Provisions for the Accessibility of Infant Flotation Devices

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ICAO - Annex 6 Attachment D to Chapter 11

This presentation provides guidance on provisions in Annex 6 Operation of Aircraft, Part I International Commercial Air Transport - Aeroplanes

The appendix is related to the accessibility of infant flotation devices on board commercial passenger flights.



INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO Annex 6, Part I states the following: (CAT.IDE.A.285)

Landplanes shall carry life jackets

- → when flying over water and at a distance of more than 93 km (50 NM) away from the shore, in the case of landplanes operated;
- + when flying en route over water **beyond gliding distance from the shore**, in the case of all other landplanes; and
- → when taking off or landing at an aerodrome where, in the opinion of the State of the Operator, the takeoff or approach path is so **disposed over water** that in the event of a mishap there would be a likelihood of a ditching.

The equipment referred above shall comprise one life jacket or equivalent individual flotation device for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.

TYPES OF OCCURRENCES INVOLVING WATER CONTACT

There are three types of occurrences that involve water contact:

- Anticipated ditching;
- Unanticipated ditching; and
- Inadvertent water contact

Ditching - General

A ditching is defined as "the forced landing of an aircraft on water."

A ditching is a planned event in which flight crew knowingly make an emergency landing on water.

There are two types of ditching occurrences for which cabin crew members are typically trained in <u>anticipated</u> and <u>unanticipated</u>.

Anticipated Ditching

Definition of Anticipated ditching

In an anticipated ditching, cabin crew members receive information from the flight crew (NITS Briefing)

Based on the time remaining prior to landing, the cabin crew apply the appropriate procedures and checklist to prepare the cabin and passengers, in a sequence to ensure that priority items are identified and accomplished first. The preparation for an evacuation on water may include, <u>but is not limited to</u>:

- Cabin crew duties and responsibilities;
- Review of the brace position(s);
- Appropriate commands;
- Precautions and adaptations for passenger management;
- Time element and time management;
- Donning of life jackets; and
- Various possible aircraft attitudes, and associated evacuation procedures.



Anticipated ditching (cont)

In an anticipated ditching, the operator's procedures may require the cabin crew members to distribute and/or assist in donning flotation devices, or verify that they have been distributed, if the operator distributes them ahead of time.



Unanticipated Ditching

Definition - Unanticipated ditching

In an unanticipated ditching, cabin crew members may receive a <u>last-minute notification</u> from the flight crew that they will execute a landing on water.

Occurrences involving an unanticipated ditching are characterized by insufficient time for cabin crew members to apply any appropriate procedures or checklist to prepare the cabin and passengers for an evacuation on water.

Operator procedures for an unanticipated ditching are limited to cabin crew members:

- Recognizing emergency signal from the flight crew, which advises them of that a ditching is imminent;
- Taking their assigned station/seat;
- Checking door status (e.g. door is in appropriate mode; ditching configuration);
- Performing the silent review;
- Complying with flight crew emergency communication;
- Taking the brace position for impact; and
- Shouting the brace commands for a ditching

Unanticipated Ditching

Cabin crew members would not have time to distribute infant life jackets, nor to verify that they have been distributed,

As a result, responsible persons may not have immediate access to infant flotation devices.

The operator's procedures may include alternate means for the cabin crew members to distribute infant flotation devices during an unanticipated ditching (e.g. establishing approved locations for the stowage of infant flotation devices on board aircraft, which are easily accessible to the cabin crew).



Inadvertent Water Contact

Definition - Inadvertent water contact

An inadvertent water contact occurrence, or unintentional landing on a body of water, does not allow sufficient time to prepare the cabin for an evacuation on water.

An inadvertent water contact occurrence differs from a ditching because it is **an unplanned event** in which flight crew do not intentionally make an emergency landing on water.

An inadvertent water contact occurrence is usually the result of a runway excursion (a veer off or overrun off the runway surface), a runway undershoot, or an overshoot. It is characterized by an unexpected situation for which cabin crew members have no previous notification or time to prepare.

As with an unanticipated ditching, cabin crew members would not have time to distribute infant flotation devices, nor to verify that they have been distributed, if the operator distributes them ahead of time. As a result, responsible persons may not have immediate access to infant flotation devices.

The operator's procedures to manage such occurrences may be similar to those for an unanticipated ditching.

Inadvertent water contact

An inadvertent water contact occurrence is the most common water-related accident type.

Therefore, most water landings are generally unplanned events. They generally occur during the flight phases within close proximity to the airport, specifically **take-off**, **initial climb**, **final approach**, and **landing**.

Accidents that occur at or near the shore are within the range of airport or other emergency services.

Proximity to an airport and rescue services increases the survivability of occupants. The majority of survivable water-related accidents are inadvertent and occur near airports.





US Airways Flight 1549 (Video Clip)



Explanation of the ICAO provisions

EXPLANATION OF ICAO PROVISIONS

An Infant is defined as "a passenger who has not reached their second birthday".

The purpose of Annex 6, Part I, is to ensure that a means of flotation is provided for each person on board an aircraft.

An infant is considered a person and therefore, an infant life jacket or equivalent individual flotation device must be provided for each infant on board.

EXPLANATION OF ICAO PROVISIONS

ICAO does **not** recommend double-seat occupancy (e.g. lap-held transport of infants).

The safest way to secure an infant or child on board an aircraft is in a State-approved child restraint system (CRS), in a dedicated seat, appropriate for that infant or child. However, many States allow lap-held infants with or without supplemental restraint.

Regardless of the methods of restraining infants and children on board aircraft defined by the State, all cabin occupants, including lap-held infants, must have an individual flotation device available for use.

ICAO provisions do not differentiate between infants, children and adult passengers when it comes to the equipage and accessibility of life jackets or equivalent individual flotation devices





EXPLANATION OF ICAO PROVISIONS

ICAO provisions do not define the types of flotation devices to be carried for infants, children and adult passengers.

A flotation device intended for use by an adult may cause difficulties in insulation, flotation and positioning in the water when used by an infant.

Operators should consider providing specially-designed flotation devices for infants.

EXPLANATION OF ICAO PROVISIONS

Annex 6, Part I, calls for the life jacket or equivalent individual flotation device to be "stowed in a position easily accessible from the seat or berth of the person for whose use it is provided".

In this context, a responsible person is required to facilitate the use of the flotation device for the infant.

The notion of "easily accessible" means that the responsible person is able to be reach and obtain it without difficulty



Examples of Flotation Devices

EXAMPLES OF FLOTATION DEVICES

An individual flotation device is a piece of equipment, which when used by a person, provides an additional buoyant force to assist in supporting the body in water



EXAMPLES OF FLOTATION DEVICES

Flotation device	Suitability
Survival cot	Designed for an infant or child weighing less than 35 lbs. (15.88 kg), this inflatable mini life-raft provides a self- contained survival environment for an infant aimed at preventing the occupant's contact with water.
Infant life jacket	Designed for an infant or child weighing less than 35 lbs. (15.88 kg).
Child life jacket	Designed for a child weighing 35 to 90 lbs. (15.88 to 40.91 kg).
Child/adult life jacket	Designed for an adult or child weighing more than 35 lbs. (15.88 kg).
Adult life jacket	Designed for an adult weighing more than 90 lbs. (40.91 kg).
Universal (infant/child/adult) life jacket	Designed for an infant or child weighing less than 35 lbs. (15.88 kg) and an adult or child weighing more than 35 lbs. (15.88 kg).
Floating seat cushion	A removable seat cushion which can provide buoyancy in the water.

Stowage Considerations

STOWAGE CONSIDERATIONS Permanent installation of infant life jackets

Infant flotation devices may be permanently installed in a position easily accessible to the seated occupant, (e.g. under the passenger seat).

A permanent installation of infant life jackets, similar to that of adult life jackets, allows the device to be located within reach of the responsible person who would fit it to the infant.

It also results in all infant life jackets being found in a standardized location across the operator's fleet.

However, there is a significant variation in cabin interior designs, in-seat class characteristics, seat pitch and direction of travel, which might impact the operator's ability to designate a single, standardized location for infant life jackets across its fleet.

Infant flotation devices may be stowed in one or more specific locations in the cabin (i.e. bulk stowage). When determining the location(s) in the cabin for bulk stowage, the operator should consider the following points:

Usable exits in a ditching/inadvertent water contact -

Based on the aircraft make/model/series, some exits may be designated as unusable by the original equipment manufacturer (OEM). Unusable exits may be those that would be under the water line when the aircraft rests on water, or those not fitted with slide-rafts.

The operator should not assign a stowage location for infant like jackets in the vicinity of exits designated as unusable in a ditching or water contact by the OEM, as logically crew members and passengers would not egress via these exits.

Infant life jackets should be stowed near usable exits or along the egress path passengers and crew members would use to evacuate the aircraft make/model/series in question, during an evacuation on water;

Size of the cabin - Based on the aircraft make/model/series, distances between two parts of the cabin may be significant. Aircraft configurations have varying number of aisles (narrow/widebody) and of passenger decks. Therefore, a single centralized location for bulk stowage of infant life jackets may not be appropriate. The operator should consider multiple stowage locations, distributed throughout the cabin and on different decks, if applicable, to facilitate the cabin crew members' access to the devices; and

Number of flotation devices stowed together -

If the operator assigns multiple locations for bulk stowage, it should ensure that sufficient infant life jackets are available in each stowage location, or that the quantity of devices is commensurate to the number of passenger seats in the vicinity.

Accessibility - Stowage should allow for unobstructed access to infant life jackets, to facilitate distribution by the cabin crew members, at the required time. The designated stowage location(s) should be indicated by way of a clearly visible placard.

STOWAGE CONSIDERATIONS

The operator should define the method of distribution for infant flotation devices which are stowed in bulk:

- The operator's procedures may require cabin crew members to distribute the infant flotation devices to responsible persons prior to departure on every flight and then to collect the devices after landing.
 - **Potential challenges of this method include:** stowage considerations during flight (e.g. if there is no dedicated stowage location for the responsible person to stow the flotation device during the flight); damage to the flotation device; or removal of the flotation device from the aircraft (unintentionally or by theft).
- The operator's procedures may require cabin crew members to distribute the infant flotation devices to responsible persons as part of the preparation of the cabin in the event of an anticipated ditching. This method does not address the immediate availability of infant flotation devices in the event of an unanticipated ditching or inadvertent water contact occurrence, therefore **the operator should establish procedures to manage each type of occurrence**.

ADDITIONAL CONSIDERATIONS Procedures and training

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Regardless of the location of infant flotation devices, or the method of distribution, the operator should develop and implement procedures that address the use of this equipment in the three types of occurrences that involve water contact

Procedures should also address the number of units installed, including spares, and any limitations on the numbers of infants that may be transported, in relation to the number of infant flotation devices equipped on each aircraft make/model/series.

The operator's cabin crew operations manual (CCOM) should be amended to reflect these procedures. Cabin crew training should be revised to encompass the tasks cabin crew members must carry out in relation to infant flotation devices equipped in the operator's fleet (e.g. **pre-flight checks**, **distribution**, **operation specific to each type of flotation device**, etc.), for the different types of occurrences that involve water contact.

ADDITIONAL CONSIDERATIONS Procedures and training

Training should include simulated exercises in a representative training device capable of reproducing the appropriate environment/equipment, or on an actual aircraft, where cabin crew apply the operator's procedures and associated crew responsibilities for dealing with these occurrences.

Note.— Detailed guidance on the content of cabin crew training for different types of occurrences that involve water contact is found in the Cabin Crew Safety Training Manual (Doc 10002).



