



DRAFT REGULATORY GUIDE

DRAFT REGULATORY GUIDE 70xx

((Proposed Revision 1 of Regulatory Guide 7.4, dated June 1975))

LEAKAGE TESTS ON PACKAGES FOR SHIPMENT OF RADIOACTIVE MATERIALS

A. INTRODUCTION

This guide describes an approach that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for meeting the containment criteria in Title 10, *Code of Federal Regulations* (10 CFR) Section 71.51, "Additional requirements for Type B package" (Ref. 1). The regulations in §71.51 requires, for Type B packages only, that following the tests for normal conditions of transport and hypothetical accident conditions, packages meet the containment criteria to minimize radioactive contamination and dose rates to the public. To meet these objectives, ensure package integrity and minimize the distribution of contamination to the environment the staff developed and published this guidance.

This regulatory guide endorses the methods and procedures developed by the Standards Committee on Packaging and Transportation of Radioactive and Non-Nuclear Hazardous Materials, N14, Subcommittee of the American National Standards Institute (ANSI) in ANSI N14.5-1997, Leakage Tests on Packages for Shipment of Radioactive Materials (Ref. 2), as a process that the NRC staff has found acceptable for meeting the regulatory requirements.

This regulatory guide is being issued in draft form to involve the public in the early stages of the development of a regulatory position in this area. It has not received final staff review or approval and does not represent an official NRC final staff position.

Public comments are being solicited on this draft guide (including any implementation schedule) and its associated regulatory analysis or value/impact statement. Comments should be accompanied by appropriate supporting data. Written comments may be submitted to the Rulemaking, Directives, and Editing Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; emailed to NRCREP@nrc.gov; submitted through the NRC's interactive rulemaking Web page at <http://www.nrc.gov>; faxed to (301) 415-5144; or hand-delivered to Rulemaking, Directives, and Editing Branch, Office of Administration, U.S. NRC, 11555 Rockville Pike, Rockville, MD 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays. Copies of comments received may be examined at the NRC's Public Document Room, 11555 Rockville Pike, Rockville, MD. Comments will be most helpful if received by XXXXXXXXXX.

Electronic copies of this draft regulatory guide are available through the NRC's interactive rulemaking Web page (see above); the NRC's public Web site under Draft Regulatory Guides in the Regulatory Guides document collection of the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/doc-collections/>; and the NRC's Agencywide Documents Access and Management System (ADAMS) at <http://www.nrc.gov/reading-rm/adams.html>, under Accession No. ML09XXXXXX.

This regulatory guide contains information collection requirements covered by 10 CFR Part 71 that the Office of Management and Budget (OMB) approved under OMB control number 3150-0008. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

B. DISCUSSION

The regulations in 10 CFR Part 71 establish the requirements for packaging, preparation for shipment, and transportation of licensed material in such a manner that the total dose to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the regulations in 10 CFR Part 20. The standard describes package release limits, methods for relating package release limits to allowable and reference leakage rates, and minimum requirements for leakage rate test procedures. The standard also provides requirements for design, fabrication, maintenance, periodic, and preshipment leakage rate tests.

C. REGULATORY POSITION

This regulatory guide endorses the methods described in ANSI N14.5-1997, "Leakage Tests on Packages for Shipment of Radioactive Materials" and constitutes a procedure generally acceptable by the NRC staff for assessing the containment properties of a radioactive material package to satisfy the provisions of 10 CFR Part 71.

D. IMPLEMENTATION

This section provides information to applicants and licensees regarding the NRC's plans for using this regulatory guide. No imposition or backfit is intended or approved in connection with its issuance except as discussed below.

The NRC has issued this draft guide to encourage public participation in its development. NRC will consider all public comments received in development of the final guidance document. In some cases, applicants or licensees may propose an alternative or use a previously established acceptable alternative method for complying with specified portions of the NRC's regulations. Otherwise, the methods described in this guide will be used in evaluating compliance with the applicable regulations for license applications, license amendment applications, and amendment requests.

REGULATORY ANALYSIS

1. Statement of the Problem

The NRC published Regulatory Guide 7.4 in June 1975 to provide licensees with agency-approved guidance for complying with 10 CFR Part 71. ANSI N14 Subcommittee has issued two revisions to the N14.5 standard since this regulatory guide was issued, makes the current

regulatory guide outdated. Additionally, NRC revised 10 CFR Part 71 several times since issuance of this guide.

2. Objective

This objective of this guide is to provide radioactive material certificate holders and licensees with a method of performing the containment evaluation that is acceptable to the staff. To that end, this guide has been updated to endorse to the guidance in ANSI N14.5-1997.

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

- Do not revise Regulatory Guide 7.4.
- Withdraw Regulatory Guide 7.4.
- Revise Regulatory Guide 7.4 to match ANSI N14.5-1997
- Revise Regulatory Guide 7.4 to endorse ANSI N14.5-1997.

3.1 Alternative 1: Do Not Revise Regulatory Guide 7.4

Under this alternative, the NRC would not revise this document, and applicants would continue to use the original version of this regulatory guide. However, this alternative would leave conflicting guidance in place and could cause unnecessary confusion. This alternative is considered the baseline or “no action” alternative and, as such, involves no value/impact considerations.

3.2 Alternative 2: Withdraw Regulatory Guide 7.4

Withdrawing this regulatory guide would eliminate the duplicative and somewhat contradictory information that currently exists between the two transportation standard review plans (NUREG-1609, “*Standard Review Plan for Transportation Packages for Radioactive Material*” and NUREG-1617, “*Standard Review Plan for Transportation Packages for Spent Nuclear Fuel*”) and the current version of Regulatory Guide 7.4. (Note that although the regulatory guide endorses the 1974 version of the ANSI standard, staff has been directing applicants to use the most recent version of the standard for the past 10 years.) However, this action would leave a void in regulatory guidance and provide no quick means for interested parties to identify the requirements necessary to perform the containment evaluation for radioactive material transportation packages. Although this alternative would cost relatively little, it may impede the public’s accessibility to the most current information.

3.3 Alternative 3: Revise Regulatory Guide 7.4 to Match ANSI N14.5-1997

Revising the regulatory guide to match ANSI N14.5-1997 would create duplicate sources of information and would require substantial expansion of the current guide and a large expenditure of labor without a noticeable enhancement in performance or efficiency for NRC or its licensees. Additionally, the ANSI N14.5 Subcommittee is in the process of revising ANSI N14.5, which is expected to be available for use in 2 to 3 years. Revising this guide to match the standard at this time would require the same level of effort when the revised version is available and would not be an efficient or effective use of Agency resources. This alternative is considered to be an unnecessary use of staff resources.

3.4 Revise Regulatory Guide 7.4 to endorse ANSI N14.5-1997

The June 1975 version of the regulatory guide represents an outdated methodology that has been revised and updated by the ANSI N14 Committee, most recently in 1997. Staff was involved in that revision to the ANSI standard and agrees that the methodology provided in the standard represents an acceptable method to meet the containment requirements in 10 CFR Part 71. Revising the regulatory guide to endorse the standard would be consistent with past NRC practice for this guide and represent the most efficient and effective use of NRC resources.

4. Conclusion

Based on this discussion, the staff recommends that the NRC revise Regulatory Guide 7.4 to endorse ANSI N14.5-1997, and thereby provide applicants with a method the staff finds acceptable to meet the containment requirements in 10 CFR Part 71. The staff has concluded that the proposed action will result in an improved and more uniform regulatory process. Moreover, the staff sees no adverse effects associated with issuing this regulatory guide.

REFERENCES¹

1. 10 CFR 71, "Packaging and Transportation of Radioactive Material," U.S. Nuclear Regulatory Commission, Washington, DC.
2. American National Standards Institute, ANSI N14.5-1997, "American National Standard for Radioactive Materials–Leakage Tests on Packages for Shipment," New York.
3. 10 CFR Part 20, "Standards for Protection Against Radiation," U.S. Nuclear Regulatory Commission, Washington, DC.

1 Publicly available NRC published documents such as Regulations, Regulatory Guides, NUREGs, and Generic Letters listed herein are available electronically through the Electronic Reading room on the NRC's public Web site at: <http://www.nrc.gov/reading-rm/doc-collections/>. Copies are also available for inspection or copying for a fee from the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD; the mailing address is USNRC PDR, Washington, DC 20555; telephone 301-415-4737 or (800) 397-4209; fax (301) 415-3548; and e-mail PDR.Resource@nrc.gov.