Near-miss, Aircraft incident at Vaasa airport, Finland on 16 August 1999

Micro-summary: **Near-miss between a military trainer doing a touch and go and a commuter airliner.**

Event Date: **1999-08-16 at 1514 local**

Investigative Body: **Finland Accident Investigation Board (AIB), Finland**

Investigative Body's Web Site: **http://www.onnettomuustutkinta.fi/**

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FINLAND

Aircraft incident report

B 3/1999 L

Aircraft incident at Vaasa airport, Finland on 16 August 1999

Translation of the Finnish original report

SE-LIN, FOKKER 50

VN-21, VINKA

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ABBREVIATIONS

ACC	Area control centre
ADF	Automatic direction finding equipment
AIB	Accident Investigation Board (Finland)
APP	Approach control (services)
ATC	Air traffic control (in general)
ATIS	Automatic terminal information service
ATS	Air traffic services
CAA	Civil Aviation Administration (Finland)
CAVOK	Visibility, cloud and present weather better than prescribed values or conditions
CTR	Control zone
DME	Distance measuring equipment
ETA	Estimated time of arrival
FL	Flight level
FSA	Flight Safety Authority
ICAO	International Civil Aviation Organization
ILS	Instrument landing system
IFR	Instrument flight rules
LJKK	Finnish air traffic controller's handbook
MSSR	Monopulse secondary radar
NM	Nautical miles
PAPI	Precision approach path indicator
PHI	CAA internal deviation and observation reporting system
RNAV	Area navigation
QFE	Atmospheric pressure at aerodrome elevation
QNH	Corrected mean sea level pressure
RTF	Radiotelephone
SHK	Statens haverikommision (Accident Investigation Board, Sweden)
TMA	Terminal control area
TWR	Aerodrome control tower
VFR	Visual flight rules
VOR	VHF omnidirectional radio range

SYNOPSIS

On Monday 16 August, 1999 at 15.14 local time (Finnish time is used in this report) an incident took place at Vaasa airport on final runway 34 where a Vinka VN-21 light military trainer aircraft, owned and operated by Finnish Air Force (Ilmavoimat) made an avoiding manoeuvre because of close passage of a Fokker 50, SE-LIN, airliner, owned by Aircraft Finance and Trading BW and operated by the Swedish airline Skyways AB. The call sign of Vinka was M 42 (Matti 42) and the flight number of Fokker 50 was SKX 1593. There were 29 passengers and four crewmembers on board the airliner. The pilot was alone in Vinka. Nobody was injured.

AIB Finland received the incident report made by the pilot of the military trainer on the following day 17 August, 1999. The air traffic controller who worked in Vaasa air traffic control unit at the time of occurence filed his incident report on 17 August. The airline captain did not make any report as he was not aware of the incident.

On 20 August, 1999 the Accident Investigation Board (AIB), Finland appointed an investigation commission by letter B 3/1999 L. Airline pilot (ret.) Mr Jussi Haila was appointed investigator-in – charge and Air traffic controller (ret.) Mr Erkki Kantola was appointed member of the commission. The commission consulted psychologist, DPhil Leena Norros as an expert on the human factors contribution to the incident. The investigation was conducted in accordance with Finnish legislation (Act 373/1985 and the Decree 79/1996), International Civil Aviation Organization (ICAO) Annex 13 and Council of European Union Directive 1994/56/EC.

The commission visited Vaasa airport, 1999 and the Military Aviation Academy on 30 August, 1999. The commission interviewed the Manager of Vaasa airport and familiarized itself with working conditions in Vaasa air traffic control tower (TWR). The controller who worked in Vaasa TWR at the time of the incident and the military trainer pilot also gave their statements in this connection. The airline captain gave his statement by telephone on 6 September, 1999.

Flight recorder data was not available for the investigation. The commission received the relevant radio communications and telephone recordings from Vaasa air traffic control on 20 August. The commission also requested the relevant radar data from Area Control Centre for Southern Finland on 24 August and received the data on 8 September, 1999.

Statens haverikommission (SHK), Accident Investigation Board, Sweden, was notified of this incident and the investigation on 18 August, 1999. On the same day, SHK appointed Mr Rune Lundin as an accredited representative for the investigation. SHK also appointed Skyways AB captain Tore Svensson as an advisor to the accredited representative.

The commission sent the final draft of this aircraft incident report to the Finnish Flight safety Authority for comments according to ICAO Annex 13 on December 3, 1999. The draft has also been sent for comments to the Finnish Air Force and ANS Department of the Civil Aviation Administration, Finland.

On January 24,2000 the investigator-in-charge discussed the issues brought up in paragraph 1.18 of this report with the Data Protection Ombudsman. The final text in paragraph 1.18 has

been reviewed by the Ombudsman and the Legislative Counsellor in charge of legislation for personal data protection at the Finnish Ministry of Justice before the report was published.

The text in paragraph 1.18 of the final report and the additional safety recommendation were also sent for comments to the Flight Safety Authority on February 10, 2000.

The comments received have been enclosed as appendices 2-5.

The investigation was closed on March 13, 2000.

1 FACTUAL INFORMATION

1.1 Course of events

1.1.1 Actions before the incident

The air traffic controller's shift in Vaasa combined aerodrome/ approach control had started at 11.30 on 16 August, 1999 and ended at 18.30. The shift was not as scheduled because the controller had changed shift on the request of an other air traffic controller. The scheduled shift would have started at 18.00. On the previous day, the controller had worked in the evening shift, which had started at 18.00 and ended at 01.30 am on the day of the incident. The controller had 10 hours of rest time between the shifts. He drove home after the previous shift and went to bed at 02.30. He left home for the shift in question at about 10.30. The controller stated that he was fit for work but the night rest had been insufficient. He normally worked in Kruunupyy aerodrome / approach control, but he also had a valid rating for Vaasa and he worked there when extra personnel was required.

Traffic density in Vaasa was moderate before the incident on 16 August, 1999. There were some small single engine VFR (Visual Flight Rules) aircraft in visual circuit making touch-and-go landings and two scheduled IFR (Instrument Flight Rules) airliners. Vaasa CTR (control zone) and TMA (terminal control area) are class D airspace, where Air Traffic Services (ATS) are provided by separating IFR flights from each other and giving traffic information to IFR flights of VFR flights. VFR flights must be given traffic information of all other traffic. Because the traffic consisted mainly of VFR flights, the controller only had to ensure separation between two departing airliners. Although there was a fair amount of traffic it was sequenced so that traffic information had to be given in one case only.

Vaasa aerodrome control tower is also equipped with a radar monitor which shows the image of Kauhava MSSR (Monopulse Secondary Surveillance Radar). The purpose of this equipment is to help traffic flow planning but not separation. It can also be used to locate transponder equipped aircraft, but this requires verifying the location by other methods. In this case the controller did not use the radar monitor.

The scheduled Skyways AB flight SKX 1593 had departed Stockholm at 14.10 and approached Vaasa from south west via reporting point ETANI in accordance with the clearance given by Tampere ACC (Area Control Centre). The captain was the pilot flying. The first officer acted as monitoring pilot, handled the radiotelephone (RTF) traffic and read the checklists. ACC had first informed Vaasa ATC (Air Traffic Control) that SKX 1593 ETA (Estimated Time of Arrival) was at 15.13 and the transfer of control to Vaasa would be at 15.05. Later on ACC had reported a revised ETA of 15.17 and a transfer time of 15.10. SKX 1593 contacted Vaasa ATC by radio at 15.07.30 and reported descending to flight level 70. Despite the reported transfer time of 15.10 (ref. LJKK 2.3), the Vaasa controller immediately cleared the aircraft for an approach direct to HY-beacon and to descend to 1700 feet on QNH 1004, which was below the level

cleared by ACC. The controller also reported that ATIS (Automatic Terminal Information Service) E (Echo) was valid, that no delay was expected and that SKX 1593 could expect visual approach clearance to runway 34. SKX 1593 acknowledged the clearance correctly. The pilots reported visual contact to Vaasa airport at 15.10. The controller cleared the flight for a visual approach to runway 34 via left circuit and reported the barometric pressure 1004 on QNH. SKX 1593 used the English language in radio communications with Vaasa ATC.

The Air Force Vinka trainer had departed Kauhava at 14.22 for a VFR route south to Seinäjoki and after that to south west and west. The aircraft approached Vaasa from south west via mandatory reporting point MALAX. The aircraft used call sign M 42 (Matti 42), and its commander was a pilot trainee who was alone in the aircraft. According to the assigned flight exercise the pilot should have made a visual approach and touch-and-go landing in Vaasa and then continued out of Vaasa CTR via MAKSA reporting point and further to the destination of Kauhava. At 15.08.20 the pilot reported that he would pass the reporting point MALAX in two minutes, requested approach instructions for a touch-and-go landing and reported that his flight altitude was 150 m. The controller cleared M 42 to join the base leg for runway 34 via MALAX and reported the barometric pressure 1004 on QFE. The pilot acknowledged the clearance correctly. However he did not report passing MALAX and the controller did not require it. M 42 used the Finnish language in radio communications with Vaasa ATC.

The approach routes of the aircraft are shown in picture 1.

1.1.2 Approach sequence and traffic information

According to the air traffic controller's statement, he did not determine the approach sequence when the flights contacted the control tower but his intention was to monitor the situation and determine the approach sequence closer to the airport. Despite the revised ETA reported by ACC, the Vaasa controller may have had, based on the calculated times on his flight strips, the impression that SKX 1593 was in landing sequence before M 42. When the controller cleared SKX 1593 for approach and gave the approach instructions to M 42, he did not determine the positions of the aircraft. When SKX 1593 reported that they had the field in sight, the controller cleared it for a visual approach to runway 34. He neither verified the aircraft position nor requested any position report during approach. The controller did not give any traffic information to either aircraft.

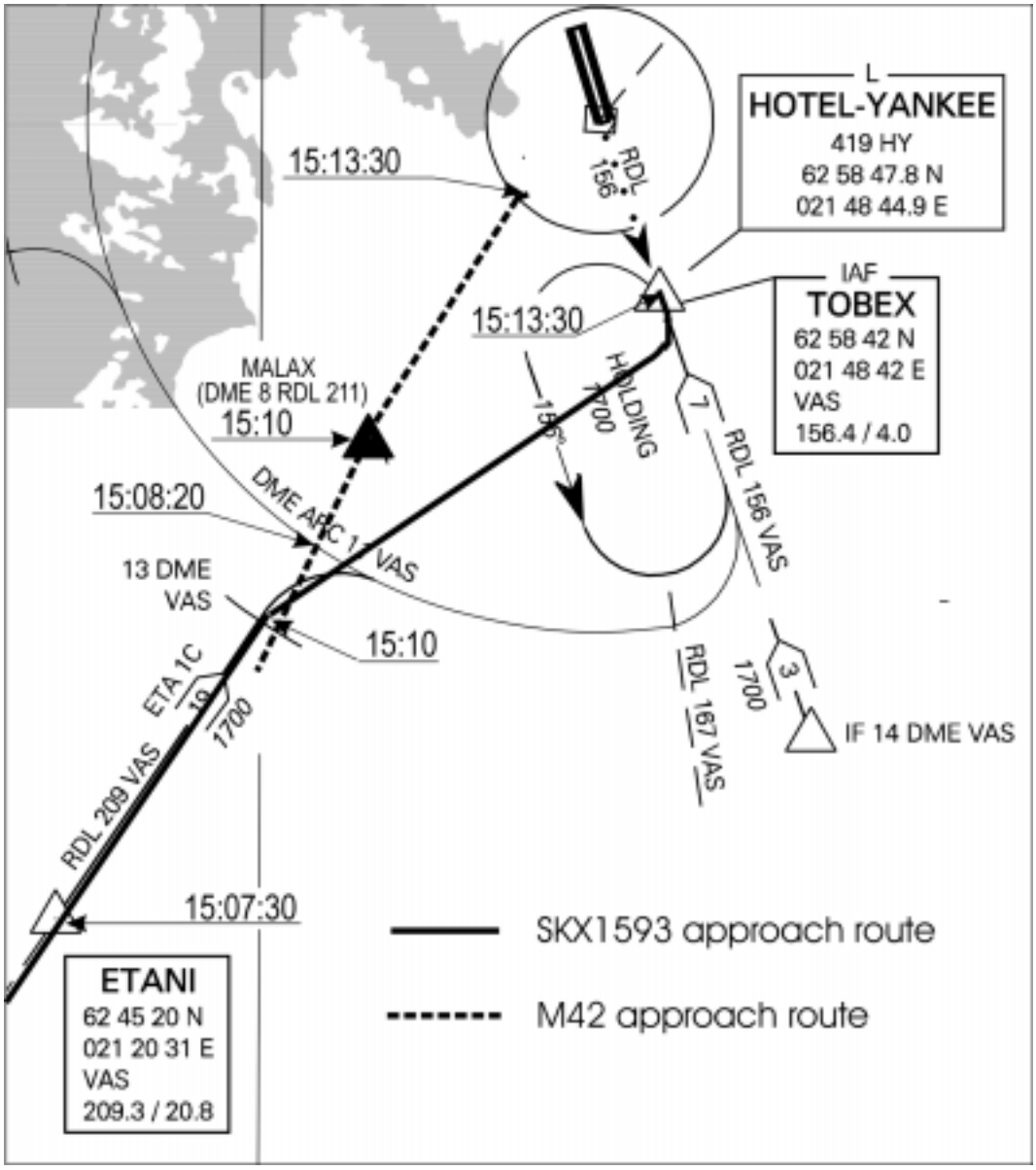
The controller had a private telephone conversation while handling the traffic. The call lasted for seven minutes and ended five minutes before SKX 1593 contacted Vaasa ATC.

1.1.3 Events in the traffic circuit

M 42 joined the base leg to runway 34 with a gentle right turn at the height of 150 m. The base leg flown by the pilot was about 500-700 m farther off the runway than the base leg published in Vaasa visual circuit chart. At 15.14.05 the pilot reported: *"…base 34 and touch-and-go"* (In Finnish). The controller immediately gave a clearance: *"Matti*

42, after touch-and-go leave Control zone via MAKSA VFR" (in Finnish). M 42 acknowledged the clearance and the controller gave the landing clearance at once: *"Matti 42, You are cleared for touch-and-go 34, right turn, wind ten degrees ten knots"* (in Finnish).

According to his statement the controller had started to work with a personal computer installed in the tower just before SKX 1593 and M 42 contacted Vaasa TWR. When the controller gave the clearances to M 42 he probably was still working with the computer. The computer is situated left of the controller's working desk at an angle of 90° from it. When using the computer, the controller is sitting with his back towards the traffic now in question. According to his statement the controller, without thinking, gave the clearances to M 42 when the aircraft reported base leg. He did not check the positions of M 42 and SKX 1593 at that time either.



Picture 1 The approach routes of the aircraft

According to the ACC radar recording and the captain's statement, SKX 1593 flew, after obtaining visual approach clearance, to about four nautical miles final beyond HY beacon. The aircraft passed HY at about 15.13.30 and was on about three nautical miles final by the time M 42 reported base leg and received the touch-and-go clearance. The SKX 1593 cockpit crew did not understand the Finnish language and could not judge from M 42:s Finnish radio communications that it was conflicting traffic for them. The pilot trainee flying M 42 did not understand English RTF and could not judge that SKX 1593 was approaching the same runway at the same time.

When the M 42 pilot had acknowledged the touch-and-go clearance he started a left turn to final runway 34. He was looking to the left and his attention was fixed on runway 34 and its final. Immediately after M 42 had acknowledged the touch-and-go clearance, SKX 1593 reported: *"Sky Express 1593 short final".* The M 42 pilot saw a twin engine airliner flashing by very closely from right to left below the nose of his aircraft. He estimated that the shortest distance between the aircraft was 30-50 m. The pilot made an avoiding manoeuvre to the left and up. After a few seconds the controller said: *"M 42, make there one orbit to the left"* (in Finnish). After that SKX 1593 reported again: *Sky Express 1593 short final".* The controller cleared SKX 1593 to land and, after a while, orderd M 42 to make an other orbit, so that SKX 1593 would have time to taxi out from the runway before M 42 landed. After the controller had cleared M 42 for approach again he said: *"Well, I almost made a mistake there, when I cleared you to land at the same time with that bigger plane. But it went well anyway"* (in Finnish). M 42 pilot replied: *"Lucky enough"* (in Finnish). There was no other conversation obout the event between the parties involved. The SKX 1593 pilots did not see the light military trainer on final nor did the controller tell them about the incident, which the captain considered strange afterwards.

M 42 pilot reported to his superior after the flight as usual and about the incident. The superior contacted Vaasa TWR and advised the controller that the pilot was going to file an incident report. The controller said that he was not going to do anything for the time being. The M 42 pilot filed an incident report which AIB received on the following day, 17 August, 1999.

The air traffic controller did not submit any report until AIB had asked Vaasa ATC about the details of the incident. The controller filed his incident report and a PHI report (CAA internal deviation and observation reporting system) more than 24 hours after the occurrence. The controller worked in the same shift as on the previous day. There was no remark of the incident in ATC logbook. In addition, the date of the following day had been inadvertently written on the logbook page used at the time of the incident, but Vaasa airport manager had corrected the date afterwards.

SKX 1593 flight crew did not see the military trainer. They were not informed of the incident and did not file any report.

1.2 Injuries to persons

There were 29 passengers and five crewmembers in the aircraft. No one was injured.

1.3 Damage to aircraft

There was no damage to the aircraft.

1.4 Other damage

There was no other damage.

1.5 Personnel information

1.5.1 Airline commander

Captain:	Male, 41 years
Licences:	Airline transport pilot's licence (D) 1989, valid until 31 December, 1999
Licence remarks:	Correcting lenses
Ratings:	Synthetic flight instructor, class single engine land, class multi engine land, towing of gliders
Type ratings:	FK50, SF34
Last check flight:	3 June, 1999
Last medical examination:	8 June, 1999
Rest period before the flight:	More than two days.

Flight experience	*Last 24 hours*	*Last 30 days*	*Last 90 days*	*Total experience*
All types	3 h 30 min	16 h 27 min	93 h	8944 h
FK50	3 h 30 min	16 h 27 min	93 h	2294 h

1.5.2 Airline co-pilot

First officer:	Male, 40 years
Licences:	Commercial pilot's licence (B)
Ratings:	ATPL-theory, instrument, class single engine land, class multi engine land
Type ratings:	CS12 co-pilot, FK50 co-pilot
Last check flight:	29 October, 1998

Last medical examination: 29 December, 1998

Rest period before the flight: More than two days

Flight experience	*Last 24 hours*	*Last 30 days*	*Last 90 days*	*Total experience*
All types	3 h 30 min	15 h 20 min	42 h	1210 h
FK50	3 h 30 min	15 h 20 min	42 h	85 h

1.5.3 Military trainer pilot

Aircraft commander: Pilot trainee, male, 21 years

Licences: The pilot did not have a civil licence

Last check flight: 21 July, 1999

Last medical examination: 29 September, 1998

Rest period before the flight: More than 10 hours

Flight experience	*Last 24 hours*	*Last 30 days*	*Last 90 days*	*Total experience*
All types	1 h 30 min	5 h 26 min	16 h 58 min	65 h 13 min

The pilot had not flown other aircraft types except Vinka trainer.

1.5.4 Air traffic controller

Vaasa controller: Male, 33 years

Licences: Air traffic controller 1987, valid until 3 September, 1999

Private pilot 1986, valid until 3 September, 1999

Ratings: EFKK Aerodrome and Approach control

EFVA Aerodrome and Approach control

The controller also acted as the Chief of Kruunupyy air traffic control unit.

1.6 Aircraft information

1.6.1 Airliner

The aircraft was a twin-engine commercial turboprop aircraft with a passenger configuration of 50 seats.

Nationality and registration:	Swedish, SE-LIN
Owner:	Aircraft Finance and Trading BW
Operator:	Skyways AB
Manufacturer:	Fokker Aircraft
Type and model:	F 27 Mk 50
Serial number:	20146
Year of manufacture:	1987
Engines:	Two Pratt & Whitney PW 125 B turboprops

1.6.2 Military trainer

The aircraft was a single-engine primary trainer with three seats.

Owner and operator:	Finnish Air Force (Ilmavoimat)
Type:	Vinka
Serial number:	21
Year of manufacture:	1982
Engine:	Lycoming LY-11 AE10-360-AIB 6 piston engine

1.7 Meteorological information

A weak Centre of high pressure prevailed over the Gulf of Bothnia. There were light northerly winds in Vaasa at the time of the incident, the air was dry and visibility good. The weather was CAVOK; there was no precipitation and no clouds below 5000 feet (1500 m).

The weather at Vaasa airport on 16 August:

At 14.50: Wind 010° six knots, variable 310°-070°, temperature +18°C, dewpoint +5°C, barometric pressure 1004 on QNH.

At 1520: Wind 360° seven knots, variable 320°-050°, CAVOK, temperature +18°C, dewpoint +4°C, barometric pressure 1004 on QNH.

1.8 Aids to navigation

Both aircraft were performing a visual approach. Both aircraft had ADF, VOR/DME and ILS equipment installed and the airliner was also equipped with RNAV.

Both aircraft were equipped with transponder, which is required for the aircraft to be visible on a MSSR radar display.

PAPI (Precision Approach Path Indicator) lights had been installed on Vaasa runway 34.

1.9 Communications

The radio communications were read out from the recording of Vaasa TWR.

The radio communications transcript is enclosed in Appendix 1.

1.10 Aerodrome information

Vaasa Airport is administerated by the Civil Aviation Administration, Finland. The runway in use was RWY 34, which is 2500 m long and 48 m wide. The coordinates of Vaasa airport reference point are 63°02'43"N, 021°45'51"E and the elevation is 19 feet (5.8 m).

Vaasa CTR and TMA are class D airspace when the ATC unit is in operation.

Ther is normally one air traffic controller working in Vaasa TWR, who handles the traffic in CTR and TMA. In addition to the usual tower equipment the controller can see the image of Kauhava MSSR radar available on a monitor located on his desk. When the commission visited the tower, aircraft flying above 500-700 feet (150-200 m) in the vicinity of Vaasa were visible on the monitor. The tower also has a computer work station, which the controllers use for feeding flight data into traffic statistics. The work station is situated at the left end of the controller's desk and a person working with the computer sits with his back towards the final and base legs of runway 34.

1.11 Flight recorders

No flight recorder data was available for the investigation.

1.12 Description of the incident site

The incident site is on runway 34 final, about 1.5 NM (2.8 km) south-southeast of runway threshold, at an altitude of about 500 feet (150 m). The final and base legs are easily visible from the controller's normal work station in the tower.

1.13 Medical information

No medical tests were made.

1.14 Fire

There was no fire. There was altogether about 2000 kg of fuel in the aircraft at the time of the incident. The airliner used jet A-1 and the trainer aviation gasoline 100 LL.

1.15 Survival aspects

Not applicable.

1.16 Tests and research

The investigation material consisted of incident reports from the VN-21 pilot and Vaasa air traffic controller, statements of the persons involved, flight documents, crew and aircraft information, extract from air traffic control log, radio communication recording, ACC radar recording, information obtained from manuals, documents, instructions and regulations. The material also included weather information from Vaasa airport for the time of the incident.

The material was sufficient for the commission to form a detailed view of the course of events.

1.17 Organizational and management information

1.17.1 General

Vaasa airport is the central airport of the region and Kauhava and Kruunupyy airports are subordinated to it. At the time of the incident the airports of Vaasa and Kruunupyy had a common manager. The airports are independent profit units which are directly under the authority of CAA Head Office. Some personnel administration matters, such as employing additional personnel or filling vacancies, are decided by the Head Office.

1.17.2 Vaasa air traffic control resources

Vaasa ATC was open on weekdays from 05.30 to 0130, on Saturdays from 05.30 to 18.00 and on Sundays from 08.15 to 01.30. The controllers worked in three shifts except on Saturdays, when they worked in two shifts. There were four regular controllers in Vaasa ATC and one trainee, who did not have Vaasa ratings yet. The controller on duty at the time of the incident normally worked in Kruunupyy ATC and was the head of that unit. He also had ratings for Vaasa ATC, where he took turns when substitutes were needed. Another controller taking turns in Vaasa ATC was a controller, who had been transferred to Helsinki ATC but still had valid ratings Vaasa. ATC had no other personnel reserves. On change of shift, the shifts were overlapping from 15 minutes to one hour depending on the shift. At other times the controllers worked alone. The shifts lasted for 6-8 hours. The briefing was open during office hours.

The head of Vaasa ATC unit worked in normal shifts. He had no office time, so he handled the administrative and planning matters during the shifts besides controlling the air traffic.

1.17.3 Instructions for air traffic control work

General instructions of ATC working procedures are given in the Finnish Air Traffic Controller's Manual (LJKK). Vaasa ATC did not have an own Letter of Agreement with Tampere ACC or Kauhava and Kryynupyy ATC. Vaasa Airport working procedures did not contain instructions for air traffic controllers' duties or for the use of MSSR radar data monitor.

Vaasa aerodrome had an Airport Operations Manual as required by the Finnish CAA. However, air navigation services were not instructed in the *Air Navigation Services* section of the manual. Vaasa airport staff regulations did not contain instructions for the controllers either.

1.18 Additional information

1.18.1 Licence register of the Flight Safety Authority

Flight Safety Authority (FSA) issues the Finnish aviation licences and keeps a licence register as prescribed in Section 22 of the Aviation Act (281/1995). This register is within the scope of application of the Personal Data Act (523/1999). In accordance with Section 23 of the Aviation Act, information may be obtained from the licence register for the purpose of supervision of licences, qualifications or ratings.

Investigation of Accidents Act (373/1985) provides for the right to obtain the documents necessary for investigation. According to Section 10 *"Documents and objects"*, Subsection 1: *"The investigation commission shall have the right to examine such objects and to study such documents as may be relevant for the investigation".* Section 14: *"Right to obtain information"* prescribes that: *"The investigation commission shall be entitled to obtain any information necessary for the investigation from authorities and public institutions, notwithstanding what has been stipulated on the public or confidential nature of the document".*

The licence register of Flight Safety Authority consists of a computer database as well as paper documents. However, extracts from licence register provided by FSA only contain information from the computer based register. The information is incomplete and does not meet the accuracy requirement of the Personal Data Act.

In the case now under investigation, the extract from licence register showed that the controller's licence had been issued on September 1, 1987, but the training organization had been marked as *"unknown"* . The same applies to all instructors, check pilots and medical examiners until August 30, 1999. However, the training in question is given by the Finnish Civil Aviation Administration itself, and it also keeps a record of it. Likewise,

all check flight and medical examination reports required for licence renewal have been sent to FSA, and this information should also be easily available.

According to the Head of Training and Licensing Section at the FSA, the computer-based licence register has been reformed in April 1998. Due to a lack of resources, information on training, check flights and medical examinations carried out before that date will not be fed into the register.

According to the data protection specialist consulted, *"incomplete"* information in a personal data register is regarded as *"incorrect"*. In this case the extract given by FSA from only part of the register was incomplete.

An extract in which all information essential to the investigation is marked as *"unknown"* does not guarantee the right to obtain information as prescribed in the Aviation Act and Investigation of Accident Act, nor does it provide sufficient information for flight safety oversight or the investigation of accidents and incidents. On the other hand, a deficient extract from licence register does not give a reliable picture of the training and checking required for licence issue or renewal. In addition, any person involved has the right to check the information register of him/her. If an extract from the licence register database as it now is given, it will not meet the legal protection requirements prescribed by law.

When investigating accidents and incidents, it is important that the extract from licence register gives sufficient unambiguous, correct and accurate information on the background of the persons involved.

2 ANALYSIS

2.1 Actions of the pilots

Both aircraft flew in accordance with the given and acknowledged clearances.

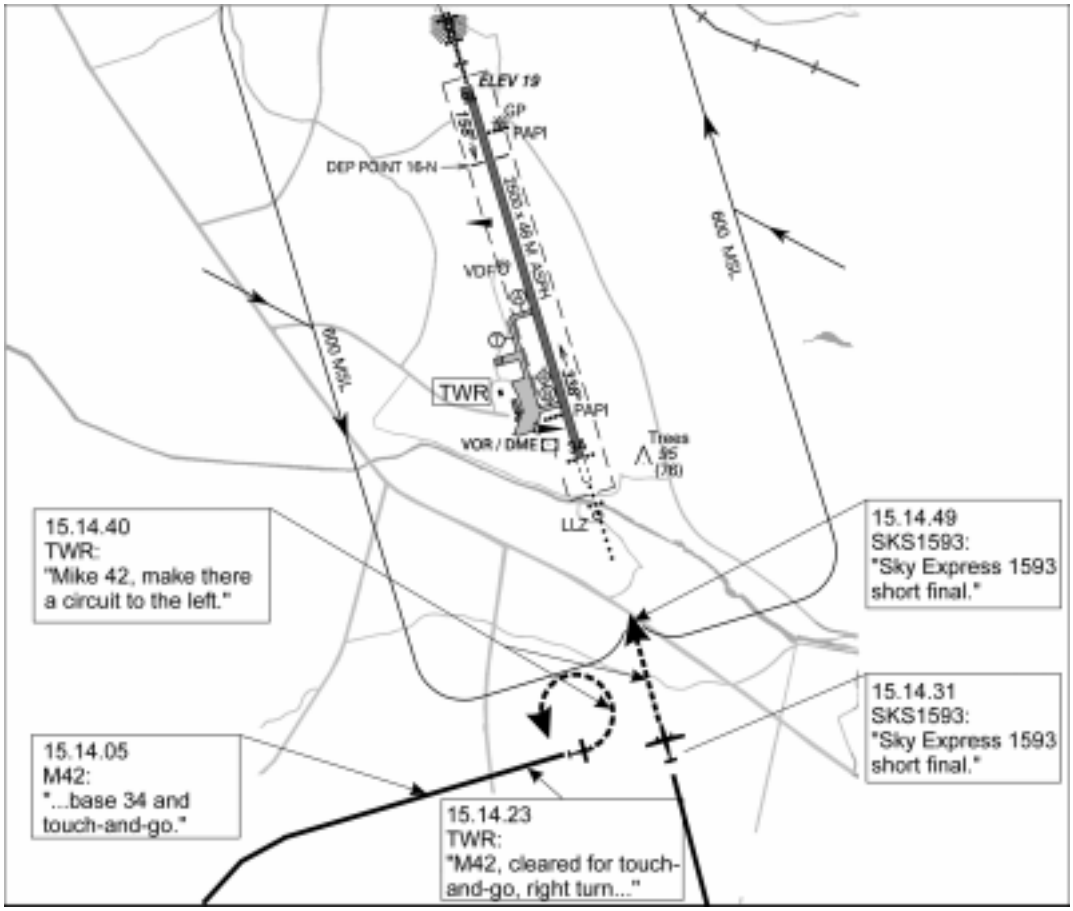
SKX 1593 contacted Vaasa ATC and received at first a clearance to HY-beacon and to descend to 1700 feet on QNH 1004 hPa. A little later, when the pilots had reported runway in sight, it was issued a clearance for a visual approach to runway 34. The aircraft flew according to the IFR flight plan, but the controller did not give traffic information about VFR flights, although SKX 1593 should have been informed of relevant VFR traffic in class D airspace. The controller neither requested any position report during approach nor verified the aircraft's distance of e.g. by asking the DME (Distance Measuring Equipment) indication from Vaasa VOR (VHF ominidirectional radio range). The aircraft was cleared for an approach to runway 34 without restrictions and the pilots were not informed of the other traffic by the controller.

M 42 contacted Vaasa ATC two minutes before reaching the reporting point MALAX and received an approach clearance via MALAX to the base leg of runway 34. The pilot followed this clearance. The pilot did not report passing the mandatory reporting point MALAX and the controller did not request it. M 42 flew according to the VFR flight plan but the controller did not give any traffic information, although it should have been given in class D airspace.

In this case the traffic information would have been especially important, because SKX 1593 used English and M 42 the Finnish language in their radio communications. Neither of the parties understood the other's radiotelephone messages.

After receiving the touch-and-go clearance the M 42 pilot concentrated on turning to final approach leg. As he was not informed about the other traffic, he could not particularly look out for the airliner approaching from the right. After starting the left turn he saw the other aircraft flashing by below the nose of his aircraft as a dark figure, which he instinctively avoided by pulling the control stick. The aircraft turn steepened and the altitude increased. As the trainee pilot had rather little flight experience, the commission considers it possible that the actual technique of flying required quite a lot of his capacity. For this reason he may not have paid sufficient attention to the lookout and radio traffic not directly concerning his own flight. M 42 made two orbits to the left as ordered by the controller, but the pilot did not acknowledge the clearances. This had no effect on the course of events, but forgetting to acknowledge the clearances may indicate that the pilot was totally concentrated on controlling the aircraft.

The flight paths of the aircraft are shown in picture 2.



Picture 2 Flight paths of the aircraft on final to runway 34

2.2 Actions of the air traffic controller

The Finnish Air Traffic Controller's Manual (LJKK) paragraph 1.1, defines the purpose of air traffic services. Item (a) covers the services given to aircraft flying in aerodrome traffic circuit.

The purpose of ATS is:

a) to prevent collisions between aircraft flying in a traffic circuit of an aerodrome.

In the note to the same paragraph air traffic services are determined as an air traffic controller's primary duty with respect to any other tasks:

Note! When an ATC unit provides different types of air navigation services, air traffic services have priority over any other services.

According to LJKK paragraph 2.2, Responsibility for Services:

An air traffic control unit shall be responsible for providing air traffic service to all known aircraft as it is instructed in this book.

According to paragraph 2.3.1:

For the purpose of providing air traffic control service an air traffic control unit shall:

a) be aware of the intended movement of every aircraft, and have up-to-date information about the progress of every aircraft's flight,

b) to determine based on the information obtained, the positions of known aircraft in relation to each other

c) to issue clearances and provide information to aircraft which it is controlling to prevent collisions and to maintain smooth traffic flow and

d) to co-ordinate clearances with other air traffic control units.

On his flight strips, the air traffic controller had the ETA:s for SKX 1593 and M 42. The ETA for SKX 1593 was based on ACC:s calculation and that for M 42 had been calculated by the Vaasa controller using the actual time of departure and the estimated flight time given in the flight plan. Based on these calculations the controller might have understood, that SKX 1593 with an ETA at 15.13, would automatically arrive before M 42 with an ETA at 15.22. ACC reported SKX 1593's revised ETA 15.17 and the transfer of control time of 15.10, after which Vaasa ATC would become responsible for the flight. The controller corrected the information on his flight strip.

SKX 1593 contacted Vaasa ATC at 15.07.30 and reported descending to flight level (FL) 70. Despite the ACC transfer time of 15.10 the controller immediately cleared the aircraft direct to HY beacon and to descend below the ACC clearance level FL 70. This did not affect the course of events.

M 42 contacted Vaasa ATC at 15.08.20 and reported that it was, flying at an altitude of 150 m, and at two minutes flight distance from the mandatory reporting point MALAX, which is on the boundary of Vaasa CTR (Control zone). This meant that the ETA of M 42 was now about five minutes earlier than the ETA 15.22 calculated by the Vaasa controller. Consequently, both aircraft had the same arrival time after this report. The controller did not correct the new ETA for M 42 on his flight strip. If he had corrected it, he might have noticed that both aircraft had the same ETA 15.17 to Vaasa airport.

When issuing the approach clearances the controller did not require any position reports from the aircraft. According to his statement the controller had the intention to decide on the approach sequence when the aircraft would be closer to the airport. However he did not request SKX 1593 to report any DME distance or passing the HY beacon, or M 42 to report passing MALAX (mandatory reporting point). He also had at his disposal a radar monitor, which could have been used for traffic and separation planning purposes. Even if a separation between the aircraft was not required in this case, the controller could have used the equipment for determining the position of SKX 1593. This would have required verifying the respective distances of the aircraft and confirming them by radio. M 42 was probably not visible on the monitor because of its low flight altitude. However a DME receiver had been installed in the aircraft, and the controller could have asked

the aircraft's DME indication by radio. Both aircraft were approaching the airport and they had the same ETA. The aircraft used the same runway and they had crossing flight paths, but in this phase the clearance limits (HY beacon for SKX 1593 and base leg 34 for M 42) were not yet conflicting.

At 15.10 SKX 1593 reported: *"Field in sight"*. The controller cleared it for a visual approach to runway 34, but did not check the position of the aircraft. He did not require any position report during the approach either. In case a visual approach clearance is given without requesting any position report, it means that the aircraft must be visually monitored by the controller all the time. After receiving the visual approach clearance, SKX 1593 flew to about four nautical miles final. M 42 flew to the beginning of base leg 34 at the same time and reported *"base leg"* a moment later.

The controller cleared M 42 first to continue the flight after touch-and-go landing via reporting point MAKSA to Kauhava. The pilot read the clearance back. Immediately after this the controller cleared M 42 for a touch-and-go landing to runway 34, which M42 acknowledged. The controller did not give any traffic information to M 42. SKX 1593 had continued its approach during this communication. Because it was not informed about other traffic, it reported *"...short final"*. After this report it took about 10 seconds before the controller gave the next order, which was to M 42:*"...make an orbit to the left from that position".* M 42 did not acknowledge this order, but instead SKX 1593 reported*"...short final"* again after about nine seconds. It now received a landing clearance, which it acknowledged. M 42 was ordered to make one more orbit on base leg, so that the landed aircraft would have time to vacate the runway. M 42 did not acknowledge this clearance either.

In his statement the controller told that the visibility had been good and it had been easy to monitor the aircraft in traffic circuit. He probably did not check the base leg or final at all when he cleared M 42 for a touch-and-go landing. Both aircraft's distance to runway threshold was only about 1-1,5 NM at that time, and both aircraft could have been seen from the control tower. The controller also told in his statement that he may have been working with the computer, filling in the traffic log or possibly preparing the shift schedule. The fact that it took 10 seconds after SKX 1593's first final report *(…short final)* before M 42 was given the order for an avoiding manoeuvre, supports this hypothesis. Also the fact, that the controller did not give a landing clearance to SKX 1593 immediately after this, proves that he observed how the situation would develop after giving the avoidance order. During this time SKX 1593 reported short final again.

After SKX 1593 had landed, the controller ordered M 42 to make an other orbit, so that SKX 1593 would have time to vacate the runway. When the controller had given M 42 a clearance to continue approach he added: *"I almost made a mistake there… But it went well anyway"*. M 42 acknowledged this by saying: *"Lucky enough".* The conversation was in Finnish.

SKX 1593 was not informed of the occurrence at all. The controller did not file any incident report or PHI report. There is no remark of the incident in Vaasa ATC log. After his flight the pilot of M 42 filled in an incident report, which the Accident Investigation Board

(AIB) received on the following day, August 17. Instead the Vaasa controller did not take any action due to the incident on his own initiative. Only after AIB had contacted Vaasa ATC and requested details of the incident, the controller filed his reports.

2.3 Human factors

Based on the analyses in chapters 2.1 and 2.2 above concerning the course of events and appropriateness of the controller's action this chapter discusses the role of human factors in the incident. First, the controller's decision-making process and grounds for decision-making are examined. Based on the examination, it is then estimated how the controller accounted for the demands of ATC core tasks. Third the controller's attitude to reporting systems and to the opportunity to learn from the incident is analyzed.

2.3.1 Course of events from the view of controller's decision-making

The incident occurred in a traffic situation, in which two aircraft were approaching Vaasa airport. The ETA of SKX 1593 was based on a message received from ACC and that of M 42 had been calculated by the controller from the actual departure time. By the initial ETAs the controller may have expected that SKX 1593 would be first in the approach sequence. As he did not pay much attention to the later revised approach times, it can be concluded that he had not formed a very clear image of the traffic. Therefore the controller did not realize that the aircraft actually were approaching Vaasa airport at the same time.

As the controller had not realized the actual situation, he did not see any need to plan the approaches more accurately. He cleared the aircraft close to the airport, but thought that the situation was under control and there was no need for verification yet. He said that he had consciously estimated that the traffic situation would not require closer attention yet. He had also considered that the aircraft would not affect each other, so that there was no need for traffic information. Instead he estimated that the traffic situation allowed him to start working with the computer situated in the control tower. For this he had to move away from the controller's normal position and sit with his back towards inbound traffic. He stated as a reason that there were only two approaching aircraft. (Earlier there had been several but they had not demanded separation). Thereafter he said having forgotten SKX 1593, which he had cleared for a visual approach.

Next he cleared M 42 for a touch-and-go landing without thinking, and did not check the position of the aircraft by looking out. He had not monitored the approach of M 42 and did not realize the risk of collision until SKX 1593 reported short final, which it also repeated after the controller had ordered M 42 to make an avoiding manoeuvre.

2.3.2 Core task' requirements of air traffic control

Previous air traffic control incident reports of AIB Finland (2/1993, B 8/1997 L, B 8a/1997 L and C 8/1998 L) have discussed the appropriate working practices to support the primary goals of ATC work, and tried to determine practical behavioural examples.

Core requirements of ATC work are listed in the following:

1. Checking attitude

When the controller issues a clearance to an aircraft, he/she must ensure that the flight can be safely continued in accordance with the clearance. E.g the controller makes sure that the runway is clear before issuing a landing clearance.

2. Understanding the situation as a whole

The controller has to form a realistic image of the continuously changing air traffic situation and understand the influence on his/her own action of the other units involved. E.g. transfer of arriving/ departing traffic to an other ATC unit on the receiving unit's terms.

3. Active control

The controller must plan ahead and actively and by anticipation, control the traffic in accordance with the plan. E.g. determining the approach sequence for inbound traffic and controlling it.

4. Utilisation of information and communication

The controller must continuously interpret situational information to update his/her own traffic image and communicate with the other parties involved to improve the image. An important source of information are e.g. radiotelephone communication between air traffic control unit and aircraft.

5. Proper timing of actions

Properly timed actions based on the controller's traffic image and information are essential prerequisites for an active and anticipating air traffic control work. E.g. determining the priority order of radio communications.

6. Commitment to norms and common practices

Integrated operation and reliability of the air traffic control system requires commitment to the norms and common practises by all persons working in the system. E.g. complying with the procedures agreed between air traffic control units in Letters of Agreement.

Risk-prone working practices have been understood to mean such behavioural habits, which are considered to indicate negligence of these goals of ATC work. Risk prone working practices were also detected in this case.

For example, the controller recorded the aircraft's estimated arrival times without trying to figure out how they affected the traffic situation as a whole, and gave the simultaneous approach clearances without verifying the aircraft's position in relation to each other.

It can therefore be considered that the controller did not adequately meet the requirements for creating a traffic image and actively controlling the traffic. These working practices can be regarded as risk prone and in this case they contributed to the incident.

Landing clearance was given to M 42 without verifying if it could land safely. Even if only one aircraft is concerned, it must be ensured that the flight can be continued safely in acoordance with the clearance. The working practice followed can be considered risk-prone, because it reveals insufficient use of situational information and inadequate verification of the assumptions on which the actions were based. The controller also stated during this investigation that he would, even in the future act, as described in this report when issuing approach clearances. The controller does not see that he should verify the position of the aircraft by requesting position reports during approach, but he expects the pilots report their position on their own initiative. Lack of verification and acting on the basis of assumptions were contributory factors in this incident.

The commission got an impression that the controller regards air traffic control work as important and respects it highly. He brought up aspects, which give occasion to assume that he knows the importance of the basic concepts of air traffic control work. He underlines e.g. the importance of anticipation and planning, preparedness, need for co-operation, forming an image of situation as whole etc. But when looking at his own action in the incident under investigation, it seems that he does not identify what these common principles mean in practice or in which situations the basic concepts, which he highlighted, have operational importance.

The air traffic controller's licence had been issued in 1987 and after that he had participated in refresher training only in the year 1996. In order to develop proper working practices, it would be essential, that in the course of the controllers' career, particularly in the beginning, their working practices were monitored and they were insructed to follow the appropriate practices.

2.3.3 Attitude to reporting and to the opportunity to learn from the incident

The controller's way of explaining the event is significant, as it reveals his attitude to reporting and learning from the incident. He considers that it was an occasional lapse memory, and it seems that the incident had no importance to him as an opportunity to learn. Although the case has been treated both during the investigation and, by change, in refresher training as a case example, he feels that there is nothing to learn from it. This is because he regards the forgotten aircraft only as a slip of memory, not as habitual negligence of air traffic controller's core tasks and as a possible contributing factor in compromising the safety of air traffic.

The controller's attitude to reporting correlates with the above. It seems that he does not consider reporting very important and he states, understandably, that it is not easy to report one's own mistakes, particularly if the operational culture includes blaming. However it could have been expected that he - also as a chief of an air traffic control unit - had expressed some criticism towards his choice to avoid reporting the incident.

2.3.4 Summary

This incident generally confirms the view formed by previous investigations, that it is not easy for an air traffic controller to identify in practice, which are the working practices required by the controllers' core tasks and to meet the essential requirements. This problem may be typical for airports with a relatively low traffic density, where the critical importance of core task requirements as a guarantees of system safety is seldom revealed in daily work . For this reason it is essential to develop concrete criteria for proper ATC working practices and use them in basic training, refresher training and also in training for specific ratings and performance evaluations at the workplace.

3 CONCLUSIONS

3.1 Findings

1. The pilots of the aircraft had valid licences and qualifications.

2. Both aircraft flew in accordance with to the issued and acknowledged clearances.

3. The controller had a valid licence and qualification for Vaasa TWR/APP.

4. The licence register of Flight Safety Authority consists of a computer database as well as paper documents. However, extracts from licence register provided by FSA only contain information from the computer based register.

5. The controller stated that he was fit for work but the night rest had been insufficient.

6. The controller felt that the traffic had been somewhat heavier than usual before the incident.

7. Only two departing IFR aircraft required separation measures.

8. Before the incident, the controller had to give traffic information in one case only.

9. The controller wrote the changes to SKX 1593 ETA and the transfer time given by ACC down on the flight strip, but did not write down the revised ETA of M 42.

10. The controller did not decide on the approach sequence when the aircraft contacted Vaasa ATC by radio, but he stated that his intention was to make the decision later when the aircraft would be closer to the airport.

11. The controller cleared SKX 1593 below the cleared flight level given by ACC before the transfer time.

12. The clearance limits of both aircraft were appropriate.

13. M 42 did not report the mandatory reporting point MALAX and the controller did not request the report.

14. The controller did not request any position or distance reports from SKX 1593 in connection with arrival or approach clearances.

15. The controller did not give any traffic information to either aircraft.

16. When the aircraft were approaching the airport, the controller was probably working at a computer work station with his back towards the traffic.

17. When the controller cleared M 42 to land he did not visually check the base leg and final of runway 34.

18. M 42 initiated the avoiding manoeuvre before the controller's order.

19. The controller ordered M 42 to make an orbit to the left only after SKX 1593 had reported short final.

20. SKX 1593 flight crew did not sight M 42 at any stage.

21. The controller did not file the PHI- and incident reports until more than 24 hours after the occurrence when the Accident Investigation Board had inquired of him about the details.

3.2 Probable cause

The incident occurred because the controller cleared M 42 for a touch-and-go landing without checking the position of either approaching aircraft.

The fact that the controller did not give any traffic information to the aircraft was a contributory factor to the incident.

3 RECOMMENDATIONS

The investigation commission proposes the following safety recommendations:

4.1 The Air Navigation Services Department of Civil Aviation Administration should ensure that

instructions for air traffic controllers' basic- and on-the-job training and follow-up tools are developed so that they help to evaluate how the trainees have internalized the core requirements of air traffic control operations, and how they meet them. The same evaluation must be applied to refresher training of qualified controllers.

4.2 The Air Navigation Services Department of Civil Aviation Administration should ensure that

Instructions for use are drawn up for the monitors, located in air traffic control towers, considering their technical characteristics. These instructions should be approved by the Flight Safety Authority.

4.3 The Civil Aviation Administration, Flight Safety Authority, should ensure that

The licence register, which the Civil Aviation Administration is prescribed to keep by virtue of the Aviation Act, and the extracts from register are in compliance with the Personal Data Act and therefore better serve the needs of licence oversight as well as accident and incident investigation.

Helsinki 13.3.2000

Jussi Haila Erkki Kantola

Appendix 1

Radio communications on Vaasa TWR frequency 119,3 MHz on 16.8.1999

TWR =Vaasa tower

SKX 1593 =SKYWAYS AB flight 1593, Fokker 50 SE-LIN

M 42 =Air force basic trainer Vinka VN-21

From	To	Time (local)	Message
SKX 1593	TWR	15.07.30	*Tower, afternoon, Sky Express 1593 descending for flight level seven zero* .
TWR	SKX 1593		*Afternoon Sky Express 1593, cleared direct Hotel Yankee, descend to 1700 feet, QNH 1004, information Echo, and expect no delay and visual 34* .
SKX 1593	TWR		*Fly direct Hotel Yankee, descend 1700 feet, QNH 1004 and Echo received, expect visual to runway 34, Sky Express 1593.*
TWR	SKX 1593		*Vaasa*
M 42	TWR	15.08.20	*Tower, Matti 42*
TWR	M 42		*Matti 42, Vaasa*
M 42	TWR		*Matti 42 MALAX inbound in two minutes, approach instrictions for touch-and-go, and we are at 150 meters.*
TWR	M 42		*Matti 42,via MALAX join base leg runway 34, QFE 1004*
M 42	TWR		*Will join base leg 34 via MALAX and QFE 1004, Matti 42*
TWR	M 42		*Tower*
SKX 1593	TWR	15.10	*Vaasa, Sky Express 1593, we have field in sight*
TWR	SKX 1593		*Sky Express 1593, cleared visual 34, left circuit, 1004.*
SKX-1593	TWR		*Cleared visual 34, left hand circuit, Sky Express 1593* .
OH-CVQ	TWR	15.12	*Oscar Victor Quebec abeam Maksamaa and would like to come for touch-and-go.*
TWR	OH-CVQ		*Oscar Victor Quebec, join right downwind 34.*
OH-CVQ	TWR		*Will join right downwind 34, Oscar Victor Quebec.*
OH-CKB	TWR		*Oscar Kilo Bravo, MAKSA outbound, morjens*
TWR	OH-CKB	15.13	*Kilo Bravo, terve*
M 42	TWR	15.14.05	*…base 34 and touch-and-go.*
TWR	M 42	15.14.11	*Matti 42, after touch-and-go leave control zone via MAKSA, VFR.*
M 42	TWR	15.14.18	*After touch-and-go via MAKSA VFR, Matti 42*

From	To	Time (local)	Message
TWR	M 42	15.14.23	*Matti 42 cleared touch-and-go 34, right turn,wind 10 degrees 10 knots.*
M 42	TWR	15.14.28	*Cleared touch-and-go 34 and right turn, Matti 42.*
SKX 1593	TWR	15.14.31	*Sky Express 1593 short final* .
TWR	M-42	15.14.40	*Matti 42, make one orbit left from that position.*
SKX 1593	TWR	15.14.49	*Sky Express 1593 short final* .
TWR	SKX 1593	15.14.52	*You are cleared to land 34, zero one zero degrees eight knots* .
SKX 1593	TWR	15.14.56	*Cleared to land 34, Sky Express 1593.*
TWR	M 42	15.15.01	*Matti 42 make another orbit, so the other plane gets time to backtrack.*
TWR	SKX 1593	15.15.45	*1593 landed one five, backtrack via Alfa to gate* .
SKX 1593	TWR		*Alfa to gate, Sky Express 1593* .
TWR	M 42	15.16.05	*You may continue approach.*
M 42	TWR		*Will continue approach, Matti 42*
TWR	M 42		*Well, I almost made a mistake there, when I cleared you to land at the same time with the bigger plane. It went well anyway.*
M 42	TWR		*Lucky enough.*
TWR	M 42	15.16	*Matti 42 cleared touch-and-go, right turn, 10 degrees, seven.*
M 42	TWR		*Cleared touch-and-go right turn , Matti 42.*

ILMAILULAITOS
CIVIL AVIATION ADMINISTRATION
LENTOTURVALLISUUSHALLINTO
FLIGHT SAFETY AUTHORITY

APPENDIX 2

Päivämäärä Date: 03.01.2000

Dnro: 18/02/99

Onnettomuustutkintakeskus
Yrjönkatu 36
00100 Helsinki

07.01.00

Viite Ref: LAUSUNTOPYYNTÖ 08.12.1999

Subject: ILMAILULAITOKSEN LENTOTURVALLISUUSHALLINNON LAUSUNTO TUTKINTASELOSTUKSEN LOPULLISEEN LUONNOKSEEN B3/1999L

Lentoturvallisuushallinto yhtyy tutkintaselostuksessa esitettyihin turvallisuussuosituksiin ja pitää niitä lentoturvallisuuden kannalta perusteltuina.

Siltä osin kuin tutkintaselostusluonnoksen 1.18.1 kohdassa on otettu kantaa Lentoturvallisuushallinnon lupakirjarekisterijärjestelmään, Lentoturvallisuushallinto haluaa tuoda esille seuraavaa:

Ilmailulupakirjojen ja kelpuutusten myöntäjänä Lentoturvallisuushallinto ylläpitää ilmailulain 22 §:ssä tarkoitettua lupakirjarekisteriä, johon merkittyjä tietoja se voi luovuttaa siinä laajuudessa kuin mainitun lain 23 §:ssä todetaan.

Tutkintaselostusluonnoksessa on kiinnitetty erityistä huomiota tutkitussa tapauksessa osallisena olleen lennonjohtajan lupakirjarekisteriotteesta ilmenevään kouluttajan, tarkastuslentäjän ja tarkastuksen suorittaneen lääkärin yhteydessä käytettyyn ilmaisuun "tuntematon". Kyseisen ilmaisun perusteella tutkintaselostusluonnoksessa on arvosteltu muun muassa lupakirjarekisterin luotettavuutta. Lentoturvallisuushallinto katsoo aiheelliseksi oikaista ilmeisestä väärinymmärryksestä johtuvat tutkintalautakunnan arviot lupakirjarekisteristä.

Lupakirjarekisterin muodostavat automaattisen tietojenkäsittelyn muodossa pidettävä tietokanta sekä sen perusteena oleva asiakirja-aineisto kokonaisuudessaan.

Huhtikuussa 1998 Lentoturvallisuushallinto otti käyttöönsä uudistetun ATK-pohjaisen lupakirjarekisterijärjestelmän, johon vietiin tarkoituksenmukaisuussyistä vanhan lupakirjajärjestelmän tiedot sellaisenaan. Vanhan lupakirjajärjestelmän tietokannassa ei ollut erikseen mainittu nimeltä tarkastuslentäjiä ja tarkastuksen suorittaneita lääkäreitä, vaan nämä tiedot olivat ja ovat edelleenkin saatavissa lupakirjan tai kelpuutuksen hakijaa koskevasta asiakirja-aineistosta. Kouluttajien nimien osalta lentäjän lupakirjan haltijoiden kouluttajien nimitiedot oli merkitty jo vanhan lupakirjajärjestelmän ATK-pohjaiseen tietokantaan, mutta ei lennonjohtajien kouluttajan osalta, koska koulutuksen kokonaisvastuussa on luonnollisesti Ilmailulaitos. Uudistetussa lupakirjajärjestelmässä kouluttajien nimitietojen lisäksi tarkastuslentäjien ja lääkäreiden nimitiedot viedään suoraan lupakirjojen tai kelpuutusten hakijoita ja haltijoita koskeviin tietokantoihin.

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Uudistetussa järjestelmässä vanhan järjestelmän asiakirja-aineistoon perustuva kyseinen nimitieto on korvattu ilmaisulla "tuntematon". Ilmaisu voisi toki olla tosiasiallista tilannetta paremmin kuvaava, mutta yhteistyössä järjestelmän toimittajan kanssa on päädytty kyseisen ilmaisun käyttämiseen. Lentoturvallisuushallinto korostaa, että kyseiset tiedot ovat helposti saatavissa lupakirjan haltijaa koskevasta asiakirja-aineistosta. Koulutus- ja lupakirjajaoston päällikkö oli kertomansa mukaan selvittänyt tämän tutkintalautakunnan puheenjohtajalle puheenjohtajan oltua häneen puhelinyhteydessä ja oli ollut myös valmis toimittamaan osallisena olleen lennonjohtajan lupakirja-aineistosta kyseiset nimitiedot tutkintalautakunnalle. Ilmeisestikään lautakunta ei pitänyt näiden tietojen pyytämistä lennonjohtajan taustan selvittämiseksi tarpeellisena, koska pyyntöä ei missään vaiheessa esitetty.

Edellä mainitun perusteella Lentoturvallisuushallinto ei voi hyväksyä sitä tutkintaselostusluonnoksessa esitettyä johtopäätöstä, että ilmaisun "tuntematon" käytöstä johtuen rekisteriote ei täytä ilmailulain 23 §:ssä määrättyä viranomaisen tiedonsaantioikeutta eikä anna luotettavaa kuvaa lupakirjan myöntämisen ja uusinnan yhteydessä vaadittavasta koulutuksesta ja noudatetusta tarkastusmenettelystä. Lentoturvallisuushallinto olettaa lautakunnan virheellisen käsityksen johtuvan siitä, että lautakunta on mitä ilmeisemmin katsonut suppeasti vain ATK-pohjaisen tietokannan muodostavan lupakirjarekisterin. Näin ei ole kuitenkaan asian laita. Lupakirjarekisteri on kokonaisuus, jossa tärkeän osan muodostaa tietokannan perusteena oleva asiakirja-aineisto.

Tutkintaselostusluonnoksessa on niinikään todettu ilmaisun "tuntematon" olevan kyseenalaista asianomaisen henkilön oikeusturvan kannalta. Tätäkään väitettä Lentoturvallisuushallinto ei voi hyväksyä. Kun hakijalle myönnetään lupakirjan tai kelpuutus, hakija tietää, että hänen hakemuksensa liitteineen täyttävät vaatimukset, ja että nämä asiakirjat voivat joutua tietyissä tilanteissa säädetyiltä osin muiden ilmailulaissa mainittujen viranomaisten tarkasteltaviksi. Jos Lentoturvallisuushallinto hylkää hakemuksen kokonaan tai joiltakin osin, Lentoturvallisuushallinto antaa puutteiden osalta perustellun päätöksen valitusosoituksineen. Lentoturvallisuushallinto ei katso ilmaisun "tuntematon" käyttämisen liittyvän millään tavoin lupakirjan hakijan tai haltijan oikeusturvaan, koska tietoaineisto on arkistoitu asianmukaisesti ja on esteettä mainittujen viranomaisten ja lupakirjan haltijan itsensä tarkastettavissa.

Edellä mainitun perusteella Lentoturvallisuushallinto pyytää kunnioittavasti, että sen edellä esittämät kannanotot otetaan huomioon ennen lopullisen tutkintaselostuksen antamista.

Lentoturvallisuushallinto toteaa lopuksi, että mahdollisista toimenpiteistä päätetään erikseen.

Ylijohtaja Kim Salonen

ILMAILULAITOS
CIVIL AVIATION ADMINISTRATION
AIR NAVIGATION
SERVICES DEPARTMENT

Päivämäärä Date
7.1.2000

Onro 72/040/00

APPENDIX 3

Onnettomuustutkintakeskus
Yrjönkatu 36
00100 HELSINKI

Viite Ref Onnettomuustutkintakeskuksen tutkintaselostus (lopullinen luonnos); B 3/1999 L

a Subject LAUSUNTO TUTKINTASELOSTUKSEN LUONNOKSESTA

Lennonvarmistusosasto lausuu viitteen tutkintaselostuksesta (lopullinen luonnos) seuraavaa:

Tutkintaselostus on kokonaisuutena toteutettu asianmukaisesti ja tapahtunut huomattavan tarkasti analysoiden.

Tutkintaselostuksen kohta 1.17.3 on lennonvarmistusosaston käsityksen mukaan virheellinen. Vaasan lennonjohdolla on voimassa oleva yhteistoimintasopimus Tampereen aluelennonjohdon kanssa. Viittaus Vaasan lennonjohdon sisäisen ohjeistuksen puutteeisiin, asiaa kuitenkaan täsmentämättä, antaa virheellisen kuvan asiasta. Myös viittaus Vaasan lentoaseman työjärjestyksen puutteisiin antaa asiasta virheellisen ja negatiivishakuisen kuvan. Tällainen viittaus edellyttäisi ehdottomasti kokonaisnäkemystä lennonjohtajien työtehtävien ohjeistuksesta ja siinä mahdollisesti olevasta puutteesta, joka koskee nimenomaan Vaasan lentoaseman työjärjestystä.

Johtaja Jussi Myllärniemi

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APPENDIX 4

ILMAVOIMIEN ESIKUNTA

LAUSUNTO

Lentoturvallisuustoimisto
Tikkakoski

16.12.1999

R685/4.1.3/0/III

Onnettomuustutkintakeskus
Jussi Haila

Lausuntopyyntö yhteentörmäysvaaratilanteesta Vaasan lentoasemalla 16.8.1999

YHTEENTÖRMÄYSVAARA VAASAN LENTOASEMALLA 16.8.1999

Ilmavoimien esikunta on saanut Onnettomuustutkintakeskukselta yllä mainittua vaaratilannetta koskevan tutkintaselostuksen lopullisen luonnoksen lausunnon antamista varten.

Ilmavoimien esikunnalla ei ole esitettyjen turvallisuussuositusten osalta huomautettavaa.

Esikuntapäällikkö
Prikaatikenraali — Pekka Tuunanen

Lentoturvallisuuspäällikkö
Everstiluutnantti — Juhani Hipeli

LIITTEET

JAKELU

TIEDOKSI

Tämä asiakirja on elektronisesti allekirjoitettu.

I L M A I L U L A I T O S
CIVIL AVIATION ADMINISTRATION
LENTOTURVALLISUUSHALLINTO
FLIGHT SAFETY AUTHORITY

Päivämäärä Date
15.2.2000

APPENDIX 5
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18/02/99 1(3)

Onnettomuustutkintakeskus

Viite Ref

Lausuntopyyntönne

sia Subject

LENTOTURVALLISUUSHALLINNON LAUSUNTO TUTKINTASELOSTUS-LUONNOKSEN B3/1999L MUUTETUSTA 1.18 KOHDASTA JA LISÄTYISTÄ 3.1 4) JA 4.3 KOHDISTA

Viitaten viimeisimpään lausuntopyyntöönne asiakohdassa mainituista muutoksista ja lisäyksistä tutkintaselostusluonnokseen B3/1999L Lentoturvallisuushallinto toteaa lausuntonaan seuraavaa:

Lentoturvallisuushallinto antoi kirjeellään 3.1.2000 perustellun ja yksityiskohtaisen lausunnon kyseisestä Lentoturvallisuushallinnon lupakirjarekisteriä koskevasta tutkintaselostusluonnoksen kohdasta ja oletti luonnollisesti lausuntonsa selventävän tutkintalautakunnalle lupakirjarekisterin sisältöä ja laajuutta. Näin ei ole kuitenkaan tapahtunut, koska nyt lausunnolla olevassa tutkintaselostusluonnoksessa tutkintalautakunnan käsitykset lupakirjarekisteristä ovat pääosin samat kuin aiemmin lausunnolla olleessa tutkintaselostusluonnoksessa.

Tutkintalautakunta on viitannut tutkintaselostusluonnoksessaan lautakunnan oikeuteen perehtyä sellaisiin asiakirjoihin, joilla saattaa olla merkitystä tutkinnassa ja oikeuteen saada tarpeelliset tiedot. Tältä osin toteamme, että emme ole missään vaiheessa asettaneet kyseenalaiseksi tutkintalautakunnan oikeutta saada lupakirjarekisteristä tarvitsemiaan tietoja. Näyttää edelleenkin siltä, että lautakunta katsoo lupakirjarekisterin muodostuvan ainoastaan lupakirjarekisteriotteesta ilmenevistä tiedoista. Lentoturvallisuushallinto toistaa sen jo edellisessä lausunnossaan esittämänsä oleellisen seikan, että ATK-pohjainen tietokanta ja sen perusteena oleva asiakirja-aineisto muodostavat yhdessä lupakirjarekisterin. Ne lupakirjan haltijaa koskevat tiedot, jotka eivät ilmene lupakirjarekisteriotteesta, olisivat olleet helposti saatavissa rekisteriotteen perusteena

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AFTN EFHKYAYX

olevasta asiakirja-aineistosta. Tätä tutkintalautakunnalle kerrottua mahdollisuutta lautakunta ei jostain syystä halunnut käyttää hyväkseen.

Lupakirjan haltijaa koskevaan ATK-pohjaiseen tietokantaan viedään lupakirjakäsittelyn kannalta oleelliset tiedot, mitkä ilmenevät myös lupakirjan haltijasta annettavassa lupakirjarekisteriotteessa. Lentoturvallisuushallinto ei näe mitään tarvetta lisätä lupakirjarekisteriotteesta ilmenevää tietomäärää nykyisestä, ellei tietosuojaviranomainen osoita tietokannassa selviä puutteita. Lentoturvallisuushallinnon mielestä tietomäärä on riittävä.

Lentoturvallisuushallinto on edellisessä lausunnossaan todennut, että uudistetussa ATK-pohjaisessa lupakirjarekisterijärjestelmässä vanhan järjestelmän asiakirja-aineistoon perustuvan tarkastuslentäjien, tarkastuksen suorittaneiden lääkäreiden ja osaksi kouluttajien nimitietojen korvaaminen ilmaisulla "tuntematon", ei kuvaa tosiasiallista tilannetta. Tältä osin arvosteluun on epäilemättä aihetta. Lentoturvallisuushallinto ryhtyykin toimenpiteisiin tuntematon-sanan korvaamiseksi ilmaisulla, joka osoittaa nimitiedon löytyvän lupakirjaa koskevasta arkistoidusta asiakirja-aineistosta. Vanhan lupakirjajärjestelmän asiakirja-aineistossa olevia nimitietoja Lentoturvallisuushallinto ei ryhdy viemään uuteen ATK-pohjaiseen lupakirjarekisterijärjestelmään. Nimitiedot ovat esteettä lupakirjanhaltijan itsensä ja tietojen saantiin oikeutetun viranomaisen tarkistettavissa lupakirjarekisteriin sisältyvästä arkistosta.

Tutkimusselostusluonnoksessa on todettu tietosuojavaltuutetun ja oikeusministeriössä henkilötietoasioista vastaavan lainsäädäntöneuvoksen tarkastaneen lupakirjarekisteriä koskevan tutkintaselostuksen kohdan. Lentoturvallisuushallinto oli asian johdosta puhelimitse yhteydessä tietosuojavaltuutettuun. Tietosuojavaltuutetun mukaan hän oli selvittänyt tutkintalautakunnan puheenjohtajalle henkilötietolain periaatteita yleisellä tasolla ja oli todennut Lentoturvallisuushallinnon lupakirjarekisteristä ainoastaan lupakirjarekisteriotteessa käytetyn sanan "tuntematon" osalta, että tämä tieto on "väärä" tieto. Kyseisen sanan käyttö ei tee Lentoturvallisuushallinnon lupakirjarekisterijärjestelmästä puutteellista, vaikka lautakunta on tutkintaselostusluonnoksessaan antanut toisin ymmärtää. Mainitun sanan käytössä on kyse kuitenkin vaikutukseltaan varsin vähäisestä puutteellisuudesta. Kuten edellä on todettu, Lentoturvallisuushallinto muuttaa kyseisen sanan vastaamaan paremmin tosiasiallista tilannetta.

Jos vastoin Lentoturvallisuushallinnon käsitystä sen antamia lausuntoja kyseessä olevista tutkintaselostusluonnoksista ei oteta huomioon ennen lopullisen tutkintaselostuksen antamista, pyydämme, että lausuntomme ovat laajaan jakeluun menevän tutkintaselostuksen liitteinä. Lentoturvallisuushallinto toteaa myös, että lupakirjarekisteriotteen tietojen laajuus tai edellä mainitun sanan käyttäminen eivät välttämättä ole sellaisia kyseisen tapauksen tutkintaan oleellisesti liittyviä seikkoja, etteikö asiaa olisi voitu ottaa esille erillään tutkinnasta. Asiaan vaikuttava seikka on lisäksi se, että varsinainen asiantuntijaviranomainen tietosuojavaltuutettu ei ole tarkastanut Lentoturvallisuushallinnon uutta lupakirjarekisterijärjestelmää. Lentoturvallisuushallinto katsoo lupakirjarekisterijärjestelmänsä täyttävän kyseisen vähäisen muutoksen jälkeen henkilötietolain vaatimukset.

Ylijohtajan po.
apulaisjohtaja

Hannu Luukkonen