



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

January 10, 2022

MEMORANDUM TO: Christopher M. Regan, Acting Director
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

FROM: Kerri A. Kavanagh, Chief  Signed by Kavanagh, Kerri
Quality Assurance and Vendor Inspection Branch on 01/10/22
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

SUBJECT: TRIP REPORT FOR THE OCTOBER 2021 AMERICAN SOCIETY
OF MECHANICAL ENGINEERS, STANDARDS COMMITTEE ON
NUCLEAR QUALITY ASSURANCE

The biannual meeting of the American Society of Mechanical Engineers, Standards Committee on Nuclear Quality Assurance was held virtually during the week of October 24, 2021. The Nuclear Regulatory Commission staff members attended the Standards Committee, Executive Committee, Subcommittee on Assessment and Verification, Subcommittee on Engineering and Procurement Processes, Subcommittee on Program Management Process, Subcommittee on Software Quality Assurance, Subcommittee on Waste Management, and associated working/task group meetings. The staff in attendance represented NRR/DRO/IQVB, NRR/DEX/ELTB, NMSS/DUWP/LLWB, and NMSS/DFM/IOB. The participants were Kerri Kavanagh, Paul Prescott, Greg Galletti, Aaron Armstrong, Deanna Zhang, Andrea Keim, Dinesh Taneja, Priya Yadav, Marlone Davis, and Jeremy Tapp. The attached enclosure contains a summary of the major items discussed at the various meetings in which the aforementioned staff participated.

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Enclosure:
NRC Trip Report

SUBJECT: TRIP REPORT FOR THE OCTOBER 2021 AMERICAN SOCIETY OF
MECHANICAL ENGINEERS, STANDARDS COMMITTEE ON NUCLEAR
QUALITY ASSURANCE Dated: January 10, 2022

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TRIP REPORT
AMERICAN SOCIETY OF MECHANICAL ENGINEERS STANDARDS
COMMITTEE ON NUCLEAR QUALITY ASSURANCE VIRTUAL MEETING
OCTOBER 25-28, 2021

Standards Committee on Nuclear Quality Assurance

The Committee on Nuclear Quality Assurance (NQA) is responsible for developing, managing, and/or coordinating quality assurance (QA) requirements and implementing guidance for the siting, design, procurement, construction, operation, and decommissioning phases of nuclear facilities and activities affecting nuclear safety. The NQA Committee produced the American Society of Mechanical Engineers (ASME) NQA-1 "Quality Assurance Requirements for Nuclear Facility Applications," for use by any organization concerned with the quality of items and services affecting nuclear safety. The NQA-1 Standard is promulgated principally through endorsement/adoption by ASME's Boiler and Pressure Vessel Code, Section III – Subsection NCA; governmental regulatory bodies; reference in national/international standards; and contracts between organizations. In the United States, NQA-1 is recognized as an acceptable way to meet the regulatory requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, 10 CFR Part 830, "Nuclear Safety Management," and 40CFR Part 194, "Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance With the 40 CFR Part 191 Disposal Regulations."

The Main Committee (MC) Chair provided a summary report on the Board of Nuclear Codes and Standards (BNCS) meeting highlights: 1) Process improvements are continuing to align with the effort by the American National Standards Institute (ANSI); 2) The BNCS is recommending a return to in-person meetings. The April meeting is scheduled to be virtual; 3) The BNCS stressed continuing work on a risk-based standard for advanced reactors; and 4) The BNCS is pushing back on ASME's efforts to reorganize the board to encompass other energy industries. The proposed new board would be named the Clean Power and Facilities Board. The responsible subcommittees (SCs) are continuing to review the proposed editorial changes to ensure the intent of the wording is not affected for the 2021 Edition. The current timeframe for issuance of the 2021 Edition of NQA-1 should be the spring of 2022.

Each subcommittee presented a report on the respective subcommittee's recent activities and provided a summary describing the status of inquiries and new or revised Task Proposal Numbers (TPNs). Governmental and Regulatory Organization Reports were presented by a Nuclear Regulatory Commission (NRC) staff member, Department of Energy (DOE) staff member, and Environmental Protection Agency (EPA) staff member. The NRC staff discussed highlights from the NRC Report to the NQA Committee. A full copy of the report was included in the NQA Committee meeting agenda and is available to all attendees.

Executive Committee on Nuclear Quality Assurance

The NRC staff participated in the NQA-1 Executive Committee (EC) meeting and EC closed personnel session. The EC reports to the NQA Chair and provides leadership, coordination,

advisory, and management functions for the Standards Committee and its Chair, to ensure that the Standards Committee and its subcommittees operate effectively. During this meeting, the EC Chair provided members with a newly developed spreadsheet of the standard's sections. The spreadsheet was developed to track when a requirement/section was last reviewed in order to meet the 5-year metric and when a change is proposed. An update was given by the working group conducting a holistic review of the standard to ensure the requirements align with the associated subparts.

One new MC member was proposed to be added that is currently employed by a national laboratory. The restructuring project team reported that the MC will continue to have balanced representation. Consideration was given for the new appointment to the MC. The appointee was voted on and subsequently added to the MC. There were two appointments to the Assessment and Verification SC, one appointment to the Program Management Process SC, and two appointments to the Software Quality Assurance SC that were reviewed. All appointees were reviewed and subsequently approved in their respective SC groups.

The overarching ANSI document, Management Operations Manual (MOM) was approved. However, ANSI is proposing that the NQA-1 Standard's implementing procedures be dropped and only the ANSI certified procedures be implemented. A document is currently in development by NQA-1 on how to implement the ANSI procedures. In the interim, the EC has recommended that the existing procedures be used.

Subcommittee on Assessment and Verification

The NRC staff participated in the Subcommittee on Assessment and Verification (SCAV) meeting. The SCAV reports to NQA Committee and is responsible for maintenance and interpretations related to quality requirements in NQA-1 for assessing and verifying the adequacy of programs and processes, as well as the verification of the quality and traceability of goods and services used in nuclear facilities. These include requirements for the Identification and Control of Items; Inspection Control; Inspection, Test, and Operating Status; Control of Nonconforming Items; Corrective Actions; and Audits.

The SCAV chairman provided updates concerning administrative activities from the EC. Specifically, an update on recognition of individual accomplishments and awards, timeliness on the processing of inquiries, discussions on balance of represented interests and proposed changes, and membership actions (new membership and reaffirmation). The SCAV Chair accentuated the importance of and expectations concerning SC member participation at meetings; specifically, virtual meetings and balloting. The SCAV Chair stated that 80% membership participation is expected. Additionally, in lieu of monthly telecons, SCAV will conduct them quarterly due to low participation and a reduction in record and ballot activities. The SCAV Chair also confirmed that all ASME meetings, including NQA-1 would be performed virtually for Spring 2022.

SCAV finalized and balloted Record 19-1506 and Record 20-2603, but these items will be included in the 2023 Edition. The Chair of SCAV discussed the direction from the EC to review and update the SCAV charter and requested volunteers. In addition, SCAV had no changes in membership for this meeting.

Subcommittee on Engineering and Procurement Processes

The NRC staff participated in the Subcommittee on Engineering and Procurement Processes (SCEPP) meetings. The SCEPP reports to NQA Committee and is responsible for maintenance and interpretations related to quality requirements in NQA-1 for the fundamental processes of design, procurement, fabrication, including special processes, testing, and the handling of materials. These include requirements for Design Control; Procurement Document Control (including commercial-grade dedication (CGD)); Special Processes; Test Control; and Handling, Storage, and Shipping.

A member of DOE's Office of the Inspector General (IG) gave a presentation on how the office handles counterfeit, fraudulent and substandard item (CFSI) investigations. The DOE IG's scope includes bribery, conspiracy, theft, embezzlement, money laundering and false claims and statements. Several examples of CFSI cases were given.

The SCEPP provided its revised charter to the MC. The SCEPP voted on several records related to the requisite 5-year review: Record 21-2221 was for review of Requirement 13, "Handling, Storage and Shipping;" Record 21-2219 was for review of Requirement 9, "Control of Special Processes;" Record 21-2220 was for review of Requirement 11, "Test Control;" and Record 21-1955 was for review of Requirement 4, "Document Control." All 5-year reviews are proceeding without any identified issues. Record 21-2266 was proposed to clarify whether the term 'surveillance' meant 100 percent of an activity must be observed. Work continued on a proposed TPN to address engineering requirements for replacement parts and whether like-for-like and equivalent replacement evaluations should be applied regardless of the selected procurement strategy. The NRC staff has questioned what the purpose of clarifying the standard would be on this proposed TPN. The NRC staff believes the standard provides sufficient detail to address whether changes to the design basis of a piece of equipment has to be considered or if it is a procurement of already existing equipment. However, several DOE users of the standard believe additional guidance is needed. The SCEPP finally decided to have the TPN provide greater detail as to what exactly is the issue. Several DOE SCEPP members, with assistance from a WG will develop a TPN for consideration at the next meeting. The SCEPP has considered a similar TPN approximately a year ago that would have provided guidance on 'dedication like activities.' Several NQA-1 members, including the NRC staff expressed confusion over how to control an item procured commercially under an Appendix B program with the need for commercial-grade dedication of the item.

The project manager for Record 20-2839 provided additional guidance for the use other methods of monitoring humidity that are discussed in Subpart 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Facilities." Record-20-2839, with the proposed changes, was considered by SCEPP, to be ready for balloting. The proposed wording would allow for alternate methods of humidity indication.

Subcommittee on Program Management Process

The NRC staff participated in the Subcommittee on Program Management Process (SCPMP). The SCPMP reports to the NQA Committee and is responsible for the maintenance and interpretations related to quality requirements in NQA-1 for Organization; QA Programs; Instructions; Procedures and Drawings; Document Control; Control of Measuring and Test Equipment (Calibration); and Quality Records.

The SCPMP continue to work on Record 18-705 and 21-286 which SCPMP evaluated the changes and recommendations for the risk-informed approaches for the treatment of SSCs. The records will be included the 2021 editions. The SCPMP continues to work on TPN 19-1814 Record 19-2486 for the QA program Requirements. The TPN is with the Software Sc working group and Software SC comments from SQA are needed for resolution before the SCPMP can ballot the TPN.

Subcommittee on Software Quality Assurance

The NRC staff participated in the Subcommittee on Software Quality Assurance (SCSQA) meeting. The SCSQA reports to NQA Committee and is responsible for the development of quality requirements for the use of computers and software in the design, construction, and operation of nuclear facilities.

SCSQA's discussions primarily focused on the status of several TPNs, and action items, including: Record 19- 1397, "Agile Guidance;" Record 19-1398, "Computing Environment;" Record 20-2950, "Assure/Ensure," Record 21-937, "Embedded Digital Devices," and Record 19-2486 (formerly Record 18-1862), "Test Personnel Qualifications."

Record 19-1397, the working group presented revised guidance based on response to several comments received from the subcommittee. TPN scope and purpose is still being questioned by the subcommittee. If the scope cannot be justified, this TPN may be withdrawn. Record 19-1398 has been approved by the subcommittee and is now being balloted in the MC. Record 20-2950, the working group presented the potential changes the standard resulting from proper use of terms 'assure' and 'ensure.' Record 21-937, the working group shared the draft white paper evaluating impact on the standard resulting from use of embedded digital devices and real-time digital I&C systems. The working group committed on finalizing the white paper by the Fall 2022 NQA meeting. Record 19-2486, the TPN project manager from the PMP subcommittee shared the working group's view with the SCSQA subcommittee and solicited feedback on qualifications of software test personnel. The NRC participants presented a report of NRC activities on topics relevant to the SCSQA. The subcommittee revisited the SCSQA Strategic Plan for alignment with the NQA committee on scope and priorities. The SCSQA will continue to develop potential records during the periodic monthly conference calls.

Subcommittee on Waste Management

The NRC staff participated in the Subcommittee on Waste Management (SCWM) meeting. The SCWM reports to NQA Committee and is responsible for the unique QA requirements and guidance related to the handling, storage, and disposal of waste from nuclear facilities and requirements related to the decommissioning of facilities.

The SCWM updated members on Record 13-818 (TPN 13-06), a new Subpart in Part IV to provide guidance on QA for low-level waste characterization and shipment for disposal will be included in the 2021 Edition of NQA-1.

The SCWM discussed revisions to Subpart 2.20, "Quality Assurance Requirements for Subsurface Investigations for Nuclear Facilities," that will be sent to MC for ballot in response to a previous inquiry. The previous inquiry (Ballot 21-986) was balloted for SCWM vote but withdrawn after two objections were cast based on the lack of clarity and agreement from the

inquirer that the ballot questions and responses as rewritten by the project manager would address the inquirer's original question. During this October meeting, the chair of SCWM presented the proposed changes to Subpart 2.20 regarding removing inconsistent use of the terms "not necessarily continuous monitoring" and "in-process surveillance." The SCWM verbally approved the changes to Subpart 2.20 and the chair indicated the changes would be sent to MC and SCWM ballot.

The project manager for the previous inquiry briefly attended the SCWM meeting and indicated he would be submitting a revised response to the inquiry along with the changes to Subpart 2.20 for MC and SCWM ballot.