ad hoc* project teams within the larger JCNRM. Some of these issues have policy implications for how the standard is to be used, but mostly these are issues with technical substance.

The other major JCNRM tasks are to issue the new standard now in the editing process, and to ballot and issue the four new standards under development that are discussed in the opening section of this report. This is a major effort, involving several dozen volunteers.

The JCNRM has also recently established a separate new subcommittee, the Subcommittee on Risk Applications, with the charter to be the JCNRM interface with ANS and ASME (and other SDOs in the future) so as to provide assistance to other standards-development projects whenever such a project desires to develop a new standard

(or modify an existing standard) to provide risk-informed or performance-based requirements. This new JCNRM Subcommittee will be the JCNRM interface with the ANS Standards Board's new Risk-informed and Performance-based Principles Policy Committee (RP3C.)

In early 2013, the JCNRM appointed two task groups, one to recommend whether it should begin the development of a new standard for PRA to evaluate the risk from spent fuel pools, and another to evaluate the need and efficacy of a possible new standard covering PRA for small modular reactors of various designs. Decisions on these will be debated by the JCNRM at its upcoming meeting in Palm Springs FL in February 2014. There is also some early discussion on whether the JRNRM should start working on PRA standards for non-reactor nuclear facilities, which standards are of great interest to the US Department of Energy.

Attachment 12

Nuclear Criticality Safety Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

PINS in Development (2)

- ANS-8.22, "Nuclear Criticality Safety Based on Limiting and Controlling Moderators" (revision of ANSI/ANS-8.22-1997 (R2006))
- ANS-8.24, "Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations" (revision of ANSI/ANS-8.24-2007)

PINS in Approval Process/Resolving Comments (1)

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

Standards in Development – Approved PINS (9)

- ANS-8.3, "Criticality Accident Alarm System" (revision of ANSI/ANS-8.3-1997 (R2003))
- ANS-8.10, "Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement" (revision of ANSI/ANS-8.10-1983 (R2005))
- ANS-8.12, "Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors" (revision of ANSI/ANS-8.12-1987 (R2011))
- ANS-8.15, "Nuclear Criticality Control of Selected Actinide Nuclides" (revision of ANSI/ANS-8.15-1981 (R2005))
- ANS-8.20, "Nuclear Criticality Safety Training" (revision of ANSI/ANS-8.20-1991 (R2005))
- ANS-8.21, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors" (revision of ANSI/ANS-8.21-1995 (R2011))
- ANS-8.26, "Criticality Safety Engineer Training and Qualification Program"(revision of ANSI/ANS-8.26-2007 (R2012))
- ANS-8.27, "Burnup Credit for LWR Fuel" (revision of ANSI/ANS-8.27-2007)
- ANS-8.28, "Administrative Practices for the Use of Non-Destructive Assay Measurements for Nuclear Criticality Safety" (new standard)

Standards at Ballot/Resolving Comments (2)

- ANS-8.1, "Nuclear Criticality Safety in Operations With Fissionable Materials Outside Reactors" (revision of ANSI/ANS-8.1-1998 (R2007))
- ANS-8.19, "Administrative Practices for Nuclear Criticality Safety" (revision of ANSI/ANS-8.19-2005)

Responses to Inquiries in Development (2)

- An inquiry was received 1/11/12 on ANSI/ANS-8.3-1997 (R2003), "Criticality Accident Alarm System Inquiry." A response was drafted; comments from the ANS-8 Subcommittee are being resolved.
- An inquiry was received 1/9/13 on ANSI/ANS-8.19-2005, "Administrative Practices for Nuclear Criticality Safety." A response was drafted; comments from the ANS-8 Subcommittee are being resolved.

Delinquent Standards – 5+ Years Since ANSI Approval (6)

- ANSI/ANS-8.1-1998 (R2007), “Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors” (revision at ballot with N16)
- ANSI/ANS-8.10-1983 (R2005), “Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement” (revision initiated)
- ANSI/ANS-8.15-1981 (R2005), “Nuclear Criticality Control of Special Actinide Elements” (revision initiated)
- ANSI/ANS-8.19-2005, “Administrative Practices for Nuclear Criticality Safety” (revision at ballot with N16)
- ANSI/ANS-8.20-1991 (R2005), “Nuclear Criticality Safety Training” (revision balloted by ANS-8; comments being resolved)
- ANSI/ANS-8.2-2008, “Burnup Credit for LWR Fuel” (revision at ballot with ANS-8)

Future Plans

Lon Paulson took over as the permanent ANS-8 chair after the close of the June 2013 ANS meeting.

Attachment 13

Environmental & Siting (ES) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013 Meeting ● Washington, D.C.

Projects in Consideration for Development/Volunteer Support Needed (16)

- ANS-2.6, "Guidelines for Estimating Present and Forecasting Future Population Distributions Surrounding Nuclear Facility Sites" (new standard)
- ANS-2.11[1], "Guidelines for Evaluating Site-Related Geotechnical Parameters at Nuclear Power Sites" (reinvigoration of historic standard ANSI/ANS-2.11-1978 (R1989))
- ANS-2.13, "Evaluation of Surface-Water Supplies for Nuclear Power Sites" (reinvigoration of historical standard ANSI/ANS-2.13-1979 (R1989))
- ANS-2.19, "Guidelines for Establishing Site-Related Parameters for Site Selection and Design of an Independent Spent Fuel Storage Installation (Water Pool Type)" (reinvigoration of historical standard ANSI/ANS-2.19-1981 (R1990))
- ANS-2.22[2], "Environmental Radiological Monitoring at Nuclear Facilities," (new standard)
- ANS-2.25, "Surveys of Ecology Needed to License Nuclear Facilities" (reinvigoration of historical standard ANSI/ANS-18.5-1982/redesignated ANS-2.25) (Approved PINS but no membership)
- ANS-3.8.5[3], "Criteria for Emergency Radiological Field Monitoring, Sampling and Analysis" (reinvigoration of historical standard ANSI/ANS-3.8.5-1992)
- ANS-18.2.1, "Methods for Inferring Environmental Doses" (new standard)
- ANS-18.3.1, "Entrainment: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms" (new standard)
- ANS-18.3.2, "Cold Shock: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms" (new standard)
- ANS-18.3.3, "Entrapment/Impingement: Guide to Steam Electric Power Plant Cooling System Siting, Design and Operation for Controlling Damage to Aquatic Organisms at Water Intake Structures" (new standard)
- ANS-18.4, "Aquatic Ecological Surveys Required for Siting, Design, and Operation of Thermal Power Plants" (new standard)
- ANS-18.6, "Discharge of Thermal Effluents into Surface Waters" (new standard)
- ANS-18.7, "Control and Monitoring of the Discharge of Chemicals" (new standard)
- ANS-18.8, "Guidelines for Environmental and Economic Analysis of the Regional Effects of Power Facilities"
- ANS-18.9, "Environmental Impact Evaluation" (new standard?)

PINS in Development (2)

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

PINS in Approval (1)

- ANS-2.32, "Guidance on the Selection and Evaluation of Remediation Methods for Subsurface Contamination" (new standard)

Standards in Development – Approved PINS (8)

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[1] ANS-2.27 & ASCE 43-05 supersede ANS-2.11.
[2] This is one of the 17 standards and projects in need of a chair for reinvigoration.
[3] This standard is being incorporated into ANS-3.8.6 under LLWRCC.

- ANS-2.2, “Earthquake Instrumentation Criteria for Nuclear Power Plants” (reinvigoration of historical standard ANSI/ANS-2.2-2002)
- ANS-2.8, “Determine External Flood Hazards for Nuclear Facilities” (reinvigoration of historical standard ANSI/ANS-2.8-1992)
- ANS-2.9, “Evaluation of Ground Water Supply for Nuclear Facilities” (reinvigoration of historical standard ANSI/ANS-2.9-1980 (R1989))
- ANS-2.16, “Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities” (new standard)
- ANS-2.30, “Assessing Capability for Surface Faulting at Nuclear Facilities” (new standard)
- ANS-2.31, “Estimating Extreme Precipitation at Nuclear Facility Sites” (new standard)
- ANS-3.8.10, “Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities” (new standard)
- ANS-3.11, “Determining Meteorological Information at Nuclear Facilities” (revision of ANSI/ANS-3.11-2005 (R2010))

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

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

Responses to Inquiries in Development (0)

No inquiries received.

Future Plans

To be determined after the first E&SCC meeting tomorrow.

Attachment 14

Fuel, Waste, & Decommissioning (FWD) Consensus Committee
Chairman's Report to the Standards Board
November 12, 2013, Meeting ● Washington, D.C.

PINS in Development (4)

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

Standards in Development – Approved PINS (7)

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

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

- ANSI/ANS-57.1-1992 (R2005), "Design Requirements for Light Water Reactor" (chair/members needed)
- ANSI/ANS-57.5-1996 (R2006), "Light Water Reactors Fuel Assembly Mechanical Design and Evaluation" (chair/members needed)
- ANSI/ANS-57.10-1996 (R2006), "Design Criteria for Consolidation of LWR Spent Fuel (chair/members needed)
- ANSI/ANS-55.4-1992 (R2007), "Gaseous Radioactive Waste Processing Systems for Light Water Reactor Plants" (revision to be initiated)
- ANSI/ANS-55.6-1993 (R2007), " Liquid Radioactive Waste Processing System for Light Water Reactor Plants" (revision to be initiated)

Responses to Inquiries in Development (0)

The committee has not received any inquiries on standards.

Future Plans

- Near term (3 months)
  - ✓ Assign Secretary for the FWDCC by 1/1/14 or sooner
  - ✓ Complete assignments of Subcommittee (SC) Chairs and Vice chairs for each FWD SC by 1/1/14
  - ✓ Obtain consensus from FWDCC members on the number and title of each SC by 12/6/13
- Long Term (8 months)
  - ✓ Evaluate the need for developing a new and updated standard for those inactive fuel, waste, and decommissioning standards by 2/15/14
  - ✓ Determine new areas where standards are needed for fuel, waste, and decommissioning by 3/15/14
  - ✓ Subcommittee (SC) Chairs and Vice chairs for each FWD SC to provide action plans moving forward for each identified standard within that SC by 5/15/14.

Attachment 15

Links Between ANS Standards Board and Other Standards Development Organizations (SDOs)/

Other Related Organizations

Name of SDO/and Other Related Organizations	Lead TF Person	Standards Committee Liaison	Link Adequate Y or N?	Next Actions
ASME NQA	Mazzola	Moseley	Y	
ASTM-C26	Massie	Blauvelt	Y	
NEI	McAndrews	Jim Riley	Y	
ANSI	Mazzola	Prasad	Y	
IEEE	Levinson	Spellman	Y	
ASCE	Massie	John Stevenson	Y	
AIChE	McAndrews	Bell (N17) & NFSC	Y	
HPS/NCRP	Mazzola	Brey (N17)	N	Per Pat S. no HP person on SB
INMM	Massie	Knief (N16)	Y	
NESCC	McAndrews	Prasad	Y	
JCNRM	Levinson	Budnitz	Y	
NRMCC	Budnitz	Moseley	Y	
ACI/AISC	Massie	John Stevenson	Y	
ISO TC-85	Budnitz	Prasad	Y	
NFPA	Wallace	??????	N	Check with TG
EPRI	Massie	Swilley	Y	
AGS	Massie	Jeff Brault	Y	

Acronyms

ACI - American Concrete Institute
AGS - American Glovebox Association
AIChE - American Institute of Chemical Engineers
AISC - American Institute of Steel Construction
ANSI - American National Standards Institute
ASCE - American Society of Civil Engineers
ASTM- American Society for Testing and Materials
C26 - Nuclear Fuel Cycle
EPRI - Electric Power Research Institute
HPS-Health Physics Society
IEEE - Institute of Electrical and Electronics Engineers
INMM-Institute of Nuclear Materials Management
ISO - International Organization for Standardization
JCNRM-Joint Committee on Nuclear Risk Management
NCRP-National Council on Radiation Protection
NEI - Nuclear Energy Institute
NFPA - National Fire Protection Association
NESCC - Nuclear Energy Standards Coordination Collaborative
NRMCC - Nuclear Risk Management Coordinating Committee

Attachment 16

AMERICAN NUCLEAR SOCIETY

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NRMCC Report to the ANS Standards Board
Washington D.C.
November 12, 2013

REPLY TO:

Charles H. Moseley, Jr

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This report is from the NRMCC Co Chair representing ANS. The other Co Chair represents ASME.

Risk Based Standards
The ASME Board on Nuclear Codes and Standards (BNCS) and American Nuclear Society (ANS) Standards Board mutually agreed in 2004 to form a Nuclear Risk Management Coordinating Committee (NRMCC). This committee was chartered to coordinate Standards activities related to probabilistic risk assessment (PRA) between the two Standards development organizations.

I serve as the ANS Co Chair; a new ASME Co Chair, Ralph Hill of Westinghouse, was named in 2012. The last meeting of the NRMCC was held in September in Baltimore.

Discussions were successful between ASME and ANS and the new joint technical consensus committee, the Joint Committee on Nuclear Risk Management, met for the first in February 2012 in St. Petersburg. They last met in Baltimore in September. This committee is proceeding to develop all the procedures necessary for governance. The next meeting is scheduled for West Palm Beach in February 2014. The Business Agreement between the two societies still has not been signed.

There is still great concern being raised within the Risk informed standards community on the impact of the March 11, 2011 Fukishima incident on the existing scope of standards development.

The undersigned has served as the ANS Co Chair since 2007 and intends to resign after the West Palm Beach meeting or before if a suitable replacement can be found and an overlap period can be accomplished over the telephone. This decision was announced at the ANS Standards Board meeting in Washington D.C. in mid November. It has been a pleasure to serve in this capacity but it is time for new blood and for me to pursue other interests. I wish to thank ANS and the Standards Board for this opportunity.

C. H. Moseley, Jr.

Charles H. Moseley, Jr
ANS Standards Board Member
ANS Co Chair NRMCC
ANS Nuclear Facilities Standards Committee Member
ANS 21- Reactor Standards Member
ANS 3.2 Member

Attachment 17

ANS Standards Staff Report
November 2013

Staff Activities

- Supported the Reorganization Committee and its new consensus committee chairs to meet transition plan target dates
- Worked with Techstreet to provide redlines of revisions to ANS standards and options for users to purchase print plus PDF and PDF multipliers to increase revenue
- Re-negotiated royalty split with the Information Handling Service (IHS) to double income from IHS electronic subscriptions
- Researched and negotiated with e-balloting service provider to provide reasonably-priced product for ANS Standards Committee use; drafted business case
- Prepared articles for *Nuclear Standards News*

Standards Approved by ANSI

Addenda B of joint standard ANSI/ASME/ANS RA S-2008, "Standard for Level 1 / Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," has recently been released. This standard was developed by a collaboration of the American Society of Mechanical Engineers (ASME) and the ANS. This joint standard combines ASME RA-S whose scope was Level 1 and large early release frequency for internal events at-power for light water reactor nuclear power plants and two ANS standards, whose scopes were external hazards (ANS-58.21) and internal fires (ANS-58.23) at-power for LWR nuclear power plants.

The ANS Standards Committee received American National Standards Institute (ANSI) approval of the following 5 American National Standards and 3 reaffirmations:

- ANSI/ANS-2.15-2013, "Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities" (new standard)
- ANSI/ANS-3.4-2013, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants" (superseded ANSI/ANS-3.4-1996)
- ANSI/ANS-5.10-1998 (R2013), "Airborne Release Fractions at Non-Reactor Nuclear Facilities" (reaffirmation of ANSI/ANS-5.10-1998 (R2006))
- ANSI/ANS-6.1.2-2013, "Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants"
- ANSI/ANS-10.7-2013, "Non-Real-Time, High-Integrity Software for the Nuclear Industry—Developer Requirements" (new standard)
- ANSI/ANS-15.1-2007 (R2013), "The Development of Technical Specifications for Research Reactors" (reaffirmation of ANSI/ANS-15.1-2007)
- ANSI/ANS-15.8-1995 (R2013), "Quality Assurance Program Requirements for Research Reactors" (reaffirmation of ANSI/ANS-15.1-1995)
- ANSI/ANS-15.21-2012, "Format and Content for Safety Analysis Reports for Research Reactors" (revision of ANSI/ANS-15.21-1996)

Standards Projects Initiated in 2013

Project Initiation Notification Systems (PINS) forms were approved and submitted to ANSI to announce the initiation of the following 7 standards projects:

- ANS-3.11-201x, "Determining Meteorological Data for Nuclear Facilities" (revision of ANSI/ANS-3.11-2005; R2010)
- ANS-10.8-201x, "Non-Real Time, High-Integrity Software for the Nuclear Industry—User Requirements" (new standard)

- ANS-15.4-201x, “Selection and Training of Personnel for Research Reactors” (revision of ANSI/ANS-15.4-2007)
- ANS-19.5-201x, “Requirements for Reference Reactor Physics Measurements” (revision of withdrawn standard ANSI/ANS-19.5-1995)
- ANS-20.1-201x, “Nuclear Safety Criteria and Design Criteria for Fluoride Salt-Cooled High-Temperature Reactor Nuclear Power Plants” (new standard)
- ANS-57.2-201x, “Design Requirements for Light Water Reactor Used Fuel Storage Facilities at Nuclear Power Plants” (revision of withdrawn standard ANSI/ANS-57.2-1983)
- ANS-57.3-201x, “Design Requirements for New Fuel Storage Facilities at Light Water Reactor Plants” (revision of withdrawn standard ANSI/ANS-57.3-1983)
- ANS-57.11-201x, “Integrated Safety Assessments for Fuel Cycle Facilities” (new standard)

ISO/TC 85/SC 6 Progress Report

- The ANS took over the role of secretary to the ISO Technical Committee 85 Subcommittee (SC) 6 effective January of 2013; ANS was host to the SC 6 Annual meeting during the ANS Annual Meeting in June of this year. SC 6 will meet in conjunction with TC 85 in Moscow next June.
- Year to date, 6 proposed international standards projects have been registered as active. Proposed international standards that are based on ANS standards are indicated in parenthesis below:
    - ISO/NP 18075, “Steady-State Neutronics Methods for Power-Reactor Analysis” (ANS-19.3)
    - ISO/NP 18077, “Reload Startup Physics Tests for Pressurized Water Reactors” (ANS-19.6.1)
    - ISO/NP 18156, “Technical Specification Guide for Decay Heat Computational Codes in Nuclear Reactors” (ANS-5.1)
    - ISO/NP 18195, “Method for Justification of Nuclear Safety Fire Partitioning Efficiency in Water Cooled Nuclear Power Plants” (no comparable ANS standard)
    - ISO/NP 18229, “Essential Technical Requirements for GEN IV Nuclear Reactors” (no comparable ANS standard)
    - ISO/NP 19226, “Determination of Neutron Fluence and Displacements per Atom (dpa) in Reactor Vessel and Internals” (ANS-19.10)
- SC 6 projects in approval include the following:
    - ISO/NP 18583, “Mobile Equipments for Emergency Intervention on Nuclear Installation” (no comparable ANS standard)
    - ISO/NP 19492, “Technical Specifications for Research Reactors” (ANS-15.1)
    - ISO /PWI 19462, “Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink” (ANS-2.21)

ANS Standards Staff Participation on Other Committees

- ANS standards staff supported the Nuclear Risk Management Coordinating Committee meeting on September 11, 2013, in Baltimore, Maryland.
- ANS standards staff attended the ANS/ASME Joint Committee on Nuclear Risk Management meetings September 9 through 12, 2013, in Baltimore, Maryland.
- ANS standards staff will support the Professional Engineering Examination Committee at the upcoming ANS Winter meeting.
- ANS standards staff supports the National Council on Radiation and Protection Liaison Committee.

Standards Sales Report

May 16 - October 15, 2013

Attachment 18

Designation & Title of Standard	# Sold Paper / Electronic	Total Price
ANS-1-2000;R2007;R2012, Conduct of Critical Experiments	0 / 1	36.00
ANS-2.3-2011, Estimating Tornado, Hurricane, and Extreme Straight Line Wind Characteristics at Nuclear Power Plants	0 / 3	182.40
ANS-2.15-2013, Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities	0 / 2	279.00
ANS-2.21-2012, Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink	1 / 1	100.00
ANS-2.26-2004;R2010, Categorization of Nuclear Facility SSCs For Seismic Design	1 / 1	205.20
ANS-2.27-2008, Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	0 / 1	110.00
ANS-3.1-1993;R1999;W2009, Selection, Qualification Training of Personnel for Nuclear Power Plants	0 / 1	79.00
ANS-3.2-2012, Managerial, Administrative, and Quality Assurance Controls for the Operational Phase of Nuclear Power Plants	0 / 1	102.60
ANS-3.4-2013, Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants	1 / 2	2,250.00
ANS-3.5-2009, Nuclear Power Plant Simulators for Use in Operator Training and Examination	2 / 3	528.00
ANS-3.11-2005;R2010, Determining Meteorological Information at Nuclear Facilities	0 / 1	123.00
ANS-5.1-2005, Decay Heat Power in LWRs	0 / 3	414.00
ANS-5.4-2011, Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel	0 / 1	71.00
ANS-5.10-1998;R2006, R2013, Airborne Release Fractions at Non-Reactor Nuclear Facilities	0 / 1	120.00
ANS-6.1.1-1991;W2001, Neutron and Gamma-Ray Fluence-To-Dose Factors	0 / 2	186.00
ANS-6.4-2006, Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants	0 / 1	189.00
ANS-6.4.2-2006, Specifications for Radiation Shielding Materials	0 / 3	205.90
ANS-6.4.3-1991;W2001, Gamma-Ray Attenuation Coefficients and Buildup Factors for Engineering Materials	0 / 2	424.00
ANS-8.1-1983;R1988;W1998, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	0 / 1	79.00
ANS-8.1-1998;R2007, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	16 / 3	1,294.30
ANS-8.3-1997;R2003, Criticality Accident Alarm Systems	0 / 3	269.70
ANS-8.5-1996;R2002;R2007, Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material	0 / 2	116.00
ANS-8.6-1983;R1988;R1995;R2001;R2010, Safety in Conducting Subcritical Neutron-Multiplication	0 / 1	29.00
ANS-8.7-1998:R2007, Guide for Nuclear Criticality Safety in the Storage of Fissile Materials	0 / 2	150.10
ANS-8.9-1987;R1995;W2000, Nuclear Criticality Safety Guide for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate	0 / 1	51.00
ANS-8.10-1983;R1988;R1999;R2005, Criteria for Nuclear Criticality Safety Controls	1 / 3	124.70
ANS-8.12-1987;R1993;R2002;R2011, Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors	0 / 2	163.40
ANS-8.14-2004, Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors	0 / 1	43.00
ANS-8.15-1981;R1987;R1995;R2005, Nuclear Criticality Control of Special Actinide Elements	0 / 1	79.00
ANS-8.17-2004;R2009, Criticality Safety Criteria for the Handling, Storage, and Transportation of LWR Fuel Outside Reactors	1 / 2	124.70
ANS-8.19-2005, Administrative Practices for Nuclear Criticality Safety	1 / 1	63.00
ANS-8.20-1991;R1999;R2005, Nuclear Criticality Training	0 / 1	43.00

Designation & Title of Standard	# Sold Paper / Electronic	Total Price
ANS-8.21-1995;R2001;R2011, Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors	0 / 2	81.70
ANS-8.22-1997;R2006, Nuclear Criticality Safety Based on Limiting & Controlling Moderators	0 / 2	96.90
ANS-8.23-2007, Nuclear Criticality Accident Emergency Planning and Response	0 / 1	108.00
ANS-8.24-2007, Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations	2 / 2	350.00
ANS-8.26-2007, Criticality Safety Engineer Training and Qualification Program	0 / 1	36.00
ANS-8.27-2008, Burnup Credit for LWR Fuel	1 / 2	124.70
ANS-10.4-2008, Verification and Validation of Non-Safety Related Scientific and Engineering Computer Programs for the Nuclear Industry	0 / 3	330.40
ANS-10.7-2103, Non-Real-Time, High-Integrity Software for the Nuclear Industry—Developer Requirements	0 / 1	100.00
ANS-14.1-2004;R2009, Operation of Fast Pulse Reactors	0 / 1	43.00
ANS-15.1-2007,R2013, The Development of Technical Specifications for Research Reactors	0 / 2	163.40
ANS-15.4-1988;R1999;W2007, Selection and Training of Personnel for Research Reactors	1 / 1	121.60
ANS-15.8-1995;R2005,R2013, Quality Assurance Program Requirements for Research Reactors	0 / 1	52.20
ANS-15.11-2009, Radiation Protection at Research Reactors	0 / 1	101.70
ANS-15.15-1978;R1986;W1996, Criteria for the Reactor Safety Systems of Research Reactors	0 / 1	58.00
ANS-15.16-2008, Emergency Planning for Research Reactors	0 / 2	116.00
ANS-15.21-1996;R2006, Format and Content for Safety Analysis Reports for Research Reactors	2 / 2	401.15
ANS-16.1-2003;R2008, Measurement of the Leachability of Solidified Low-Level Radioactive Wastes by a Short-Term Test Procedure	0 / 2	246.00
ANS-18.1-1999;W2009, Radioactive Source Term for Normal Operation of LWRs	2 / 3	430.00
ANS-19.10-2009, Methods for Determining Neutron Fluence in BWR	0 / 1	49.00
ANSI/ANS-41.5-2012, Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation	2 / 5	1,022.00
ANS-51.1-1983;R1988;W2000, Nuclear Safety Criteria for the Design of Stationary PWRs	3 / 0	534.80
ANS-52.1-1983;R1988;W2001, Nuclear Safety Criteria for the Design of Stationary BWRs	2 / 0	340.20
ANS-53.1-2011, Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants	1 / 2	614.80
ANS-55.1-1979;W1990, Solid Radioactive Waste Processing System for Light Water Cooled Reactor Plants	0/ 1	111.50
ANS-56.6-1986;W1996, PWR Containment Ventilation Systems	1 / 0	83.70
ANS-56.8-2002;R2011, Containment System Leakage Testing Requirements	1 / 2	369.00
ANS-57.2-1983,W1999; Design Requirements for LWR Spent Fuel Facilities at NPPs	0 / 1	114.00
ANS-57.9-1992;R2000;W2010, Design Criteria for an Independent Spent Fuel Storage Installation (Dry Type)	4	636.00
ANS-58.9-2002;R2009, Single Failure Criteria for LWR Safety-Related Fluid Systems	1 / 3	163.40
ANS-58.14-2011, Safety and Pressure Integrity Classification Criteria for LWRs	1 / 4	836.00
ANS-59.2-1985;W1995, Safety Criteria for HVAC Systems Located Outside Primary Containment	1 / 0	99.00
ANS-59.51-1989;W1997, Fuel Oil Systems for Emergency Diesel Generators	0 / 1	71.00
ASME/ANS RA-S-2008, Standard for Level 1/LERF PRA for NPP Applications	N/A	733.00
Misc Standards: Historical standards, drafts, bulk sales	N/A	11,442.20
GRAND TOTAL		**28,415.35**