

8. In addition, UL suggested that the Coast Guard abandon the use of reference vests and establish performance based requirements for all the Types and sizes of PFDs.

Except for the very highest performing PFDs (Type I PFDs) this suggestion would require that the characteristics of the test subjects be more precisely controlled, so that one design is not subjected to a less rigorous test than another because of an "easier" subject pool. When the necessary subject specifications are developed or a suitable manikin and analytical methods available, the Coast Guard will consider revising the regulations to either allow direct performance testing as an alternative or as the sole means of approval testing for these devices.

However, as a result of this comment, the Coast Guard is eliminating the new adult Type I reference vest. Compared to lower performing devices, testing for Type I PFD performance is not as dependent on the characteristics of the subject pool. Where all subjects are required to be turned face up, as with Type I PFDs, test subject differences from one test to another have made little difference in performance. Therefore, the Coast Guard has determined that it is appropriate to eliminate the new adult Type I reference vest. This issue is discussed further in paragraph 12.

9. Alternatively, UL suggested selecting a single reference vest (for each size), such as the Type I specified by subpart 160.002 and establishing a reduced level of requirements in comparison to it for Type II, III or V performance. It was suggested that adoption of this recommendation would make it easier to approve candidate devices which fell short of the criteria for one type but met the criteria of the next lower type. For example, if a candidate device fails the Type I criteria during testing, but meets the Type II criteria, it could be rated a Type II device without further testing.

The Coast Guard disagrees with this recommendation based on the lack of a suitable, existing reference vest for either the youth or child small sizes as demonstrated by the test results discussed above in paragraph 5.

10. UL also suggested eliminating Youth Type I Hybrids, asserting that manufacturers would not go through the expense of producing a hybrid that is required to have the same amount of inherent buoyancy as a child size Type I currently approved under subpart 160.055.

The Coast Guard does not adopt this suggestion. Although there may not be a demand for hybrids at this time, it is foreseeable that future markets may

demand such performance for youth devices when adult inflatable devices, with equivalent performance, come into wide use. These regulations will provide specifications for future markets.

11. UL asserted that details of the testing procedures for youth and small child size devices were missing from the regulations.

In this final rule, the Coast Guard incorporates UL standard 1517, which provides testing procedures for adult devices, by reference, and adds provisions in § 160.077-21(c) which allow for the testing procedures of UL standard 1517 to be used for youth and small child size devices. The procedures require that each candidate device and the appropriate size reference vest be tested using the same procedures as an adult candidate device and reference vest to ensure that the candidate provides as good or better performance than the reference. As a result of the possible confusion noted by the comment, § 160.077-21(c)(1), (2), (4)(i), and (4)(ii) are revised and § 160.077-21(c)(5) is added to clarify that the test procedure of UL 1517 is to be performed using the reference vests specified by this rule.

12. UL recommended the elimination of the recreational Type I category, noting that the only difference between the proposed recreational and commercial Type I Hybrid PFDs is body strength.

The Coast Guard agrees with this comment. In the SNPRM, the required body strength for recreational Type I Hybrid PFDs was 2,000 N (450 lb) as opposed to 3,200 N (720 lb) for commercial Type I hybrid PFDs. The final rule eliminates the recreational Type I category and allows for the use of one body strap of 3,200 N or two body straps of 2,000 N on a commercial Type I hybrid PFD whether the PFD is used for recreational or commercial purposes.

With the elimination of the recreational Type I category and the Type I reference vest as discussed in paragraph 8, the Coast Guard had to determine appropriate performance requirements for Type I hybrid PFDs. The Coast Guard determined that application of the more stringent requirements in § 160.176-13(d) (2) through (5) for Type I in-water performance is appropriate for adult Type I devices. This final rule does not change the in-water performance requirements from those proposed in the SNPRM for youth and small child-size devices. However, as discussed in paragraph 11, revisions were made to clarify the testing procedures.

In order to implement these changes, conforming revisions have been made as discussed below. As a result of eliminating the Recreational Type I hybrid PFD, the proposed regulatory text at § 160.077-15(b)(13) is deleted and proposed § 160.077-15(b)(14) and (15) are renumbered accordingly. A new § 160.077-17(b)(9) is added to ensure that the body strap(s) on Type I hybrid PFDs meet minimum strength requirements. Proposed § 160.077-17(b)(9) and (10) are renumbered accordingly. Section 160.077-21(c)(4) is revised to specify the test procedures for adult-size Type I and V hybrid PFDs and § 160.077-21(c)(5) is added to specify test procedures for the youth and child-size hybrid PFDs, using the reference vests adopted in this rule. Sections § 160.077-29(b) and (f)(2) are revised to require that Type I PFDs intended for recreational use meet the requirements of § 160.077-29(c). The statement "A pamphlet and owner's manual must be provided with this PFD" is added to the text of § 160.077-31(d). Section 160.077-31(j)(1) is revised to show that a commercial hybrid Type I PFD can be used on all recreational boats, as well as uninspected commercial vessels to meet carriage requirements. The following sections are revised to remove references to Type I recreational PFDs: Tables 160.077-2(j) and redesignated Table 160.077-15(b)(13), Section 160.077-15(a)(2)(ii), § 160.077-27(e), § 160.077-29(b), (c), (e) and (f)(2), and § 160.077-31(c). Section 160.077-21(d)(3)(i) is changed to indicate that all Type I adult hybrid PFDs must provide 100 mm (4 inches) of freeboard. Section 160.077-13, § 160.077-17, Table 160.077-17(b)(10), § 160.077-21, and § 160.077-31(d) and (k) are modified to include Type I PFDs intended for recreational use.

In making these revisions, the Coast Guard noted that the SNPRM inadvertently applied the Inflated Flotation Stability Tests in UL 1517, section S8 to Type I devices. This final rule clarifies that the tests apply to commercial Type V devices only.

13. UL stated that the final rule should not be adopted because the Flotation Stability Tests from UL 1517 have not yet been proposed.

The SNPRM proposed adopting changes made by UL to UL 1517 if those changes were made in a timely manner. These changes have not yet been made. The Coast Guard has elected to go forward with the final rule. As discussed in paragraph 11, the Coast Guard has adopted a provision which utilizes the Type II and III Flotation Stability Tests in UL 1517, section 15