

Questions and Issues arising from the US Airways 1549 Accident on 15/1/09

Overview

It must be acknowledged that there are really no “arising” issues out of this accident that have not been on the industry’s radar screen for many years, such as:

- Flight Crew procedures, training, and evaluation relative to simultaneous loss of all powerplants
- Flight Crew training and simulator evaluations of aircraft ditching procedures
- Flight Crew training beyond “how to fly” to include “how to crash”
- Preflight passenger safety briefings regarding use of life vests, rafts, and other flotation equipment for those flights that are not classified as “extended overwater” operations
- Validation of procedures dealing with how and when to inflate life jackets after a ditching
- Instantaneous communication between ATC and local search and rescue
- How to ensure that all passengers who boarded the flight have been evacuated and/or accounted for

The Industry should not wait for incidents and accidents to occur in order to closely evaluate potential risk and develop effective countermeasures. However, the sad truth is that the industry does not and they are therefore raised after an event

Key Questions to be considered

1. How many and which airports domestically and overseas are in proximity of water?
(While 2/3 of the Earth’s surface is covered in water, a robust risk assessment would require a detailed analysis of the 100+ stations that the airline operates into. Suffice to say at this time that the exposure is significant)
2. What specific training has been given to cockpit crew on water landings (reports in the USA state that “the maneuver is so rare that pilots are rarely trained for this”)?
(This statement is largely correct. In fact, during a 25 year career flying within the US domestic, Caribbean, and North Atlantic theatres of operation, the only exposure to water landing discussion was the OEM’s interpretation of what they “thought” their aircraft would do in the event of a water landing. These predictions were part of the initial ground school presentation and found in narrative form within the AOM. The IOSA FLT standards include requirements for flight crew training in normal and abnormal/non-normal procedures / maneuvers as well as emergency evacuation. There is no specific IOSA requirement for flight crew training to include simulated water landings / ditching due to the fact that there is no datum from which to formulate such training. It should be noted that there have been no successful open water ditchings involving a transport category turbojet aircraft)
3. Can Airbus and Boeing provide training support for water landings?
(Within the context of the response to #2 above, other than duplicate Navy and Coast Guard guidance on whether to land across or parallel to the swells in open water, there

is painfully little experience in this area causing the OEM people to be largely silent. Contact is suggested with the OEM Tech Reps for more follow up.)

4. Are we aware of contingency plans by local authorities at each domestic airport in proximity to water re 24/7 availability of rescue craft and people to handle the situation (There are probably silos problems between the depts involved as well with the local Governments)?
(The responsiveness of such services varies greatly depending upon State policies for manning and positioning of water craft and other SAR services. Once relevant information is obtained it should be directed to the ERP team to have included in applicable station emergency response plans.)
5. Is there any knowledge of such plans at overseas airports?
(ERP DEPT to do review of overseas airport Local Emergency Response Action Plan (LERAP). However, in most cases a water emergency would see the activation of the closest Coast Guard service by ATC and then follow-up by the authorities and operator. The ERP identifies Coast Guard services as an external organization for coordination and consultation, however the level of detail contained in the ERP is unknown. It should be noted that Coast Guard services are suitable for ocean related incidents/accidents but not necessarily inland water ways such as rivers and lakes as was the case with flight US1549)
6. Are there any lessons for cabin crew enhanced training on water evacuation?
(The IATA Cabin Crew Safety Forum / IOSA CAB Working Groups could be consulted regarding the benchmarking of current ditching evacuation procedures. It should be noted that the current cabin crew initial, recurrent and requalification training programs are IOSA compliant and as such include ditching and evacuation training components. These include practical ditching exercises (including pool training) during initial and requalification cabin crew training and at an interval not exceeding every 36 months for recurrent training, first aid training that includes water survival techniques and hyperthermia, specific standard verbiage, terminology and commands for communication between flight crew and cabin crew in the event of a forced landing or ditching)
7. Are there any steps that can be taken to prevent an aircraft sinking quickly?
(While specific procedures are stated in each aircraft type's AOM, it is most common that the aft exits be blocked (closed) in the event of a ditching and passengers be evacuated via the over-wing and forward exits. Cockpit procedures in some aircraft types require the closing of all engine pneumatic bleed valves to the cabin as well as the manual closing of pressurization outflow valves. The purpose of these procedures are to slow the rate at which the aircraft takes on water in a ditching. Further specifics can be obtained by conducting a review of the airline's aircraft type AOM's)
8. Do we need to re- test the effectiveness of our life vests and slides/chutes ?
(Life vests and slides are already subject to specific maintenance and testing programs. That is, life vests and slides are deemed as life limited components and monitoring procedures are required to ensure checking, testing and replacement. The airline procures its life vests and slides from approved vendors and there is an electronic system / database for the recording and monitoring of life limited component locations

and due dates. Further OEM maintenance procedures are followed for checks and tests. There are labels attached to each individual item that show their certification and expiry dates. The airline's life limited component procedures were verified during the last IOSA audit and the current Engineering department internal quality audit program also checks these requirements within the annual audit plan)

9. Would local government leaders be able to react in as quick a manner as the Mayor did in New York?

(This is a question to be directed at the appropriate government officials. The rate of response will differ depending upon government policy for resourcing marine and associated SAR services. Further there will be unpredictability of response based upon the population of the closest cities and associated number of private vessel within the vicinity of an accident site as well as variation based upon the time of day of such an accident.

The New York city response can be attributed to a number of factors that will not always be present at other water related aircraft accident locations, these include that New York is a large and densely populated city with a very effective emergency response strategy (further enhanced as a result of 9/11), there are many active water vessels on the Hudson river and the time of day was appropriate to facilitate timely response)

10. Can there be a pre-determined policy re availability of the pilot to appear in front of the media (in the USA, he did not join the press conference as it was stated it was subject to NTSB investigation whereas in the UK the pilot of BA38 which crashed on 17/1/08, a year ago , did appear with BA's CEO Willy Walsh)?

(The presentation of the flight crew before the media will be dependent upon the airline's media policy and related risks considered by the operator's legal team.

Typically, a legal team will prevent statements by any person that may be interrogated in a court of law or by another agency at a later date; this is a measure to mitigate any risks associated with statement variations. General industry practice at this time is NOT to have the pilot appear in public immediately after the event as there is not enough information as to whether he/she will ultimately be the hero or villain. While the BA Captain stood there next to Willie with the rest of his crew smiling and receiving the DFC, the AAIB later had some doubts regarding this. Leaning upon my years in this business, I would strongly recommend that the Operator does not produce the flight crew to the public during the early days of the investigation)

11. Although it is too early to speculate on cause, there is strong evidence of a bird strike , which very rarely has brought down a large aircraft. How many birds strikes has the airline had during each of the last ten years and at which airports (some airlines show this in the safety reports)?

The safety team maintain information regarding mandatory reportable occurrences including bird strikes. More specific details on regional bird strike rates may be obtainable from IATA's STEADES office, however this will not include data from all worldwide operators (only those that participate in the STEADES program). It is understood that there is a government department that the airline must submit bird strike details to (this may be the Wildlife department and/or airport authority for specific bird / wildlife control purposes). Clarification regarding the government

department responsible for bird strike and related bird control information should be directed to Corporate Safety).

12. If it becomes clearer that it was due to a bird strike, can the airline use this to generate a much more serious engagement with the authorities on the issue?
(One would think so. However, it must be borne in mind that wildlife control programs are an “airport-based” solution, and not an airspace based solution. To have more “pigeon patrols”, cannon discharges every 15 minutes, and multiple “bird sweeps” by ground vehicles would be challenging and this particular event from last week occurred at around 3200’ approx 4 miles from the airport.)

13. What other serious bird strike related accidents have happened and are there more lessons to be learnt?

(According to the LA Times, between 1990 and 2007, civilian pilots reported 79,972 bird strikes to the US Federal Aviation Administration. About 85% came from commercial airlines and the rest involved business, private or government aircraft. According to the FAA, 43 planes and helicopters were destroyed or damaged, mostly light aircraft. Eight strikes resulted in a total of 11 deaths

The number of bird strikes reported by civilian pilots to the FAA has dramatically increased, from 1,738 in 1990 to 7,439 in 2007. Globally, bird strikes have killed more than 220 people and destroyed more than 200 aircraft since 1988. According to the FAA, the increase coincides with a significant rise in commercial air travel in the United States as well as a resurgence of bird populations in urban environments.

* Nov. 29, 2007, a western grebe struck the No. 2 engine of a Boeing 757-200 as it climbed to 1,000 feet after takeoff from Los Angeles International Airport. The plane returned to LAX and made an emergency landing. FAA officials said the bird damaged 13 fan blades, which cost more than \$1 million to repair.

* November 1997, a Northwest Airlines Airbus A320 made an emergency landing at John Wayne Airport after a bird flew into an engine. All 103 passengers and crew aboard Flight 208 were uninjured, but they described an unsettling 30-minute ride as the pilot circled over what then was the El Toro Marine Corps Air Station to burn excess fuel before landing amid a phalanx of firefighters, airport security and other personnel.

*In one of the worst military accidents involving a bird strike, all 24 U.S. Air Force personnel were killed on Sept. 22, 1995, when their Boeing E-3B surveillance plane encountered a flock of Canada geese shortly after takeoff from Elmendorf Air Force Base near Anchorage. Geese flew into two of the plane's four engines, causing them to lose power.)

14. Should the airline participate in the annual meeting of the International Bird Strike Prevention Association?

(Given the bird strike rates at local airports it would be recommended that an airline representative attend such a forum)

