

THE ANSI N14 STANDARDS COMMITTEE: PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIALS

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Presented by R.T. Haelsig

Abstract

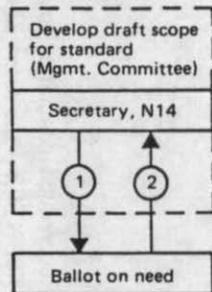
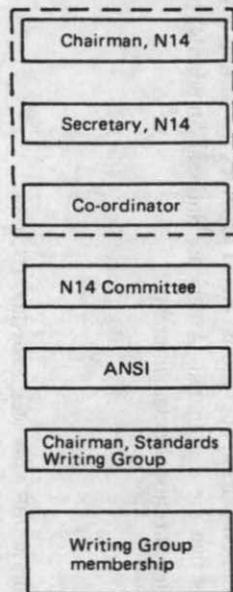
THE ANSI N14 STANDARDS COMMITTEE: PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIALS.

The American National Standards Institute (ANSI) N14 Committee has responsibility for developing national standards in the United States of America for the packaging and transportation of radioactive materials, but not including movement or handling during processing and manufacturing operations. The paper describes the organizational structure of ANSI N14 and the status of the N14 Standards.

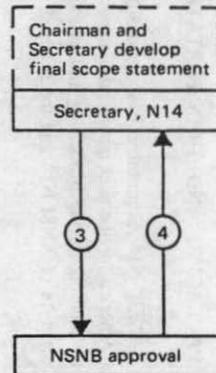
1. INTRODUCTION

The ANSI N14 Committee operates as an accredited committee under the American National Standards Institute (ANSI). ANSI N14 has the responsibility of developing national standards for packaging and transportation of radioactive materials in the United States of America, but not including movement or handling during processing and manufacturing operations. ANSI provides the formal structure to ensure that standards that are designated 'American National Standards' have a national consensus of the various affected interests.

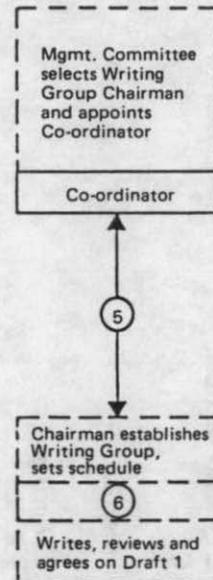
* Formerly associated with JBF Associates, Knoxville, TN, USA.



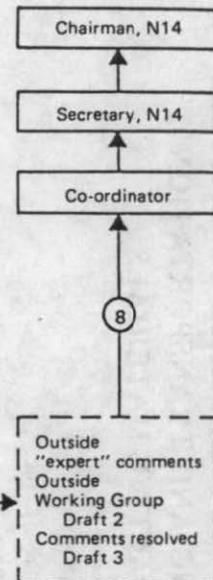
1. Secretary mails scope and ballot concerning need to full N14
2. Secretary tabulates results, copy to Chairman



3. Secretary mails statement to NSNB, copy to Chairman
4. Secretary receives approval, copy to Chairman



5. Co-ordinator establishes communication lines
- 6,7. Writing Group correspondence, copy to Chairman



8. Draft 3 sent to Co-ordinator, who forwards to Secretary, copy to Chairman

TABLE I. ANSI N14 STATUS REPORT

| Standard designation | Title | N14 co-ordinator | Working Group chairman | Draft | Status/date ballot | BSR | Comments |
|----------------------|--|------------------|------------------------|----------------|--------------------|------|--|
| N14.1 | Packaging of Uranium Hexafluoride for Transport | Arendt | Reynolds | X | 3/85 | 2/86 | |
| N14.2 | Tiedowns for Transport of Fissile and Radioactive Containers Greater than 1 t in Truck Transport | Lee | Towell | Under revision | | | Revised as result of negative ballot; expect reballot 2/86 |
| N14.3 | Packaging and Transportation of Radioactively Contaminated Biological Materials | Welch | Walker | | | | N14 will ballot on scope currently being developed |
| N14.4 | Quality Assurance in the Fabrication, Use and Maintenance of Shipping Containers for Radioactive Materials | Welch | — | | | | N14 will vote on dropping N14.4, per ad hoc recommendation |
| N14.5 | Leakage Tests on Packages for Shipment of Radioactive Materials | Arendt | Fischer | X | 11/85 | | One negative vote to be resolved |
| N14.6 | Special Lifting Devices for Containers Weighing 10 000 lb (4500 kg) or More for Nuclear Materials | Lee | Townes | X | X | X | Awaiting ANSI approval |
| N14.7 | Guide to the Design and Use of Shipping Packages for Type A Quantities of Radioactive Materials | Lee | Edling | X | | | Expected soon for N14 balloting |

| | | | | | | | |
|----------|---|-----------|-------------|---|---|---|--|
| N14.8 | Fabricating, Testing and Inspection of Shielded Shipping Casks for Irradiated Reactor Fuel Elements | Eggers | Dawson | | | | Committee recommends suspension until Peer Review Panel recommends new standard; DOE will be sole user |
| N14.9.2 | Packaging of Nuclear Power Plant Radioactive Processed Wastes for Transportation | Tarnuzzer | Mayo | X | X | | Changes as result of negative ballot; will be reballoted by N14 |
| N14.10 | Guide for Liability and Property Insurance in Shipping Nuclear Materials | Tarnuzzer | Quattrocchi | | | | Revised as result of negative ballot; new draft mid-February 1986 |
| N14.10.1 | Administrative Guide for Packaging and Transporting Radioactive Materials | Tarnuzzer | Edling | | | | Expect draft in July 1986 |
| N14.19 | Ancillary Features of Irradiated Fuel Shipping Casks | Eggers | Goldman | X | X | | One negative ballot being resolved |
| N14.20 | Control of Contamination of Transport Vehicles | Lee | Jackson | | | | Revised draft by March 1986 |
| N14.23 | Design Basis for Resistance to Shock and Vibration of Radioactive Material Packages Greater than 1 t in Truck Transport | Eggers | Ahlbeck | X | X | | One negative ballot; review change and determine if reballot is needed |
| N14.24 | Barge Transport of Radioactive Materials | Eggers | Wilmot | X | X | X | Published |
| N14.25 | Tiedowns for Rail Transport of Fissile and Radioactive Materials | Lee | Towell | | | | Awaiting completion of N14.2 |
| N14.26 | Inspection and Preventive Maintenance of Packaging for Radioactive Materials | Arendt | — | | | | Inactive |

TABLE I. (cont.)

| Standard designation | Title | N14 co-ordinator | Working Group chairman | Draft | Status/date ballot | BSR | Comments |
|----------------------|---|------------------|------------------------|-------|--------------------|------|--------------------------------------|
| N14.27 | Carrier and Shipper Responsibilities and Emergency Response Procedures for Highway Transportation Accidents Involving Truckload Quantities of Radioactive Materials | Lee | McCreery | X | X | 2/86 | Ready to be submitted |
| N14.28 | Carrier and Shipper Responsibilities and Emergency Response Procedures for Highway Transportation Accidents Involving less than Truckload Quantities of Radioactive Materials | Tarnuzzer | Wawraszek | | | | New chairman still forming committee |
| N14.29 | Guide for Writing Operating Manuals for Radioactive Materials Packaging | Arendt | Waite | X | X | | Negative ballots being resolved |

2. N14 COMMITTEE

The Institute of Nuclear Materials Management (INMM) serves as the secretariat for ANSI N14 (and N15). The membership of N14 consists of organizations (preferably national in scope), companies, government agencies and individuals that have a direct and material interest in the activities of the Committee. New members are evaluated according to their expertise, area of interest (producer, user, general interest) and the current balance of interest groups on the Committee. The officers of N14 have been liberal in accepting members for the Committee. Reflecting ANSI guidance, the Committee has looked for (1) organizations demonstrating substantial concern and competence within the scope of N14; (2) individuals having expert knowledge. A large membership has resulted. The N14 Committee currently consists of 50 members (27 representing organizations and 23 individuals). These members review and ballot proposed standards toward a consensus, where consensus is more than a simple majority but probably not unanimity.

3. N14 MANAGEMENT COMMITTEE

The N14 Committee has formed a 'Management Committee' to perform administrative functions, such as co-ordinating activities with the writing groups, soliciting new writing group chairpersons and organizing the annual meeting. The Management Committee is also available to evaluate and recommend solutions to problems encountered by the writing groups. For example, the Management Committee has been consulted in resolving negative comments on draft standards and has reviewed the scope of standards that may conflict with other standards committees. The Management Committee is purely advisory and does not intrude upon the consensus-making responsibilities of the N14 Committee. The Management Committee membership is as follows: J.W. Arendt (Professional Analysis, Inc.), P.E. Eggers (Eggers Ridihalgh Partners, Inc.), J.W. Lee (Transportation Consultant), R.T. Haelsig (Nuclear Packaging, Inc.), C. MacDonald (US Nuclear Regulatory Commission), M. Welch (International Energy Associates Limited), E.C. Tarnuzzer (Yankee Atomic Electric Company).

4. N14 WRITING GROUPS

Standards Writing Groups are standing units of N14 and are responsible for the preparation of the proposed standards. Specifically, a Writing Group is responsible for (1) the technical adequacy and quality of the document; (2) obtaining reviews; (3) demonstrating, in co-operation with the N14 officers, that a consensus has been achieved; (4) maintaining the standard after it has been approved. While each Writing Group is responsible for its own staffing and the conduct of its business, both

ANSI and N14 provide guidance and direction. Figure 1 shows the steps involved in developing a standard and the associated written communication and documentation. ANSI publishes formal guidance via its 'Style Manual' and a series of guides addressing practices and procedures. In addition, the ANSI Standing Nuclear Standards Board also works with the N14 Committee to provide (a) a numerical designation for the project of a specific Writing Group, (b) a title for the proposed standard and (c) a description in the form of a charter.

The status of N14 standards and standards development is given in Table I, ANSI N14 Status Report, 1 February 1986.