

flashover had occurred in the cabin and egress was no longer possible. Should an external fire enter the airplane at one of those compartments, the flammability of the materials used in them would not directly affect the cabin due to their isolation. As stated in the earlier rulemaking, the new standards address a post-crash, external fuel-fed fire situation. With the exception of the pilot compartment, it can be assumed that such compartments would not be occupied by passengers or crewmembers during a post-crash situation.

Although the rulemaking was undertaken to address a post-crash scenario, there is also the question of whether or not requiring the lavatories to meet the new flammability standards would enhance safety significantly in the event a fire originated in a lavatory during flight. This question is particularly pertinent in light of the recently adopted ban on smoking on domestic airline flights. Although some persons might be more tempted to smoke illicitly in a lavatory during such flights, the lavatory smoke detector required by recently adopted Amendment 121-185 (50 FR 12726, March 29, 1985) serves as a deterrent and provides warning of illicit smoking to the crew. In addition, the new standards would not apply to many of the components in a lavatory due to their small size. The doors and most sidewalls have to meet the new standards regardless of whether the new standards are applicable to lavatories because their outer sides also form surfaces of the passenger cabin. Some portions of the lavatory are generally constructed of fireproof stainless steel due to functional considerations. Requiring the few remaining large components to meet the new standards would have very little impact on the overall flammability of the lavatory and would not significantly enhance safety in the event of an inflight fire.

Pilot compartments are generally isolated from the passenger cabin by a bulkhead and door. Although they are obviously occupied full-time, requiring them to meet the new standards would not significantly enhance safety in the event of an inflight fire for essentially the same reasons. Pilot compartments are generally constructed of many small components which would not have to meet the new standards due to their small size. The bulkhead and entry door have to meet the new standards regardless of whether they are applicable to the pilot compartment because the aft sides of those components also form surfaces of the passenger cabin. As in the case of the

lavatories, requiring the few remaining large components to meet the new standards would have very little impact on the overall flammability of the pilot compartment. Although there is no smoke detector required, a fire would be detected immediately by the flight crewmembers. In addition, at least one hand fire extinguisher must be conveniently located in the pilot compartment in accordance with § 25.851.(a)(6).

In view of these considerations, it was proposed that § 25.853 would be amended to clarify that compartments that are isolated from the cabin need not meet the standards. Sidewalls, doors etc., that separate such compartments from the passenger cabin would, of course, have to meet the new standards because their outer sides also form surfaces of the passenger cabin.

*Galley carts and other rotatable galley equipment:* The earlier rulemaking contained the statement, "Service items, such as pillows or blankets, magazines, food, and alcoholic beverages, are not part of the certification process and would not have to meet the new flammability standard." Galley carts are considered to be service items; however, unlike the items cited in the preamble statement, they are generally approved as part of the airplane type design. Although the new flammability standards do not apply expressly to galley carts, it was intended that they would apply implicitly to the extent that, when stowed, the galley carts form exterior surfaces of the galley. Typically, at least one end of each cart remains exposed and forms a galley surface while the cart is stowed. In addition to galley carts, these are galley standard containers used for various meal courses, beverages, plates, etc., that also form galley surfaces when stowed.

Operators have pointed out that galley carts are removable items that are rotated from one airplane to another with each flight. In this regard, they note that their fleets will include older airplanes that are not required to meet the new standards, as well as new airplanes (or airplanes in which the interiors have been replaced) that will be required to meet the new standards. They further note that the carts are loaded before a flight by persons, usually independent caterers, who have no way of knowing whether or not the airplane that will be used on a particular flight is required to meet the new standards. Unless all existing noncomplying galley carts are replaced with galley carts that meet the new standards, there is no practical means to ensure that galley carts meeting the new standards will be loaded on the

airplanes that are required to have them. It is estimated that there are now approximately 125,000 galley carts in use with the U.S. air carrier fleet. Typically, the cost per cart ranges from \$800 to \$3,500; and the service life is about eight to ten years. While it is feasible to replace the existing carts on an attrition basis, it would be impractical to produce enough galley carts meeting the new standards in time to meet the established deadlines. In addition, such immediate replacement would be very costly. The operators note that they would have commented accordingly had they not believed that, as service items, galley carts did not have to meet the new standards.

The galley standard containers are also rotated from airplane to airplane; and they, too, are filled prior to the flight by persons who have no way of knowing whether the airplane that will be used on the flight is one required to meet the new standards. While the cost of each galley standard container would be less than that of a beverage cart, replacing the entire inventory of containers would be very costly.

Although it was intended that the exposed surfaces of stowed galley carts and standard containers should meet the new standards, the FAA has concluded, upon further review, that it was not clearly stated that the galley carts and containers would be required to comply. The FAA does, however, consider that the exposed surfaces of stowed galley carts and standard containers must ultimately meet the new flammability standards. It was, therefore, proposed that § 25.853(a-1) would be amended to specifically require the exposed surfaces of those components to meet the new standards.

The FAA concurs that unless all carts and containers are replaced, it would be extremely difficult to ensure that galley carts and standard containers meeting the new standards are loaded on the airplanes that are required to meet them. Furthermore, the immediate replacement of all galley carts and standard containers would be logistically impossible and would present an unreasonable economic burden. If, on the other hand, galley carts and standard containers that meet the new standards are acquired at a rate commensurate with the rate at which new airplanes are acquired (and interiors of older airplanes are replaced), it can be assumed that the overall level of safety of the air carrier fleet will not be adversely affected by intermixing carts and containers complying with the new standards with those that do not. The small decrement of safety that would be suffered due to