

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594
August 24, 2009

Addendum 3 to Group Chairmen's Factual Report

OPERATIONAL FACTORS / HUMAN PERFORMANCE

DCA09MA026

A. Accident

Operator: US Airways Group, Inc.
Location: Hudson River, New York, New York
Date: January 15, 2009
Time: 1527 eastern standard time¹
Airplane: Airbus A320-214, Registration Number: N106US, Serial #: 1044

Additional Information that was provided after the completion of the Factual Report:

13.1.1.1 Ditching Technique

The US Coast Guard defines ditching as a “forced landing of an aircraft on water”. The Coast Guard reports that most ditchings occur during critical phases of flight (takeoff, landing or hover) in which 92% have less than 1 minute warning and 28% have less than 15 seconds warning. Guidance provided to pilots states that pilots should fly the best glide speed, at 500 feet, a pilot has approximately 30 seconds until touchdown, aim for any vessels that are in sight and make appropriate radio calls to alert someone of the intentions.

According to the US Coast Guard *Aircraft Emergency Procedures Over Water* (USCG CG-306), “If no power is available, a greater than normal approach speed should be used down to the flare.

¹ All times are eastern standard time (EST) based on a 24-hour clock, unless otherwise noted. Actual time of accident is approximate.

This speed margin will allow the glide to be broken early and more gradually, thereby giving the pilot time and distance to feel for the surface -- decreasing the possibility of stalling high or flying into the water.” The Coast Guard further states that touchdown should be at the lowest speed possible while maintaining control and a soft field landing technique should be used.

13.1.1.2 Visual Illusions over Water

A review of the literature on visual illusions during flight over water uncovered one perceptual illusion related to landing on water. Known as the height perception illusion, this illusion manifests itself through the perception of greater height above the terrain than is reality.^{2,3} This illusion occurs over water, snow, or desert terrain where there is a lack of visual references, but can also occur when there is a lack of contrast due to smoke, rain, haze, fog or snow. It has been suggested that the height perception illusion can be minimized by observing shadows that are cast by objects that are nearby (if available). Pilots should also maintain a continuous scan of the flight instruments as well as an outside scan of the environment to help better identify the actual altitude and surface conditions. If this illusion is not recognized, an inappropriate rate of descent could occur and control inputs may be difficult to counteract.

² http://www.chinook-helicopter.com/standards/Illusions/Visual_Illusions.html

³ [http://www.usarmyaviation.com/pubs/FM%201-301%20\(New\)/ch9.htm](http://www.usarmyaviation.com/pubs/FM%201-301%20(New)/ch9.htm)