UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 16, 2000

(Those on attached list)

On July 27, 2000, the US Nuclear Regulatory Commission (NRC) hosted the third coordination meeting with representatives from standards development organizations (SDOs) that develop standards used by the nuclear industry. These meetings are held to foster better communication between the SDOs and the NRC regarding the development and utilization of consensus standards.

Enclosed are the minutes from the meeting of July 27, 2000. With each meeting, interest from the industry has grown, and we will continue to meet on a semi-annual basis. Participants will be canvassed regarding a suitable date for the next meeting. On behalf of the NRC, I want to thank all of the participants for a successful meeting.

Sincerely,

Michael E. Mayfield, Standards Executive
U. S. Nuclear Regulatory Commission

Enclosure: As stated

cc: C. Paperiello, EDO
A. Thadani
S. Collins, NRR
J. Strosnider, NRR
W. Kane, NMSS

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MINUTES - JULY 27, 2000, COORDINATION MEETING
NRC AND STANDARDS DEVELOPMENT ORGANIZATIONS

Background

On July 27, 2000, the U.S. Nuclear Regulatory Commission (NRC) hosted the second coordination meeting with representatives from standards development organizations (SDOs) that develop standards used by the nuclear industry. The agenda is provided in Attachment 1. These meetings are held semi-annually in order to foster better communication between the SDOs and the NRC regarding the development and utilization of consensus standards.

Organizations in Attendance

The organizations attending were the American Nuclear Society (ANS), American Society of Mechanical Engineers (ASME), Health Physics Society (HPS), Institute of Electrical and Electronics Engineers (IEEE), Nuclear Energy Institute (NEI), US Department of Energy (DOE), and the NRC. A list of participants is provided in Attachment 2.

Presentations and Discussion

Michael Mayfield, the NRC Standards Executive, opened the meeting by discussing the NRC website for information relative to the NRC Standards Program (http://nrcweb.nrc.gov/NRC/REFERENCE/STANDARDS). A review of NRC representatives on standards committees was recently completed which is reflected on the website.

The first hour of the meeting focused on NRC/SDO interactions. During preparation of the agenda for this meeting, SDO representatives were requested to transmit suggested topics or questions. Three frequently received questions indicate some continuing confusion relative to Public Law (P.L.) 104-114, "National Technology and Transfer Act of 1995," and its relation to OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and Conformity Assessment." The first question asked for clarification of the mechanisms available for NRC/SDO coordination to facilitate standards development. Five approaches have been identified with respect to identifying emerging needs. They are: agency

contacts SDO; NRC staff committee representatives identify need to particular SDO; committee/SDO identifies need to agency; need is posted on NRC standards web page; and NRC/SDO coordination meeting (see slide 4 of the NRC presentation, Attachment 3). The second question requested a description of the factors used by the NRC to determine SDO committee participation. Michael Mayfield discussed the change in environment at the NRC (i.e., from primarily output-based to outcome-based environment), and resources spent on codes and standards activities must support the agency's strategic goals. Gene Imbro discussed the status of the Performance Budgeting Planning Management initiative (see slides 7 - 10 of NRC presentation). It was emphasized that the creation of new or revised standards should be based upon the needs and requirements of the stakeholders who utilize the standards. A clear understanding of the user needs and requirements is really a definition of the purpose for the revision to a standard. Without such a clear definition, new or revised standards may not be used by stakeholders and interest and confidence in the standards organizations could be eroded. A public meeting is planned for September 2000 to solicit input from the industry on the impact of NRC processes on the industry, burden reduction, and leveraging of industry resources. The third question arises from the requirements of P.L. 104-113 and OMB A-119, and whether federal agencies are required to participate on standards development committees and endorse the standards generated. It was clarified that the policy contained in the Circular do not commit an agency to the use of voluntary standards, but agencies are encouraged to adopt standards whenever practicable and appropriate (see slide 6 of NRC presentation).

Gene Imbro, NRR, summarized staff efforts to develop a risk-informed regulatory framework that will enhance safety while at the same time reduce unnecessary staff and licensee burden (see slides 12 and 13 of the NRC presentation). A proposed rule is scheduled to published in the fall. These efforts are occurring in parallel with the efforts at South Texas (a pilot plant for implementing a risk-informed program).

Alex Marion, NEI, requested that the NRC provide a list of standards needs so that the cognizant SDOs could begin planning and identifying needed resources. Timeliness of endorsement is a problem that all parties share. He suggested that the NRC attempt to merge the standards development process with the internal process for endorsing standards. Finally, Mr. Marion believes that there is still some inconsistency with regard to the voting records of the NRC

representatives on committees; i.e., pursuant to OMB A-119, whether the voting record of agency committee members represents the agency position. He believes that the NRC needs more structure with regard to committee representative voting which would be provided with more internal dialogue within the NRC.

Robert Hermann discussed voluntary industry initiatives (VIIs) [Attachment 4]. The staff is working with interested stakeholders to develop guidelines for a regulatory framework that supports the implementation of VIIs in lieu of regulatory action. It is proposed that these guidelines be developed with contributions from affected stakeholders, and, as such, the staff is actively encouraging input from all interested stakeholders. It is intended that the development of guidelines for VIIs would promote a consistent and predictable process that results in providing effective and coordinated resolution of issues while optimizing the efficient and effective use of resources; maintaining safety while reducing unnecessary regulatory burden; and, enhancing public confidence. Several NSSS Owners Groups have responded by forming specialized working groups (e.g., BWRVIP, PWR MRP) to address technical issues of interest.

Christopher Bajwa, NMSS, discussed the use of consensus standards in the licensing of independent spent fuel storage installations (Attachment 5). The NRC does not currently mandate any codes or standards for the design, fabrication, or testing of storage containers for nuclear spent fuel because the existing codes and standards have limited applicability to the components used in the storage of spent nuclear fuel. Licensees integrate many of the available industry standards, however, into their NRC approved programs. The NRC encourages the industry to use codes and standards related to spent fuel storage installations whenever possible, and the NRC is committed participate in the development of such codes and standards.

Joseph DeCicco, NMSS, discussed the current status and activities of the national material program (Attachment 6). Seventy-five percent of material licenses are in agreement states. The NRC created a working group to consider a national materials program because: most licenses are now issued by agreement states; the NRC fee base is shrinking; there is a need to optimize resources; and in the future, much of the expertise will be with the agreement states. The charter and mission of the working group was discussed, as well as product development milestones. SDO representatives were advised of upcoming meetings. The SDOs will be able

to harmonize regulations across the states, and the NRC and states will be able to optimize resources by using existing standards.

Paul Amico, Chair, ANS RISC Committee, summarized the committee's efforts to consolidate development of risk standards within ANS. This committee has also been tasked to review and comment on risk standards developed by other SDOs. Two draft standards are nearing completion. The first standard, which addresses external hazards (natural and man-made), will be published for comment in September 2000. The second standards addressing low power shutdown will be available for comment early in 2001. ANS is very interested in receiving input from the NRC.

Gerald Eisenberg, briefly discussed the ASME's PRA Standard. It has been published for public comment (public comment period ends 8/14/00). The final standard is scheduled to be published in early 2001. A copy of the ASME Board on Nuclear Codes and Standards Operational Plan for January 2000 to January 2001 was provided (Attachment 7)

Kitty Kono, ASTM, provided a handout (Attachment 8) on the activities of ASTM Subcommittee C26.13, "Spent Fuel and High-Level Radioactive Waste." This committee is responsible for developing standards for the national high level waste disposal program. At present, the committee has the responsibility for 16 separate standards. Review and Input from the NRC on these standards is needed. Ms. Kono provided a copy of ASTM Standard C 1174 - 97, "Standard Practice for Prediction of the Long-Term Behavior of Materials, Including Waste Forms, Used in Engineered Barrier Systems (EBS) for Geological Disposal of High-Level Radioactive Waste," and requested that the NRC provide comments.

Gordon Riel, HPS, provided the Health Physics Society Standards Committee "Report to the Board of Directors of the Health Physics Society" (Attachment 9). The report discusses the: recent reorganizations to make the HPS more effective and timely; and status of standards activities.

In closing, the participants agreed that future meetings should continue to be held on a semi-annual basis. Several agenda items were identified for the next meeting. The first was to

discuss prioritizing future needs (e.g., risk standards, national materials program). Bill Hopkins, ANS, requested that the need for risk-informed radiation protection standards be discussed. Is the NRC interested in HPS developing standards on the clearance rule? He believes that a standard is needed to address sky-shine from dry cask storage.

At present, only the ASME has participated in the risk-informing workshops. Gene Imbro, NRR, requested that other SDOs attend to provide additional expertise. Mr. Imbro, believes that risk-based standards are needed in the following areas: environmental and seismic qualification for low safety significant components (e.g., equipment qualification (IEEE-323), and seismic qualification (IEEE-344), the expert panel, repair and replacement of structures and components, and inservice testing. Mr. Mayfield suggested that ISO standards, and the agreement with NIST as it relates to TC-85 functions should be discussed at the next meeting.

Attachment 1

COORDINATION MEETING - NRC AND STANDARDS DEVELOPMENT ORGANIZATIONS

THURSDAY, JULY 27, 2000
ROOM O-4-B6
AGENDA

1:00 - 1:30 p.m. **Opening Remarks** (Michael Mayfield, NRC Standards Executive)
- Introduction of Participants.
- NRC Standards Website.

1:30 - 2:00 p.m. **NRC/SDO Relationship**
- What are the mechanisms for NRC/SDO coordination to facilitate standards development? (Michael Mayfield)
- When overlapping standards exist or are being developed (e.g., ASTM, ISO, CEN), how should the lead SDO be determined? (Michael Mayfield)
- What are the factors used by the NRC to determine SDO committee participation?/NRC re-assessment of committee participation? (Michael Mayfield)
- Performance Budgeting Planning Management Initiative - NRC Performance Goals, resources, and industry standards (Gene Imbro, NRR)
- Industry Initiatives (Robert Hermann, NRR)
- Risk Informing Part 50 - Status report (Gene Imbro, NRR)

2:30 - 3:00 p.m. **Use of consensus standards in Independent Spent Fuel Storage Facilities (ISFSI)** (Christopher Bajwa, NMSS)
- How the NRC will use consensus standards in NRC licensing activities for ISFSI and geologic repository disposal for high level nuclear waste and spent nuclear fuel.

3:00 - 3:20 p.m. **Break**

3:20 - 3:40 p.m. **National Materials Program** (Joseph DeCicco, WG member)
- Overview of efforts to develop materials licensing guidance.

3:40 - 4:00 p.m. **ANS RISC Committee** (Paul Amico, Committee Chair)
- Overview of committee scope and status of standard.

4:00 - 4:20 p.m. **Status of On-going SDO Efforts** (SDO Representatives)
- Needs and priorities; Discussion of standards under development to address emerging issues.

4:20 - 4:50 p.m. **NRC/SDO Future Interactions** (Michael Mayfield)
- Issues for next NRC/SDO Meeting.
- Date for next meeting.

ATTACHMENT 2

ATTENDANCE LIST FOR JULY 27, 2000, NRC/SDO MEETING

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Attachment 3

United States Nuclear Regulatory Commission

COORDINATION MEETING

STANDARDS DEVELOPMENT ORGANIZATIONS (SDOs)

AND

U.S. NUCLEAR REGULATORY COMMISSION

July 27, 2000

Michael E. Mayfield
NRC Standards Executive

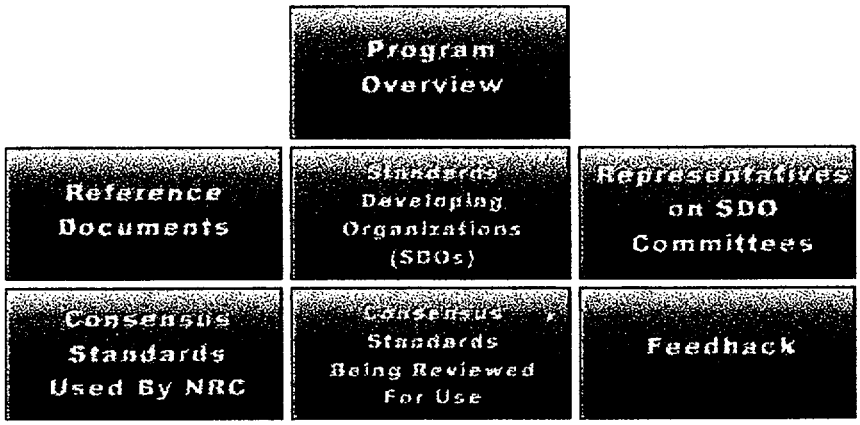
NRC STANDARDS PROGRAM

Welcome to the NRC Standards Program Website

This website supports NRC's strategy to increase involvement by licensees and others in its regulatory development process consistent with the National Technology and Transfer Act of 1995. The NRC strategy encourages industry to develop codes, standards and guides that NRC can endorse and industry can carry out. Compiled on this website is information on NRC's participation in the development and use of consensus standards. Our goal is for this information to broaden understanding of the NRC Standards Program and for this site to simplify access to other related information.

We encourage and invite your comments. Please submit your comments through the Feedback button below.

Michael E. Mayfield
NRC Standards Executive



[NRC Home Page]

NRC/SDO Relationship - Mechanism

- **Public Law 104-114, "National Technology and Transfer Act of 1995"**
  - OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and Conformity Assessment."

- **NRC Strategic Assessment Plan**
  - NRC Management Directive 6.5, "NRC Participation in the Development and Use of Consensus Standards."
    - ✯ Increase involvement of licensees and others in regulatory development process.
    - ✯ Encourage industry to develop codes, standards, and guides that can be endorsed by the NRC and carried out by the industry.

NRC/SDO Relationship - Mechanism (Cont'd)

- **Need for SDOs and NRC to act at a policy level**
  - Technical matters occur at volunteer committee level
    - ✯ Participating agency staff do so as authorized agency representatives.

- **Approaches with respect to identifying emerging needs**
  - Agency contacts SDO.
  - NRC staff participants identify need to particular SDO.
  - Committee/SDO identifies need to agency.
  - Need posted on NRC standards web page.
  - NRC/SDO coordination meeting.

NRC/SDO Relationship - Overlapping Standards

- **Semi-annual meetings between NRC and SDO to assist in minimizing potential of U.S. duplicative standards**
  - SDOs have agreed at previous coordination meetings that, due to dissolution of ANSI Standards Nuclear Board, continued need for policy setting.
    - Standards implementation problems
    - Needs
    - Priorities

NRC/SDO Relationship - Overlapping Standards (Cont'd)

- **OMB A-119 does not establish a preference between domestic and international voluntary consensus standards.**
  - In the interests of promoting trade and implementing the provisions of international treaty agreements, agencies should consider international standards in procurement and regulatory applications.

- **NRC Offices develop and implement process to identify and prioritize standards to be endorsed for use in regulatory process.**
  - Method of endorsement is determined by each office.
  - NRC reserves the right to apply limitations or modifications on the use of consensus standards that it uses in its regulatory process.
    - ★ Policy contained in Circular does not commit an agency to the use of voluntary standards which are determined to be "inadequate, does not meet statutory criteria, or are inappropriate."

NRC/SDO Relationship - Change in Government

- **Time of fundamental change for the NRC.**
  - Review of regulatory program as part of the "reinventing government" process and from concerns expressed by public interest groups, the nuclear industry, and Congress.
- **Strategic plan will focus on outcomes.**
  - Will be used to effectively plan, implement, and monitor work.
    - ★ Programs and operations will be managed to performance goals.
  - NRC is changing from a primarily output-based environment to an outcome-based environment.
- **Agency must continue to protect public health and safety, but decisions must consider impacts on the**
  - public it protects
  - industry it regulates
  - cultivation of effective and efficient internal operations.

NRC/SDO Relationship - Committee Participation

- **NRC Committee Participation is determined by:**
  - Agency need
    - ✯ Emerging problem
    - ✯ Endorsement of latest codes and standards
    - ✯ Training - keep staff abreast of state-of-the-art
    - ✯ Leveraging of resources

- **Agency management is reassessing NRC staff committee participation with each office.**
  - Resource expenditures are tied to outcome goals.
  - Resources spent on codes and standards activities must support agency's strategic goals.
  - Staff participation expected to decline slightly.

United States Nuclear Regulatory Commission

NRC/SDO Relationship - Performance Budgeting Planning Management

- **December 8, 1999, presentation by Jack Strosnider, Director, Division of Engineering, Office of Nuclear Reactor Regulation**
  - NRC Strategic Goals
    - Maintain Safety
    - Increase Public Confidence
    - Reduce Unnecessary Regulatory Burden
    - Make NRC Activities and Decisions more Effective, Efficient, and Realistic
  - For each code and standard (new or revision), information is being collected relative to 4 strategic goals.

NRC/SDO Relationship - Performance Budgeting Planning Management (Cont'd)

- **March 1, 2000, ASME Section XI Executive Committee discusses present prioritization system.**
  - Minimal changes needed to categorize items in a manner which the NRC could use relative to strategic goals.

- **March 24, 2000, Commission Meeting**
  - ASME representatives discussed changes to inservice inspection and testing requirements over last 10 years.
  - Proposed changes to prioritization system discussed.

- **June 22, 2000, ASME Board on Nuclear Codes and Standards directed chairman of each committee to begin tracking revisions.**
  - Presently performed by secretary of higher level committees.

United States Nuclear Regulatory Commission

NRC/SDO Relationship - Industry Initiatives

HANDOUT

Robert Hermann
Division of Engineering
Office of Nuclear Reactor Regulation

NRC/SDO Relationship - Risk Informing Part 50

- **Staff has developed guidance on the use of risk information for reactor license amendments.**
- **Currently processing license amendment applications that use risk information as part of their technical justification.**
- **Fundamental reactor regulations, however, remain largely deterministic.**
- **Risk-informing the technical requirements of 10 CFR Part 50 ("Domestic Licensing of Production and Utilization Facilities"), including associated implementing documents (e.g., SRPs).**
- **Two primary objectives:**
  - Develop a risk-informed regulatory framework that will enhance safety.
  - Reduce ***unnecessary*** staff and licensee burden.

NRC/SDO Relationship - Risk Informing Part 50 (Cont'd)

- **Change regulatory scope of systems, structures, and components (SSCs) needing special treatment in terms of quality (e.g., quality assurance, environmental qualification, Technical Specifications, 10 CFR 50.59 [licensee controlled design change] and ASME code).**

- **Risk-informed definitions for safety-related and safety important SSCs will be developed.**
  - This approach will allow "grading" of special treatment requirements on SSCs based upon their risk importance.
  - SSC functional capabilities (for low risk important SSCs) will remain in the plant and be expected to perform their design function but without additional margin, assurance or documentation associated with high safety significant SSCs.

United States Nuclear Regulatory Commission

Use of Standards in ISFSI Facilities

HANDOUT

Christopher Bajwa
Spent Fuel Project Office
Technical Review Directorate
Office of Nuclear Material Safety and Safeguards

United States Nuclear Regulatory Commission

National Materials Program

HANDOUT

Joseph DeCicco
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Material Safety and Safeguards

United States Nuclear Regulatory Commission

ANS RISC Committee

DISCUSSION

~~HANDOUT~~

Paul Amico
Committee Chair
American Nuclear Society

Status of On-Going SDO Efforts

- Standards under development.
- Needs and emerging issues.

NRC/SDO Future Interactions

- Issues for next meeting.
- Proposed time frame for next meeting.

Attachment 4

AGENDA

- PURPOSE
- BACKGROUND
- PROPOSED GUIDELINES
- SRM-00-0116
- CONCLUSIONS
- RECOMMENDATIONS AND FUTURE ACTIONS

PURPOSE

- Proposed Guidelines Intended To Ensure That Future Initiatives Proposed By Applicable Industry Groups (AIGs) Would Be Treated And Evaluated In A Consistent, Controlled And Open Manner and will
  - Maintain Safety,
  - Reduce Unnecessary Regulatory Burden,
  - Improve Efficiency, Effectiveness, and Realism, and
  - Improve Public Confidence

BACKGROUND

- Direction Setting Initiative 13, "The Role of Industry"
- SECY-99-063, "The Use by Industry of Voluntary Initiatives in the Regulatory Process," and Associated SRM
- Actions to Develop Proposed Guidelines
  - Staff Met with Industry, NEI, and Other Stakeholders
  - Staff Developed Web Page to Provide Information on Guidelines
  - Staff Issued Federal Register Notice (FRN) (64 FR 69574) Soliciting Stakeholder Comments on Both Technical and Regulatory Aspects Related to Development of Guidelines to Allow Drafting of Regulatory Framework from Interested Stakeholders

PROPOSED GUIDELINES

Definitions

- Type 1 and Type 2 Industry Initiatives:
  - Type 1: those developed by AIG(s) in response to some issue of potential regulatory concern (a) to substitute for or complement regulatory actions for issues within existing regulatory requirements, or (b) which are potential cost beneficial safety enhancement issues outside existing regulatory requirements;
  - Type 2: those that are initiated and developed by AIG(s) to address issues of concern to the AIG(s) but that are outside existing regulatory requirements and are not cost beneficial safety enhancements, or that are used as an information gathering mechanism
- Applicable Industry Group(s) (AIGs) could be the members of one or more Owners Groups, an industry organization (e.g., the Nuclear Energy Institute or the Electric Power Research Institute), or two or more licensees

PROPOSED GUIDELINES

- Other Items
  - Project Management
  - Public Participation
  - Communications Plan
  - Resource Planning
  - Fees
  - Tracking of Commitments Consistent with Existing Regulatory Processes
  - Enforcement Guidelines Consistent with Reactor Oversight Process Improvements
- Stakeholder Comments
  - NEI's Views Regarding Proposed Process

STAFF REQUIREMENTS SECY-00-0116 INDUSTRY INITIATIVES IN THE REGULATORY PROCESS JUNE 29,2000

- Commission directed Staff to:
  - Issue SECY-00-116 for Public Comment
  - Revise Guideline to require that Commission be informed of Staff's approval or rejection of an industry initiative
  - Revise a paragraph in Appendix B relating to one example
  - In the event of significant negative public comments, provide final version of the Guidelines to Commission prior to issuance

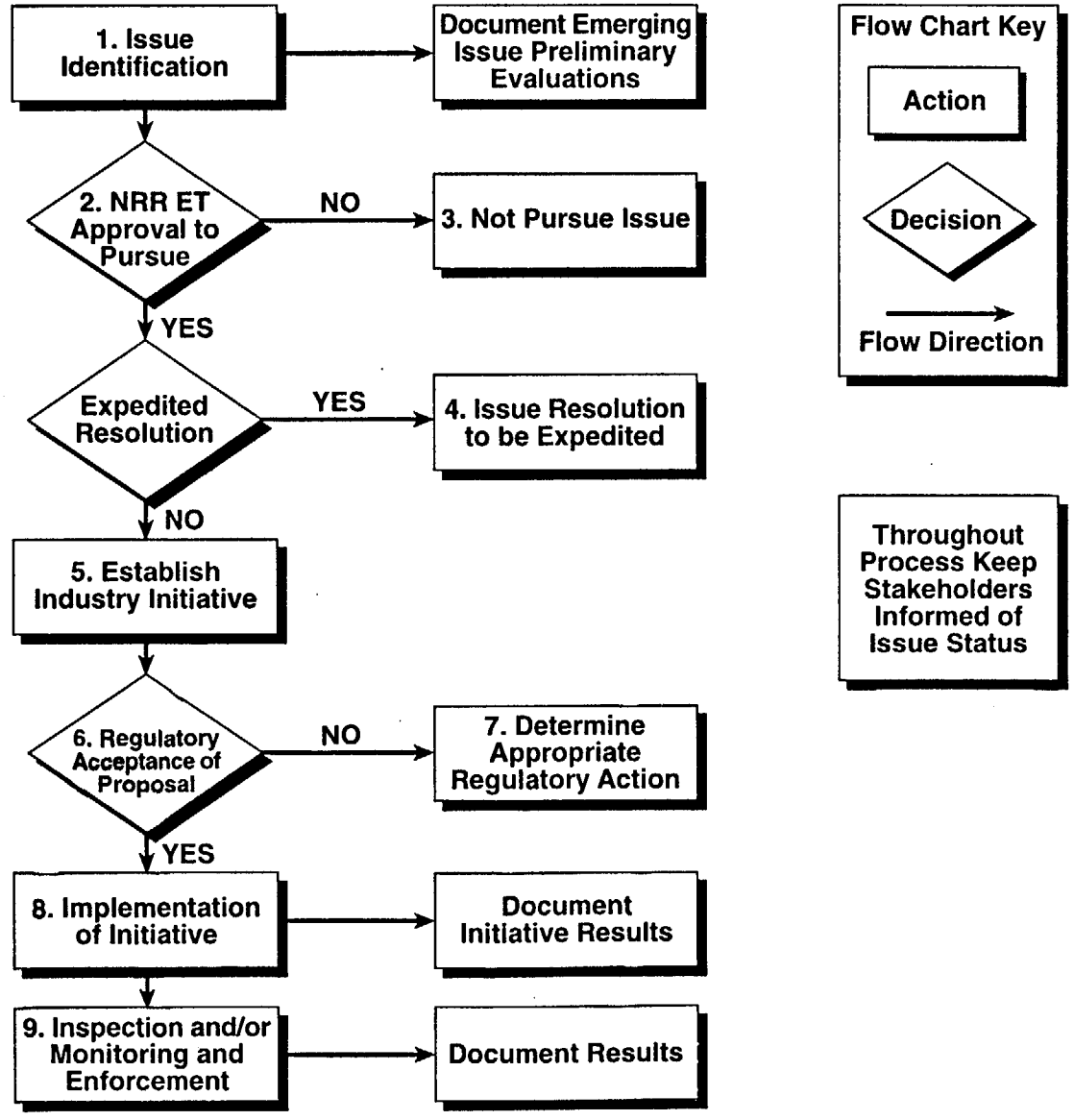
RECOMMENDATIONS AND FUTURE ACTIONS

- After Considering Further Stakeholder Comments, Staff will revise Guidelines, if needed, and provide to Commission if significant negative comments received
- Expected milestones are:
  - Guidelines Issued for 45-day Public Comment -- August 31, 2000
  - Comments Resolved and Final Guidelines Issued -- January 5, 2001

CONCLUSIONS

- Commission Approved Industry Initiatives Guidelines (SECY-00-116) For Public Comment in SRM SECY-00-0116 dated June28,2000
- Proposed Guidelines For Including Industry Initiatives In The Regulatory Process Provide Flexibility In The Form That Initiatives Might Take While Making Optimal Use Of Existing Regulatory Processes To Provide A Framework For The Efficient And Effective Use Of Initiatives To Resolve Issues And Maintain Safety
- Guidelines Provide For Public Participation In Process And For Making Information Related To Industry Initiatives Readily Available To All Stakeholders

INDUSTRY INITIATIVES PROCESS



PROPOSED ENFORCEMENT GUIDELINES FOR LICENSEES FOR INDUSTRY INITIATIVES *

Type of Industry Initiative	Industry Action	Enforcement Guidance
I.a. Industry initiatives to address issues that substitute for or complement regulatory actions for issues within existing regulatory requirements (e.g., BWRVIP, NEI SG Guidelines).	AIG(s) develop and implement program, with associated licensee commitments, that is included in appropriate documents (e.g., technical specifications, updated final safety analysis report, and/or plant procedures), and controlled by applicable regulatory requirements (e.g., 10 CFR Part 50, Appendix B program, 10 CFR 50.59, or Section 182 of the Atomic Energy Act), if any.	If licensee does not implement the activities resulting from the industry initiative, and its actions are not consistent with applicable regulatory requirements, if any, enforcement is available. The severity of the violations would be established consistent with revised reactor oversight process and the enforcement policy.
1.b. Industry initiatives to address potential cost beneficial safety enhancement issues outside existing regulatory requirements (e.g., shutdown risks, severe accident management).	AIG(s) develop and implement program, with associated licensee commitments.	Commitment to industry initiative by licensee is only link to NRC. Deviation or re-direction from committed program would cause NRC re-assessment of issue, and of the efficacy of an industry initiative to address the issue. Orders or rule-making are available as an option if 10 CFR 50.109 criteria for backfitting as a safety enhancement are satisfied; if reasonable assurance criteria are undermined, there is no need to further satisfy backfit criteria. Credit for industry initiative would be considered in a backfit analysis, consistent with Commission guidance to SECY-99-178, "Treatment of Voluntary Initiatives in Regulatory Analysis," dated May 21, 1999.
2. Industry initiatives for issues that are outside of regulatory requirements, not cost beneficial safety enhancements, or that are used as an information gathering mechanism.	AIG(s) develop and implement program.	No NRC overview or enforcement expected to be needed on program.

* Issues that involve adequate protection are outside the scope of industry initiatives.

Attachment 5

Use of Consensus Standards in Licensing of Independent Spent Fuel Storage Installations

Chris Bajwa Spent Fuel Project Office, NMSS

Consensus Standards for Dry Fuel Storage

Current status of consensus standard use in dry fuel storage

- Current Regulations (10 CFR Part 72) do not endorse specific codes or standards
- Staff refers to codes and standards in review of storage applications
- Staff encourages industry use of codes and standards
- Staff involvement in code and standard development is beneficial

Consensus Standards for Dry Fuel Storage

Current guidance provided in the Standard Review Plan

- NUREG 1567, Standard Review Plan for Spent Fuel Dry Storage Facilities
  - Section 17.2 Codes, Standards, and Specifications
- NUREG 1536, Standard Review Plan for Spent Fuel Dry Cask Storage Systems
  - Each individual section references codes and standards

Consensus Standards for Dry Fuel Storage

Current guidance provided in the Standard Review Plan

- Standards and Codes referenced in the SRP
  - ACI - American Concrete Institute
  - AISC - American Institute of Steel Construction
  - AISI - American Iron and Steel Institute
  - ANSI/ANS - American National Standards Institute/American Nuclear Society
  - API - American Petroleum Institute
  - ASNT - American Society for Nondestructive Testing
  - ASTM - American Society for Testing and Materials

Consensus Standards for Dry Fuel Storage

Current guidance provided in the Standard Review Plan

- Standards and Codes referenced in the SRP, cont.
  - ASCE - American Society of Civil Engineers
  - ASME - American Society of Mechanical Engineers
  - AWS - American Welding Society
  - ASHRAE - American Society of Heating Refrigeration and Air Conditioning Engineers, Inc.
  - CMAA - Crane Manufacturing Association of America
  - ICBO - International Conference of Building Officials
  - IEEE - Institute of Electrical and Electronics Engineers
  - NFPA - National Fire Protection Association

Consensus Standards for Dry Fuel Storage

Current staff involvement in code and standard development

- ASTM Technical Committee E05, Fire Standards Subcommittee 13, Large Pool Fires (E05.13)
  - Standard Practice for Thermal Evaluation of Transportation Containers for Radioactive Materials
  - Chris Bajwa, Task Group Member
- ASTM Technical Committee C26, Nuclear Fuel Cycle Subcommittee 07, Waste Materials (C26.07)
  - Guide for Evaluation of Materials Used in Extended Service of Interim Spent Nuclear Fuel Dry Storage Systems
  - Chuck Interrante, Task Group Chair

Consensus Standards for Dry Fuel Storage

Current staff involvement in code and standard development

- ASTM Technical Committee C26, Nuclear Fuel Cycle Subcommittee 13, Repository Waste (C26.13)
  - Chuck Interrante, Chaired Task Group for C1174-97, "Standard Practice for Prediction of Long-Term Behavior of Materials, Including Waste Forms, Used in Engineered Barrier Systems (EBS) for Geological Disposal of High Level Radioactive Waste"
  - Present Chair of Commercial LWR SNF Task Group
- ASME Code, Section III, Division III
  - Henry Lee, Member of Code Committee

Consensus Standards for Dry Fuel Storage

Current staff involvement in code and standard development

what SDO actually has N14?

- ANSI N14 Committee, Packaging and Transportation of Radioactive Materials
  - Nancy Osgood, Committee Member
- ANSI N14.5 Subcommittee, Leakage Tests on Packages for Shipment of Radioactive Materials
- ANSI N14.26 Subcommittee, Fabrication, Inspection, and Preventive Maintenance of Packaging for Radioactive Materials
- ANSI N14.8 Subcommittee, Fabrication, Testing, and Inspection of Shielded Shipping Casks for Irradiated Reactor Fuel Elements

Consensus Standards for Dry Fuel Storage

Conclusions

- The NRC does not currently officially endorse any codes or standards for the design, fabrication, or testing of storage containers for spent nuclear fuel, because the existing codes and standards have limited applicability to the components used in the storage of spent nuclear fuel.

Consensus Standards for Dry Fuel Storage

Conclusions

- The NRC encourages the industry to use consensus codes and standards whenever possible, and will conduct their reviews with the requirements of the applicable codes and standards as a guide to determining quality and safety of dry fuel storage components. Staff involvement with the development of codes and standards is greatly encouraged.

Attachment 6

CURRENT STATUS AND ACTIVITIES OF THE NATIONAL MATERIAL PROGRAM WORKING GROUP

Overview of Agreement State Expansion

1959: AEA amended with Section 274

1962: First Agreement State (Kentucky)

1971: Twenty-Third Agreement State (Maryland)
50% of Material Licensees in Agreement States

1999: Thirty-First Agreement State (Ohio)
75% of Material Licensees in Agreement States

2003: Thirty-Five Agreement States (?)
>80% of Material Licensees in Agreement States

Why a National Materials Program now?

- **Most licenses issued by Agreement States**
- **Shrinking NRC fees base**
- **Need to optimize resources**
- **Increased use of Agreement State expertise**
- **IMPEP**

Direction Given to Working Group

- "....what is meant by a National Materials Program."

- Six key issues in SECY-99-250:
  1. Mission statement
  2. Delineation of roles for NRC, Agreement States, CRCPD and OAS
  3. Scope of activities covered by NMP and need for statutory changes
  4. Formal program coordination mechanisms
  5. Performance indicators and assessment process
  6. Budgeting of resources

- Focus on functional, not organizational change

- Not limited to AEA material

- Steering Committee

National Materials Program Working Group Charter

The Nuclear Regulatory Commission (NRC) has formed a working group to provide the Commission with options for maintaining an infrastructure of supporting regulations, guidance and other program elements needed for the nationwide materials program considering the anticipated increase in the number of Agreement States. The working group is composed of representatives of State governments and NRC. The working group will produce a report for the Commission's consideration.

The Mission:

The mission is to develop options for the Commission's consideration for creating a national materials program that will implement the following philosophy:

To create a true partnership of the NRC and the States that will ensure protection of public health, safety, and the environment while:

optimizing resources of federal, state, professional and industrial organizations;

accounting for individual agency needs and abilities;

promoting consensus on regulatory priorities;

promoting consistent exchange of information; and

harmonizing regulatory approaches while recognizing state and federal needs for flexibility.

National Materials Program Working Group Charter (continued)

To accomplish the mission the working group will consider the following issues:

1. the continuing trend for States to assume authority for the regulation of radioactive materials;

2. the potential impact of this trend on maintaining the infrastructure of the existing State and Federal regulatory programs in the current fiscal environment and the increased fee burden on a decreasing number of NRC licensees to support generic activities;

3. the roles and legal responsibilities of NRC, the Agreement States, the Organization of Agreement States (OAS), the Conference of Radiation Control Program Directors, Inc. (CRCPD), and other organizations;

4. the need for statutory changes in Federal and State programs for a national materials program;

5. the required elements and scope of activities in a materials regulatory program such as licensing, inspection, enforcement, training, event reporting, emergency response and program support activities including developing licensing and inspection guidance, developing program policy and guidance, developing standard review plans, providing laboratory support, and rulemaking activities;

6. the assessment process and performance indicators that could be used to measure the performance of a national materials program considering the current Integrated Materials Performance Evaluation Program (IMPEP) process;

7. mechanisms for program coordination and program evolution;

8. the resource needs required for a national materials program and options for meeting those resource needs at both State and Federal levels; and

9. accommodation of Federal and State strategic performance goals and outcomes under a national materials program.

Working Group Members

Co-Chairs

Kathy Allen (OAS - IL)
Jim Myers (NRC- STP)

Members

Carol Abbott (NRC - CFO)
Chip Cameron (NRC - OGC)
Cindy Caldwell (CRCPD - Texas)
Joe DeCicco (NRC - NMSS)
Liz Drinnon (CRCPD - Georgia)
Tom Hill (OAS - Georgia)
Linda Howell (NRC - Region IV)
Jake Jacobi (OAS - Colorado)
Bob Walker (CRCPD - Massachusetts)
Duncan White (NRC - Region I)

Advisor

Fred Combs (NRC - STP)

Steering Group Members

Ed Bailey (OAS - California)
Doug Collins (NRC - Region II)
Don Cool (NRC - INMS)
Joe Gray (NRC - OGC)
Bob Hallisey (CRCPD - Massachusetts)
Bill Kane (NRC - NMSS)
Paul Lohaus (NRC - OSTP)
Carl Paperiello, Chair (NRC - DEDO)
Cindy Pederson (NRC - Region III)

Product Development Milestones

March - September 2000	Develop Program Elements and Options
September - October 2000	Draft Recommendations for National Materials Program
November - December 2000	Issue Draft Recommendations for Comment (State, NRC, Licensees, Industry, Members of Public)
February 2001	Close Comment Period
March - April 2001	Resolve Comments and Review Final Product With Steering Committee
May 2001	Final Product Due to Commission

Meetings Schedule

March 6-8, 2000, NRC HQ	Working Group
April 10-12, 2000, NRC RIV	Working Group
May 15-17, 2000, CRCPD	Poster Session and State Interface
June 5-7, 2000, Denver, CO	Working Group
June 14, 2000, NRC HQ	Steering Committee Briefing
August 22-24, 2000, NRC HQ	Working Group
September 11-13, 2000, NRC RIII	Working Group
October 4-5, 2000, OAS	Table-top Exercise with States and NRC, Working Group Meeting following OAS
November 2000	Working Group (Tentative)
March 2001, Georgia	Working Group
April 2001	Working Group - Steering Committee

Stakeholder Outreach

- Communication Plan
- Poster Session at CRCPD annual meeting (May 2000)
- Stakeholder Briefings

  NRC Regions and Headquarters (July - September 2000)
  NERHC (November 2000)

- Tabletop Exercise at OAS annual meeting (October 2000)
- Web Site (http://www.hsrd.ornl.gov/nrc/materials.html)
- Send comments to any Working Group member

Carol Abbott	cfa@nrc.gov
Kathy Allen	k_allen@idns.state.il.us
Cindy Cardwell	cindy.cardwell@tdh.state.tx.us
Chip Cameron	fxc@nrc.gov
Joe DeCicco	jxd1@nrc.gov
Liz Drinnon	elizabeth_drinnon@mail.dnr.state.ga.us
Tom Hill	thill@mail.dnr.state.ga.us
Linda Howell	llh@nrc.gov
Jake Jacobi	jake.jacobi@state.co.us
Jim Myers	jhm@nrc.gov
Bob Walker	bob.walker@rcp.dph.state.ma.us
Duncan White	adw@nrc.gov

- Questions and responses will be posted on website

Feedback Questions

- **Are there any other "National Program" elements that the Working Group has overlooked?**
- **Are there any other options of implementing program elements that the Working Group has overlooked?**
- **How would you suggest that the Centers of Excellence or Expertise be identified?**
- **What Centers of Excellence or Expertise can you identified at this time?**
- **As we work through this project, how can we best exchange information with you, our stakeholders?**

NUREG-1556
Vol. 20

Consolidated Guidance About Materials Licenses

Guidance About Administrative Licensing Procedures

Draft Report for Comment

Manuscript Completed: June 2000
Date Published: July 2000

Prepared by
K. Ramsey, V. Campbell, R. Gibson

Division of Industrial and Medical Nuclear Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Vol. No.	Volume Title	Status
1	Program-Specific Guidance About Portable Gauge Licenses	Final Report
2	Program-Specific Guidance About Radiography Licenses	Final Report
3	Applications for Sealed Source and Device Evaluation and Registration	Final Report
4	Program-Specific Guidance About Fixed Gauge Licenses	Final Report
5	Program-Specific Guidance about Self-Shielded Irradiators	Final Report
6	Program-Specific Guidance about 10 CFR Part 36 Irradiators	Final Report
7	Program-Specific Guidance about Academic, Research and Development, and Other Licenses of Limited Scope	Final Report
8	Program-Specific Guidance about Exempt Distribution Licenses	Final Report
9	Program-Specific Guidance about Medical Use Licenses	Draft
10	Program-Specific Guidance about Master Material Licenses	Draft
11	Program-Specific Guidance about Licenses of Broad Scope	Final Report
12	Program-Specific Guidance about Possession Licenses for Manufacturing and Distribution	Draft
13	Program-Specific Guidance about Commercial Radiopharmacy Licenses	Final Report
14	Program-Specific Guidance about Well Logging, Tracer, and Field Flood Study Licenses	Final Report
15	Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, or Special Nuclear Materials Licenses	Draft
16	Program-Specific Guidance About Licenses Authorizing Distribution To General Licensees	Draft
17	Program-Specific Guidance About Licenses for Special Nuclear Material of Less Than Critical Mass	Draft for Comment
18	Program-Specific Guidance About Service Provider Licenses	Draft for Comment
19	Guidance For Agreement State Licensees Proposing to Work in NRC Jurisdiction (Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters) and Guidance For NRC Licensees Proposing to Work in Agreement State Jurisdiction (Reciprocity)	Under Development
20	Guidance About Administrative Licensing Procedures	Draft for Comment

Appendix A

List of Documents Considered in Development of this Draft NUREG

Attachment 7

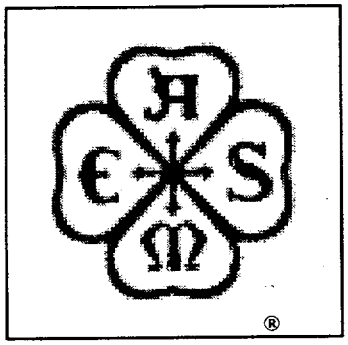
ASME

HANDOUT

The American Society of Mechanical Engineers

Board on Nuclear Codes and Standards

OPERATIONAL PLAN



January 2000 – January 2001

MISSION OF THE BNCS

"Ensure, on a worldwide basis, that ASME Nuclear Codes and Standards protect public health and safety and meet the needs of users. These Codes and Standards are developed in accordance with an approved consensus process."

Rev. 4, May 2000

GOALS

I. (PEOPLE) To attract and retain new ASME Nuclear Codes and Standards members.

II. (PRODUCT) To determine need and provide ASME Nuclear Codes and Standards for the benefit of users.

II. (PROCESS) To manage ASME Nuclear Codes and Standards to provide improvements in their business aspects; e.g., speed, quality, and value.

PEOPLE

GOAL I: To attract and retain new ASME Nuclear Codes and Standards members.

PROPOSED INITIATIVES

A. Assure that the management of Nuclear Codes and Standards Committee volunteers are aware of support needed for ASME activities by supplying and supporting high quality people.
B. Actively support ASME/industry symposiums/ conferences/workshops.
C. Improve Recognition Program.
D. Develop a partnership with ICONE Conference (on-going).
E. Leadership development for BNCS and all BNCS Committees.
F. Ex-Officios extend invitations to local universities and local ASME Chapters to attend their technical committee meetings to promote understanding of NCS activities.

PRODUCT

GOAL II: To determine need and provide ASME Nuclear Codes and Standards for the benefit of users.

PROPOSED INITIATIVES

A. Develop and implement a plan to identify customers and their needs.
B. Establish communication links with all users.
C. Denationalization and metrication of NC&S.
D. Risk Technology Applications in NC&S.
E. Develop a process to identify and evaluate emerging technologies for their application to NC&S.
F. Determine BNCS need to address Decommissioning.
G. Develop a position paper on the proper implementation of PL-104-113 and the role of the regulator in the consensus process.
H. Support Non-Nuclear users for NC&S.
I. Determine BNCS need to address Plant Life Extension.
J. Consider comprehensive assessment of impact of SECY-98-300, Risk-Informing Part 50, on NC&S.

PROCESS

GOAL III: To manage ASME Nuclear Codes and Standards to provide improvements in their business aspects; e.g., speed, quality, and value.

PROPOSED INITIATIVES

A. Improve and implement the Redesign Process.
B. Review process for approving new standards or expanding scope of existing standards so that users see the value.
C. Roles and Responsibilities.
D. All BNCS Standards Committees develop Operational Plans.

ASME
Board on Nuclear Codes and Standards

Manages codes and standards activities of:

- **Committee on Qualification of Mechanical Equipment In Nuclear Power Plants (QME)**
- **BPV Subcommittee BPV on Nuclear Power (SC III)**
- **Joint ACI/ASME Committee on Concrete Pressure Components (BPV III-2)**
- **BPV Subcommittee on Nuclear Inservice Inspection (SC XI)**
- **Committee on Operation and Maintenance of Nuclear Power Plants (O&M)**
- **Committee on Nuclear Quality Assurance for Nuclear Facilities (NQA)**
- **Committee on Nuclear Air & Gas Treatment (CONAGT)**
- **Committee on Cranes for Nuclear Facilities (CNF)**
- **Committee on Nuclear Risk Management (CNRM)**

Projected Schedule: ASME PRA Standard

- August 14, 2000 comment period ends
- Project Team dispositions comments
- October, 2000 to CNRM committee for approval
  - includes responses to substantive comments
  - initiate formal public review
- November, 2000 receive votes and comments
- Project team resolves comments
  - changes to committee for review and reconsideration
- Early 2001, BNCS final review and approval

Codes and Standards

1-212-591-8500
FAX 1-212-591-8501

ASME International

Three Park Avenue
New York, NY 10016-5990
U.S.A.

July 7, 2000

SAMPLE OF LETTER TO CHIEF NUCLEAR OFFICERS

Dear Mr. :

Currently most nuclear power plant operators are committed to ANSI N45.2 Quality Assurance Standards that are over 25 years old via their licensing documents and their Quality Assurance (QA) programs. A few have upgraded their commitments to ASME NQA-1. ASME NQA-1 1983 plus Addenda 1a is the most recent version that the NRC has endorsed via Regulatory Guide 1.28 as an acceptable alternative to the ANSI N45.2 series of standards. The quality requirements embodied in these ANSI standards addressed the needs and issues of the large construction programs and startups of most of the nuclear plants still operating. These are the same plants that now face relicensing, deregulation and mega-mergers. Obviously, the QA practices of today are the result of updates, exceptions and upgrades made on a licensee by licensee basis through the individual QA Program revision process. However, the ultimate authority for making interpretations of the applicability and the intent of these ANSI source documents as endorsed through NRC Regulatory Guides, still remains with the NRC staff and/or the individual inspector. There is virtually no recourse to an independent consensus body for modification or interpretation of these long defunct standards for the rapidly changing business of nuclear generation.

Reluctance of many owner/operators to formally adopt all or specific parts of more current QA standards is certainly understandable. There is a great uncertainty in the amount of effort involved in rebaselining an existing approved QA program. There is also a great uncertainty in opening up licensing issues that have been previously resolved. However, the need for QA programs to be more responsive and flexible for business needs has never been more urgent. Fortunately, there are two circumstances that may provide a cost-effective option.

In April of this year, the NRC made it easier for utilities to adopt any QA standard, or part thereof, that has been accepted for use by another licensee as long as there were no limitations placed on its adoption. This is permitted through the revised 10 CFR 50.54 change process.

The ASME NQA Committee reformatted and refocused NQA-1 to be a more performance-driven QA standard, reflecting the industry's 30 years of operating experience. Many of the paper-intensive, "inspect-in the quality" practices that made sense for large-scale construction projects were retained, but as non-mandatory guidance. The essential requirements needed to meet 10 CFR 50 Appendix were retained, but in a form and format that more closely reflects today's operating environment. Commercial Grade dedication, software QA controls and configuration management are just a few of the issues not addressed in ANSI N45.2 standards that are now included in the 1997 edition of NQA-1. Participation by all segments of the nuclear industry including Owner/Operators, Architect Engineers, NSSS suppliers and equipment vendors in the NQA consensus body assures that the standard is as current as possible. It also provides an understanding and receptive forum for seeking timely and specific interpretations and for making suggestions for changes to the standard.

Utilities that are engaged in mergers or large scale process re-engineering in order to become more competitive should definitely evaluate adoption of NQA-1-1997 as the sole base document for an updated QA program. This is especially true for those contemplating cost savings through consolidation of QA controls under a single topical report. Many QA practices in stagnant QA programs may be siphoning off scarce resources and detracting from a focus on those items that contribute most to safe and cost-effective operations. Two of the most recently announced "mega-merger" operating companies are seriously evaluating NQA-1-1997 for just these reasons.

The NRC has not yet adopted the 1997 Edition through a Regulatory Guide as they did in the 1983 version. This is only because their ability to perform the reviews necessary are dependent upon a licensee's expression of interest. However, this does not and should not deter any licensee from using the 1997 Edition as a basis for a QA program revision and submitting such a change in the normal manner. The more licensee interest in adoption, the more likely it is that the NRC staff can seek adoption through a Regulatory Guide, and the easier it will be for all to adopt by reference rather than by individual submittal.

The enclosed paper "Applying ASME NQA-1-1997 to Operating Nuclear Power Plants" presents a more detailed discussion of the basis and content of the 1997 Edition. It discusses the potential benefits and some of the possible costs of adopting NQA. We believe you will find the emphasis of this standard more closely reflects current practices and more clearly addresses today's needs.

We hope that you will give serious consideration to the benefits of converting your QA Program commitment to ASME NQA-1-1997. If you would like any additional information or support in making your decision, please contact G.M. Eisenberg, Director-Nuclear Codes and Standards at ASME by e-mail at eisenbergg@asme.org or by phone at (212)591-8510.

Sincerely,

John H. Ferguson

John H. Ferguson,
ASME Vice President,
Nuclear Codes and Standards

Cc: QA Manager-

Applying ASME NQA-1-1997 to Operating Nuclear Power Plants

Introduction

Most nuclear utilities are committed to the requirements of ANSI Standard N45.2 and daughter standards for implementing their QA program as part of their licensing commitment. However, some are committed to various ASME NQA-1 editions. Since significant enhancements have been made to NQA-1 over the years, nuclear utilities should now consider the advantages of updating their QA program to reflect the latest provisions in ASME NQA-1. The change to NQA-1-1997 will increase your Oversight/QA effectiveness and will reduce your costs.

Background

NQA-1 Evolution

Requirements of 10 CFR 50 Appendix B, and N45.2 including the programmatic daughter standards were consolidated into NQA-1 in 1979. Further consolidation and revision to address new issues and to incorporate the Work Practice QA Standards have occurred over the past 20 years.

The initial version of NQA-1 contained only a few experience-based changes from the original standards it replaced. Later revisions to NQA-1, particularly those after the Three Mile Island accident, contain substantial enhancements that reflect lessons learned and latest practices. Some of these enhancements were voluntarily incorporated in licensee's programs, but very few licensees formally adopted NQA-1 because NRC regulatory guidance permitted the continued use of the earlier standards and Regulatory Guide 1.28 has not been updated to endorse later NQA-1 editions.

NQA-1 in the 90s

In the early 1990s NRC staff, NEI and industry representatives were seeking ways to make quality assurance practices more performance based. There were discussions both within and outside the NRC suggesting that Appendix B might be modified to facilitate a more performance-based approach. In response, the NQA Committee in 1994 initiated an action to develop a more performance-based approach to QA and also to eliminate the redundancies and inconsistencies among the various parts of the document. An experienced senior group of committee members was selected to develop proposed changes to the standard. One of the key drivers was to assure that it continued to meet 10 CFR 50 Appendix B.

The criteria used for review and revision of the standard were essentially:

1) Is it performance based?
2) Does it contribute to safe and reliable operation?
3) Are benefits commensurate with implementation costs?
4) Is it consistent with current technology and maturity of the nuclear industry?
5) Is the level of detail adequate to achieve the desired results?

6) For the intended activity, is this the minimum requirement that applies to all applications?
7) Is the requirement stated once and not duplicated?

If one or more of these questions was answered "No" the specific requirement was modified or deleted. Deleted material was subsequently reevaluated and appropriate material was selected for inclusion in NQA-1 under Part III as guidance. The resultant changes to NQA-1 were reflected in the 1997 Edition that was approved by the NQA Committee, the ASME Board on Nuclear Codes and Standards and by ANSI for publication as an American National Standard.

Reasons for Changing to ASME NQA-1-1997

Each organization will see different benefits from changing to NQA-1 based on their scope of activity and current commitments. However, the following are generally applicable to all organizations:

- To decrease costs, increase performance and more effectively enhance safety.
- To take advantage of the simplifications offered and lessons learned that are not contained in the old N45.2 series of standards.
- To bring the QA program up to date with the latest practices, with emphasis on important requirements and greater flexibility for applying a graded QA program. For example, several QA programs contain current practices that reflect controls related to configuration management, QA control of computer software, dedication of commercial grade items, and stronger design organization control of changes beyond design control that are now contained in NQA-1-1997.
- To take advantage of and use new provisions based on experience feedback and new technology.
- To encourage standardization between units with various commitments and attendant cost savings.
- To provide interchangeability, uniformity, consistent practices, and specifications for utilities and suppliers alike.
- To take advantage of the continuing mechanism for coverage of emergent issues and consistent interpretation of the latest QA standards requirements.

Advantages of Using NQA-1-1997

This Standard reflects industry experience and current understanding of the quality assurance requirements necessary to achieve safe, reliable, and efficient utilization of nuclear energy. It focuses on the achievement of results, addresses current technology, emphasizes the role of the individual and line management in the achievement of quality

and fosters the application of these requirements in a manner consistent with the relative importance of the item or activity, while providing flexibility in the methodology of implementation.

A performance based quality program has the underling objective of applying concepts related to achieving results of safe and reliable nuclear plant operation, where performance relates primarily to the physical plant and secondarily to how each individual's work performance contributes to achieving the desired results. The standard includes changes that delete or modify prescriptive detail requirements contained in earlier editions and addenda to provide greater flexibility for satisfying the requirements.

The recent trend of utility purchases and acquisitions of nuclear power plants provides an opportunity for a QA Topical for multiple plants. Utilizing NQA-1 as the program basis for a topical will allow for standardization of multiple units to a contemporary program. This standardization would result in significant economy of scale savings. Utilities that are currently considering a consolidated QA Topical should focus on NQA-1-1997, since a utility application to the NRC to commit to use NQA-1-1997 is expected in the very near future.

Implementation Cost/Benefit of Using NQA-1-1997

A utility's effort to make the change in the QA program and procedures, using NQA-1 as the basis, might involve up to a couple of equivalent man-years. This time may vary from utility to utility depending on such things as their electronic capabilities. The benefits of implementing the changes, however, far outweigh the cost. Benefits may include reducing inspection personnel and using electronic records. The updated NQA-1 gives the utilities much more flexibility on how they meet the requirements. Less inspection over maintenance activities is one example where QA personnel only perform surveillance over maintenance activities. Regarding auditing, less frequent audits using performance-based techniques will allow fewer auditors. Having technical experts from other than QA organizations participate on audit teams can also help reduce QA personnel numbers. Using a graded approach for modifications, procurement, maintenance, and operation should also help reduce staff. Automating the nonconforming system to use computers and software to allow processing and reporting of NCR's can also save time and reduce staff support. These are just some examples that one needs to evaluate what the current practices are and then see how they can be changed to accomplish the staff reductions and process efficiencies. The result should be more effective implementation of the QA program to do the right things the first time and avoid problems that have resulted in down time, loss of generation, NRC fines and negative press for the utility.

Program Differences after Implementing NQA-1-1997

After implementing NQA-1-1997, these are the QA programmatic changes that one can expect. There would be some minor changes that reflect the contemporary nature of NQA, but the more substantive changes would be as follows:

1. Organization

The Standard places emphasis on senior management to establish overall expectations for effective implementation of the QA program and for obtaining the desired results. Likewise, individuals assigned responsibility for performing work are held accountable for achieving and maintaining quality. Details on management functions, quality achievement functions and quality verification functions have been moved to ASME NQA-1-1997, Part III as guidance to provide more flexibility.

2. QA Program

The Standard includes provisions for establishing and implementing processes to detect and correct quality problems and for management to regularly assess the adequacy and effective implementation of the quality assurance program. Topics under indoctrination have been modified to include job responsibilities and authority, regulatory commitments and company procedures. Nondestructive examination coverage has been expanded to include electromagnetic (ET), acoustic emission (AE), and visual testing (VT). Some detail requirements have been moved to guidance in Part III of the standard relating to qualification, on-the-job training and training of auditors. It enhances the non mandatory guidance on QA program to include program format, program development, work requirements and performance, process management, graded approach and assessment of performance. Detail guidance on surveillance for use in assessment of processes and activities is contained in Part III of the Standard.

3. Design Control

In response to industry problems and shortcomings reported, design control now includes provisions for Configuration Management of Operating Facilities, and Software Design Control. These enhancements include the following:

- Broader definition of changes subject to design control measures
- Final design characteristics and acceptance criteria for commercial grade items
- Final design inspection, test, and acceptance criteria
- Controls for use of computer programs in design, and
- Controls for design of software

Guidance on design control enhancements include information in design documents that may subsequently be needed to support facilities operations and specifics on design verification, change control, interface control, documentation and records.

4. Procurement Document Control

No substantive change

5. Instructions, Procedures and Drawings

The Standard provides flexibility to the basic requirement by specifying that activities shall be described to a level of detail commensurate with the complexity of the activity and the need to assure consistent and acceptable results. The need for and level of detail in written procedures or instructions shall be determined based upon complexity of the tasks, the significance of the item or activity, work environment, and worker proficiency.

6. Document Control
   No substantive change

7. Control of Purchased Items and Services
   The Standard incorporates information developed by EPRI Nuclear Construction Issues Group for dedication of commercial grade items. The standard covers guidance on commercial grade items. It removed from Part I some prescriptive detail on procurement planning, supplier performance evaluation and control of changes in items and services and placed them as guidance in Part III to provide greater flexibility in terms of methods for implementing requirements.
8. Identification and Control of Items
   No substantive change

9. Control of Special Processes
   No substantive change

10. Inspection
    The Standard deletes the specific supplementary requirements that inspection personnel not report to the immediate supervisor responsible for the work but retains the basic requirement that inspection for acceptance be performed by qualified personnel other than those who performed or directly supervised the work. It also consolidates the qualification requirements for inspection personnel under the requirements for organization and QA program to provide greater consistency and flexibility. Prescriptive details on inspection, process monitoring and inservice inspection have been moved to Part III as guidance.

11. Test Control
    The Standard enhances the scope of testing for siting, design input, and computer program conformance. It contains provisions for controlled tests related to computer programs, software design verification, factory acceptance tests, and site acceptance tests. The standard includes provisions for test results to be reviewed by the responsible design organization. Detail test control guidance is contained in Part III.

12. Control of Measuring and Test Equipment
    The Standard clarifies and upgrades previous requirements to reflect realistic practices. Included are basic requirements for including or referencing required accuracy in calibration procedures to avoid unrealistic requirements that might be based on the M&TE capability rather than intended usage. It also recognizes that

accuracy checks between calibration intervals can help identify undesirable changes in accuracy, permit longer intervals between formal calibrations and reduce the extent of evaluation required when M&TE is found out of calibration. Changes also reflect a graded approach to investigating the impact of M&TE found to be out of calibration. It states that the evaluation should be commensurate with the significance of the condition.

13. Handling, Storage and Shipping
No substantive change

14. Inspection, Test and Operating Status
No substantive change

15. Control of Nonconforming Items
The Standard includes provisions for designating in writing the responsibility for the control of further processing, delivery, installation, or use of nonconforming items. It provides for nonconforming items to design requirements dispositioned use-as-is or repair to be subject to design control measures commensurate with those applied to the original design.

16. Corrective Action
No substantive change in requirements. Provisions covering guidance on corrective action have been added to the Standard.

17. Quality Assurance Records
Many of the former detail requirements have been deleted and the information moved to Part III under guidance of QA records. Topics now in Part III include the following:
- record correction,
- receipt control system,
- storage control procedure,
- measures to replace or restore damaged or lost records,
- design of single storage facility,
- separation when dual facilities are used, and
- Custodial acknowledgement of receipt and disposition of records.

The listing of lifetime records has also been modified. For example x-ray film is no longer a lifetime record; only the radiograph review records remain as a lifetime record.

18. Audits
The standard no longer contains prescriptive details under scheduling, preparation, performance and reporting and relies on the guidance in Part III to address methods for implementing the audit program.

Steps to Consider in Making the Transition to NQA-1

As a utility approaches the process of making the conversion to NQA-1, the following sequence of steps is suggested:

- Obtain management commitment to make the changeover
- Develop a plan and schedule for the change that optimizes other operational or business changes, NRC filings, outages, etc.
- Take advantage of recent revision to 10 CRF50.54a that allows utilities to use this mechanism for change in QA Program commitment. Review recent 50.54a filings for applicability.
- Review and compare current commitments to proposed commitments
- Determine impact of changes on commitments and internal implementing procedures
- Modify the QA program description in FSAR Chapter 17 or Topical Report to reflect new commitments
- Submit and obtain NRC acceptance of Topical Report reflecting new commitments
- Modify implementing procedures to reflect new commitments and firm up exceptions to commitments
- Conduct training to the revised commitments and procedures

Summary

Senior leadership from both government and nuclear industry initially developed and endorsed the NQA Standard as the proper way of implementing 10CFR50 Appendix B. It permitted implementing criteria and guidance based on experience, judgement, and performance to be developed, improved, changed and interpreted through the non-confrontational consensus process. However, this evolutionary process stopped in the early 1980's due to concerns by the utilities that changing quality commitments to later standard editions would reopen, and thus jeopardize, the license process. This concern no longer exists due to the change in 1999 to 10CFR50.54a.

Many nuclear plant QA programs are still formally committed to N45.2 and the daughter standards that are 25 to 30 years old. Their QA programs have evolved through direct interaction and negotiation with individual NRC staff members as well as some degree of internally stimulated changes due to experience feedback and corrective actions. The NRC gives great weight to the position of standards committees relative to the content

Attachment 8

ASTM Subcommittee C26.13
Spent Fuel and High-Level Radioactive Waste

Consensus Standards Development in Support of Spent Fuel and HLW Disposal

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C26.13 Scope

- To develop consensus standards in support of the national high level waste disposal program.
- Consensus standards activities include the development of test methods, guides, and practices for the characterization, performance testing, and performance modeling of high level waste forms and their associated waste packages in storage, transport or transfer, and the repository environment.
- Standards activities will also support licensing processes.

ASTM Definitions

- **Standard:** a document that has been developed and established within the consensus principles of the Society and that meets the approval requirements of ASTM procedures and regulations.
- **Guide:** a compendium of information or series of options that does not recommend a specific course of action.
- **Practice:** a definitive set of instructions for performing one or more specific operations that does not produce a test result.
- **Test Method:** a definitive procedure that produces a test result.

C26.13 Members and Participants

- Members and Participants from:
  - Department of Energy
  - National Laboratories
  - Regulatory Agencies
  - Private Industry
  - Technical Societies
  - Other Standards Organizations
  - Nuclear Energy Providers
  - Universities
  - Consulting Firms
  - Foreign Countries

C26.13 Published Standards

- C 1174-97 Standard Practice for Prediction of the Long-Term Behavior of Materials, Including Waste Forms, Used in Engineered Barrier Systems (EBS) for Geologic Disposal of High-Level Radioactive Waste
- C 1285-97 Standard Test Methods for Determining Chemical Durability of Nuclear, Hazardous, and Mixed Waste Glasses: The Product Consistency Test (PCT)

C26.13 Published Standards

- C 1431-99 Standard Guide for Corrosion Testing of Aluminum-Based Spent Nuclear Fuel in Support of Repository Disposal
- C 1454-00 Standard Guide for Pyrophoricity/Combustibility Testing in Support of Pyrophoricity Analyses of Metallic Uranium Spent Nuclear Fuel

C26.13 HLW Glass Task Group

- Revision of C 1285-97 PCT Task Group

Revision of "Standard Test Methods for Determining Chemical Durability of Nuclear, Hazardous, and Mixed Waste Glasses: The Product Consistency Test (PCT)"

- Task Group is revising the standard test method to include the ability to test a new ceramic waste form, i.e. a heterogeneous sodalite bound with glass, and to show that 'normalized' releases of radionuclides are the same as or less than Na, B, etc.
- Required in "Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms," DOE EM-WAPS.

C26.13 HLW Glass Task Group

- Glass Dissolution "Forward Reaction Rate" Constant

Draft "Standard Test Method for Measurement of the Glass Dissolution Rate Using the Single-Pass Flow-Through Test Method"

- Task Group is developing a standard test method to determine the intrinsic forward rate constant for dissolution of waste glasses.
- A single-pass flow-through (SPFT) test method is being developed to determine the maximum dissolution rate.
- Parameter is important for Performance Assessment modeling.

C26.13 HLW Glass Task Group

- Glass Time-Temperature-Transformation Task Group

Draft "Standard Test Methods for Determining the Amount of Devitrification in a Nuclear Waste Glass and for Constructing Time-Temperature-Transformation (TTT) Diagrams"

- Task Group is developing standard test methods to construct time-temperature-transformation curves to evaluate the type and amount of devitrification in heat treated or canistered nuclear or mixed waste glass.
- Requested in "Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms," DOE EM-WAPS.

C26.13 HLW Glass Task Group

- Glass Liquidus Temperature (T_L) Task Group

Draft "Standard Test Method for Determining the Liquidus Temperature (T_L) of Waste Glasses and Simulated Waste Glasses"

- Task Group is developing standard test methods to measure the liquidus temperature of waste and simulated waste glasses in the temperature range of 600 to 1500°C.
- Task Group is currently gearing up to run a round robin test of the standard test method to obtain precision and bias information.

C26.13 HLW Glass Task Group

- Glass Vapor Hydration Test (VHT) Task Group

Draft "Standard Test Method for Vapor Hydration Testing of Waste Glasses"

- Task Group is developing a standard test method to evaluate the long-term durability behavior of candidate waste forms and provide useful information on performance assessment by measuring the amount of glass converted to the alteration products in a monolithic specimen.
- Task Group is currently gearing up to run a round robin test of the standard test method to obtain precision and bias information.

C26.13 HLW Glass Task Group

- HLW Glass Disposal Specification Task Group

Proposed Task Group is being discussed/evaluated to write a specification for HLW glass disposal in a geologic repository.

- This proposed ASTM activity is barely out of the conceptual stage. There is no outline or draft on the table. The question being considered is whether a basic ASTM specification for the HLW glass would be useful for gaining NRC acceptance during the license application that the performance model covers all HLW glass sources. (An analogy would be the NRC use of ASTM nuclear fuel specifications for reactor licensing purposes.) NRC, like every federal agency, is strongly urged under public law 104-113 to use private consensus standards in pursuing their mission. An ASTM specification acceptable to all DOE glass producers and the NRC could be very useful.

C26.13 SNF Task Group

- Commercial LWR Spent Nuclear Fuel Task Group

Draft "Standard Guide for Evaluation of Materials Used in Extended Service of Interim Spent Nuclear Fuel Dry Storage Systems"

- Task Group is developing a standard guide to outline information on materials behavior needed for assisting in conducting safety evaluations for extending the service life of licensed storage systems for spent nuclear fuel (SNF).

C26.13 SNF Task Group

- Metallic Spent Nuclear Fuel (SNF) Task Group

Task Group recently finished "Standard Guide for Pyrophoricity/Combustibility Testing in Support of Pyrophoricity Analyses of Metallic Uranium Spent Nuclear Fuel"

- Task Group is currently evaluating and prioritizing future standards development efforts including:
  - Drying of metallic fuels
  - Demonstrating conformance to acceptance criteria for non-commercial spent nuclear fuels for emplacement in a geologic repository.

C26.13 SNF Task Group

- Aluminum Spent Nuclear Fuel (SNF) Task Group

Task Group recently finished "Standard Guide for Corrosion Testing of Aluminum Based Spent Nuclear Fuel in Support of Repository Disposal"

- Task Group is currently evaluating and prioritizing future standards development efforts including:
  - Flow-through dissolution for aluminum fuels
  - Drying standard for aluminum fuels
  - Storage criteria for dried aluminum SNF
  - Drip testing standard.

C26.13 SNF Task Group

- Spent Nuclear Fuel (SNF) Dissolution Task Group

Draft "Standard Test Method for Measuring the Dissolution Rate of Spent Nuclear Fuel in Dilute Aqueous Solutions Using a Flowthrough Technique"

- Task Group is developing a standard test method to measure the intrinsic forward rate constant for dissolution of spent nuclear fuel (SNF) specimens and corresponding unirradiated fuel specimens.
- The purpose of this test method is to provide a procedure for obtaining dissolution rate data for use in the assessment of SNF performance in a geologic repository.

C26.13 SNF Task Group

- Drying of Spent Nuclear Fuel Task Group

Draft "Standard Guide on Drying Behavior of Spent Nuclear Fuel"

- Task Group will develop a Standard Guide on drying behavior of SNF which will review vacuum drying methods and identify the sources and forms of water that may remain in the SNF and/or its container after drying. The effects of this residual water on SNF integrity and the container will be explored mechanistically as a function of container environment to provide guidance on situations that may require extraordinary drying methods, specialized handling, or other treatments.

C26.13 SNF Task Group

- Spent Nuclear Fuel Long-Range Plan Task Group
  - Task Group has developed a Spent Nuclear Fuel Long-Range Plan which delineates what future areas SNF standards should address, after completion of the current group of draft standards, and will continue to prioritize the efforts.
  - This effort aids Subcommittee C26.13 planning and ensures that there is no obvious gap in needed spent nuclear fuel standards.

Attachment 9

Riel Gordon K CRBE

From: Fix, John J [jack.fix@pnl.gov]
Sent: Thursday, July 27, 2000 10:26 AM
To: 'Riel Gordon K CRBE'
Subject: RE: NRC Meeting: NIST Funding Proposal, HPS as Standards Developi ng O rganization

Gordon:

The items I would mention concerning HPS Standards are:

1) Re-organization (effective July 1999) with the goal of more effective and timely standard development

2) ANSI Audit that showed generally good practices

3) Emphasis on International Standards per establishing International Standards Subcommittee.

Some discussion of each of these is in the HPSSC annual meeting minutes and the annual report to the HPS Board.

From a broader perspective, you may want to mention the interest of the HPS to work collaboratively with other SDOs to develop high-quality technical standards and to minimize overlap in standard guidance provided by other SDOs. At the first meeting during May 1999, the NRC representative said they would provide a list of topic where they felt that new standards were needed or existing standards needed to be revised. I don't believe we have every seen this list.

I just realized that I will be sending this to you on the planned day of the meeting. Good luck.

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REPORT TO THE BOARD OF DIRECTORS OF THE HEALTH PHYSICS SOCIETY

DATE OF PREPARATION: June 1, 2000

STANDARDS COMMITTEE

Jack J. Fix, Chairperson

AUTHOR OF REPORT: Jack Fix, Nancy Johnson, HPSSC Members, N13 Chair, N43 Chair

ABSTRACT:

During the period of July 1999 to June 2000, the Health Physics Society (HPS) Standards Committee (HPSSC) proactively implemented the new organizational structure approved by the Board during July 1999 as recommended by the HPS Board appointed *ad hoc* committee on standards. This structure has worked very smoothly. Notable activities are described as follows:

A. ANSI Audit of HPS Standards Process

ANSI conducted an audit of the HPS Standards Process during December 1999 and the HPS response was submitted by Nancy Johnson, HPS Standards Coordinator, by letter dated March 31, 2000. Importantly, an audit report of the HPS standards process and practices prepared by representatives of the American National Standards Institute (ANSI) showed their support for the current HPS Standards organizational structure approved by the Board during July 1999. A brief summary of items in the audit report as follow:

- (ANSI Finding B.1) *ASC N13 and ASC N43 send follow-up letters to all members and alternate members whose votes have not been received within ten working days before the ballot closes requesting immediate return of the ballot.*

- (ANSI Finding B.2) *HPS submit a PINS Form at the initiation of a project to develop or revise an American National Standard.*
- (ANSI Finding B.3*) HPS, based on records currently available, take one of three organizational actions as follows:*
  1) *Subject HPSSC to the same requirements as prescribed for consensus body subgroups since the HPSSC develops and manages ASC N13 standards.*
  2) *ASC N13/HPSSC develop new procedures for existing operation and submit for review by the ANSI Executive Standards Committee via the reaccreditation process or*
  3) *HPS and ASC N13 review the three model methods of accreditation, and submit an application for accreditation using the organization method. New procedures would*

need to be submitted for review by the ANSI Executive Standards Committee via the reaccreditation process.

- (ANSI Finding B.4) *ASCs N13 and N43 make additional efforts to ensure that the committee is balanced and no interest category is more than one-third of the total.*

- (ANSI Finding B.5) *HPS provide with their audit response a complete list of all their American National Standards (ANS) that are nearing or past the tenth anniversary of the date (day/month/year) of their approval as American National Standards. Approximately 8 of ASC N13's standards and approximately 7 of ASC N43's are more than ten years old. The auditor recommends that approval of these standards as American National Standards be administratively withdrawn. After these standards are administratively withdrawn, ASC N13 and ASC N43 may resubmit the standards as new projects.*

- (ANSI Finding B.6) *The auditor recommends that ASC N13 and ASC N43 document its Records Retention Policy and provide ANSI with a copy.*

- (ANSI Finding B.7) *ASC N13 and ASC N43 formalize their metric policy and submit a copy to ANSI for inclusion in their accreditation files. In December 1997, the ANSI Board of Directors approved a revision to the ANSI Procedures requiring a metric policy as a condition of accreditation.*

- (ANSI Finding B.8) *HPS request extensions for those ASC N13 and ASC N43 ANSs that ANSI approved more than five years ago. HPS can request ANSI to withdraw any such standards provided ASC N13 and ASC N43 procedures are complied with in making the request. The auditor noted that ASC N13 currently has 14 of its standards and ASC N43 has 9 of its standards that ANSI approved more than five years ago. Two extensions can be requested for standards more than five years old.*

- (ANSI Finding B.9) *Non-compliances listed in this audit report be reviewed at the next scheduled audit to verify that corrective action was taken.*

HPS Response: Nancy's letter addressed each of the foregoing findings with the committment to have resolutions in place by April 2001. Response: The HPS Standards reorganization resolves items B2 and B.3. With the reorganization, the working groups and sections that used to be formed and managed by the HPSSC, are now formed and managed by ASC N13. Additionally, the HPS intends to submit an application to become an Accredited Organization within the next year. In response to ANSI Finding B.4, the HPS will work with the members of the ASCs to define new categories of interest that are more appropriate to the ASCs and will have each member select only one of the new categories. This is likely the most challenging item left to be resolved. Resolution to each of the other findings will be prepared during the next year. In response to ANSI Findings B.5 and B.8, the HPS will request extensions for those ASC

N13 and ASC N43 standards that are past the fifth anniversary of their ANSI approval date and administratively withdraw those standards beyond the tenth anniversary.

B. ANSI approved HPS Standards were published as follows:

- ANSI/HPS N13.6-1999, "Practice for Occupational Radiation Exposure Records Systems," with the April 2000 newsletter
- ANSI/HPS N13.12-1999, "Surface and Volumetric Radioactivity Guides for Materials, Equipment and Facilities to be Released for Uncontrolled Use," with the January 2000 newsletter.
- ANSI/HPS N13.35-1999, "Standard for the Bottle Manikin Absorption Phantom," with the February 2000 newsletter.

C. HPS Organizational Representative. HPSSC reviewed and balloted, as the HPS organizational representative, proposed standards as follows:

- ANSI/HPS N13.11, Revised American National Standard: "Personnel Dosimetry Performance – Criteria for Testing."
- N13.39, "Design of Internal Dosimetry Programs."
- N13.49, Draft Proposed American National Standard: "Performance and Documentation of Radiological Surveys."
- N13.53, Preliminary Draft Proposed American National Standard: "Control and Release of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM)."
- N13.59, Working Group membership "Characterization of Land Areas and Structures in Support of Decommissioning."
- N43.4, "Classification of Radioactive Self-Luminous Light Sources".
- N43.10, "Safe Design and Use of Panoramic, Wet Source Gamma Irradiators (Category IV)."

D. Standards to be Published. ANSI/HPS standards approved for publishing include:

- ANSI/HPS N13.52-1999, "Performance Specifications for Personnel Neutron Dosimeters."

E. HPS as ANSI Accredited Standards Organization. The HPS Board, during the 1998 annual meeting, approved obtaining Accredited Standards Organization (ASO) status for the HPS. The lead on this effort during the past year is the chair of the *ad hoc* committee on standards,

Dick Toohey, along with support from Nancy Johnson as the HPS Standards Coordinator. The HPSSC fully supports this activity and recommends assignment of this responsibility to the HPSSC upon termination of the *ad hoc* committee during July 2000 (please see Recommendation for Action).

F. HPS Working Group Member Certificates. Certificates of appreciation have been prepared by the HPSSC and the HPS Standards Coordinator for all HPS Working Group members with a published HPS standards. The certificates were attached to a cover letter from HPS President Ray Johnson, expressing the appreciation of the HPS. In the future, the certificates will be prepared soon after standard publication.

G. HPS Working Group Chair Plaques. Plaques have been prepared by the HPSSC and the HPS Standards Coordinator for all HPS Working Group chairs with a published HPS standard. It is hoped that awarding the plaques can be included in the HPS annual meeting award ceremony.

H. HPSSC to develop HPS standards staffing roster. Efforts are underway with Fred Baes, HPS web master, to implement a standards roster capability by the secretariat that will be incorporated into the HPS web capability. Once developed, HPS member standards activities will be maintained by Nancy Johnson, HPS Standards Coordinator. The roster will be used by the HPSSC, and others, to nominate HPS members for N13, N43, N13 Section Manager, Working Group chairs, and Working Group vacancies based on member past standard participation, experience, effectiveness, and interest. The capability is one part of an effort to upgrade the HPS standards web page appearance and content. In the near future, perhaps by the annual meeting, nearly all supporting documentation needed to develop HPS standards by N13 and N43 working groups will be available electronically. Forms to order additional copies of HPS standards will be available as well as the option to e-mail Nancy with orders using a credit card.

I. Review of International Standards. An HPSSC subcommittee, chaired by Al Tschaeche, has been formed to focus on International Standards Organization (ISO) activities. Membership on this subcommittee includes the respective N13 section managers and the N43 chair. Establishing this subcommittee has been well received. However, there are many challenges to achieving an effective organization to interact and comment on international standards. This represents a large workload and will require concerted effort to improve HPS representation.

J. HPS Organizational Representatives. The HPSSC has been working as the liaison for other HPS Organizational Representatives. An e-mail was sent to the respective representatives requesting communication of any problems and recommendations. No problems or recommendations were received. From the comments received, all representatives were interested in continuing with these roles.

BODY OF REPORT

Recommendations for Action:

A. Disband HPS Board appointed *ad hoc* committee on standards and assign responsibility to the HPSSC to work collaboratively with the Secretariat to request approval of the HPS by ANSI as an Accredited Standards Organization.

Background: The recommendations from the *ad hoc* committee have been implemented collaboratively with proactive support from all participants (i.e., N13, N43, HPSSC, and secretariat). Completion of application forms following examining and perhaps revising some elements of the respective Standard Operating Procedures has yet to be completed. Obtaining recognition of the HPS as an Accredited Standards Organization is a goal during the next year.

B. Approve option for Fred Braes to provide read only copies of ANSI/HPS standards on HPS standards web-page for access by members only.

Background: Distributing ANSI/HPS standards with the newsletter has been very successful. My experience has shown that HPS members routinely misplaced these standards. Fred Braes, who is currently updating the HPS Standards web-page content, could provide these standards using a read only pdf format that cannot be copied. This would add further benefit to HPS membership.

Additional Background Regarding HPSSC Standards Activities:

A. Status of HPS Standards Activities. Through the assistance of Nancy Johnson, the respective N13 and N43 chairs, HPSSC members, and the respective N13 Section Managers, the status of HPS standards activities follows:

1. Three HPS American National Standards were prepared by Leilyn Perri and published with the January 2000, February 2000 and March 2000 HPS Newsletters, respectively. ANSI/HPS N13.12 and ANSI/HPS N13.35 were developed under the new HPS standards organization. These standards follow:

   a. ANSI/HPS N13.6-1999, "Practice for Occupational Radiation Exposure Records Systems." A Working Group chaired by Matthew Lyon prepared this standard. It passed HPSSC balloting in 12/92, and was sent for initial and second consensus balloting during 9/93 and 4/97, respectively. The Public Comment and Review period on N13.6 actually closed in September 1997. There were 2 public comments received. The official N13 balloting closed on June 12, 1997 with three negative votes. Two of these ballots were resolved, leaving one unresolvable negative. N13 conducted an Unresolved negative ballot which was closed in November 1998. This ballot resulted with 4 negative ballots (the original plus 3 who changed their original vote). ANSI officially approved this standard in May 1999.

b. ANSI/HPS N13.12-1999, "Surface and Volumetric Radioactivity Guides for Materials, Equipment and Facilities to be Released for Uncontrolled Use." A Working Group chaired by Bill Kennedy prepared this standard. It passed N13 consensus balloting during June 1999. The Public Comment and Review period on N13.12 closed in July 1999. ANSI officially approved this standard in August 1999.

c. ANSI/HPS N13.35-1999, "Standard for the Bottle Manikin Absorption Phantom." A Working Group chaired by Tim Lynch prepared this standard. It passed N13 consensus balloting during June 1999. The Public Comment and Review period on N13.35 closed in August 1999. ANSI officially approved this standard in September 1999.

2. There is currently one HPS/N13 standard approved by ANSI that is pending publication.

a. ANSI/HPS N13.52-1999, "Performance Specifications for Personnel Neutron Dosimeters." A Working Group chaired by Eric Kearsley prepared this standard. The standard was approved by the HPSSC during April 1996. The standard was received during October 1997 for N13 consensus balloting. One negative ballot was received and resolved by the WG chair. The Public Comment and Review period on N13.52 closed in August 1999. ANSI officially approved this standard in September 1999.

3. N13 Balloted Standards to be submitted to ANSI for approval as American National Standards following resolution of negative comments by the respective WG chair follow:

a. P/N13.36, "Core Training in Radiation Protection for Workers." This is a draft standard developed by a Working Group chaired by Paula Trinoskey. The standard was first balloted by the HPSSC in 12/96 and approved on a second ballot during 6/97. N13 consensus balloting closed during June 1998 with several negative ballots. The WG chair has worked to resolve these comments. The N13 chair is working with the WG chair to evaluate if any substantive changes were made in the revised standard to resolve negative comments compared to the standard balloted.

b. P/N13.39, "Design of Internal Dosimetry Programs – Minimum Acceptable Requirements." This is a new draft standard being developed by a Working Group chaired by Don Bihl. This proposed standard was first balloted by the HPSSC during May 1998 with one negative ballot along with preliminary N13 review.

c. N13.50, "Characterization of Radioactive Waste," is a proposed standard being developed by a WG chaired by James Hylko. It was balloted for the second time during August 1998.

4. Standard currently being balloted by N13.

a. P/N 13.53, "Guide for Control and Release of Technically Enhanced Naturally Occurring Radioactive Material (TENORM)," is a new proposed standard being

developed by a WG chaired by Jean-Claude Dehmel. It was balloted for the first time during August 1998.

B. NRC Standards Coordination. The Nuclear Regulatory Commission (NRC) hosted meetings on May 26, 1999 and December 8, 1999. The objective of the NRC continues to be reliance on consensus standard development by Standard Development Organizations. They plan to adopt a schedule to meet every six months with invited Standard Development Organizations including the Health Physics Society.

C. HPS Organizational Representatives. The HPSSC has been working as the liaison for other HPS Organizational Representatives. The respective representatives and organizations are shown in Table 1 along with a summary of comments received. Input was not received from all organizational representatives as noted in Table 1. Additional effort is needed to better ensure effective communication with all of the organizational representatives. No problems were identified by any of the organizational representatives.

C. HPS Strategic Plan

The HPSSC has been supporting the HPS Strategic Plan, HPS-2000, by helping to establish the HPS as the source of expertise in radiation safety. This is done through the development and publication of standards, and by presentations of our standards development activities at professional and governmental meetings. The HPSSC plans to take the lead on preparing an quarterly article, entitled Standards Corner, for the HPS Newsletter describing aspects of the HPS standards process. The HPSSC is also working with the HPS web master to update the HPS standards content of the home page. Further updates in this capability are planned to utilize this technology to enhance the visibility of HPS standards and to solicit HPS members willing to assist in this important activity of the HPS.

D. Attachments

Several attachments are included as follows:

- Attachment A is a list of all HPS Organizational Representatives for the respective roles.
- Attachment B is a listing of all current and incoming HPS Board HPSSC liaison and HPSSC members.
- Attachment C is a list of N13 and N43 officers.
- Attachment D is a list of all current N13 Section Managers.
- Attachment E is a current roster of all HPS N13 Standards.
- Attachment F is a current roster of all HPS N43 Standards.

Table 1. HPS Organizational Representatives.

Organization/Committee	Appointee/ Alternate	Comments
American Nuclear Society (ANS)/ Standard Steering Committee	S.Y. Chen/ Mike Knight, HPSSC	No comments received.
American Nuclear Society (ANS)/N16	Scott Murray/ Paul Charp, HPSSC	No comments received.
American Nuclear Society (ANS)/N17	Brian Dodd/ Bill Harris, HPSSC	No problems in role on N17. A few standards were reviewed and balloted. Comments were made to encourage movement towards SI units. The HP content on most standards is fairly minimal. The committee is well managed.
American Association of Physicists in Medicine (AAPM)/RSC	Bill Inkret, HPSSC/ Norman McElroy N13 Medical HP Section Manager	No comments received.
Health Physics Society (HPS)/N13	Jack J. Fix, HPSSC Chair/ Paul Charp, HPSSC	Noted in this report.
Health Physics Society/N43 (HPS)	Jack J. Fix, HPSSC Chair/ David W. Lee	Noted in this report.
Institute of Electrical and Electronics Engineers (IEEE)/N42	Jack J. Fix, HPSSC Chair/ Henry Kahnhauser N13 Instrumentation Section Manager	Noted in this report.
Institute of Nuclear Materials Management (INMM)/N14	Kevin Nelson/ Sharon Schumacher, HPSSC	No comments received.
Laser Institute of America (LIA)/ LIA Z136	David H.Sliney/ Ron Stafford, HPSSC	No comments received.
Lawrence Livermore National Laboratory (LLNL), Respiratory Protection/Z88	Hermen Cember/ Glenn Sturchio, HPSSC	No comments received.
Institute of Electrical and Electronics Engineers (IEEE)/SCC-28	David Sliney/ Ron Stafford, HPSSC	No comments received.

ATTACHMENT A

HPS Organizational Representatives, 2000-03

Organization	Committee	Appointee	Alternate
American Nuclear Society (ANS)	Standard Steering Committee	S.Y. Chen	Mike Knight, HPSSC
American Nuclear Society (ANS)	N16	Scott Murray	Paul Charp, HPSSC
American Nuclear Society (ANS)	N17	Brian Dodd	Bill Harris, HPSSC
American Association of Physicists in Medicine (AAPM)	RSC	Bill Inkret, HPSSC	Norman McElroy N13 Medical HP Section Manager
Health Physics Society (HPS)	N13	Jack J. Fix, HPSSC Chair	Paul Charp, HPSSC
Health Physics Society (HPS)	N43	Jack J. Fix HPSSC Chair	Bill Harris, HPSSC
Institute of Electrical and Electronics Engineers (IEEE)	N42	Jack J. Fix HPSSC Chair	Henry Kahnhauser N13 Instrumentation Section Manager
Institute of Electrical and Electronics Engineers (IEEE)	SCC-28	David Sliney	TBD, HPSSC
Institute of Nuclear Materials Management (INMM)	N14	Kevin Nelson	Sharon Schumacher, HPSSC
Laser Institute of America (LIA)	LIA Z136	David H.Sliney	TBD, HPSSC
Lawrence Livermore National Laboratory (LLNL), Respiratory Protection	Z88	Hermen Cember	TBD, HPSSC
Nuclear Regulatory Commission Standards Coordination		Gordon Riel, HPSSC	TBD, HPSSC

TBD: To Be Determined during annual HPSSC meeting

ATTACHMENT B
HPSSC Board Liaison and Members

Position	Current	000 Incoming
HPSSC Board Liaison	Terri Aldridge	
HPSSC Chair	Jack Fix (01)	
HPSSC Member	Paul Charp (01)	
HPSSC Member	Bill Harris (01)	
HPSSC Member	Bill Inkret (02)	
HPSSC Member	Mike Knight (01)	
HPSSC Member	Jerry Rosen (00)	Gordon Reil (03)
HPSSC Member	Sharon Schumacher (02)	
HPSSC Member	Ron Stafford (02)[a]	Sandy Perle (02)
HPSSC Member	Glenn Sturchio (00)	Wayne Glines (03)

a. Sandy will fullfill remainder of Ron's term.

ATTACHMENT C

HPS Accredited Standards Committees

Accredited Standards Committee	O
N13	Joe Ring, Chair
	Tosh Ushino, Vice-Chair
N43	John Taschner, Chair
	Gordon Lodde, Vice-Chair

ATTACHMENT D

N13 Section Managers

Section	Current Section Manager[a]	coming Section Manager
Contamination Limits (CON):	Tracy Ikenberry (01)	N/A
Environmental (ENV):	Tom Gesell (02)	N/A
External Dosimetry (EXT):	Bob Devine (02)	N/A
Internal Dosimetry (INT	Jim Neton (02)	N/A
Instrumentation (INS)	Henry Kahnhauser (01)	N/A
Medical Health Physics (MED):	Norm McElroy (02)	N/A

a. All managers are serving first three-year term.

Attachment E. N13 Working Groups

Standard[a]	Working Group Chairperson	Section	Title
N13.1-1999	John Glissmeyer	ENV	Sampling and Monitoring Releases of Airborne Radioactive Substances From the Stacks and Ducts of Nuclear Facilities
N13.2	Joe DiCicco	INT	Guide for Administrative Practices in Radiation Monitoring
N13.3	Bill Casson	EXT	Dosimetry for Criticality Accidents
N13.5	To be named	INS	Performance Specifications for Direct Reading and Indirect Reading Pocket Dosimeters for X- and Gamma-Radiation
N13.6-1999	Matt Lyon	EXT	Practice for Occupational Radiation Exposure Records Systems
N13.7	Craig Yoder	EXT	Criteria for Film Dosimeter Performance
N13.11-1993	Steve Sims	EXT	Criteria for Testing Personnel Dosimetry Performance (revision)
N13.12-1999	Bill Kennedy	CON	Surface and Volume Radioactivity Standards for Unconditional Clearance
N13.14-1994	Bill Inkret	INT	Internal Dosimetry Programs for Tritium Exposure-Minimum Requirements
N13.22-1995	Allen Brodsky	INT	Bioassay Programs for Uranium
N13.27	Jim Bogard	INS	Performance Specifications for Pocket-Sized Alarming Dosimeters/Ratemeters
N13.28	To be named	MED	Guide for Hospital Emergency Departments on Handling Radiation Accident Patients
N13.30-1996	Matt Lardy	INT	Performance Criteria for Radiobioassay
N13.32-1995	Ron Stafford	EXT	Performance Testing of Extremity Dosimeters
N13.35-1999	Tim Lynch	INT	Standard for the Bottle Manikin Absorption (BOMAB) Phantom
N13.37	Gladys Klemic	ENV	Performance Testing and Procedural Specifications for Thermoluminescent Dosimeters
N13.41-1997	Carol Berger	EXT	Criteria for Performing Multiple Dosimetry
N13.42-1997	Michael Williams	INT	Internal Dosimetry for Mixed Fission and Activation Products
N13.52	Erik Kearsley	EXT	Performance Specifications for Personnel Neutron Dosimeters
N13.45-1998	Dick Vetter	MED	Design and Performance Specification for Low Level Radiation Waste Incinerators
P/N 13.9	J. Stewart Bland	ENV	A Guide to Environmental Surveillance Around Nuclear Facilities
P/N13.25	Guthrie Miller	INT	Internal Dosimetry Techniques for Plutonium
P/N13.29	Marko Moscovitch	ENV	Criteria for Testing Environmental Dosimeter Performance
P/N13.31	Tom Buhl	CON	Guide for Assessing Radiation Doses from Plutonium and Americium in Soils

Attachment E. Cont'd

Standard[a]	Working Group Chairperson	Section	
P/N13.33	Kjell Johansen	INS	Guide to Preparation of Environmental Radiation Surveillance and Monitoring Reports
P/N13.34	Phillip Jenkins	INS	Performance Specification for the Measurement of Radon in Indoor Air
P/N13.36	Paula Trinoskey	ENV	Core Training in Radiation Protection for Workers
P/N13.38	Lee McAtee	INS	How to Select and Use Neutron Radiation Instrumentation for Individual Dose Determinations
P/N13.39	Don Bihl	INT	Standard for Internal Dosimetry Programs
P/N13.40	Peter Olsen	INT	Standard for Thorax Phantoms used in Performing Radiological Measurements of Internally Deposited Radionuclides
P/N13.43	Dave Hickman	INT	Anthropomorphic Structures used in Performing Radiological Measurements of Internally Deposited Radionuclides
P/N13.44	Michael Mallet	INT	Thyroid Phantom used in Occupational Monitoring
P/N13.46	Dave Hintenlang	ENV	Guide for Radon/Radon Decay Product Testing in Real Estate Transactions for Residential Dwellings
P/N13.47	To be named	ENV	Environmental Pathway Modeling
P/N13.48	Les Aldrich	EXT	Radiation Protection Terminology
P/N13.49	Eric Abelquist	EXT	Performance and Documentation of Ionizing Radiation Surveys
P/N13.50	James Hylko	CON	Characterization of Radioactive Waste
P/N13.53	Jean-Claude Dehmel	ENV	Guide for Control and Release of Technically Enhanced Naturally Occurring Radioactive Materials (TENORM)
P/N13.59	Eric Abelquist	ENV	Characterization of Land Areas and Structures in Support of Decommissioning
P/N13.XX	To be named	(c)	(Proposed) Radon Mitigation
P/N13.54	Marilyn Stovall	MED	(Proposed) Fetal Radiation Dose Calculations
P/N13.55	Al Tschaeche	EXT	How to Estimate the Overall Accuracy in Occupational Dose Determinations
P/N13.56	To be named	INS	Procedures and Instrumentation for Characterizing Airborne Radioactivity in the Workplace
P/N13.57	To be named	MED	Performance Specifications for Clinical Xenon-133 Traps
P/N13.58	John Bliss	MED	Methods for Evaluating Radiation Protection Requirements for Handling Radioactive Material
P/N13.60	SY Chen	CON	Standards for Late-Phase Protection Actions Post-Nuclear Incident
P/N13.61	A. R. McFarland	ENV	Sampling and Monitoring Airborne Radioactive Substances from the Ambient Atmosphere
P/N13.62	Paula Trinoskey	ENV	Training and Qualifications of Health and Safety Technicians

Notes: (a) PINS form submitted for standards noted as P/N13.XX. Number of standard assigned upon approval.
(b) Working group chair to be named.
(c) Section not assigned yet.

Attachment F. N43 Working Groups

Standard[a]	Working Group Chairperson	Title
N43.1	James Liu Scott Walker	Radiological Safety in the Design and Operation of Particle Accelerators
N43.2	Jeffrey Leavey	X-Ray Diffraction and Fluorescence Analysis Equipment
N43.3	Tony LaMastra David Lee	General Radiation Safety Standard for Installations Using Non-medical X-ray and Sealed Gamma-Ray Sources
N43.4	Gordon Lodde	Classification of Radioactive Self-Luminous Light Sources
N43.5	Dieter Markert	Radiological Safety for the Design of Radiographic and Fluoroscopic Industrial X-ray Equipment
N43.6-1997	Jack Dukes	Sealed Radioactive Sources Classification
N43.7	Vincent Foerst	Safe Design and Use of Self-contained, Dry Storage Gamma Irradiators (Category I)
N43.8	Jack Dukes	Classification of Industrial Ionizing Radiation Gauging Devices
N43 9	John Munro	Radiological Safety for the Design and Construction of Apparatus for Gamma Radiography
N43.10	Eric Beers Vincent Foerst	Safe Design and Use of Panasonic Wet Source Storage Gamma Irradiators (Category IV)
P/N43.11	Bill Hoak Bill Morris	Safe Operation Design for Industrial X-ray Radiographic Equipment
P/N43.12	Vincent Foerst	Safe Design and Use of Panasonic Dry Source Storage Gamma Irradiators (Category II).
P/N43.14	(a)	Manual of Good Safety Practice for Industrial Gamma Radiography
P/N43.15	James Myron	Safe Design and Use of Self Contained, Wet Source Storage Gamma Irradiators (Category III)
P/N43.16	Tony LaMastra	Radiation Safety in the Use of Radionuclide Sources to Test Scrap Metal Radioactive Material Monitoring Systems

a. Chair to be named.

STATUS REPORT
As of June 2000
N13 COMMITTEE - RADIATION PROTECTION

Approved Standards

N2.1-1989 — **RADIATION SYMBOL**
ANSI published the revised standard. Reaffirmation ballot closed with 1 negative and 2 coments that are being reviewed.

N12.1-1989 — **FISSILE MATERIAL SYMBOL**
ANSI published the revised standard. Reaffirmation ballot closed with no negatives or comments.

N13.1-1969(R99)
Env Sect — **GUIDE TO SAMPLING AIRBORNE RADIOACTIVE MATERIALS IN STACKS AND DUCTS**
Revision approved by ANSI 1/12/99. Chairman is John Glissmeyer. Published by HPS.

N13.2-1969(88)
Internal Sect — **GUIDE FOR ADMINISTRATIVE PRACTICES IN RADIATION MONITORING**
Reaffirmed 12/7/88. WG Chair is Joe DiCicco. HPSSC revision ballot closed 10/21/92; did not pass; further revision work being done by Working Group. A three year extension was granted to 12/31/97. N13 reaffirmation ballot closed with 4 negatives and 3 comments that are being reviewed. Working Group completed a new revision in July 1999. To be balloted by N13 soon.

N13.3-1969(88)
Instr. Sect. — **DOSIMETRY FOR CRITICALITY ACCIDENTS**
William Casson is Working Group Chair. A three year extension was granted to 12/31/97. N13 reaffirmation ballot closed with 2 negatives and 2 comments that are being reviewed.

N13.5-1972(89)
Ext Dos Sect — **PERFORMANCE SPECIFICATIONS FOR DIRECT READING AND INDIRECT READING POCKET DOSIMETERS FOR X- AND GAMMA-RADIATION**
Working Group being formed. A three year extension was granted to 12/31/97. Attempts are being made to resolve conflicts with N42. N13 reaffirmation ballot closed with 2 negatives and 4 comments that are being reviewed.

N13.6-1966(R99)
Ext Dos Sect — **PRACTICE FOR OCCUPATIONAL RADIATION EXPOSURE RECORDS SYSTEMS**
WG Chairman is Matthew Lyon. N13 Revision ballot closed 5/97 with 3 negative ballots received. Public Comment period closed with 2 negative comments. N13 unresolvable negative ballot closed 8/98. Approved by ANSI 5/6/99. Published by the HPS April 2000.

N13.7-1983(89)
Ext Dos Sect. — **CRITERIA FOR FILM DOSIMETER PERFORMANCE**
Reaffirmed 4/6/89 but needs revision. Working Group Chair is Craig Yoder. HPSSC Chair is to request N13 to ballot the withdrawal of this standard.

N13.8-1973(89) — **RADIATION PROTECTION IN URANIUM MINES OPERATION**
N13 reaffirmation ballot closed with 3 negatives and 4 comments that are being reviewed.

N13.11-1983(R93)
Ext Dos Sect. — **CRITERIA FOR TESTING PERSONNEL DOSIMETRY PERFORMANCE**
Steve Sims is WG Chair. Revision ballot closed 4/00 with no negative ballots received. Comments being reviewed by WG Chair.

N13.12-1999
Cont Limits Sect

SURFACE AND VOLUMETRIC RADIOACTIVITY GUIDES FOR MATERIALS, EQUIPMENT, AND FACILITIES FOR UNRESTRICTED RELEASE
Chair is William Kennedy. Approved by ANSI September 1999. Published by HPS 1/00.

N13.14-1983(R94)
Int Dos Sect.

INTERNAL DOSIMETRY TECHNIQUES FOR TRITIUM (N721)
Published by the HPS in 9/94.

N13.22-1995
Int Dos Sect

INTERNAL DOSIMETRY PROGRAM FOR URANIUM (N341)
WG Chairman is Allen Brodsky. Approved by ANSI 10/27/95. Published by the HPS.

N13.27-1981(92)
Instr Sect.

PERFORMANCE SPECIFICATIONS FOR POCKET-SIZED ALARMING DOSIMETERS/RATEMETERS
Chair is James Bogard. Revision PINS Form accepted by ANSI 9/92. HPSSC second ballot closed 9/1/97 with no negative ballots received. Working Group is reviewing comments.

N13.30-1996
Int Dos Sect

PERFORMANCE CRITERIA FOR RADIOBIOASSAY
Working Group Chair is Matt Lardy. Approved by ANSI April 1996. Published by the HPS.

N13.32-1995
Ext Dos Sect

PERFORMANCE TESTING OF EXTREMITY DOSIMETERS
WG Chair is Ron Stafford. Approved by ANSI 10/6/95. Published by the HPS.

N13.35-1999
Int Dos Sect

SPECIFICATIONS FOR THE BOTTLE MANIKEN ABSORPTION (BOMAB) PHANTOM
Working Group Chair is Timothy Lynch. Approved by ANSI September 1999. Published by HPS 2/00.

N13.37 (New #)
[N545-1975(93)]
Env Sect

PERFORMANCE TESTING AND PROCEDURAL SPECIFICATIONS FOR THERMOLUMINESCENT DOSIMETERS
Working Group Chair is Marko Moscovitch. Working Group met in 10/91 to establish milestones. Will be coordinated with P/N13.29. Revision PINS Form accepted by ANSI 1/93.

N13.41-1997
Ext Dos Sect

CRITERIA FOR PERFORMING MULTIPLE DOSIMETRY
Working Group Chair is Carol Berger. Approved by ANSI 12/96 and published by the HPS.

N13.42-1997 (New #)
(Old #N343-1978(84)
Int Dos Sect

INTERNAL DOSIMETRY TECHNIQUES FOR FISSION AND ACTIVATION PRODUCTS
ANSI approved 2/6/97. Published by the HPS in July 1997 Newsletter.

N13.45-1998
Med Sect

INCINERATION OF LOW-LEVEL RADIOACTIVE WASTE
Richard Vetter is the Working Group Chair. ANSI approved 3/98. Published by the HPS in July 1998 Newsletter.

N13.52 (New #)
(Old #N319-1976(84)
Ext Dos Sect

PERFORMANCE SPECIFICATIONS FOR PERSONNEL NEUTRON DOSIMETERS
ANSI Granted extension to 12/31/93. Working Group Chair is Eric Kearsley.
ANSI approved 10/99. To be published by HPS 7/00.

Health Physics Society Standards Committee - Drafts in Progress

P/N13.9
Env Sect

ENVIRONMENTAL SURVEILLANCE AROUND NUCLEAR FACILITIES
Ed Bradley is the new working group chair.

P/N13.25
Int Dos Sect

INTERNAL DOSIMETRY TECHNIQUES FOR PLUTONIUM
Working Group Chair is Guthrie Miller.

P/N13.29
Env Sect

CRITERIA FOR TESTING ENVIRONMENTAL DOSIMETER PERFORMANCE
Working Group Chair is Marko Moscovitch. Will be coordinated with N13.37(old N545) and will be consistent with the units listed in a soon-to-be-published ISO standard. PINS form submitted to ANSI 8/31/92. HPSSC first draft ballot closes 2/2/96. Approved for pilot testing by HPSSC 3/96.

P/N13.31
Cont Lim Sect

ASSESSMENT OF RADIATION DOSES FROM PLUTONIUM AND AMERICIUM FROM SOIL
Tom Buhl was appointed WG Chair in 6/92. HPSSC first ballot closed 5/98 with 1 negative. Working Group resolving comments and negative ballot.

P/N13.33
Env Sect

GUIDE TO PREPARATION OF ENVIRONMENTAL RADIATION SURVEILLANCE AND MONITORING REPORTS
Working Group Chair is Kjell Johansen. PINS form accepted by ANSI 4/91. HPSSC second ballot closed 3/98 with 5 affirm., 1 affirm w/comments, & 2 abstentions.

P/N13.34
Instr Sect

PERFORMANCE SPECIFICATION FOR THE MEASUREMENT OF RADON IN INDOOR AIR
Working Group Chair is Philip Jenkins. PINS Form accepted by ANSI.

P/N13.36
Env Sect

CORE TRAINING IN RADIATION PROTECTION FOR WORKERS
Working Group Chair is Paula Trinoskey. PINS Form accepted by ANSI 5/93. N13 ballot closed 6/98 with several negatives. As of September 1999, all negatives have been resolved and changed to either affirmative or abstain. N13 Chair currently reviewing for possible substantive changes prior to submitting for ANSI approval.

P/N13.38
Instr Sect

HOW TO SELECT AND USE NEUTRON RADIATION INSTRUMENTATION FOR INDIVIDUAL DOSE DETERMINATIONS
Lee McAtee is the WG Chair. PINS Form approved by HPSSC 1/92. WG approved 4/95.

P/N13.39
Int Dos Sect

INTERNAL DOSIMETRY PROGRAMS
Don Bihl, WG Chair. PINS Form accepted by ANSI 10/18/94. N13 ballot closed March 2000 with one negative received. Working Group reviewing comments and negative ballot.

P/N13.40
Int Dos Sect

STANDARD FOR THORAX PHANTOMS USED IN PERFORMING RADIOLOGICAL MEASUREMENTS OF INTERNALLY DEPOSITED RADIONUCLIDES
Peter Olsen is WG Chair. PINS Form accepted by ANSI 10/18/94.

P/N13.43
Int Dos Sect

ANTHROPOMORPHIC STRUCTURES USED IN PERFORMING RADIOLOGICAL MEASUREMENTS OF INTERNALLY DEPOSITED RADIONUCLIDES
Dave Hickman, WG Chair. PINS Form approved by HPSSC 10/18/94.

P/N13.44
Int Dos Sect

THYROID PHANTOM USED IN OCCUPATIONAL MONITORING
Bob Keyes, LANL, working group chair.

P/N13.46
Env Sect

GUIDE FOR RADON/RADON DECAY PRODUCT TESTING IN REAL ESTATE TRANSACTIONS FOR RESIDENTIAL DWELLINGS
This standard was proposed by AARST with a working draft from AARST. Dave Hintenlang is WG Chair.

P/N13.47
Env Sect

ENVIRONMENTAL PATHWAY MODELING
Barry Parks is WG Chair. PINS Form submitted to ANSI 4/96.

P/N13.48
Ext Dos Sect

RADIATION PROTECTION TERMINOLOGY
Les Aldrich is the Working Group Chair. First Working Group approved by the HPSSC in 7/91. PINS Form submitted to ANSI 4/96. Draft for consensus balloting received 6/12/00. To be balloted in July 2000.

P/N13.49
Ext Dos Sect

PERFORMANCE AND DOCUMENTATION OF IONIZING RADIATION SURVEYS
PINS Form accepted by ANSI. Eric Abelquist is Working Group Chairman. N13 ballot closed 2/00. One negative ballot received and being reviewed by Working Group Chair.

P/N13.50
Cont Sect

QUALITATIVE & QUANTITATIVE CHARACTERIZATION OF LOW LEVEL RADIOACTIVE WASTE
PINS Form accepted by ANSI. Working Group Chairman is James Hylko. Potential conflict with ANS WG resolved 10/92. HPSSC second ballot closed 9/98.

P/N13.53
Cont Limits Sect

GUIDE FOR CONTROL & RELEASE OF TECHNICALLY ENHANCED NATURALLY OCCURRING RADIOACTIVE MATERIAL (TENORM)
Jean-Claude Dehmel is WG Chair. HPSSC first ballot closed 9/98. N13 currently reviewing document prior to formal balloting.

P/N13.54
Med Sect

FETAL RADIATION DOSE CALCULATIONS IN NUCLEAR MEDICINE
Marilyn Stovall is WG Chair.

P/N13.55
Ext Dos Sect

HOW TO ESTIMATE THE OVERALL ACCURACY IN OCCUPATIONAL DOSE DETERMINATIONS
Working Group Chair is Art Lucas. New Working Group approved 5/93.

P/N13.56
Instr. Sect

PROCEDURES AND INSTRUMENTATION FOR CHARACTERIZING AIRBORNE RADIOACTIVITY IN THE WORKPLACE
PINS Form accepted by ANSI. Working Group Chair is Curtis Graham. Working Group approved 4/95.

P/N13.57
Med Sect

PERFORMANCE SPECIFICATIONS FOR CLINICAL XENON-133 TRAPS
PINS Form needs to be revised and resubmitted to ANSI. A request was made to ANSI on 4/8/91 to withdraw the PINS form from consideration until a new Section Chair could be appointed. Needs a new Working Group Chair.

P/N13.58
Med Sect

METHODS FOR EVALUATING RADIATION PROTECTION REQUIREMENTS FOR HANDLING RADIOACTIVE MATERIAL
PINS Form accepted by ANSI. John Bliss is the Working Group Chair. HPSSC approved Working Group members 9/91.

P/N13.59
Cont Sect

CHARACTERIZATION OF LAND AREAS AND STRUCTURES IN SUPPORT OF DECOMMISSIONING
Eric Abelquist is Working Group Chair. PINS approved by HPSSC 6/98. Addition to WG ballot to be distributed to N13.

P/N13.60
Cont Sect

STANDARDS FOR LATE-PHASE PROTECTION ACTIONS IN POST-NUCLEAR INCIDENTS
S. Y. Chen is Working Group Chair. HPSSC approved PINS 9/98. Working Group approval ballot closed 6/16/00.

P/N13.61
Env Sect

SAMPLING AND MONITORING AIRBORNE RADIOACTIVE SUBSTANCES FROM THE AMBIENT ATMOSPHERE
A. McFarland, Chair.

P/N13.62
Env Sect

TRAINING AND QUALIFICATIONS OF HEALTH AND SAFETY TECHNICIANS
Paula Trinoskey, Chair.

ANSI N43 - STANDARDS AND PROJECTS

ANSI No.	Subcomm No.	Chair	Title	NBS No.	Status	Action By	Comments
N43.1 (1978)	N43.1	Scott Walker & James Liu	Radiological Safety in the Design & Operation of Particle Accelerators	107	New Co-Chairs Appointed		WG actively preparing a revision.
N43.2-1977 (R1989)	N43.2	Jeff Leavey	Radiation Safety for X-Ray Diffraction & Fluorescence Analysis Equipment	111	Reaffirmed 3/31/89	1st Extension to 3/31/98	N43 revision 2nd ballot closed 3/12/99. 1 Negative received. Chair resolving negative. Public Comment Period closed 5/9/00.
N43.3-1993	N43.3	David Lee & Tony LaMastra	General Radiation Safety Standard for Installations Using Non-Medical X-Ray & Sealed Gamma Ray Sources, Energies Up to 10 MeV	114	Published by ANSI in 1993. New Co-Chairs appointed.	1998	Proposed Interpretation of Paragraph 9.3.1.5 approved by N43.
N43.4-1975 (1989)	N43.4	Gordon Lodde	Classification of Radioactive Self-Luminous Light Sources	116	Reaffirmed 3/31/89	1st Extension to 3/31/98	Revision ballot closed 12/99. Public comment closed 5/9/00.
N43.5-1976 (R1989)	N43.5	Dieter Markert (acting chair)	Radiological Safety for the Design of Radiographic & Fluoroscopic Industrial X-Ray Equipment	123	Reaffirmed 3/31/89	1st Extension to 3/31/98	
N43.6-1997	**N43.6**	**Jack Dukes**	**Sealed Radioactive Sources Classification**	**126**	**ANSI approval 11/97**		**Published by HPS in August 1998.**
N43.7-1977 (R1989)	N43.7	Vincent Foerst	Safe Design & Use of Self-Contained, Dry Source Storage Gamma Irradiators (Category 1)	127	Reaffirmed 3/31/89	1st Extension to 3/31/98	
N43.8-1979 (1988)	N43.8	Jack Dukes	Classification of Industrial Ionizing Radiation Gauging Devices	129	Reaffirmed 5/24/88	2ndExtension to 3/31/98	ANSI PINS Form submitted 3/00. Revision ballot closes 7/19/00.
N43.9-1992	N43.9	John Munro	Radiological Safety for the Design & Construction of Apparatus for Gamma Radiography	136	Revised in 1991	1997	

ANSI No.	Subcomm. No.	Chair	Title	NBS No.	Status	Action By	Comments
N43.10-1984	N43.10	Eric Beers & Vincent Foerst	Safe Design & Use of Panoramic, Wet Source Storage Gamma Irradiators (Category IV) and Dry Source Storage Gamma Irradiators (Category II)	142	Revised in 1984	1994 (10 years)	Combined with N43.12. N43 revision ballot closed 10/22/99. Working Group resolving negative ballot. Public Comment period closed 5/9/00.
P/N43.11	N43.11	Bill Hoak & Bill Morris	Safe Operating Practice for Industrial X-Ray Radiographic Equipment		In Development		New Co-Chairs approved March 1999. WG revising previous draft.
P/N43.12	N43.12	Vincent Foerst	Safe Design & Use of Panoramic, Dry Source Storage Gamma Irradiators (Category II)		In Development		Combined with N43.10
P/N43.14	N43.14	vacant	Manual of Good Safety Practices for Industrial Gamma Radiography		In Development. Negative ballots in 1992.		Withdrawal ballot closed 4/95 with 3 negative ballots. R. DiCharry reviewing it for possible development by NDTMA.
P/N43.15	N43.15	James Myron	Safe Design & Use of Self-Contained, Wet Source Storage Gamma Irradiators (Category III)		In Development		N43 ballot closed 3/12/99 with 1 negative ballot received.
P/N43.16	N43.16	Tony LaMastra	Radiation Safety in the Use of Radionuclide Sources to Test Scrap Metal Radioactive Material Monitoring Systems		In Development		
P/N43.17	N43.17	Frank Cerra	Radiation Safety of Personnel Security Screening Systems (People Scanners)		In Development		Project approved by N43 7/99. PINS Form submitted 3/00.