INSTITUTE OF NUCLEAR MATERIALS MANAGEMENT
INMM Accredited Standards Committee N15
Methods of Nuclear Material Control

Annual Report to the INMM Executive Committee
July 2022 – June 2023

INMM ASC N15 MISSION STATEMENT

INMM ASC N15 is sponsored by the INMM and accredited by the American National Standards Institute (ANSI) to develop and maintain voluntary consensus standards for protection, control, and accounting of special nuclear materials in all phases of the nuclear fuel cycle, including analytical procedures where necessary and special to this purpose, except for physical protection of special nuclear material within a nuclear power plant. Its audience includes government and civilian nuclear facilities in the United States of America.

For more information regarding ASC N15 activities, please visit https://inmm.org/page/n15.

ACTIVE INMM ASC N15 STANDARDS

- ANSI N15.8-2009 (R2022): *American National Standard for Methods of Nuclear Material Control – Material Control Systems – Special Nuclear Material Control and Accounting Systems for Nuclear Power Plants*
- ANSI N15.28-2021: *American National Standard for Methods of Nuclear Material Control – Guide for Qualification and Certification of Safeguards and Security Personnel*
- ANSI N15.36-2021: *American National Standard for Methods of Nuclear Material Control – Measurement Control Program – Nondestructive Assay*
- ANSI N15.51-2017: *American National Standard for Methods of Nuclear Material Control – Measurement Control Program – Nuclear Materials Analytical Chemistry Laboratory*
- ANSI N15.56-2014: *American National Standard for Methods of Nuclear Material Control – Nondestructive Assay Program – Nondestructive Assay Measurements of Nuclear Material Holdup: General Provisions*

Active N15 standards are published by ANSI and (upon publication) are available for purchase at http://webstore.ansi.org/.**INMM ASC N15 ACTIVITIES**

Standards Development Activities

- ASC N15 received written notification from ANSI that the next periodic audit of N15 standards development activities is scheduled for spring of 2024. The initial conference calls and collection of information is expected to begin in the fall of 2023. The N15 Vice-Chair has scanned N15 standards

development paper records and saved them in electronic format to aid in retrieval for the audit. The last ANSI audit of N15's standards development process was conducted in May 2018.

- N15.8-2009 (R2022) – *Special Nuclear Material (SNM) Control and Accounting Systems for Nuclear Power Plants* (active). A group of stakeholders met in June 2020 and recommended reaffirmation of the current standard with no changes. No comments were received either from the ballot roster during the voting period in April-May 2022 or during the public review period July 22 - September 21, 2022. The N15 Secretary submitted a BSR-9 form to ANSI in December 2022 to approve the reaffirmed standard. It was approved by ANSI on January 3, 2023. The N15 Secretary submitted the approved standard to ANSI for technical editing and publication. ANSI-N15.8-2009 (R2022) is now available on the ANSI webstores. The reaffirmed standard will be in active status for ten years. All active ASC N15 standards must be reviewed five years after ANSI approval to determine whether they should be revised or reaffirmed.
- N15.19-1989 – *Volume Calibration Techniques* (not active). An N15 writing team reviewed Parts 1 through 6 of the International Organization for Standardization (ISO) Standard 18213, "Tank Calibration and Volume Determination for Nuclear Materials Accountancy," as part of the ANSI process for adopting the ISO standard as an American National Standard. The N15 Board contacted the writing team chair to request a copy of the final draft of the standard and confirmation of writing team approval so that it can be edited and submitted for approval by the N15 consensus body. The writing team chair recommended two writing team members to lead the team effort to finalize the draft standard in his absence at this time.
- N15.41-1994 – *Measurement Control, General Principles* (not active). The writing team is revising this standard to focus on organizing it as an umbrella standard for both DA and NDA measurements supporting accountancy functions at nuclear facilities. Terminology is being harmonized with other measurement control procedures published by ISO, ASTM, and ANSI. The team has been holding frequent on-line meetings and completed an internal review of the revised standard. Upon conclusion of addressing comments from ASC N15 officers, the standard will be ready for ballot vote by fourth quarter of CY23.
- N15.51-2017 – *Nuclear Materials Analytical Chemistry Laboratory* (active). The writing team reviewed N15.51-2017, considered the choice between revision and reaffirmation, and has recommended revision and update of the standard. A PINS was submitted to ANSI on November 4, 2022, for doing the revision and updates, which appeared in ANSI Standards Action on November 18, 2022. The writing team chair is contacting the previous writing team members to confirm their participation and reach out to others who have expressed interest in working on the revision.
- N15.56-2014 – *Nondestructive Assay Program, Non-Destructive Assay Measurements of Nuclear Material Holdup: General Provisions* (active). This active standard was reviewed as required for periodic maintenance under ANSI requirements. On November 21, 2019, the N15 Board submitted to ANSI its intent to revise the standard. Ram Venkataraman (ORNL) is leading the effort to revise the standard. It has been reviewed and potential changes are being discussed by the writing team.
- N15.57-201X – *Inventorying UF6 Cylinders at Conversion, Enrichment, and Fuel Fabrication Plants* (new standard). On June 25, 2019, the N15 Board submitted a PINS notification to ANSI indicating the intent to develop a new American National Standard for the labeling and tracking of UF6 cylinders. A writing team has been formed to develop the standard, led by Jessica White-

Horton and Michael Whitaker. An outline was drafted so writing assignments could be made with a proposed writing schedule calling for an initial draft to be completed by the end of the CY23.

Outreach and Collaboration Activities

- The N15 Board has requested online storage and retrieval capability for its standards development records with the INMM. INMM is the Secretariat for ASC N14 and ASC N15. The intent is to preserve the data as electronic files and allow access to N15 Board Members working at multiple locations. Association Management (AM), Inc. (the INMM association management company) researched the options and costs. Of these, MS Office 365 Business Basic SharePoint provides online file storage, is compatible with software currently owned by or available to N15 officers and is available at a reasonable cost. AM has created the domain in SharePoint, added administrators and is in the testing phase with the N15 Board.
- N15.56-2014 – *Nondestructive Assay Program, Non-Destructive Assay Measurements of Nuclear Material Holdup: General Provisions* (active). N15.56 writing team member(s) continue to participate as members of an American Nuclear Society (ANS) writing team preparing a new nuclear criticality safety standard, ANSI/ANS-8.28-202X: *Administrative Practices for the Use of Nondestructive Assay Measurements for Nuclear Criticality Safety* proposed new standard. This new ANS standard is meant to be used in conjunction with N15.56.
- INMM ASC N15/INMM 5.1 Subcommittee (Analytical Chemistry Laboratory Measurement Control). The INMM 5.1 Subcommittee provides review and input into the IAEA International Target Values for nuclear safeguards measurements. The IAEA along with an international team, including U.S. representation from ASC N15, finalized and have published the 2022 ITVs *International Target Values for Measuring Uncertainties in Safeguarding Nuclear Materials, Vienna, September 2022 (STR-368 (Revision 1.1)*. The 2022 ITV report and ITV current tables are accessible via the IAEA International Target Values (ITV) Network. The IAEA team indicated during the 2022 N15 Annual Meeting that the issuance and update for future ITV's may be more frequent. The last published version was the 2010 IAEA ITVs.
- The N15 Board officers attended the fall 2022 and spring 2023 meetings of the INMM Executive Committee, and the INMM & ESARDA Joint Annual Meeting in held in Vienna, Austria May 22 – May 26, 2023 (on-demand). An ASC N15 Board Member attended the ANSI 2023 ASD procedural compliance webinar held in early 2023. The "ASC N15 Board Member-In-Training" attended the ANSI Webinar "What is an American National Standard (ANS) Anyway?' held March 29, 2023.
- The N15 Board plans to hold a joint virtual meeting of the INMM ASC N15 and the N15/INMM 5.1 Subcommittee in the fall of 2023. This year the Annual N15 meeting(s) will follow and be held separately from the INMM/ESARDA Joint Meeting which was held in-person in May 22-26, 2023, in Vienna, Austria. Draft meeting minutes of the July 2022 Joint Annual N15/N5.1Subcommittee virtual meeting are being finalized and will be submitted for approval at the 2023 N15 Annual Meeting.

SUMMARY

The N15 Board would like to thank all who contribute to and participate in the development of INMM ASC N15 voluntary consensus standards. We invite all those with a material and stakeholder interest in N15 standards to attend our annual meetings. The N15 Board recognizes the assistance of Teresa Peacher, DOE EHSS-72, and of Amy Biggs, formerly with DOE-HQ, EHSS-52. The N15 Board welcomes Dr. Aaron Tamashiro, Lawrence Livermore National Laboratory (LLNL), as an "ASC N15 Board Member-in -Training" and recognizes his assistance to the board.

Respectfully submitted on behalf of INMM ASC N15 by

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