ACCIDENT INVESTIGATION COMMISSION
OFFICE OF THE CHIEF COMMISSIONER

AIC Head Office,
Level 1, NAQIA Haus, Portion 81, Moera Tobo Rd, 6 Mile
PO Box 1709, Boroko 111
National Capital District
Papua New Guinea

Telephone : (675) 323 2911
Facsimile : (675) 323 2139
Email : hnamani@aic.gov.pg

Safety recommendation: AIC 19-R11/18-1004

Addressed to: Air Niugini Limited

Date issued: 20 February 2019

Investigation link: AIC 18-1004

Action status: Issued

Introduction

On 28 September 2018, the Federated States of Micronesia, Department of Transportation, Communications and Infrastructure (DTC&I) was notified of the aircraft accident referenced in this safety recommendation. DTC&I commenced an investigation and deployed investigators to Chuuk and invited the Papua New Guinea Accident Investigation Commission (AIC) to join the investigation in the capacity of the State of Registry and also a State providing experts and facilities for the investigation. The AIC team is comprised of an Accredited Representative and Technical Advisers. The US National Transportation Safety Board (NTSB) as the State of Manufacture of the aircraft and in response to FSM National Government's request for assistance also sent a team comprised of an Accredited Representative and Technical Advisers from the Federal Aviation Administration (FAA) and Boeing. Technical Advisers from the US National Weather Service are assisting the US Accredited Representative.

The Transportation Safety Board of Canada (TSBC) as the State of Manufacture of specific components appointed an Accredited Representative and Technical Advisers to download the data from the AFIRS.

The PNG AIC has identified a significant safety deficiency, which if not rectified could result pilots and cabin crew not being appropriately trained to operate the emergency lighting in the event it does not auromatically illuminate following an accident. This could contribute to an accident or serious incident.

Occurrence

On Friday 28 September 2018, a Boeing 737-8BK aircraft, registered P2-PXE, was being operated by Air Niugini Limited, on a scheduled passenger flight from Pohnpei to Chuuk, Federated States of Micronesia.

At 23:17:19 UTC[1] (09:17:19 local time) the aircraft impacted the water of Chuuk Lagoon about 1,443 ft (440 m) short of the runway 04 threshold, during its approach to runway 04 at Chuuk International Airport. As the aircraft settled in the water, it turned clockwise through 210º and drifted 460 ft (140 m) south east of the runway 04 extended centreline, with the nose of the aircraft pointing about 265º.

There were 12 crew members and 35 passengers on board. Six passengers were seriously injured, and one passenger was fatally injured.

The 12 crew members and 34 passengers exited the aircraft and were promptly rescued and brought to shore by U.S. Navy divers (who were the first on scene), Chuuk State Government boats, Red Cross, Transco, and more than twenty privately-owned boats. Local divers located the fatally injured passenger in the aircraft 3 days after the accident.

1 The 24-hour clock, in Coordinated Universal Time (UTC), is used in this report to describe the local time as specific events occurred. Local time in the area of the accident, Pacific/Chuuk Time is UTC + 10 hours.

Safety deficiency description

The internal and external emergency lighting did not illuminate following the impact. The reason(s) the armed emergency lights did not illuminate is yet to be determined.

While the emergency switch in the cockpit overhead panel was armed, the pilots did not over-ride the switch and activate (switch on) the emergency lighting during the evacuation.

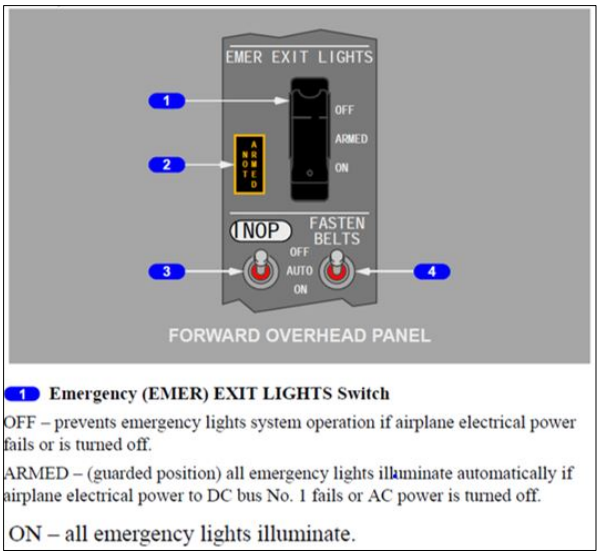


Figure 1: Cockpit Overhead Panel Emergency Light switch[2]

Figure 2: P2-PXE Cockpit Overhead Panel Emergency Light switch during the approach[3]

There is a *Passenger Cabin Emergency Lights Switch* at the *Aft Attendant Panel (Cabin crew station)*. When switched on (activated) that switch illuminates all emergency lights and bypasses the flight deck (cockpit) emergency light switch. The Cabin Crew did not activate the Aft Panel switch following the impact.

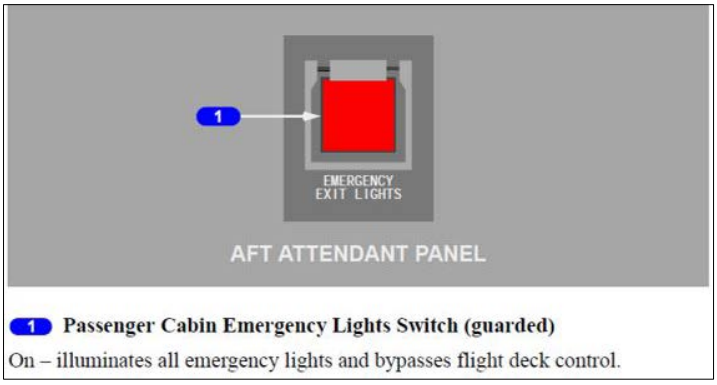


Figure 1: Aft Attendant Panel Emergency Light switch[4]

The investigation found that the *Air Niugini Boeing B737 – 800 Flight Crew Operating Manual (FCOM)* described the aircraft (P2 PXE) being fitted with exit lights located throughout the passenger cabin to indicate approved emergency exit routes.

2 Source: Air Niugini B 737-800 *Flight Crew Operating Manual*
3 Source: video taken by jump seat occupant.
4 Source: Air Niugini B 737-800 *Flight Crew Operating Manual*

The *Air Niugini's Training Reference Manual (TRM), Section 10.8.3* states that:

> The emergency lighting system was controlled by a switch in the flight deck and was to be placed in the *ARMED* position prior to flight. In that position, all interior and exterior emergency lights illuminate automatically if there is a total loss of electrical power.
>
> The pilot(s) could illuminate the emergency lights at any time by placing the flight deck emergency lights switch to ON. The emergency lighting switch located on the Flight Attendant panel at the aft entry door could be used to bypass the flight deck switch and illuminate the emergency lights, regardless of the position of the flight deck switch.

The flight deck aft DOME light contains a separate bulb that is powered by the emergency lighting system to provide illumination for the flight deck evacuation.

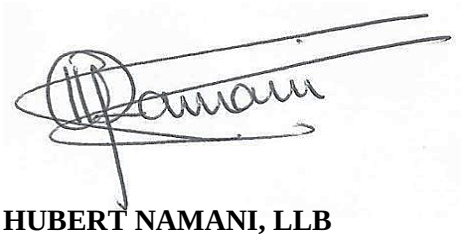
The investigation found that the relevant Air Niugini manuals including the *Quick Reference Handbook,* did not provide instructions or emergency procedure(s) for the manual operation of the emergency lighting switches located in the cockpit overhead panel, or on the *Aft Attendant's Panel.*

Recommendation number *AIC 19-R11/18-1004* to Air Niugini Limited

The PNG Accident Investigation Commission recommends that Air Niugini Limited should, as a matter of urgency, ensure that the relevant Air Niugini manuals, including the *Quick Reference Handbook, Evacuation Checklist,* are amended to provide instructions and emergency procedures for the manual operation of the emergency lighting switch in the cockpit, and the switch located on the *Aft Attendant's Panel*, and that all pilots and Cabin Crew are instructed in their importance and use.

Action requested

The Accident Investigation Commission requests that Air Niugini Limited note recommendation *AIC 19-R11/18-1004* and provide a response to the PNG AIC within 60 days, but no later than 20 April 2019, and explain including with evidence how Air Niugini Limited has addressed the safety deficiency identified in *Safety Recommendation AIC 19-R11/18-1004.*



HUBERT NAMANI, LLB
Chief Commissioner

20 February 2019.

Air Niugini Safety Action

On 26 March 2019, Air Niugini Limited informed the PNG Accident Investigation Commission of its safety actions to address the safety deficiencies identified in *Safety Recommendation AIC 19-R011/18-1004.*

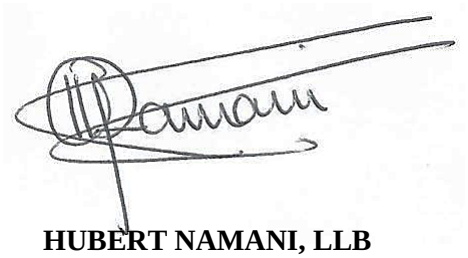
Air Niugini also provided documentary evidence of the safety action taken with the CASA PNG accepted[5] amendment of the *Safety and Emergency Procedures Manual (SEPM) Vol 6, Section 2.14.3 and 2.14.4.* Air Niugini further informed the AIC that the QRH is to be amended in consultation with Boeing.

5 CASA PNG does not *approve* the Air Niugini manuals, rather it *accepts* the Air Niugini manuals.

PNG Accident Investigation Commission (AIC) assessment of Air Niugini Limited response

The AIC has reviewed the Air Niugini Limited documents providing evidence to the AIC of the safety action taken with respect to evacuation procedures and checklists. The AIC is satisfied that the evidence mostly addressed the safety deficiencies identified in the AIC *Safety Recommendation AIC 19-R11/18-1004* and proposed action underway with Boeing will ensure the safety deficiency is fully addressed.

The AIC has assigned the Air Niugini Limited response a ***satisfactory intent*** rating, and records the **Status of the AIC Recommendation: CLOSED RESPONSE ACCEPTED**



HUBERT NAMANI, LLB
Chief Commissioner

26 March 2019.