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NRC AMENDS REGULATIONS ON TRANSPORTATION OF RADIOACTIVE MATERIAL

The Nuclear Regulatory Commission is revising its regulations for the transportation of radioactive material to make them generally compatible with corresponding regulations of the International Atomic Energy Agency and thus with those of most other major nuclear countries of the world. The revisions also incorporate special criteria for packages that may be used to transport plutonium by air.

The amendments include several substantive changes, but the Commission's basic standards for packaging and transportation of radioactive material will remain essentially unchanged.

The revisions adopted to achieve compatibility with IAEA include two additional testing requirements for transportation packages that are required to be designed to withstand transportation accidents (known as "Type B" packages):

(1) The NRC has adopted the IAEA requirement that casks authorized to transport spent fuel must be tested by immersion in 656 feet of water to ensure that the cask does not collapse, buckle, nor allow water to leak in. This requirement would facilitate the recovery of a spent fuel cask from coastal waters and may be satisfied through engineering evaluation or an actual physical test. Current NRC regulations require testing or evaluation for immersion in 50 feet of water.

(2) The other new testing requirement applies to certain lightweight packages that are minimally vulnerable to damage in the 30-foot drop test that is currently required, but have a high potential for radiation hazard, if a package failure occurs. The IAEA requires a crush test in place of the drop test for these packages. The new NRC rule requires both the crush test and drop test.

Other changes to achieve compatibility with IAEA regulations include revisions to the table in the NRC regulations that establishes the amounts of certain radionuclides that can be

transported in "Type A" packages (which do not have to be designed to withstand accidents). The NRC-adopted IAEA changes

increase the number of radionuclides listed in the table from 284 to 378 (so that packaging requirements are more easily determined) and revise the allowable quantities of certain already listed radionuclides (with some allowable quantities decreasing and others increasing).

In addition, the IAEA-related changes simplify the rules for shipment of fissile materials (radioactive materials that could sustain a chain reaction) by combining the three existing fissile classes into one.

The NRC revisions also affect the transportation of "low specific activity" materials (such as uranium ores). Currently unlimited quantities of these materials may be transported in Type A packages, although there are (and will continue to be) limits on the radiation levels permitted outside the transportation packages. The new regulations limit the quantity of certain of these materials that may be transported in the Type A packages. The restrictions apply, for example, to contaminated resin beads that have been used in nuclear reactors to clean up water that was used to cool the reactor fuel.

The changes involving packages that may be used to transport plutonium by air will add approval criteria previously developed by the NRC. Public Law 94-79 (also known as the Scheuer Amendment, August 9, 1975) prohibited the NRC from licensing the air shipment of plutonium in any form until NRC certified to Congress that a safe container had been developed. NRC subsequently developed and published the criteria in January 1978 and certified the criteria to Congress. The final rule incorporates these criteria. However, there have been very few shipments of plutonium by air. This situation is not expected to change.

Further details of the amendments are contained in a Federal Register notice published on September 28. The revisions will be effective on April 1, 1996.

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