

American Nuclear Society

Nuclear Facility Standards Committee (NFSC) Meeting Synopsis

November 16, 2009 • Edison Electric Institute, Washington DC

1. Welcome and Call to Order

The NFSC Chairman called the meeting to order. A quorum was established. Introductions were made and several individuals were welcomed as guests.

2. Approval of Meeting Agenda

The meeting agenda was approved without change.

3. Approval of June 15, 2009, Meeting Minutes

The minutes from the June 15, 2009, Nuclear Facilities Standards Committee (NFSC) meeting were unanimously approved without any changes.

4. NFSC Management Reports

A. Chairman's Report

The NFSC Chairman highlighted major accomplishments of the committee over the last six months including ballots and approvals that would be reported in more detail by the responsible subcommittee.

B. Secretary/Staff Report

The secretary acknowledged a large number of ballots issued recently and thanked members for a great response. Standards inquiries from the general public had increased. The American Nuclear Society (ANS) received a grant from the U.S. Nuclear Regulatory Commission to develop three probabilistic risk assessment (PRA) standards under the Risk Informed Standards Committee (RISC). ANS recently hosted two PRA working group meetings. Additionally revised rules and procedures for the ANS Standards Committee were approved by the American National Standards Institute (ANSI) earlier in the month. The revised rules and procedures included a new set of categories for balance of interest. If interested, the revised procedures were available on the ANS website.

5. Review and Discussion of Action Items

Open action items were discussed and closed, if appropriate.

6. The Nuclear Regulatory Practice (NEI 07-06)

An overview of NEI 07-06, "The Nuclear Regulatory Process," was provided as it was believed to be very useful to standards writers. The document was prepared by NEI for NRC as a resource and was publicly available. The document was helpful to individuals new to the industry to get them up to speed on the regulatory process. NFSC members agreed that the document was useful. A recommendation was made to include the document in the NFSC toolkit.

7. NFSC Subcommittee Reports

A. ANS-21 Maintenance, Operation, Testing & Training

The ANS-21 Subcommittee Chair provided a status report. He noted the following:

- Working Group ANS-2.10, "Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation," was in need of a working group chair.
- ANSI/ANS-2.23-2002 (R2009), "Nuclear Plant Response to an Earthquake," was recently reaffirmed.
- Working Group ANS-3.1 may be in need of a new chair due to the current chair's job change.
- Working Group ANS-3.4 had been reformed and was scheduled to hold a conference call shortly; a PINS would be developed; an inquiry was received and was determined to be a request for clarification.
- ANSI/ANS-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination," was approved and published; two inquiries were received and determined to be requests for clarification; endorsement in NRC regulatory guide was anticipated.
- ANSI/ANS-3.11-2005, "Determining Meteorological Information at Nuclear Facilities," was reviewed and determined to be appropriate for reaffirmation.
- Working Group ANS-56.8 was resolving comments received from the Standards Board on a Project Initiation Notification System (PINS) for a revision; a clarification had been completed.
- Working Group ANS-58.6 was in need of a chair.

A report was provided on the status of ASME NQA-1. ASME NQA-1-2008, "Quality Assurance Requirements for Nuclear Facility Applications," would be endorsed by NRC but that some administrative requirements in ANSI/ANS-3.2-2006, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," were thought to be needed for a complete quality assurance (QA) program. Members discussed whether from an industry, technical standpoint that combining design and operational quality assurance (QA) standards was a good idea. The majority of members felt that an approach for an integrated QA standard that incorporated design and operation framework into one document should be pursued considered.

B. ANS-22 Systems Design Criteria

ANS-22 Subcommittee Chair provided an update on subcommittee activities. He stated that 9 of the 14 ANS-22 standards were referenced by NRC guides. The following was noted:

- ANSI/ANS-2.26-2006, "Categorization of Nuclear Facility Structures, Systems, and Components For Seismic Design," was in the process of a reaffirmation ballot.
- ANSI/ANS-51.10-1991 (R2008), "Auxiliary Feedwater System for Pressurized Water Reactors," was being revised.
- Working Groups for ANS-55.1, ANS-55.4, and ANS-55.6 would be re-staffed to initiate revisions.
- The ANS-58.3 Working Group had no current activity.
- ANSI/ANS-58.8-1994 (R2008), "Time Response Design Criteria for Safety-Related Operator Actions," was being revised; the project had much interest and good support.
- ANSI/ANS-58.9-2002 (R2009), "Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems," had been reaffirmed.
- ANSI/ANS-58.11-1995 (R2002), "Design Criteria for Safe Shutdown Following Selected Design Basis Events in Light Water Reactors," was anticipated to be issued for reaffirmation; a reaffirmation statement needed to be prepared for the ballot.
- Draft standard ANS-58.14, "Safety and Pressure Integrity Classification Criteria for Light Water Reactors," was issued for ballot that recently closed; comments were being resolved.
- Draft standard ANS-58.16, "Safety and Pressure Integrity Classification for Non-Reactor Nuclear Facilities," was being developed; the working group was contemplating a change to the scope; new PINS would be developed if a substantive change was felt necessary; working group meeting tomorrow.
- ANSI/ANS-59.3-1992 (R2002), "Nuclear Safety Criteria for Control Air Systems," will need to be considered for reaffirmation.

- ANSI/ANS-59.51-1997 (R2007), “Fuel Oil Systems for Safety-Related Emergency Diesel Generators,” and ANSI/ANS-59.52-1998 (R2007), “Lubricating Oil Systems for Safety-Related Emergency Diesel Generators,” were both recently reaffirmed.

C. ANS-24 Modeling & Analysis

The NFSC Chair explained that a member of the ANS-18.1 Working Group requested to address the committee regarding the project’s progress as a concerned member. The most recent version was ANSI/ANS-18.1-1999 (W2009), “Radioactive Source Term for Normal Operation of Light Water Reactors.” He felt the content was old and needed to be revised; numbers in the standard were too conservative. The working group was not making progress on the revision, and he asked the NFSC for help. The ANS-24 Subcommittee Chair stated that he tried to get operating plant data for the standard, but the response was not sufficient to get an estimate for valid production rates. He stated that the working group met about 18 months ago to consider new methods. It was thought that new working group members from the right segment of the industry could be helpful in collecting the needed data. It was felt that the NRC did not have sufficient resources to collect the information. Members discussed ways to acquire the needed new data. An action item was assigned for a white paper to be prepared to address the issue.

The rebalot of draft standard ANS-41.5, “Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation,” had a negative vote that may not be resolved. Several changes made to the draft after the rebalot were deemed substantive and would need to be issued for another ballot and public review. A recirculation ballot would also be needed if the negative was maintained.

The ANS-24 Subcommittee reported that the following drafts were in development:

- ANS-2.15, “Criteria for Modeling and Calculating Atmospheric Dispersion of Routine Radiological Releases from Nuclear Facilities”;
- ANS-2.16, “Criteria for Modeling Design-Basis Accidental Releases from Nuclear Facilities”;
- ANS-3.8.10, “Criteria for Modeling Real-time Accidental Release Consequences at Nuclear Facilities”;
- and
- ANS-5.4, “Method for Calculating the Fractional Release of Volatile Fission Products from Oxide Fuel,” was about 90% completed.

D. ANS-25 Siting: Environmental & Emergency Preparedness

The following summary of subcommittee activities was provided by the ANS-25 Subcommittee Chair:

- ANS-2.2, “Earthquake Instrumentation Criteria for Nuclear Power Plants,” was being revised.
- ANS-2.3, “Determining Tornado and Other Extreme Wind Characteristics at Nuclear Facility Sites,” was resolving remaining issues from the subcommittee review.
- ANS-2.17, “Evaluation of Radionuclide Transport in Ground Water for Nuclear Facilities,” was issued for ballot and comments were being reviewed; ANS-2.9, “Evaluation of Ground Water Supply for Nuclear Facilities,” would be started after ANS-2.17 was completed.
- ANS-2.21, “Criteria for Assessing Atmospheric Effects on the Ultimate Heat Sink,” was reviewed by the subcommittee and would be ready for NFSC ballot shortly.
- ANS-2.30, “Assessing Capability for Surface Faulting at Nuclear Facilities,” was in development.
- ANS-2.31, “Standard for Estimating Extreme Precipitation at Nuclear Facility Sites,” developed a PINS that was issued for approval to the NFSC.
- A PINS would be developed to reinvigorate the ANS-3.8 series standards on emergency preparedness; a commitment was received for a working group chair.

- ANS-40.21, "Siting, Construction, and Operation of Commercial Low Level Radioactive Waste Burial Grounds," was in need of new working group members; the Low Level Waste Forum would be contacted to solicit working group members.

The need for a reinvigoration of ANS-2.4, "Guidelines for Determining Tsunami Criteria for Power Reactor Sites," was questioned. Members thought that ANS-2.4 could be incorporated into ANS-2.8, "Determining Design Basis Flooding at Power Reactor Sites."

E. ANS-27 Fuel Cycle, Waste Management & Decommissioning

No report was provided.

F. ANS-28 HTGR Design Criteria

ANS-28 Subcommittee Chair provided a subcommittee report. He reviewed the safety design flowchart from draft standard ANS-53.1, "Nuclear Safety Criteria and Safety Design Process for Modular Helium-Cooled Reactor Plants," A combined comment response spreadsheet from the ballot of ANS-53.1 had been distributed. The majority of comments were accepted; only a handful of comments were not able to be incorporated. The working group was in the process of incorporating comments into the draft. The next working group meeting was anticipated in February 2010 to work on the draft. Substantive changes were anticipated requiring a second ballot.

G. ANS-29 Advanced Initiatives

The ANS-29 Subcommittee Chair explained that he currently managed two working groups. The chair for the ANS-29.1 Working Group was lost due to retirement and needed to be replaced. The ANS-54.1 Working Group held a very productive meeting the previous night. The chair noted that DOE was very interested in the ANS-54.1 project, and he anticipated support for the working group.

8. ANS-58.14 Next Steps

ANS-58.14 Working Group Chair stated that comments from the ballot of draft standard ANS-58.14, "Safety and Pressure Integrity Classification Criteria for Light Water Reactors," were reviewed and that he did not feel that there were any showstoppers. He anticipated another ballot in 2010. He reported that he was pleased with the progress that was being made by the working group and confirmed that they were coordinating with the ANS-58.16 Working Group.

9. NFSC Liaison Reports

A. ASME-NQA

The committee discussed gaps found in ASME NQA-1-2008 when reviewed by the NRC and that portions of ANSI/ANS-3.2-2006 could be used for a complete QA program. It was explained that ASME NQA-1-2008 was reviewed against the NRC standards review plan. The committee questioned how ANSI/ANS-3.2-2006 was reviewed by the NRC to determine that portions could be used to complete a QA program and asked the NRC representative to look into it.

B. Nuclear Risk Management Coordinating Committee (NRMCC)

The NRMCC Co-chair explained that the purpose of the NRMCC was to coordinate PRA standards between standards developing organizations. Members were reminded that the joint ANS/ASME standard was endorsed by the NRC in March of 2009 in Regulatory Guide 1.200.

C. International Organization of Standardization (ISO) Technical Committee (TC) 85/Subcommittee (SC)6

Members recognized that U.S. activity in SC6 was nearly non-existent. The ASME was the current secretariat for Nuclear Technical Advisory Group (NTAG). National Institute for Standards and Technology (NIST) had held the chair position for SC6 but had been inactive. It was thought that the French would like to take over chairmanship of SC6. The U.S. needed to find support for SC6 or U.S leadership would be lost. Members agreed that it was important to support ISO activities and that the NFSC should do more but recognized that support was key.

D. Institute of Electrical and Electronics Engineers (IEEE)

The IEEE Liaison reported that communication with IEEE had been minimal. It was felt that digital instrumentation and controls were a big item for new plants. Committee members recalled a previous ANS/IEEE joint standard – IEEE/ANS-7.4.3.2-1982 (R1990), “Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations,” and thought there might be an opportunity for collaboration.

E. Canadian Standards Association (CSA)

As there had been no recent communication with the CSA liaison, an action item was assigned to contact and check continued interest.

F. Nuclear Energy Institute (NEI)

It was reported that utility chief nuclear officers held a meeting last week to discuss regulatory issues. A list of 38 issues was discussed including current concerns and items that could potentially become significant. New plant issues were discussed separately. Security issues were a high priority. Storage of used fuel and the Yucca Mountain repository were also discussed.

G. NuStart

No report provided.

H. Institute of Nuclear Power Operations (INPO)

No report provided.

I. NRC

Efforts were ongoing to put together a process to provide timely reviews with appropriate NRC staff. A list of NRC staff by responsibility was being developed. It was intended that the list could be used to appoint staff to review standards, as needed. A request was made for a list of standards that could be issued for public review in 2010. The request was elevated to the Standards Board to include all ANS standards.

J. NESCC

The NESCC put a request out for task group proposals with a due date of November 15, 2010. A proposal on behalf of ANS to develop the principles of conformity assessment for ANS standards developed by RISC was submitted. Acceptance of the proposal would provide support. Members asked that the NESCC charter with organization members be redistributed.

10. Review of New Action Items

Action items assigned during the meeting were reviewed.

11. Other Business

A. Title of NFSC Standards

A request was made for more attention be given to the title of standards so that they remain consistent with the applicability and scope. Members agreed that many of the titles were misleading and should be made

consistent. A recommendation was made for subcommittee chairs to review the title of standards under their management. It was suggested that this task was appropriate for the NFSC Standards Coordinator. An action item was assigned for the Standards Coordinator to work with the subcommittee chairs to review titles.

B. ANS-51.1/ANS-52.1 vs. ANS-58.14/ANS-50.1

ANS-51.1, “Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants,” and ANS-52.1, “Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants,” were design standards with component classifications that were included in the design basis of nearly all plants. A decision was made several years ago to develop new standards ANS-58.14, “Safety and Pressure Integrity Classification Criteria for Light Water Reactors,” and ANS-50.1, “Nuclear Safety Criteria for the Design of Stationary Light Water Reactor Plants,” to replace the ANS-51.1/ANS-52.1 format. ANSI/ANS-58.14-1993 was completed, but ANS-50.1 failed in ballot. Some thought that the industry did not need ANS-50.1 and that ANS-53.1 should be mirrored for light water reactors (LWRs) with a revision of ANS-51.1. A new designation was proposed for a LWR design standard.

Members discussed the following options:

- 1) After the reinvigoration of ANS-58.14 was approved, proposed standard ANS-50.1 should be re-initiated. ANS-51.1 and ANS-52.1 would remain withdrawn.
- 2) After ANS-58.14 was approved, reinvigorations of ANS-51.1 and ANS-52.1 should be initiated.

Although many members saw benefit in completing ANS-50.1 as a risk-informed, performance-based standard for LWRs, no consensus was reached. A suggestion was made for an ad hoc committee to be formed to make a recommendation to the NFSC on the feasibility of using common risk-informed methods and defense in depth concepts for power reactors.

12. Adjournment

The meeting was adjourned.