Havarikommissionen
Accident Investigation Board Denmark

BULLETIN

Serious incident

5-2-2014

involving

LN-RPY

Certain report data are generated via the EC common aviation database

FOREWORD

This bulletin reflects the opinion of the Danish Accident Investigation Board regarding the circumstances of the occurrence and its causes and consequences.

In accordance with the provisions of the Danish Air Navigation Act and pursuant to Annex 13 of the International Civil Aviation Convention, the investigation is of an exclusively technical and operational nature, and its objective is not the assignment of blame or liability.

The investigation was carried out without having necessarily used legal evidence procedures and with no other basic aim than that of preventing future accidents and serious incidents.

Consequently, any use of this bulletin for purposes other than preventing future accidents and serious incidents may lead to erroneous or misleading interpretations.

TABLE OF CONTENTS

BULLETIN

General

File number:	HCLJ510-2014-259
UTC date:	5-2-2014
UTC time:	15:45
Occurrence class:	Serious incident
Location:	Copenhagen FIR, 30 nm north of Copenhagen Kastrup (EKCH)
Injury level:	None

Aircraft

Aircraft registration:	LN-RPY
Aircraft make/model:	BOEING 737 600
Current flight rules:	Instrument Flight Rules (IFR)
Operation type:	Commercial Air Transport Revenue operations Passenger
Flight phase:	En route
Aircraft category:	Fixed wing Airplane
Last departure point:	Sweden ESSA (ARN): Stockholm/Arlanda
Planned destination:	France LFPG (CDG): Paris Charles-De-Gaulle
Aircraft damage:	None

Notification

All times in this report are UTC.

The Aviation Unit of the Danish Accident Investigation Board (AIB) was notified of the serious incident by the Swedish Accident Investigation Authority on 6-2-2014 at 11:30 hrs.

The Danish Transport Authority (DTA), the International Civil Aviation Organization (ICAO), the European Aviation Safety Agency (EASA), the Directorate-General for Mobility and Transport (DG MOVE), the Swedish Accident Investigation Authority and the AIB Norway were notified about the serious incident on 14-2-2014.

FACTUAL INFORMATION

History of the flight

The serious incident took place on a scheduled commercial IFR flight from Stockholm Arlanda (ESSA) to Paris Charles de Gaulle (LFPG).

During cruise and approximately 30 nm north of Copenhagen Airport, Kastrup (EKCH), the first officer, who was the pilot flying, began to feel uncomfortable.

He informed the commander that he felt dizzy, nauseous and thought that he was going to vomit.

The commander took control of the aircraft and relieved the first officer from his flying duties.

The first officer left the cockpit to go to the toilet. When the first officer entered the forward galley, he had to sit down on a cabin crew seat.

A cabin crew member, who was a trained nurse, assisted the first officer.

The first officer's dizziness increased and he was instructed to lie down on the galley floor.

The first officer reported to the commander that he would not be able to resume his duties or return to the cockpit.

As a consequence, the commander initiated preparations for a possible diversion.

Meanwhile, two medical doctors traveling as passengers on board the flight had come to the galley.

They provided oxygen to the first officer and reported that his condition was stable, but that he was still dizzy and not feeling better.

The commander decided to divert to EKCH and began the coordination with air traffic control and the airline operator.

By the commander and in order to assist with the radio communication if necessary, a cabin crew member was instructed to take over the first officer's seat in the cockpit.

The approach and landing was uneventful.

During this period there was no change in the condition of the first officer.

After landing the aircraft taxied to the gate, where the first officer was met by an ambulance crew and transported to hospital for treatment.

Medical information

The serious incident took place on the third consecutive day of the flight duty period. The commander and the first officer had been scheduled together for the entire period.

On the day of the serious incident, the first officer checked in for duty feeling well rested and fit for flight.

The first officer had no previous problems with digestion or medical history in regard to stomach diseases.

It was not possible to trace any source of food indicating the first officer had been subjected to food poisoning on the day of the serious incident or the day before.

During the sequence of events, the first officer did not throw up.

Upon landing at EKCH, the first officer was examined in a hospital. Without any diagnosis, the first officer was released around mid-night.

After having returned to his home-base, he consulted a medical specialist, who diagnosed the illness as virus related.

Operator's flight procedures

Below is an extract of the operator's "Operating Procedure - Flight Procedures":

8.3.15 Incapacitation of Crew Members

2. Types of Incapacitation

Obvious incapacitation: means total functional failure and loss of capabilities. This generally will be easily detectable and will be a prolonged condition. Among the possible causes are heart disorders, severe brain disorders, severe internal bleeding, etc.

Subtle incapacitation: this may be considered a more significant operational hazard, because it is difficult to detect and the effects can range from partial loss of functions to complete unconsciousness. Possible causes might be minor brain seizures, hypoglycaemia (low blood sugar), other medical disorders or preoccupation with personal problems.

Since the crew member concerned may not be aware of, or capable of rationally evaluating his situation, this type of incapacitation is very dangerous.

3. Causes and Effects

As explained before, incapacitation may range from minor cases of physiological upsets associated with intercurrent mild disease or mental stress which may result in reduced levels of judgement or physical co-ordination up to a complete collapse.

The causes for a mild incapacitation include:

• Body pains such as toothache, headache, gastro-enteritis, the delayed effects of alcohol, drugs or medication, common disorders such as a cold, etc.
• Heart troubles, an acute infection, thrombosis, epilepsy, hypoglycaemia (extremely low sugar level) and others belong to the more serious causes of a sudden collapse.

5. Actions to be Taken - Flight Crew

First Step:

• Take over control of the aircraft by announcing "My Controls",
• Engage autopilot,
• Declare an urgency or emergency - whichever is applicable -,
• If possible have the incapacitated flight crew member removed from his seat. In any case his seat should be moved fully back to prevent obstruction of flight controls, switches, levers, etc.
The help of other crew members might be required.

Second Step:

• Take care of the incapacitated crew member by trying to provide first aid (ask if doctors or other medical personnel are onboard),
• Arrange a landing as soon as practicable after considering all pertinent factors,
• Arrange medical assistance after landing - giving as many details about the condition of the affected crew member as possible.

Third Step:

• Prepare for landing (cockpit and cabin), but do not press for a hasty approach.
• Perform approach checklist earlier than normal (request assistance from other crew members or "capable" persons),
• Request radar vectoring and make an extended approach - where possible - to reduce workload,
• For landing do not change seats - fly the aeroplane from your normal position,

• Organize work after landing; this will include:
- Depending on the situation, a change of seats for taxiing in, but only after the aeroplane has come to a complete stop;
- Arrangements for the parking of the aeroplane.
- Having the incapacitated crew member off-loaded to the ambulance as quickly as possible

6. Actions to be Taken - Cabin Crew

6.1. Pilot Incapacitation

In case of pilot incapacitation, assist the remaining flight crew as required.

• Keep the CDR informed of how the situation progresses.
• If landing is necessary, prepare the cabin for landing.

ANALYSIS

In the opinion of the Danish AIB, the incapacitation of the first officer was caused by a virus related infection, as diagnosed by the medical specialist and not due to food poisoning.

This is the single most important issue in regard to the safety of the flight, as the remaining cockpit crew member, i.e. the commander, most likely would not be subjected to a similar incapacitation.

It was not possible to determine when the first officer was exposed to source of the virus infection. However, the Danish AIB assumes that it might have happened before the start of the three day duty period.

When the first officer informed the commander that he was not feeling well and had to leave the cockpit, the commander and the cabin crew members acted according to the operator's procedures for flight crew incapacitation.

The crew actions mitigated any potential negative safety effects for the remaining part of the flight. The crew provided medical assistance to the first officer as fast and efficient as could be expected under the actual circumstances.

This included the use of both internal (crew and operator) and external resources (passenger, air traffic control and ground medical assistance).

In the opinion of the Danish AIB, the effects of the incapacitation on the safety of the flight were very limited.

CONCLUSIONS

A virus related infection was the most probable cause of the incapacitation of the first officer.

Additional findings:

1. The risk of other crew members becoming incapacitated was almost non-existing since no indication of food poisoning was revealed.
2. The crew's adherence to the operator's procedures mitigated potential negative safety effects.
3. At no point during the sequence of events, did the incapacitation endanger the safety of the passengers and the aircraft.