#### Section 71.51 Additional Requirements for Type B Packages

One comment suggested that the clarifying provision following paragraphs 548(a) and (b) of IAEA regulations be added to Part 71 for consistency. The clarifying provision pertains to allowable releases of radioactive material from a package containing a mixture of radionuclides. This is the case, for example, with spent nuclear fuel casks. That clarifying provision has been added.

# Section 71.52 Exemption for LSA Packages

Twelve comments expressed concern that the proposed Part 71 affords only a 1-year delay in applying the new LSA rules. NRC established the 1-year delay to give the industry an opportunity to design and build the Type B waste casks that would be required under the new rules. The comments uniformly argued that 1 year was not a sufficient period of time to design a waste cask, to have it reviewed and approved by NRC, and to fabricate an adequate number of casks, to approved designs, that satisfy the needs of the new LSA rule. The commenters differed in how long they thought that process would take, varying over 2, 3, and 5 year periods. NRC agrees with the thrust of this comment and has established the exemption period at 3 years. Thus existing packagings may be used for 3 years and new packagings may be fabricated from existing designs for 3 years.

A consequence of establishing the IAEA LSA/SCO package limit as the delineator between NRC and DOT regulation of LSA and SCO packaging [see § 71.10(b)(2)] is that, after the 3 year exemption period, LSA will be shipped either in DOT authorized packagings, or in NRC certified Type B packagings. Accordingly, NRC is discontinuing the practice of certifying Type A LSA packages. NRC has therefore not adopted a proposed exemption (§ 71.52(a)) that only would have applied to NRC certification of new Type A LSA package designs.

One comment stated that the demand for waste casks would rise until 1993 and then fall again because few of the low-level radioactive waste disposal site compacts will permit disposal access. Vendors will hesitate to invest in casks that will not be used after 1993 and waste will need to be stored onsite.

NRC is unwilling to accept this proposition and believes that as long as NRC specifies the requirements for transportation of waste, given adequate time, industry will continue to develop disposal options.

One comment argues that the specific reference to  $\S71.43(f)$  should be deleted because it is included in the broader reference to  $\S\$71.41-71.47$ .

Section 71.52 exempts exclusive use LSA and SCO packages from the additional requirements for Type B packages for a period of 3 years from the effective date of the final rule. These LSA packages are still subject to other requirements that apply to all packages. The referral to these other package requirements includes §§ 71.41-71.47, plus a specific reference to. An argument could also be made for deleting the entire reference because those requirements apply regardless of the reference in this section. However, NRC chose to include the reference in § 71.52 as a reminder that the exemption is only from §71.51, not from all packaging requirements. NRC believes the reference to §71.43(f) (normal conditions of transport tests) is important and has decided that it will be retained.

One comment suggested that SCO be included within the scope of § 71.52, and that the  $2A_1$  limit be included in the section for clarity. NRC agrees with the comment and has made the clarifications, substituting the IAEA LSA limit for  $2A_1$ .

#### Section 71.53 Fissile Material Exemptions

One comment suggested spelling out the word "liter" instead of using "l" as the abbreviation. Considering the typing errors caused by the use of that abbreviation, the final rule spells out the word "liter" wherever it appears.

### Section 71.55 General Requirements for Fissile Material Packages

One comment suggested that by adding the word "full" to the water reflection criterion of  $\S71.55(b)(3)$ , the NRC has added more cost with no apparent benefit "\* \* \* since transport limits already take this consideration into account." The latter part of this comment probably refers to the "transport index" controls that limit the number of packages which can be transported and stored together, but do not consider the safety of an individual package in isolation. Addition of the word "full" in § 71.55(b)(3) is a matter of clarification. NRC has always required "full" reflection wherever reflection is required. IAEA regulations required "full" reflection in the 1973 edition, and go a step further in the 1985 edition, to define "full" as "water 20-cm thick (or its equivalent)." NRC has retained the word "full," in

§ 71.55(b)(3), and has added the word "full," in § 71.55(e)(3), for consistency.

A commenter agrees that the proposed Part 71 begins to simplify the system of shipping fissile material but that most of the difficulties still exist. The commenter advocates development of "a system of performance-oriented packaging," to reduce the current complexity of the "design-oriented package choices." NRC agrees that there are a number of radiation control design requirements that apply to the fissile material packages as well as to packages of other radioactive material. However, NRC views the criticality control provisions as performance-oriented rather than design-oriented. NRC must specify the conditions against which the package must be designed. Without the environmental tests and package objectives, there would be no level of protection against which to design packages.

## Section 71.61 Special Requirement for Irradiated Nuclear Fuel Shipments

One comment recommended that the rule clarify that the deep immersion test is to be applied to an otherwise undamaged package. This important detail is implied, but not specifically stated. The Commission agrees and has made that clarification.

In the final rule, this section has been modified to require that the external pressure test be applied directly to the containment system of a package. NRC does not believe the external structure should play a part in helping the containment system of a package withstand an external pressure test and has chosen to ignore its existence in specifying the requirement.

A comment recommended that the word "rupture," as used in this requirement, be defined as a gross structural collapse and not just an inleakage of water. Although the word "rupture" in the proposed rule did mean gross structural collapse, NRC has since decided that the term "rupture" cannot be determined by engineering analysis. NRC has decided to change the acceptance criteria for the deep immersion test from "rupture" to "collapse, buckling, or inleakage of water."

A comment stated that this requirement should include the 1-hour time specification included in the IAEA requirement to avoid later misinterpretation of the test. The NRC agrees that adding the 1-hour test specification would help prevent confusion between IAEA and domestic regulations, and has included the time specification.