



Air Accident Investigation Unit Ireland

FACTUAL REPORT

SERIOUS INCIDENT

Boeing 747-430, D-ABVH

North Atlantic

19 November 2012



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport

FINAL REPORT

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In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No. 996/2010 and the provisions of S.I. 460 of 2009, the Chief Inspector of Air Accidents, on 19 November 2012, appointed Mr Paddy Judge as the Investigator-in-Charge to carry out an investigation into this Serious Incident and prepare a Report. The sole purpose of this investigation is the prevention of aviation Accidents and Incidents. It is not the purpose of the investigation to apportion blame or liability.

Aircraft Type and Registration:	Boeing 747-430, D-ABVH
No. and Type of Engines:	4 x GE CF6-80C2B1F
Aircraft Serial Number:	25045
Year of Manufacture:	1991
Date and Time (UTC):	19 November 2012 @ 05:38 hrs
Location:	North Atlantic
Type of Operation:	Commercial Air Transport, Scheduled Passenger
Persons on Board:	Crew 16 Passengers 266
Injuries:	None
Nature of Damage:	None
Commander's Licence:	ATPL
Commander's Details:	Male, 46 years old, German
Commander's Flying Experience:	12,000 hours of which 545 were on type
Notification Source:	Dublin Airport Operations Duty Manager
Information Source:	AAIU Field Investigation Pilot Report Form



SYNOPSIS

During cruise the First Officer (F/O) began to feel unwell. His condition deteriorated progressively while the aircraft was over the North Atlantic Ocean. The Commander was advised by a doctor on board that the F/O should be brought to hospital and a decision was taken to divert to Dublin. An experienced captain with a different airline, who was travelling as a passenger, was identified by the cabin crew and assisted the Commander with cockpit duties for descent, approach and landing. Following an uneventful landing the F/O was taken to hospital by ambulance.

1. FACTUAL INFORMATION

1.1 History of the flight

Flight LH403/18 departed Newark Airport (KEWR), United States, at 23.23 hrs on the 18 November 2012, with Frankfurt (EDDF) Germany as the intended destination. The crew consisted of the Flight Crew and 14 Cabin Crew, the Flight Crew being the Commander, whose role was Pilot Monitoring (PM), and the F/O operating as Pilot Flying (PF).

While en-route, shortly after passing over Newfoundland and the east coast of North America at Flight Level (FL) 380, the F/O informed the Commander that he was feeling tired and requested a 10 minute rest. The Commander then assumed the PF function.

After the F/O woke up, he reported that he was still feeling very tired, dizzy and had difficulties concentrating. The Commander requested the Purser to find out if there was a doctor on board to examine the F/O. Three doctors responded and took care of the F/O in the crew-area behind the cockpit. The F/O slept again but when he awoke, he complained of a severe headache and commenced vomiting. The principal doctor looking after the F/O then advised that the F/O would be unable to return to his duties and that he should be removed to hospital.

The Commander advised the Investigation that by then the aircraft was approximately 30°W longitude, or over half-way across the Atlantic in time. He stated that, having consulted with International SOS¹, he decided to divert to Dublin (EIDW) as a suitable airport with a hospital close by. An examination of the passenger list revealed that there were a number of airline staff on board. The Cabin Crew identified that one of these was a Boeing 767 captain from another airline with 11,000 hours flying experience. The Commander, having checked this captain's pilot's license and identity, ascertained that he could assist him on the flight deck and allowed him to sit in the F/O's seat, while performing PM duties under his command and supervision.

The Commander reported that having declared an emergency, the relevant Air Traffic Control (ATC) centres coordinated a straight-in approach onto Runway (RWY) 10 at EIDW where the aircraft landed at 05.38 hrs. He stated that the approach, landing and taxiing in at EIDW were uneventful and that they were well-coordinated by the ATC controllers.

¹ **International SOS:** An international organisation that provides medical advice.

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1.2 Subsequent Events

The Commander stated that medical assistance was waiting at EIDW to take the F/O to hospital and that a flight attendant's husband accompanied the patient to the hospital. The Commander stated that he was later informed that the F/O should wait for about eight hours for further examination. The Commander informed the Investigation that, after the helpful intervention of his company management and International SOS, the hospital sent a specialist to further examine the F/O. Following this the F/O was allowed to travel back to EDDF on D-ABVH, which was operated by a relief crew that had arrived into EIDW. A medical service was provided at EDDF to take him to a clinical centre for further medical examination.

As is the case for all pilots, revalidation or renewal of a Medical Certificate after a period of illness is subject to the individual passing the required medical tests to the satisfaction of an Authorised Medical Examiner (AME). Following this, the individual has to regain currency on type. This involves training as necessary and Proficiency Checks.

1.3 Personnel Information

1.3.1 (Commander)

Personal Details:	Male, aged 46 years
Licence:	ATPL issued by Germany -Valid
Last Proficiency Check:	20 October 2012
Medical Certificate valid to:	13 December 2012
Last Line Check:	23 February 2012

Flying Experience:

Total all types:	15,300	hours
Total all types P1:	12,000	hours
Total on type:	545	hours
Total on type P1:	545	hours
Last 90 days:	89	hours
Last 28 days:	17	hours
Last 24 hours:	6	hours

Duty Time:

Duty Time up to landing:	7 hours 25 mins
Rest period prior to duty:	24 hours

1.3.2 (First Officer)

Personal Details:	Male, aged 35 years
Licence:	ATPL issued by Germany -Valid
Last Proficiency Check:	28 August 2012
Medical Certificate valid to:	30 December 2012
Last Line Check:	10 September 2012



Flying Experience:

Total all types:	7,513	hours
Total on type:	1,913	hours
Total on type P1:	0	hours
Last 90 days:	89	hours
Last 28 days:	15	hours
Last 24 hours:	6	hours

Duty Time:

Duty Time up to landing:	7 hours 25 mins
Rest period prior to duty:	24 hours

1.4 Crew Resource Management

Crew Resource Management (CRM) is an essential element in the operation of commercial aircraft. Both Flight Crew and Cabin Crew are trained in CRM procedures, which involve good crew co-ordination, effective communications, good situational awareness and conflict resolution techniques. The use of CRM makes optimum use of all available resources resulting in the safe and effective operation of the aircraft.

2. **AAIU COMMENT**

During the cruise, as the aircraft commenced its Oceanic crossing, the F/O informed the Commander that he was feeling tired. The Commander then assumed the PF function and allowed the F/O to rest. As the F/O became more unwell a doctor was requested and the F/O was correctly treated outside the cockpit in the crew rest area. Later a more serious situation developed where the F/O became incapacitated and thus unfit for duty, with medical advice being that he should be brought to hospital.

This resulted in a serious situation with an en-route diversion being made into an airport which was not on the original flight plan and where the aircraft was not expected. Consequently, with a higher than normal workload and no crosscheck available from his F/O, the Commander correctly sought additional resources from within the aircraft. With the assistance of the Cabin Crew, an experienced captain was located who was qualified on an aircraft type somewhat similar to the incident aircraft type. Although the aircraft size and the number of engines were dissimilar, nevertheless the same operational philosophy and systems design tend to carry from one aircraft to another within a Manufacturer's line of products. Consequently this pilot was a good choice and was adequately equipped to provide additional assistance in this situation.

Incapacitation of a flight crew member is a serious incident and placed the operation outside the certification requirements of a minimum of two qualified pilots to operate the aircraft. The situation was dealt with in a professional manner by the Commander, who assisted by his Cabin Crew, employed the principles of CRM and located another pilot to assist him.

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3. CONCLUSIONS

(a) Findings

1. The Flight Crew were properly licensed.
2. As the flight progressed, the F/O became increasingly ill and was unable to carry out his duties on the flight deck.
3. Another pilot was found among the passengers who was able to assist in the cockpit.
4. The flight diverted to a suitable airport where a safe landing was made.
5. The Commander utilised the principles of CRM to deal effectively with the situation.

4. SAFETY RECOMMENDATIONS

This Investigation does not sustain any Safety Recommendations.

- END -

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No. 996/2010, and Statutory Instrument No. 460 of 2009, Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulation, 2009, the sole purpose of this investigation is to prevent aviation accidents and serious incidents. It is not the purpose of any such investigation and the associated investigation report to apportion blame or liability.

A safety recommendation shall in no case create a presumption of blame or liability for an occurrence.

Produced by the Air Accident Investigation Unit

AAIU Reports are available on the Unit website at www.aaiu.ie



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