meters (approximately ten feet) on a vehicle or in a warehouse. 49 CFR 178.606(c).

Hydrostatic pressure and leakproofness tests apply only to a packaging designed to contain liquid hazardous materials. In the hydrostatic pressure test, a filled packaging is subjected to an internal pressure. This amount of pressure depends on the liquid material's vapor pressure and Packing Group; it may be as low as 20 kiloPascals (kPa) (less than three psi) for low volatility, low hazard materials, and more than 250 kPa (approximately 36 psi) for Packing Group I volatile liquids. 49 CFR 178.605(d). This test is intended to determine whether the increase in pressure that can occur with a rise in temperature will deform the packaging and cause it to leak.

A leakproofness test is performed as one of the packaging design qualification tests and also on every packaging produced. Depending on the Packing Group of the material to be transported, internal air pressure of 20 or 30 kPa (roughly 2.9 or 4.4 psi) is applied to each packaging to determine if it leaks. 49 CFR 178.604(e). In addition, all hazardous materials packagings must meet the vibration standard to assure that the normal vibration incident to transportation will not cause a packaging to fail. 49 CFR 178.608.

One of RSPA's purposes in the HM– 181 rulemaking proceeding was to promote "safety in transport through the use of better packaging." Advance Notice of Proposed Rulemaking, 47 FR 16268, 16289 (Apr. 15, 1982). In the preamble to the final rule, RSPA noted that, in the past, many packaging requirements had been "based on industry standards, with economic considerations sometimes taking precedence over safety considerations. rather than on a systematic assignment of packagings based on the hazards of the materials to be packaged and the suitability of the packaging." 55 FR 52403. RSPA later affirmed that an objective in HM-181 was "to improve transportation safety by upgrading package integrity for a number of materials, including hazardous substances and wastes, previously shipped in non-specification packagings." 56 FR 66145. (A wide variety of materials are included in the category of hazardous substances, many of which, such as polychlorinated biphenyls (PCBs), are not regulated except as environmentally hazardous materials.

C. Prior Industry Requests for Relaxation of HM-181 Standards

Following issuance of the final rule in HM-181, the Fibre Drum Technical Council (FDTC), submitted a petition for reconsideration in which it asked RSPA to continue "the status quo for domestic shipments in non-D.O.T. specification drums" of certain hazardous materials. In December 1991, RSPA denied FDTC's petition and stated that, because it intended to upgrade package integrity, it "never intended to except domesticallyused fiber drums from the performance standards it adopted" in HM-181. 56 FR 66146.

In June 1992, FDTC then applied for an exemption from the HMR to allow the continued use of open-head nonspecification fiber drums for rail and highway transportation within the United States of the three categories of liquid hazardous materials specified above (plus certain hazardous solids). FDTC stated that these drums would meet a series of six standards prepared for the purpose of establishing an industry specification.

To support its exemption application, FDTC asserted that, over the 1980-1991 period, these drums had a 99.99% safety record. FDTC also stated that the fiber drum industry was "completely unable to meet the new UN/DOT specifications without incurring significant costs and investments, which would make these drums prohibitively expensive in the marketplace." It estimated that "the average percentage (cost) increase related to redesigning the fibre drums to meet specifications is 50 percent" and stated that "the number of units to which the 50 percent increase applies represents a substantial portion of the fibre drum industry.'

RSPA's Associate Administrator for Hazardous Materials Safety denied FDTC's exemption application because he found that FDTC's proposed impact test was not equivalent to the drop tests of 3.9 and 2.6 feet, respectively, required for Packing Group II and III packagings, and that FDTC's other proposed standards did not address the pressure requirements of the leakproofness and hydrostatic pressure tests required for packagings intended for liquid hazardous materials. RSPA's Acting Administrator affirmed the denial of FDTC's application for an exemption and found that the standards proposed by FDTC would not achieve a level of safety "at least equal to that specified in the regulation from which the exemption is sought." 49 CFR 107.103(b)(9)(i). In her detailed decision, the Acting Administrator discussed the HMR's prior authority for

the use of non-specification fiber drums for certain materials, the adoption of the HM-181 performance standards which eliminated that prior authority, and representative incidents involving spills when a fiber drum fell over or was dropped a short distance. She also considered the 99.99% "success rate" for fiber drums but found that it ignored the types of incidents which occur during normal transportation, including minor accidents that justified RSPA's objective in HM-181 in upgrading packaging integrity.

FDTC's successor organization, the International Fibre Drum Institute (IFDI), states that Congress passed Section 122 of the Act because it was concerned that RSPA had not considered the safety record of openhead fiber drums when it denied FDTC's application for an exemption. According to IFDI, Congress enacted this provision "to require DOT to take a 'fresh and fair' look at open-head fibre drum packaging to determine whether it should be used after October 1, 1996

D. ANPRM

On October 7, 1994, RSPA published in the Federal Register an advance notice of proposed rulemaking (ANPRM), Docket No. HM-221; Notice No. 94–9 (59 FR 51157), soliciting comments and proposals for alternate standards for open-head fiber drum packaging. In the ANPRM, RSPA requested "[d]etailed comments and proposals * * * that will assist RSPA in developing an appropriate regulatory proposal consistent with the requirement" in Section 122 of the Act. 59 FR 51158. RSPA invited proposals, "preferably in the form of a draft standard, that would assist RSPA in accomplishing the intended effect of this law." Id. RSPA also invited comments on whether alternate standards for open head fiber drums should be limited to domestic transportation of liquid hazardous materials.

In response to the ANPRM, RSPA received comments from 17 parties. In addition, RSPA's Administrator and other DOT officials held separate meetings concerning this rulemaking with: (1) IFDI's counsel and officials of Sonoco Products Company (a member of IFDI), and (2) representatives of the **Association of Container Reconditioners** (ACR), the 3M Corporation, USX Corporation, and the Steel Shipping Container Institute (SSCI). Notes of these two meetings have been placed in the public docket for this rulemaking.

Only IFDI proposed alternate standards for open-head fiber drum