

AFFIRMATION VOTE

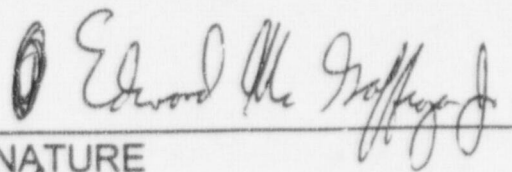
RESPONSE SHEET

TO: John C. Hoyle, Secretary  
FROM: COMMISSIONER MCGAFFIGAN  
SUBJECT: **SECY-98-040 - FINAL RULE: REQUIREMENTS  
FOR SHIPPING PACKAGES USED TO TRANSPORT  
VITRIFIED HIGH-LEVEL WASTE**

Approved  Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_ Request Discussion \_\_\_\_\_

COMMENTS: *See minor edits.*



SIGNATURE

*April 1, 1998*

DATE

Release Vote

Withhold Vote

Entered on "AS" Yes  No \_\_\_\_\_

compromise the long term integrity of the canister. Specific alternatives to the ASME Boiler and Pressure Vessel Code criteria may be considered and approved without resorting to exemptions from the regulation.

Final Rule. The final rule has been revised to read as follows: Vitrified high-level waste contained in a sealed canister designed to maintain waste containment during handling activities associated with transport. As one method of meeting <sup>these design requirements</sup> ~~the paragraph~~, the NRC will consider acceptable a canister which is designed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, editions through the 1995 Edition. However, this canister need not be designed in accordance with the requirements of Section VIII, Parts UG-46, UG-115 through UG-120, UG-125 through UG-136, UW-60, UW-65, UHA-60, and UHA-65 and the canister's final closure weld need not be designed in accordance with the requirements of Section VIII, Parts UG-99 and UW-11. Necessary language to incorporate by reference the ASME Boiler and Pressure Vessel Code has also been added.

Comment. Four of the six commenters stated that the NRC should evaluate the technical bases for § 71.63, or referred to a Commission SRM to SECY-96-215, dated October 31, 1996, which directed the NRC staff to "address whether the technical basis for 10 CFR 71.63 remains valid, or whether a revision or elimination of portions of 10 CFR 71.63 is needed to provide flexibility for current and future technologies." One of the commenters noted that the International Atomic Energy Agency standards do not impose a double-containment requirement. Four of the commenters recommended that if the NRC retained the double containment provision, that the rule use performance-based criteria for dispersibility and respirability as a basis for exemption, or that double containment only be required for "highly

(3) Vitrified high-level waste contained in a sealed canister designed to maintain waste containment during handling activities associated with transport. As one method of meeting <sup>these</sup> ~~this~~ ~~design requirements~~ ~~paragraph~~, the NRC will consider acceptable a canister which is designed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, editions through the 1995 Edition. However, this canister need not be designed in accordance with the requirements of Section VIII, Parts UG-46, UG-115 through UG-120, UG-125 through UG-136, UW-60, UW-65, UHA-60, and UHA-65 and the canister's final closure weld need not be designed in accordance with the requirements of Section VIII, Parts UG-99 and UW-11. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of the ASME Boiler and Pressure Vessel Code, Section VIII, editions through the 1995 Edition, may be purchased from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th St., New York, NY 10017. It is also available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, MD 20852-2738 or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.; and

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NRC CHANGES REGULATIONS FOR TRANSPORTATION  
OF HIGH-LEVEL WASTE CONTAINING PLUTONIUM

The Nuclear Regulatory Commission is amending its packaging requirements for shipments of high-level radioactive waste containing plutonium if the waste has been imbedded in vitrified glass and placed in a sealed canister. The action responds to a 1993 petition from the Department of Energy.

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The revised regulations continue to require a Type-B outer container for the sealed canister. Under the new rule, for example, shipment of high-level waste would be permitted in a canister that meets appropriate American Society of Mechanical Engineers' "Boiler and Pressure Vessel Code" criteria.

NRC regulations currently require that if licensees ship more than 20 curies of plutonium, the material must be enclosed in two packages. The outer one must be a "Type B" package, which under NRC regulations must receive NRC design review and approval and must withstand a series of specified tests to show that the package can withstand severe accidents. The separate inner container must pass certain other specified tests, including leak testing. The special inner packaging requirements are waived if the plutonium is in the form of reactor fuel elements, metal or metal alloys, or any other type of solid material that the Commission determines should be exempt from the double-containment requirement.

The primary purpose of the present requirements is to ensure that any plutonium that could be inhaled will not leak into the atmosphere during transportation. But the NRC believes

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under certain accident conditions

these requirements can be relaxed for radioactive waste containing plutonium that has been "vitrified" into a glass form and put into a sealed canister because it is essentially incapable of being inhaled.

In its petition, DOE indicated that it plans to ship high-level radioactive waste containing plutonium from three storage locations in Aiken, South Carolina; Hanford, Washington; and West Valley, New York. The shipments would go, it said, to a geologic repository that DOE is responsible for developing for the deep-underground disposal of high-level radioactive waste and spent fuel. At the present time there is no such facility, however, Yucca Mountain in Nevada is currently being studied by DOE.

The high-level waste currently exists mostly in the form of liquid and sludge resulting from the reprocessing of defense reactor fuels. Although this reprocessing is aimed at removing plutonium from the spent fuel, some remains in the waste product. DOE plans to solidify the liquid and sludge material into a borosilicate glass form in which the high-level waste is dispersed and immobilized.

A proposed rule on this subject was published in the Federal Register on May 8, 1997. Changes made as a result of comments received are described in a notice to be published shortly.

The NRC received a petition from International Energy Consultants, Inc., requesting that all special requirements for plutonium shipments be eliminated. Notice of receipt of this petition was published in the Federal Register for public comment on February 19. This petition will be considered separately from the rulemaking that specifically involves shipments of waste containing plutonium that has been vitrified and placed in a sealed canister.