



Statens haverikommission
Swedish Accident Investigation Board

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Incident on board aircraft SE-RAC in the airspace between Stockholm and Helsinki on the 2nd of December 2002

Dnr L-01/03

SHK investigates accidents and incidents with regard to safety. The sole objective of the investigations is the prevention of similar occurrences in the future. It is not the purpose of this activity to apportion blame or liability.

Translated by Dennis Lynn Anderson; from the original Swedish, at the request of the Swedish Accident Investigation Board.

In case of discrepancies between the English and the Swedish texts, the Swedish text is considered the authoritative version.

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Swedish Civil Aviation Administration

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Report RL 2003: 25e

The Swedish Accident Investigation Board (Statens haverikommission, SHK) has investigated an incident which took place on the 2nd of December 2002 in the airspace between Stockholm and Helsinki, on board an aircraft with the registration SE-RAC.

In accordance with section 14 of the Ordinance on the Investigation of Accidents (1990:717) the Board herewith submits a final report on the investigation.

Lena Svenaeus

Monica J. Wismar

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L-01/03
Finalized 2003-07-23

<i>Aircraft: registration, type</i>	SE-RAC, Embraer EMB 145LR
<i>Class, airworthiness</i>	Normal, valid certificate of airworthiness
<i>Owner/operator</i>	GATX Third Aircraft Corporation/City Airline AB
<i>Time of occurrence</i>	2 nd of December 2002, 13:10–13:40 hours in daylight <i>Note:</i> All times refer to Swedish standard time (UTC + 1 hour)
<i>Place of occurrence</i>	In the airspace between Stockholm and Helsinki, (approximate pos 5939N 01755E and 6019N 02457E)
<i>Type of flight</i>	Scheduled flight
<i>Weather</i>	According to SMHI's analysis for Helsinki at 13:40 hours: wind 150°/10 knots, visibility 7 km in snow, overcast clouds with the cloudbase at 800 feet, temp./dew point -5/-8 °C, QNH 1023 hPa.
<i>Persons onboard:</i>	
<i>crew</i>	Pilots 2 Cabin crew 1
<i>passengers</i>	17
<i>Injuries to persons</i>	None
<i>Damage to aircraft</i>	None
<i>Other damage</i>	None
<i>Commander:</i>	
<i>Sex, age, licence</i>	Male, 30 years old, ATPL ¹ (A)
<i>Total flying time</i>	3,530 hours, of which 1,120 hours on the type
<i>Flying time previous 90 days</i>	110 hours, all on the type
<i>Number of landings previous 90 days</i>	85
<i>Co-pilot:</i>	
<i>Gender, age, licence</i>	Male, 31 years old, CPL ² (A)
<i>Total flying time</i>	1,535 hours, of which 855 hours on the type
<i>Flying time previous 90 days</i>	188 hours, all on the type
<i>Number of landings previous 90 days</i>	121

The Swedish Accident Investigation Board (SHK) was notified on the 10th of January 2003 that an incident had taken place on board an aircraft with registration SE-RAC in the airspace between Stockholm and Helsinki on the 2nd of December 2002 at time 13:10–13:40.

The incident has been investigated by SHK represented by Lena Sve-naeus, chairperson, and Monica J. Wismar, Chief Investigator flight operations.

Dr.Christer von Hedenberg has assisted SHK as medical expert.

¹ ATPL (A) - Airline Transport Pilot Licence Aeroplane

² CPL (A) – Commercial Pilot Licence Aeroplane

The investigation was followed by The Swedish Civil Aviation Administration, represented by Max Danielsson.

History of the flight etc.

The pilots were to perform a flight from Gothenburg/Landvetter airport, Sweden to Helsinki/Vantaa airport, Finland. Prior to the flight the commander had informed the co-pilot that he had the chills and was not feeling very well, but that his condition would in no way impede the flight.

They departed from Landvetter with the co-pilot as the flying pilot. The commander assisted him and handled the radio communications. After approximately 20 minutes of flight, when they had reached their assigned cruising level, the commander's physical condition worsened and the co-pilot noticed that the commander was having difficulties in following the radio communications. The commander also became tired, ashen and eventually sick to his stomach. The co-pilot informed the commander that he was taking command of the flight and also informed the cabin attendant of the situation.

As they approached Helsinki they were instructed by air traffic control to enter holding in order to be number five for approach clearance. During the ensuing time the commander had become even more ill and had begun to vomit. The co-pilot then transmitted the priority message "PAN PAN"³ and described the situation. They then received priority for a direct approach and landing. The approach and landing was accomplished without problems. Just prior to landing the commander began to feel a little bit better and was able to assist during the taxi-in to the parking ramp area.

After the passengers had left the aircraft the commander's condition worsened once again and he began to have the chills. He declined medical attention and was taken to a hotel where he remained overnight.

When the co-pilot had informed the company and the chief of flight operations of the incident, it was arranged so that a replacement commander could take over, and together with the rest of the crew, fly back to Gothenburg later that evening. The chief of flight operations maintained contact with the sick commander in order to remain informed of his condition. The commander did not want any medical attention; he only wanted to rest.

The commander was not examined by a physician in Helsinki, nor in Gothenburg after his return there. Subsequent to the occurrence, both pilots felt the need to discuss what had taken place.

In the company's Operations Manual (OM) Part A Chapter 4.3, there is a description of the routines which are applicable concerning "Flight Crew Incapacitation". In addition to the crew being urged to land as soon as possible at the nearest suitable airport, it is stated in Chapter 4.3.3.4 Post Flight Actions, that a report shall be submitted to the company physician in order that suitable medical treatment may be prescribed. It is also stated that subsequent to an occurrence that entails a crew member becoming partially or completely incapacitated while on duty, all active crew members shall be removed from flight duty and consult with an civil airport medical officer who can take adequate measures.

These instructions were partially unknown to the crew. When the chief of flight operations had contacted both pilots after the incident, he was not aware that they felt the need to further discuss the occurrence.

The commander has never before had any serious illness. The day prior to the flight he had felt healthy and in good psychological balance. During the day he had been visited by a good friend who had experienced stomach problems a few days earlier.

³ PAN PAN - international priority transmission

The co-pilot wrote an incident report and delivered it to the company, which thereafter forwarded it to the Swedish Aviation Safety Authority. There it was registered and forwarded to SHK for judgment concerning investigation, according to the rules in ICAO⁴ Annex 13 for serious incidents. The report was also sent to the Swedish Aviation Safety Authority's supervisory section for measures to be taken by the "Principal Inspector" of operational control.

The Swedish Aviation Safety Authority has, subsequent to this occurrence, introduced a routine concerning incidences with "Flight Crew Incapacitation", to even send reports to the Medical Division of the Civil Aviation Administration. The supervisory section has also urged the chief of flight operations at the company to place special emphasis on the applicable instructions in the OM during internal recurrent training sessions.

Conclusions

With mild symptoms such as the commander experienced during the morning, it can sometimes be difficult for a pilot to decide if he or she should perform flight duties. However, from experience it is known that stomach sicknesses can rapidly worsen to the point that one becomes incapacitated.

As the commander was not examined by a physician in conjunction with the incident, there is not sufficiently detailed medical information available to establish a definite diagnosis. However, the condition probably involved an acute fever with gastrointestinal symptoms which brought about the commander's incapacitation/diminished capacity.

The co-pilot was correct in taking-over the flight and subsequently transmitting a "PAN PAN" in order to land as soon as possible. Considering the fact that the commander's condition could have become worse, it would also have been wise to request medical assistance upon landing as a safety measure. Furthermore, some form of monitoring of the commander's condition should have been arranged after his arrival at the hotel.

In the company's OM there is a detailed description of the measures to be taken if a crew member becomes completely or partially incapacitated during flight. The fact that the crew did not have full knowledge of the prescribed procedures in the OM and that the prescribed procedures concerning medical examination were not followed indicates deficiencies within operational management. In any case, it would have been appropriate to remove the crew from duty for discussion.

⁴ ICAO – International Civil Aviation Organization