

Ref. No 410/05/ZZ

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FINAL REPORT

**Investigation Unauthorised penetration of airspace
and separation minima infringement
OK-PNM and SAS 765
at TMA II LKPR
on 28th of August 2005**

Prague
December 2005

A) Introduction

Operator: Czech Republic's Flying Club
Aircraft type: Moravan Otrokovice, Z-142, registration mark OK-PNM
and
Operator: Scandinavian Airlines System
Aircraft type: De Havilland INC, DHC8D, call sign SAS 765

Place of Incident: at TMA II Prague (LKPR)
Date: 28th of August 2005
Time: 11:28 UTC (All times in this report are UTC)

B) Synopsis

On 28th August, 2005 ÚZPLN (Air Accident Investigation Institute of the Czech Republic, AAI) received from ANS ČR (Air Navigation Services) a report about an incident (Unauthorized penetration of airspace) between the scheduled flight of a DHC8D airplane of the Scandinavian Airlines System, call sign SAS 765, flying in TMA II LKPR, and a Z-142 airplane of Aeroclub plc of the Czech Republic, registration mark OK-PNM, towing an ASW 19 glider, registration mark OK-5117.

In accordance with the standards set in ICAO Annex / L 13, the Czech Republic was the State of Occurrence and AAI carried out the investigation.

The cause of the incident was investigated by an AAI commission comprising:

Investigator in charge: Ing. Radomír Havíř, AAI Czech Republic
Member: Milan Pecník, AAI Czech Republic

The Final report was released by:

ÚSTAV PRO ODBORNĚ TECHNICKÉ ZJIŠŤOVÁNÍ PŘÍČIN LETECKÝCH NEHOD
Beranových 130
199 01 PRAHA 99

On the 21st of December 2005.

C) The Final report includes the following main parts:

- 1) Factual information
- 2) Analysis
- 3) Conclusions
- 4) Safety recommendation
- 5) Annexes (to copy No.1 stored in UZPLN archive)

1 Factual information

1.1 History of the incident

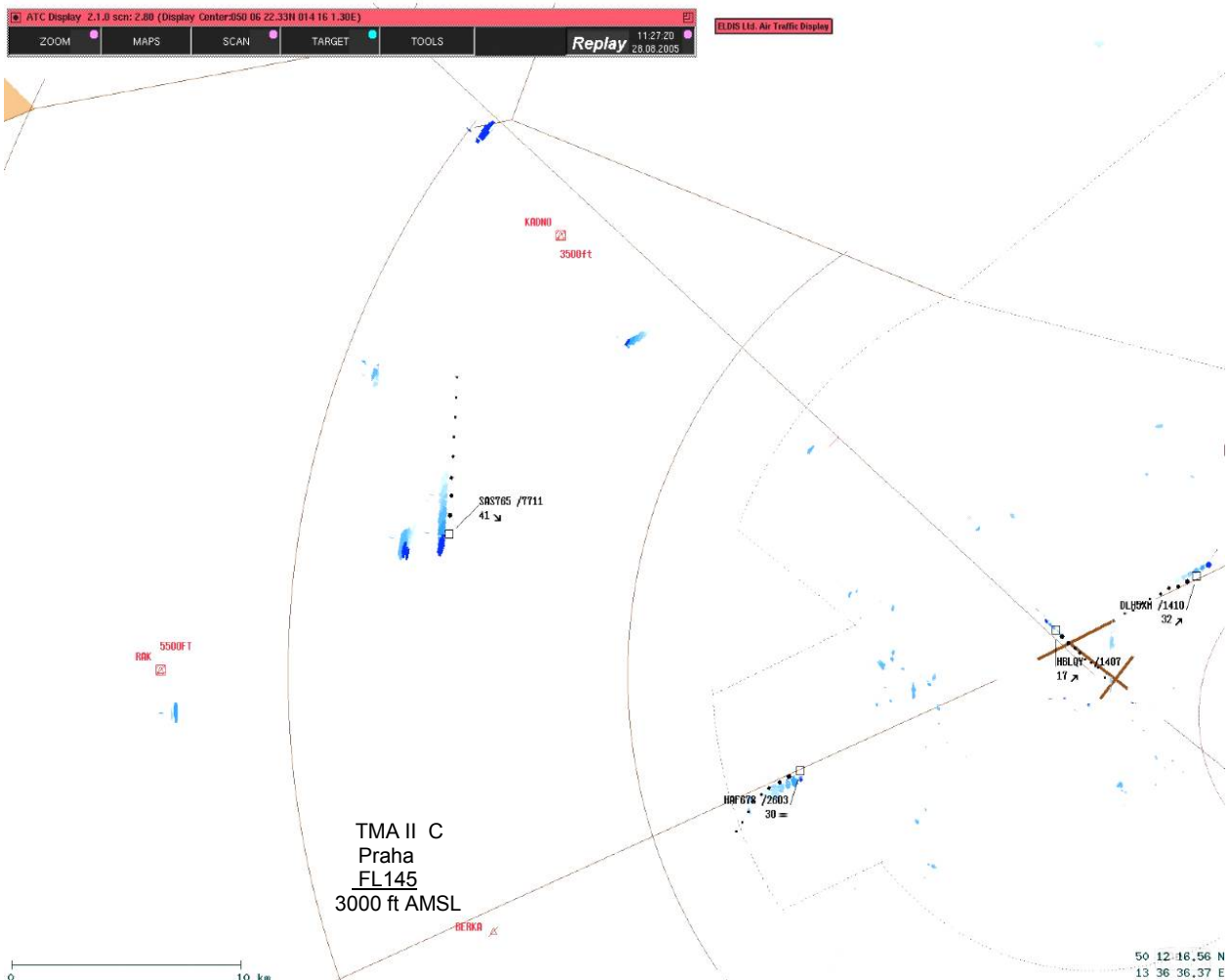
On 28 August, 2005 at 11:21:16 the crew of the SAS 765 scheduled flight flying at 200° heading at FL 150 reported to ATC Praha Radar (APP EC) on frequency 127.575 MHz. The crew received the instruction from EC APP to descend to FL 60 and continue at heading 210°. The crew continued the flight following the instruction.

At 11:24:13 APP EC issued the SAS 765 crew with instruction to change the heading to 200° and continue descending to 3,500 ft AMSL, QNH 1022 HPa. The SAS 765 crew read back the instruction and continued the descent at heading 200°.

At 11:25:32 the SAS 765 crew received from EC APP instruction to change the heading to 180°. The SAS 765 crew read back the instruction and continued to descend to 3,500 ft AMSL QNH 1022 HPa under heading 180°.

At 11:27:48 after receiving the instruction from EC APP to change the heading to 140° , the SAS 765 crew reported visual contact with unknown VFR traffic at 4,000 ft AMSL, some 2 to 3 NM away. Then at 11:28:56 the SAS 765 crew specified that the thing was an airplane towing a glider. APP EC acknowledged the information and continued vectoring SAS 765 to ILS RWY 06 LKPR.

At the same time, there was a Z 142 airplane registration mark OK-PNM flying in airspace west of the village of Nové Strašecí that towed a glider from Kladno Airport (LKKL) to airspace of the village of Lužná north-east of the town of Rakovník.



1.2 Injuries to persons

NIL

1.3 Aircraft damage

NIL

1.4 Other damage

NIL

1.5 Personnel information

1.5.1 Pilot in command SAS 765

NIL

1.5.2 Pilot in command OK-PNM

At the time of the serious incident the pilot in command was a holder of CPL with ratings for B737, 300-900/IR, SEP, MEP, TOW. He had a medical certificate of the first class.

1.5.3 Glider's pilot OK-5117

At the time of the serious incident the glider's pilot was a holder of GLD license with FI/G rating. He had a medical certificate of the second class.

1.5.4 Personnel information ATCO

Job function		APP EC
Age		40
Day on duty		1
Duty duration (hours)	from beginning of workshift (including breaks)	4:28
	From the latest duty rotation	1:28
Practice (years)		5
Qualification good till		7.10.2005
Latest qualification training		12.5.2005

1.6 Information about aircraft

1.6.1. SAS 765

Aircraft type: DHC8D
Registration: NIL
Manufacturer: De Havilland INC

1.6.2. Z-142, OK-PNM

Aircraft type: Z-142
Registration: OK-PNM
Manufacturer: Moravan Otrokovice, Czech Republic
Total flight hours: 4 205 h.

The plane has a valid airworthiness certificate and liability insurance against third-party risks.

Airplane maintenance and pre-flight preparation had been carried out according to the procedures set by the manufacturer.

1.7 Meteorological information

According to ATIS Ruzyně, weather conditions in TMA II Praha on 28th of August 2005 at 11:30 were as follows:

Wind: 60° / 5 kts,
Visibility: CAVOK
Temperature: +22° C,
QNH: 1022 HPa,

1.8 Radio navigation and visual aids

Radio navigation and visual aids had no effect on the incident.

1.9 Communications

Communication between SAS 765 crew and air traffic services was on frequency 127.575 MHz, Praha Radar. The communication was good in both way.

Communications between the pilot of OK – PNM airplane and ground air services were on frequency 123.475 MHz Kladno Info. The communication was good in both way.

1.10 Information about TMA II Prague

The incident occurred in the area TMA II Prague that is defined as airspace of class C, from 3,000 ft / 900 AMSL to FL 145 in which permanent two-way communication is needed and flights must be cleared. IFR flights are provided with separations against other IFR flights and VFR flights. VFR flights are provided with separations from IFR flights and with information about other VFR traffic.

1.11 Flight recorders and other recording means

Reconstruction of the incident was based on the radar record and communication at APP Praha. The commission did not have CVR and FDR from SAS 765. Neither OK-PNM nor OK-5117 were equipped with flight recorders.

1.12 Description of the place of incident

The incident took place about 4 km south-west of the village of Nové Strašecí.

1.13 Medical and pathological information

NIL

1.14 Fire

NIL

1.15 Survival aspects

NIL

1.16 Tests and research

NIL

1.17 Organizational and management information

NIL

1.18 Additional information

Elevation above sea level of Kladno airport (LKKL) is 433 m / 1,421 ft AMSL. Terrain elevation at the release point is about 450 m.

1.19 Useful or effective investigation techniques

The incident has been investigated in accordance with Annex 13.

2 Analysis

The analysis concerned the activities of SAS 765 crew, OK-PNM airplane's pilot in command, radio communications, air operation services' instructions, and radar recording.

2.1 The SAS 765 crew

The SAS 765 crew worked in accordance with APP EC instructions and was vectored to ILS approach to RWY 06 LKPR. On receiving the instruction from APP EC to change its heading to 140°, the SAS 765 crew advised visual contact with unidentified VFR traffic at 4,000 ft AMSL at a distance of ca 2 to 3 NM. Then the crew specified that it was a plane towing a glider. The SAS 765 crew continued its ILS approach to RWY 06 according to APP EC instructions.

2.2 The PIC of Z-142, OK-PNM

The PIC of Z-142 registration mark OK-PNM had a good rating and experience with traffic in TMA II Praha.

The PIC said that after taking off from Kladno Airport (LKKL) at 11:20, he started to climb to 300 m AGL at a heading of 280° outside TMA I Praha. When above the village of Kačice, PIC started to climb to the lower limit of TMA II Praha, ALT cca 880 m / 2866 ft AMSL, QNH probably 1022 hPa. He maintained this altitude till the release of the glider about 4 km south-west of the village of Nové Strašecí. PIC started to descend outside TMA I Praha back to LKKL. PIC spotted the DHC8D 4 – 5 km away.

2.3 The pilot of ASW 19 glider

The pilot of ASW 19 glider registration mark OK-5117 had a good rating and experience with air traffic in TMA II Praha.

According to the glider's pilot, the weather conditions in the Czech Republic were good for executing long thermals flights. Since it is not possible to execute long thermals flights in LKKL area if RWY 06 LKPR is in use, the glider's pilot asked for being towed to Rakovnik area. On taking off after the tow aircraft registration mark OK-PNM from LKKL Airport, the glider climbed outside TMA I Praha towards the village of Kačice, where it continued the climb to 870-880 m / 2,853-2,886 ft ALT

QNH 1022 HPa LKPR to the lower limit of TMA II Praha towards the town of Rakovník. The tow aircraft maintained this altitude till the point of release, ca 4 km south-west of the village of Nové Strašecí.

2.4 Approach Control Procedures

APP EC Praha was qualified to do the job.

APP EC issued instructions to SAS 765, clearing it to descend to 3,500 ft AMSL QNH 1022 LKPR for ILS approach to RWY 06 LKPR as there was no risky traffic in the airspace at that time.

The SAS 765 crew descending through 4,000 ft AMSL QNH 1022 LKPR advised APP EC of an unknown VFR plane about 2 – 3 NM away at the same altitude.

2.5 The radar record

The altitude of the OK – PNM plane cannot be determined from the radar record.

3 Conclusions

The commission made the following conclusions:

3.1 The SAS 765 crew

- The SAS 765 crew established contact with APP EC Praha on frequency 127.575 MHz Praha Radar;
- when descending to 3,500 ft AMSL QNH 1022 HPa the crew reported visual contact with unknown VFR traffic at ALT 4,000 ft AMSL at a distance of 2 to 3 NM;
- continued its approach to ILS to land on RWY 06 following APP EC instructions.

3.2 PIC OK-PNM

- was type rated and qualified;
- on the level of the village of Kačice, PIC started to climb to the lower limit of TMA II Praha, ALT ca 880 m / 2,886 ft AMSL QNH probably 1022 HPa;
- spotted an aircraft of DHC8D type 4 – 5 km away.

3.3 The pilot of ASW 19 glider

- was type rated and qualified;
- released the glider about 4 km south west of the village of Nové Strašecí.

3.4 Approach Control Procedures

- APP EC Praha was qualified to do the job;
- APP EC issued SAS 765 with instructions and cleared it to descend to 3,500 ft AMSL QNH 1022 for ILS approach to RWY 06 LKPR at the time of no risky traffic in the respective airspace.

3.5 Causes

Due to the insufficient and inconsistent information it could not be determined if the minimum allowed separation and unauthorised penetration of airspace TMA II Praha had been violated. The occurrence is therefore classified as **“Not determined”** according to ESARR 2 or as **INCIDENT** according to L 13 Regulation.

4 Safety recommendation

Pilots of the Czech Republic Aeroclub plc should make analyses of similar incidents to enhance their knowledge of the flight rules in the vicinity of and in TMA/CTR of international aerodromes.

Prague, 21st of December 2005.