PRISM SOLUTIONS

RESEARCH BRIEF

Research Request:

WiFi Onboard Aircraft—Flight Crew Distraction

Research Response:

Civil Aviation Authority—UK

Anecdotal evidence indicates that a number of recent aircraft occurrences have been linked to the loss of situational awareness by flight crew whilst conducting non-essential activities to the safe conduct of flight and therefore loss of flight safety. Well-documented experience in the USA has led to the Federal Aviation Administration (FAA) in 2010 issuing Information For Operators (InFO) leaflet InFO 10003 entitled 'Cockpit Distractions' following similar events. Subsequently, the FAA is consulting on legislation to limit the use of PEDs in flight during Commercial Air Transport (CAT) type operations (Proposed Rules – Prohibition of Personal Use of Electronic Devices on the Flight Deck).

FAA InFO 10003

Background: Recent incidents and accidents have revealed pilots using PEDs, including laptop computers and mobile telephones, for personal activities unrelated to the duties and responsibilities required for conduct of a flight. In one instance, two pilots were using their laptop computers during cruise and lost situational awareness, leading to a 150 mile fly-by of destination. In another instance, a pilot was texting after the aircraft pushed back from the gate and before the take-off sequence. In still another instance, a Federal Aviation Administration (FAA) inspector in the jump seat overheard a crewmember's mobile phone ring during the takeoff roll.

Discussion: It is a crewmember's responsibility to guard against distractions on the flight deck. Technology continues to advance and provides our industry with new tools to assist crews in accomplishing their jobs. For instance, electronic flight bags (EFB) (both installed and portable) and high speed data transfer units are two of the more recent and increasingly common devices available. For the traveling public, PEDs are an established fact of life, particularly in the highly mobile air transportation industry. While PEDs can be valuable tools in aviation operations, crewmembers cannot permit PEDs to distract them from focusing on duties and responsibilities related to the flight. Regulations regarding sterile flight decks prohibit crewmembers from performing any duties not relating to the safe operation of the aircraft during critical phases of flight. At other phases of flight, crewmembers must avoid becoming distract-

ed by any task not related to the safe operation of the flight, whether it involves use of a PED or not. Maintaining the public trust is both a personal responsibility and professional requirement.

Recommended Action: Operators should create a safety culture that clearly establishes guidance, expectations and requirements to control cockpit distractions, including use of PEDs, during flight operations. Directors of Operations and Directors of Safety should review and reinforce these policies and guidance. Directors of training should review and reinforce crew training on this subject. Crewmembers should evaluate their personal practices, including those regarding the use of PEDs, to ensure they do not distract from or interfere with duties and responsibilities related to the flight.

Prohibition of Personal Use of Electronic Devices on the Flight Deck

C. National Transportation Safety Board Recommendations

On August 26, 2011, a Eurocopter AS350 B2 helicopter, operating under part 135, impacted terrain following an engine failure near the airport in Mosby, Missouri. The helicopter experienced fuel exhaustion because the pilot departed without ensuring that the helicopter was adequately fueled. The investigation determined that the pilot engaged in frequent personal texting, both before and during the accident flight. The pilot, flight nurse, flight paramedic, and patient were killed (CEN11FA599). As a result of its investigation, the NTSB issued the following recommendations:

- Prohibit flight crewmembers in 14 Code of Federal Regulations Part 135 and 91 subpart K operations from using a portable electronic device for nonoperational use while at their duty station on the flight deck while the aircraft is being operated.
- Require all 14 Code of Federal Regulations Part 121, 135, and 91 subpart K operators to incorporate into their initial and recurrent pilot training programs information on the detrimental effects that distraction due to the nonoperational use of portable electronic devices can have on performance of safety-critical ground and flight operations.
- Require all 14 Code of Federal Regulations Part 121, 135, and 91 subpart K operators to review their respective general operations manuals to ensure that procedures are in place that prohibit the nonoperational use of portable electronic devices by operational personnel while in flight and during safety-critical preparatory and planning activities on the ground in advance of flight.

NTSB—Eliminate Distraction in Transportation

Every major mode of transportation—highway, aviation, railroad, marine, and pipeline—requires that its operating personnel have well-established and practiced skills to use their equipment safely and effectively. These skills depend upon several human capabilities, such as cognitive attention and decision-making, visual recognition and identification, and manual motor skills for quick and accurate responses. When operating transportation equipment,

regardless of its size or class, operators must focus diligently and exclusively on the task of controlling their vehicles within dynamic environments to ensure that they and the public remain safe. With the expansive increase in portable electronic devices (PEDs), including cell phones, messaging and navigation systems, and entertainment devices, as well as the growing development of integrated technologies in vehicles, the NTSB is seeing a disturbing growth in the number of accidents due to distracted operators; often these accidents have deadly consequences.

NTSB investigations and other studies have revealed, however, that banning PEDs alone does not ensure that every operator devotes the appropriate attention, vigilance, and discipline necessary for safe operations. Education and company policies reinforce laws and regulations by explaining the dangers of distraction and what companies expect from their employees.

NTSB—Distracting Devices? Turn Them Off

PED-related distraction has played a role, or at least been present, in accidents involving improper fuel management, loss of positional awareness, loss of automation mode awareness, collision with obstacles, and loss of control.

- On December 30, 2007, a Cirrus Design SR-22 impacted terrain during a low-altitude fly-by of a friend's residence. The pilot was speaking on his cell phone during the fly-by when he encountered turbulent wind conditions and initiated a rapid climb; the airplane experienced an accelerated stall, resulting in loss of control. The NTSB found that the pilot's diverted attention while using his cell phone contributed to this accident. The pilot was killed. (LAX08FA043)
- On February 23, 2006, a Cessna 182D collided with power lines, located 100 feet above ground level, while flying over an interstate highway in night visual meteorological conditions. Evidence indicated that the pilot was speaking by cell phone with the driver of a nearby tractor-trailer, a friend, who was traveling on the highway in the same direction as the airplane. The pilot was killed. (NYC06LA073)

IS-BAO Mobile Phones and other Portable Electronic Devices

The IS-BAO recommends PED policies and procedures for operators.

- 4.7 It is recommended that the operator provide guidance on the use of mobile phones and PED for all personnel, including critical phases of flight and ground operations, operating vehicles, and maintenance work.