

demonstrated to the Administrator the ability to execute emergency procedures for inadvertent flight into instrument meteorological conditions (IMC). The FAA believes that these additional requirements will provide an equivalent level of safety that would allow the helicopter operator to operate clear of clouds.

#### 5. Over Water Operations

a. *Engine power loss and ditching, the problem.* Commercial air tours are often conducted over water to facilitate better views of specific scenic areas. This exposes the aircraft to the potential for an emergency water ditching.

Regardless of the type of aircraft, occupants generally experience stress and panic when an aircraft ditches. Stress and panic, added to the extreme physical exertion involved in exiting an aircraft that is filling with water or actually underwater, make escape difficult. Occupants tend to focus on the immediate need to get out of the aircraft and do not always consider equipment they may need to survive once they exit the aircraft. This problem exists even when passengers have been properly briefed pre-flight. However, occupants who successfully exit the aircraft wearing an uninflated life preserver may have an increased chance of survival while swimming to shore or waiting for rescue personnel, provided they understand how to use the life preserver.

Helicopters pose additional problems. Unlike airplanes, helicopters normally roll quickly to one side in water because they are top heavy. Once inverted, the helicopter will fill quickly with water and sink. Additionally, helicopters do not have the gliding capabilities of airplanes, so a single engine helicopter is less likely to be able to reach shoreline prior to landing in the event of an engine failure. Consequently, ditching in helicopters is potentially more dangerous for passengers than ditching in airplanes.

b. *Discussion of existing provisions.* Section 121.340 applies to airplane operations conducted over water under part 121. It requires life preservers or an approved flotation means (e.g., flotation cushions) for any over water operations. Section 121.340(b) provides for a deviation from the requirement for life preservers or an approved flotation means provided the operator can show that the water over which the airplane is to be operated is not of such size and depth that this equipment is required for the survival of its occupants in the event the flight terminates in that water.

Under §§ 121.339(a)(1) and 135.167, aircraft conducting extended over water

operations (i.e., more than 50 miles from shore) must be equipped with life preservers. In addition, part 135 contains other requirements for land aircraft engaged in any over water operation. To conduct an over water operation, § 135.183 (performance requirements for land aircraft operated over water) requires that passenger carrying aircraft satisfy one of the following conditions: (1) Be operated at an altitude that allows it to reach land in the event of an engine failure; (2) be necessary for take off or landing; (3) be a multi-engine aircraft with certain single-engine climb characteristics; or (4) be a helicopter equipped with flotation devices (hereinafter called helicopter floats).

#### c. *Proposed requirements.*

Commercial air tours generally operate at lower altitudes for longer periods of time than other types of flights. Considering the heightened risks associated with commercial air tours conducting over water operations, the FAA has concluded that more stringent regulations are necessary for aircraft used in these operations.

Proposed § 136.11 would require occupants of all commercial air tour aircraft operating over water to wear approved life preservers while in flight. The life preserver must be worn uninflated to permit the passenger to exit the aircraft quickly in an emergency. In addition, single-engine and certain multi-engine helicopters operated over water would be required to have helicopter floats installed on the aircraft.

i. *Life preservers.* There are several types of inflatable and non-inflatable life preservers approved for use on aircraft. Air tour operators using life preservers that are not inflatable would be required to show to the satisfaction of the Administrator that occupants wearing such life preservers can exit the aircraft easily. The most common type of life preserver is inflatable and is worn over the shoulders like a vest. If the life preserver is not worn in-flight uninflated, the occupant must take it out of a container, put it on, and adjust it. Another type of life preserver is contained in a pouch or pack secured around the waist of each occupant. To use the life preserver, the occupant would pull a tab and then lift the life preserver over his or her head in a single motion. The life preserver is then ready for its intended purpose once inflated. Inflation normally takes about 2 seconds. Another type is a yoke type worn around the neck like a collar.

While the proper donning and securing of a life preserver may not take a lot of time under normal non-stressful

situations, it can be a time-consuming process in a time of high stress. Thus, to eliminate the delay this proposal would require air tour operators to ensure that all occupants don life preservers during pre-flight preparation and wear them throughout the duration of the flight.

Deviations would be permitted if the air tour operator could demonstrate that the aircraft is operated over water that is of such size and depth that it is not necessary to wear a life preserver in order to survive in the water. The determination to grant a deviation would be made in accordance with § 136.21.

ii. *Helicopter Floats.* In addition to the life preserver requirement, single engine helicopters and certain multi-engine helicopters operated in commercial air tours over water would have to be equipped with fixed or inflatable floats under proposed § 136.15, unless the flight over water is necessary only for take off or landing. This provision is more stringent than the existing § 135.183 because the FAA has determined that equipping certain helicopters with floats for over water operations increases the likelihood of occupant survival in the event of an emergency water ditching. Floats would allow the helicopter to remain on the surface of the water for a longer period of time, thus allowing the occupants time to exit while the helicopter is still on the surface of the water. For those helicopters equipped with inflatable floats, § 136.15(b) would require that the inflation activation switch be located on one of the primary flight controls (NTSB recommendation No. A-95-63) and armed under certain conditions.

In § 136.15(c), the FAA proposes an 18-month compliance date for retrofitting helicopters with floats and relocating the activation switch where necessary. The FAA requests comments on the proposed compliance date.

#### 6. Passenger Briefing

Proposed § 136.13 would require the pilot in command to ensure that passengers are briefed on water ditching procedures, use of life preservers, and emergency egress from the aircraft before a commercial air tour that includes a flight segment conducted over water. This provision is intended to ensure that occupants understand how to use the life preservers they are wearing and what to do in the event of a water ditching.

#### 7. Helicopter Performance Plan

Proposed § 136.17 would require air tour operators to complete a helicopter performance plan before each departure.