**DEPARTMENT OF TRANSPORTATION**

**Research and Special Programs Administration**

**49 CFR Part 173**

**[Docket No. HM-166V; Notice No. 87-7]**

## Hazardous Materials; Uranium Hexafluoride

**AGENCY:** Research and Special Programs Administration (RSPA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** RSPA is proposing an amendment to the Hazardous Materials Regulations (HMR) to permit the transport of uranium hexafluoride ($UF_6$) in packagings that do not meet the requirements of either American National Standard N14.1-1982 (ANSI N14.1-1982) or the specification for DOT Class 106A multi-unit tank car tanks. RSPA believes that this action is necessary to permit the continued use of $UF_6$ packagings that have previously been used safely.

**DATE:** Comments must be received on or before August 5, 1987.

**ADDRESS:** Address comments to Dockets Unit, Office of Hazardous Materials Transportation, U.S. Department of Transportation, Washington, DC, 20590. Comments should identify the docket and notice and be submitted, if possible, in 5 copies. Persons wishing to receive confirmation of receipt of their comments should include a self-addressed stamped postcard. The Dockets Unit is located in Room 8426 of the Nassif Building, 400 Seventh St., SW., Washington, DC, 20590. Office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday.

**FOR FURTHER INFORMATION CONTACT:** Michael E. Wangler, Chief, Radioactive Materials Branch, Technical Division, Office of Hazardous Materials Transportation, 400 Seventh St., SW., Washington, DC, 20590, (202) 366-4545.

**SUPPLEMENTARY INFORMATION:**

### Background

On April 11, 1986, RSPA published a notice of proposed rulemaking (NPRM; Notice 86-2) in the **Federal Register** (51 FR 12529) which proposed certain safety control measures concerning the packaging and transportation of uranium hexafluoride ($UF_6$), including both fissile and low specific activity $UF_6$. One of the proposed requirements was that packagings for $UF_6$ be designed, fabricated, inspected and tested in accordance with American National Standard N14.1-1982 (ANSI N14.1-82). Based on evaluation of the comments received from eight commenters in response to the NPRM, RSPA published a final rule (Amendments 172-107 and 173-198) in the **Federal Register** (51 FR 41631) on November 18, 1986, which adopted the package design standards essentially as proposed, except that packagings were also required to be marked in accordance with ANSI N14.1-82. The final rule specified an effective date of January 1, 1987. Interested readers are referred to the NPRM and final rule for additional background discussion.

Following publication of the final rule, RSPA received five petitions for reconsideration. The petitioners requested reconsideration of the application of packaging design standards and extension of the effective date of the final rule. The basis for these requests was that compliance with the packaging design requirements was not practicable because the majority of existing packagings for $UF_6$ were manufactured before the publication of ANSI N14.1-82 and do not conform to that standard. Petitioners also contended that there was not sufficient time provided by RSPA for affected shippers to obtain packagings which do conform to the packaging design requirements or to apply for and obtain exemptions to continue to use existing packagings. As a result, shipments of $UF_6$ would be disrupted, leading to substantial economic losses and disruption of defense and civilian nuclear activities.

In response to these petitions for reconsideration, RSPA published a revision to Amendment 173-198 in the **Federal Register** (51 FR 46674) on December 24, 1986. The revision extended the effective date for complying with the packaging design requirements from January 1, 1987 to July 1, 1987 and amended those requirements to permit continued use of packagings manufactured in accordance with previous editions of ANSI N14.1. These actions were intended as interim measures pending RSPA's evaluation of the extent of the problem and potential remedies. The revision to the final rule also announced a public meeting (held on March 2, 1987 in Washington, DC) and requested additional comments concerning appropriate packaging design standards for $UF_6$. To facilitate RSPA revaluation of the design requirements for $UF_6$ packagings, the public was invited to submit information regarding (1) the effects of the requirement that all packagings be designed and fabricated in accordance with ANSI standards, including the technical and economic impacts of implementing the requirement; (2) the effect of permitting continued use of existing packagings that do not conform to ANSI standards (grandfathering) and any restrictions or conditions that should be placed on their continued use; (3) all of the standards to which existing packagings have been manufactured; and (4) any other relevant information regarding design and fabrication of non-ANSI packagings. Interested persons are referred to the December 24, 1986 final rule for additional background discussion concerning the petitions for reconsideration.

In response to the request for comments, RSPA received written comments from five individuals. Additionally, approximately 35 individuals attended the public meeting. Comments are summarized in the following paragraphs.

*The Effects of the Requirement That All Packagings be Designed and Fabricated in Accordance With ANSI Standards, Including the Technical and Economic Impacts of Implementing the Requirement*

Generally, the commenters indicated that most packagings currently in use were not manufactured in accordance with any edition of ANSI N14.1 and, therefore, could not be continued in use after June 30, 1987 under the final rule published December 24, 1986. Of the approximately 53,000 existing packagings for $UF_6$, only about 1,500 have been manufactured in accordance with an edition of ANSI N14.1. The remaining packagings would have to be removed from service unless exemptions or other regulatory relief permitting their continued use were obtained. Commenters further noted that the time period between publication on December 24, 1986 of the revision to the final rule and the July 1, 1987 implementation date did not provide enough time either to apply for and obtain exemptions for continued use of existing packagings or to obtain acceptable replacement packaging. One commenter proposed that implementation of the regulations be postponed for two years so as to provide sufficient time to comply with the new requirements.

The commenters further advised that because of their inability to use existing packagings or obtain new ones, their companies would suffer financially through increased costs and lost business. They estimated that the replacement cost of the older packagings will be about $3,000 per packaging. This figure includes expenses for the disposal of the old packaging and the purchase of a new one. Commenters further stated

that if all currently-used packagings, other than those manufactured in accordance with ANSI N14.1, were prohibited $UF_6$ packaging manufacturers could not meet the immediate demand for production of new packagings. As a result, companies would be unable to meet contractural commitments, thereby reducing their income and possible causing layoffs of company personnel. The Department of Energy (DOE) emphasized in its comments that national defense programs could be seriously affected if depleted $UF_6$ could not be moved to defense installations due to shortages of authorized packagings.

*The Effect of Permitting Continued Use of Existing Cylinders That Do Not Conform to ANSI Standards (Grandfathering) and Any Restrictions or Conditions That Should Be Placed on Their Continued Use*

Commenters stated that the level of safety associated with continued use of existing packagings that do not conform to ANSI N14.1 is no less than that for packagings that conform to ANSI N14.1. None of the commenters suggested additional restrictions or conditions for continued use of packagings that do not conform to ANSI N14.1. Commenters contended that these packagings must meet the general requirements for DOT Specification 7A as Type A packagings for radioactive materials. Commenters noted that safety problems that have been observed have occurred during in-plant handling of the packagings and not during transportation. They pointed out that ANSI, in the foreword to ANSI N14.1-1982, had acknowledged that older packagings will maintain a comparable level of safety when they are used within their original design limitations.

*All of the Standards to Which Existing Cylinders Have Been Manufactured*

Commenters indicated that most existing packagings which do not conform to ANSI N14.1 were manufactured to two sets of standards. One class of packagings, designated as model 30A cylinders, conforms to DOT Class 106A specifications for multi-unit tank car tanks. The specifications for multi-unit tank car tanks are found in 49 CFR 179.300. Other packagings have been manufactured in accordance with standards specified in Division VIII, Section I of the American Society of Mechanical Engineers (ASME) Code (various editions). According to commenters, all but a few thousand packagings are included in these two categories. It was pointed out that, although many packagings have been manufactured in accordance with standards for $UF_6$ packagings found in an Oak Ridge National Laboratory Document ORO-651, all of these packagings are included in one of the two categories discussed above.

*Any Other Relevant Information Regarding Design and Fabrication of Non-ANSI Packagings*

In addition to the comments discussed above, commenters stated that some packagings have been issued certificates of acceptability by U.S. Governmental agencies. For example, the U.S. Nuclear Regulatory Commission has reviewed a number of the packagings used for $UF_6$ transport that were not manufactured in accordance with an ANSI standard, and has issued certificates of compliance for domestic use of the packagings. Similarly, RSPA has issued certificates of competent authority for some packagings to be used for international transport. Commenters emphasized that since these certified packagings had already been reviewed by regulatory authorities, their continued use in commerce should be allowed. RSPA has determined that these packagings are included within the two categories of packagings discussed in the previous paragraph.

**Joint NPRM and Final Rule**

Based on evaluation of the problem and comments submitted to the docket, RSPA agrees with the petitioners that relief from Amendment 173-198 as adopted on December 24, 1986 is needed. Without further rulemaking action, after June 30, 1987 only packagings manufactured in conformance to ANSI N14.1-82 or a previous edition would be authorized for continued use as packagings for $UF_6$ and only those which conform to ANSI N14.1-82 would be authorized for new construction.

RSPA has decided upon a two-pronged approach to the problem, addressing the new manufacture of packagings in a final rule and addressing existing packagings in this NPRM. The final rule provides for the continued use of any packaging for $UF_6$ manufactured on or before June 30, 1987 until further rulemaking action is taken. Interested readers are referred to the final rule which appears elsewhere in this issue of the **Federal Register.**

To accommodate continued use of $UF_6$ packagings other than those conforming to either ANSI N14.1-82 or DOT Class 106A, RSPA proposes in this document to amend § 173.420(a)(2) to selectively permit continued use of two categories of these packagings. First, RSPA proposes to allow the use of packagings manufactured in accordance with an edition of ANSI N14.1 issued prior to 1982 provided that the standard was in effect at the time the packagings were manufactured. This proposal clarifies the intent of the current requirement, which places no condition on the effective date of the ANSI N14.1 standard used for the manufacture of $UF_6$ packagings. Second, RSPA proposes to allow continued use of packagings if they have been manufactured and stamped in accordance with Section VIII, Division 1 of the ASME Code that was affective at the time of manufacture. These packagings will be required to be used within their original design limitations. Additionally, the proposal specifies minimum acceptable wall thicknesses for continued use of packagings manufactured in conformance to the ASME Code. Minimum wall thicknesses have been stipulated so that packagings, which may not meet pressure service requirements, will not be used. These thicknesses are consistent with the specifications for DOT Class 106A, ANSI N14.1-1982, and the proposed ANSI N14.1-1987. Finally, to ensure their integrity, these packagings would be subject to the periodic inspection, test, and marking requirements of § 173.420(b).

RSPA is not proposing to permit the continued use of all existing packagings for $UF_6$. RSPA believes that controls on the manufacture of the packagings are necessary to ensure an acceptable level of safety. This proposed regulation will ensure that packagings have been manufactured in accordance with an acceptable standard. Categories of packagings or individual packagings rendered obsolete could potentially be used upon issuance of an exemption or other regulatory relief by RSPA, based on demonstration by the applicant of a level of safety at least equivalent to that provided by the regulations. Interested readers are invited to comment on these proposals.

**Administrative Notices**

The RSPA had determined that this rulemaking (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT's regulatory policies and procedures (44 FR 11034); (3) will not affect not-for-profit enterprises or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National Environmental Policy Act (40 U.S.C. 4321 et seq.). A regulatory evaluation is available for review in the docket. Based on limited information concerning the size and nature of

entities likely affected, I certify that this regulation will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 49 CFR Part 173**

Hazardous materials transportation, Packaging, Radioactive materials.

In consideration of the foregoing, 49 CFR 173 would be amended as follows:

## PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

1. The authority citation for Part 173 would continue to read as follows:

**Authority:** 49 U.S.C. 1803, 1804, 1805, 1806, 1807, 1808; 49 CFR Part 1, unless otherwise noted.

2. In § 173.420, paragraph (a)(2) would be revised to read as follows:

**§ 173.420 Uranium hexafluoride (fissile and low specific activity).**

(a) * * *

(2) Packagings shall be designed, fabricated, and marked in accordance with—

(i) American National Standard N14.1–1982;

(ii) An edition of American National Standard N14.1 issued prior to 1982 provided the standard was in effect at the time the packaging was manufactured;

(iii) Specifications for class DOT 106A multi-unit tank car tanks (§ 179.300, § 179.301, and § 179.302 of this subchapter); or

(iv) Section VIII, Division I of the ASME Code, provided the packaging—

(A) Was manufactured on or before June 30, 1987;

(B) Conforms to the edition of the ASME Code in effect at the time the packaging was manufactured;

(C) Is used within its original design limitations; and

(D) Has wall (shell and head) thicknesses that have not decreased below the minimum value specified in the following table:

| Packaging model | Minimum thickness millimeters (inches) |
|---|---|
| 1S, 2S | 1.58 (0.062) |
| 5A, 8A | 3.17 (0.125) |
| 12A, 12B | 4.76 (0.187) |
| 30B | 7.93 (0.312) |
| 48A, F, X, and Y | 12.70 (0.500) |
| 48 T, O, OM, OM Allied, HX, H, and G | 6.35 (0.250) |

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Issued in Washington, DC on June 30, 1987 under authority delegated in 49 CFR Part 106, Appendix A.

**Alan I. Roberts,**

*Director, Office of Hazardous Materials Transportation.*

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