

# **Final Report of the Aircraft Accident Investigation Bureau**

**concerning the incident (Airprox)**

between SWR77FT and D-IMME

on 29 August 2003

over PINIK (Lugano)

# FINAL REPORT

## AIR TRAFFIC INCIDENT REPORT (ATIR)

### AIRPROX (NEAR MISS)

This report has been prepared solely for the purpose of accident/incident prevention. The legal assessment of accident/incident causes and circumstances is no concern of the incident investigation. (Art. 24 of the Air Navigation Law). The masculine form is used in this report regardless of gender for reasons of data protection.

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PLACE/DATE/TIME	Over PINIK, (Lugano), 29.08.2003, 14.20 UTC
AIRCRAFT	SWR77FT, Saab SB20, HB-IZH, Swiss Intl. Air Lines LSZH (Zurich) – LSZA (Lugano)  D-IMME, Cessna C551 (Citation II SP), Commander Flugdienst GmbH EDDH (Hamburg) – LSZA (Lugano)

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ATC UNIT	Aerodrome Control Lugano (TWR)
AIR TRAFFIC	Aerodrome Controller (ADC)
CONTROLLERS	Ground Controller Coordinator (GND)

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AIRSPACE	E
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## HISTORY

On the afternoon of 29 August 2003, the Saab 2000 of Swiss airline, flight number SWR77FT, was en route on a scheduled flight from Zurich to Lugano. At 13:44 UTC the aircraft made routine contact with Milan Control – Sector ANE. At this time it was approximately 30 NM north of Lugano, descending to flight level (FL) 150 and on a heading of 190°, in order to avoid high cloud formations (thunder clouds), which had also formed above waypoint PINIK in particular. After several exchanges between the flight crew of SWR77FT and Milan Control, in the course of which the Swiss aircraft was again cleared for FL 190 and appropriate holding patterns were discussed in order to await better weather over Lugano, SWR77FT made for the holding pattern over non-directional radio beacon (NDB) RMG (Romagnano), which was located about 13 NM west of Milan-Malpensa airport.

About 11 minutes later SWR77FT informed Milan Control that it was ready for an approach to Lugano and immediately received clearance to descend in stages to 6000 ft/QNH as well as clearance to head for waypoint PINIK, from where it would initiate the final descent to Lugano at the appropriate time.

At 14:14 UTC Milan Control requested the Swiss aircraft to make contact with Lugano. At this time it was on a south-easterly heading approximately 3 NM north-west of PINIK, passing FL 125, descending. A little later contact with Lugano was established and Lugano air traffic control (ATC) cleared SWR77FT for an approach on runway 01. The Swiss aircraft then flew a holding loop south of PINIK to lose height and at about 14:18 UTC reached the cleared altitude of 6000 ft/QNH. At this time the Swiss Saab 2000 was about 6 NM south of PINIK and was about to assume a northerly heading in the direction of PINIK.

The Cessna C551 Citation of the Commander Flugdienst company was on a commercial flight with one passenger on board, from Hamburg with the same destination, Lugano. At 14:15 UTC D-IMME made routine contact with Milan Control – Sector ANE. At this time it was about 20 NM north-west of Lugano, shortly before ODINA, descending to FL 150. The aircraft was following the specified flight path via ODINA – LUGAN - PINIK. After D-IMME had shortly afterwards arrived over ODINA, it received clearance from Milan Control to descend to FL 110 and subsequently to 7000 ft/QNH and was informed by Milan that it was “number two” in the approach sequence. At 14:18 UTC the German Citation was instructed by Milan Control to make contact with Lugano.

Radio contact between D-IMME and Lugano Tower was established immediately and the competent aerodrome controller (ADC ATCO) in Lugano gave the German aircraft the instruction to fly into the PINIK holding pattern and maintain an altitude of 7000 ft/QNH. The ATCO also confirmed that it was number two in the approach sequence. At the time of this contact with Lugano, D-IMME was passing approx. FL 100, descending.

A little later, at 14:19:00 UTC, D-IMME reached 7100 FT/QNH. At this time the aircraft was about 4.5 NM north of PINIK and at the same time about 6.5 NM from SWR77FT, which for its part was stable at 6000 ft/QNH on an approximately northerly heading towards PINIK. For the two following revolutions of the radar antenna (which rotates at a refresh rate of 12 seconds), the radar recordings show D-IMME’s altitude as 6900 ft/QNH and 6700 ft/QNH respectively. The two aircraft were closing on opposing headings.

At 14:19:30 UTC, after the altitude indicator of D-IMME’s Mode C transponder indicated the above-mentioned 6700 ft/QNH on the radar monitor in the Lugano tower, the ADC ATCO intervened, instructing the flight crew of D-IMME to maintain 7000 ft/QNH. The latter confirmed this instruction correctly.

All times in this report are in the UTC format (local time –2 hours)

Ten seconds later, SWR77FT reported to ATC that it was initiating a TCAS descent and had established visual contact with the oncoming aircraft. The ADC ATCO once more requested D-IMME to maintain 7000 ft/QNH. The latter again repeated this instruction correctly, but confirmed a QNH deviating by 1 hPa.

According to the radar recording, D-IMME first continued its descent to 6500 ft/QNH until it began to climb again and then terminated its climb at 7000 ft/QNH. In this phase the two aircraft on opposing headings closed to a minimum altitude difference of 500 ft and passed each other with a lateral separation of 0.3 NM and an altitude difference of 700 ft.

The Swiss aircraft then continued its final approach and later landed at its own request and by agreement with ATC Lugano on runway 19 after visual circling. Five minutes later, D-IMME landed at Lugano on runway 01.

Swiss International Airlines submitted an air safety report (ASR).

## FINDINGS

- Both aircraft were flying in Class E controlled airspace.
- Both aircraft were flying according to instrument flight rules (IFR).
- The CMD of D-IMME was not in possession of the qualification to carry out IFR approaches to Lugano according to AIP Switzerland LSZA AD 2.22 Flight Procedures. According to his statements, he had already made several IFR flights to Lugano. Both pilots of D-IMME were in possession of the valid licences necessary to fly the aircraft type Cessna 551.
- Both aircraft were in uninterrupted radio contact with the competent ATC stations; i.e. initially with Milan Control and then with Lugano Aerodrome Control.
- At 14:11:23 UTC SWR77FT received clearance from Milan Control to descend to 6000 ft/QNH (1002 hPa) and to make for PINIK. The flight crew aircraft confirmed this clearance correctly.
- At 14:14:01 UTC Milan Control requested SWR77FT to make contact with Lugano Tower. This contact took place 29 seconds later.
- At 14:17:34 UTC Milan Control cleared D-IMME to descend to 7000 ft/QNH as follows: "ME, continue to 7000 ft on QNH 1002, contact Lugano 120.25, goodbye". This clearance was preceded by corresponding telephone coordination with Lugano. D-IMME confirmed this clearance as follows: "120.25, down to 70, 1022...10...02". At this time, SWR77FT was nearing the cleared flight level of 6000 ft /QNH, whilst D-IMME was passing approx. FL 124, descending.
- At 14:18:15 UTC radio contact between D-IMME and Lugano took place as follows: "Lugano, good afternoon, D-IMME passing FL 100 descending to altitude 7000 ft, 1002". The ADC ATCO answered as follows: "D-ME good afternoon, new QNH 1003 join PINIK holding pattern 7000 ft, number 2". D-IMME confirmed as follows: "descending 7000 ft, number two, ME".
- At 14:19:30 UTC the ADC ATCO reminded D-IMME of the altitude clearance as follows: "D-ME just to confirm, remain 7000 ft on 1003". D-IMME confirmed this radio conversation as follows: "remaining 7000, 1003, ME".

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At this time, according to the radar recording, D-IMME had already descended below 7000 ft/QNH and was passing approx. 6700 ft/QNH. Subsequently, according to the radar recording, the aircraft descended to at least 6500 ft/QNH before it resumed its climb.

- During the last 44 seconds before passing the cleared flight level of 7000 ft/QNH the rate of descent of D-IMME was about 2500 ft/min. In the preceding 44 seconds it was about 3800 ft/min.
- At 14:19:40 UTC SWR77FT reported as follows: "...and we have a TCAS descent, Swiss 77FT, TCAS descent, traffic in sight now". After this, ATC once more requested D-IMME to maintain 7000 ft/QNH: "D-ME I say again, maintain 7000 ft". D-IMME confirmed as follows: "maintaining 7000 ft, ME, 1002". At the time of this dialogue the two aircraft had a lateral separation of 2.2 NM and were closing on opposing headings. Their altitude difference was between 500 and 600 ft.

The two aircraft finally passed each other with a lateral separation of 0.3 NM and an altitude difference of 700 ft.

- According to their statements, the D-IMME flight crew made the descent to 7000 ft/QNH on autopilot. Beforehand, the F/O said he had entered the corresponding altitude into the autopilot and selected armed mode. The F/O's altimeter was apparently set to standard pressure (1013.2 hPa) and the CMD's was set to Lugano QNH (1002 or 1003 hPa). Presumably, before reaching the cleared flight level of 7000 ft/QNH, the CMD as PF had manually reduced the rate of descent for reasons of comfort. In such a case, the installed flight director/autopilot system demands that no further manual adjustments be made to the rate of descent during the final 120 ft before the preselected altitude is reached. Otherwise capture mode, which automatically completes the descent at the preselected altitude, would be deactivated. This is precisely what happened "somehow or other" on this flight. It is also possible that accidentally touching the autopilot's pitch wheel might have been the cause of the loss of altitude.

In the knowledge of this feature of the installed flight director/autopilot system, they would therefore, as a standard operating procedure (SOP), make no further manual changes to the rate of descent during the last 300 ft before reaching the preselected altitude.

The flight crew further stated that on the first ATC request to check the flight level the F/O confirmed 7000 ft, since he had his altimeter still set to standard pressure (1013.2 hPa) and the instrument was also displaying this altitude. After the second request from ATC, they became aware of this mistake and climbed immediately back to 7000 ft/QNH.

- The CMD of SWR77FT stated that he had received a traffic advisory (TA) shortly before CALDO. The conflicting aircraft was 4 NM away at the 1 o'clock position, with an altitude difference of 600 ft and was apparently descending towards his aircraft. At this time, instrument meteorological conditions (IMC) applied. A few seconds later he received a resolution advisory (RA) "descend descend", which he obeyed. The conflicting aircraft was now a lateral distance of 2 NM away, with an altitude difference of 300 ft. He then made visual contact with a Cessna Citation.

All times in this report are in the UTC format (local time -2 hours)

Weather: LSZA 1350 36007 3500 TSRA FEW010 SCT020 BKN035 20/20 Q1002 TEMPO +SHRA  
METAR LSZA 13:50 UTC  
Wind: 360°, 7 knots  
Ground visibility: 3500 m, thunderstorm with rain  
Cloud: FEW at 1000 ft AAL, SCT at 3000 ft AAL, BKN at 3500 ft AAL  
Temperature: +20°C, dew point: +20°C  
QNH 1002 hPa  
TEMPO heavy showers of rain

LSZA 1420 VRB03 6000 FEW010 SCT030 BKN050 21/20 Q1003 RETS NOSIG  
METAR LSZA 1420 UTC  
Wind: variable, 3 knots  
Ground visibility: 6 KM  
Cloud: FEW at 1000 ft AAL, SCT at 3000 ft AAL, BKN at 5000 ft AAL  
Temperature: +21°C, dew point: +20°C  
QNH 1003 hPa  
Recent thunderstorm  
NOSIG

#### General weather situation

The centre of an extended low-pressure system was located over northern Germany. Humid air was flowing towards the Alps in a strong south-westerly upper air current. Over the course of the day, a cold front was crossing Switzerland. On the south side of the Alps the sky was cloudy; in Lugano (city) it was raining at 12:00 UTC.

- At the time of the incident, transition level (TL) 90 was being transmitted on the ATIS.
- According to flight crew statements, D-IMME was equipped with a Sperry SPZ-500 autopilot/flight director system.
- SWR77FT (HB-IZH) was equipped with ACAS, software version 7.0. D-IMME was not equipped with ACAS.
- The Swiss flight crew were in possession of the valid licences necessary to exercise their activity.
- The air traffic controllers involved were in possession of the valid licences necessary to exercise their activity.

## ANALYSIS

### Air traffic control procedures for Lugano approaches

According to AIP Switzerland, Lugano air traffic control does not have an approach control unit, only an aerodrome control unit. According to the relevant regulations of the Swiss air navigation services company skyguide, Lugano also provides an approach control service.

A letter of agreement (LOA) between the competent Swiss and Italian authorities regulates the details of coordination between ATC Lugano and ATC Milan. The heart of this agreement is the allocation of responsibility for providing air traffic services (ATS) within the Italian airspace used for approaches to Lugano. Thus, among other things, Milan Control is essentially responsible for providing ATS in the Milan TMA, whilst Lugano provides ATS in the Lugano control zone (CTR).

All times in this report are in the UTC format (local time -2 hours)

Approaches to Lugano from Zurich's area of responsibility are managed by Zurich area control centre (ACC) via ODINA and coordinated with Milan. At or in descent to FL 150 they are handed over to Milan Control. Milan then clears and controls continued descent to 6000 ft/QNH and clears approaching aircraft to PINIK. Management of the PINIK holding pattern and the issuing of the approach clearance are the responsibility of Lugano ATC.

Clearances necessary for the provision of this approach service are given by Lugano in accordance with the ICAO principles for procedural traffic management. Radar procedures have no application in this context.

### **Radar as an aid in Lugano, radar qualification of the ATCOs and their handling of the situation**

On 3 April 2000 an airprox (LEA010R/CRX44UT) took place over PINIK, the cause of which was non-compliance with the go-around altitude by one of the two aircraft involved after the go-around. At the time, Lugano ATC did not possess radar information which might have prevented that airprox. As part of its investigation report, the AAIB subsequently submitted the following safety recommendation to the Federal Office for Civil Aviation (FOCA): 'In order to be able to achieve a high degree of safety and efficiency both in resolving conflict situations and in expediting the flow of traffic, the necessary steps must be introduced so that air traffic control in Lugano can provide radar services'.

Subsequently, in summer 2001, a bright display (radar monitor) was installed in Lugano tower and all air traffic controllers were instructed in the use of this bright display. The instruction consisted in the exclusive use of the bright display as a distance from touch down indicator (DFTI), i.e. for monitoring the position and altitude of aircraft approaching on the approach axis and for checking the transmitted approach times (estimates). Except in emergency situations the bright display must **not** be used for other classic radar services, such as providing radar separation, radar vectoring or avoiding action.

ATC personnel in Lugano did not receive any actual radar training. Their ATC licence includes only ratings for aerodrome control and approach control without radar, but not for approach radar control.

The objective of the AAIB at that time was only partially achieved by this implementation. In particular, it enabled hardly any improvement in safety to be achieved.

In the present case, the competent ATCO in Lugano realised that D-IMME had dropped below the assigned altitude on the basis of his radar observation. He then twice instructed D-IMME to maintain the assigned altitude of 7000 ft/QNH and this was confirmed in each case by the flight crew.

### **The organisation of service operations in Lugano ATC**

The occupancy schedule for Lugano tower specifies continuous occupancy with at least two ATCOs from 08:30 to 20:00 LT. Breaks can take place by mutual agreement and according to the amount of traffic to be handled.

One workstation, designated "Lugano Tower", concentrates exclusively on the aerodrome control (ADC) function and on issuing clearances on the same frequency. This function also includes monitoring the bright display and, if necessary, the use of the direction finder. The tasks of the ground control unit are performed at a second workstation, designated "Lugano Ground". Essentially, this includes issuing ATC start-up and take-off clearances, taxiing instructions away from and towards the runway and the operation of a separate frequency for control of the other ground traffic. At a third "Coordinator" workstation, case-by-case coordination tasks, processing of air traffic control data and periodic weather observations can be handled, among other things.

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At the time of the incident, two ATCOs were present in the tower, splitting the above-mentioned tasks between them. During the incident they switched their functions. This organisation of work was appropriate to the situation.

### **Verification that flight crews are in possession of Lugano airport qualification by the Lugano airport authority (AIP Switzerland, AD – LSZA 2.22.1.4.3)**

During the investigation of the above-mentioned incident on 3 April 2000, the AAIB established that the flight crew of one of the two aircraft involved did not possess the necessary airport qualification for applying IFR approach and take-off procedures in Lugano. At the time the investigation also established that no effective check on the qualification of pilots operating under IFR existed and that compliance with the corresponding provisions of AIP Switzerland was not being implemented effectively by Lugano airport authority. The AAIB therefore submitted the following safety recommendation to the Federal Office for Civil Aviation: "The appropriate administrative measures are to be taken to ensure that crews operating under IFR without qualification for IFR operations are recorded and urged to act in accordance with the regulations".

The AAIB found that in the interval of over three years between these two incidents, no improvements have been made in ensuring compliance with the above-mentioned AIP provisions.

### **The Honeywell Sperry SPZ-500 flight director/autopilot system and its operation by the flight crew of D-IMME**

The manufacturer describes the functionality of this system as follows:

"As the airplane approaches the desired altitude, the altitude preselect will capture at an altitude corresponding to  $\frac{1}{4}$  the rate-of-climb/descent; i. e. at 2000 ft/minute climb rate, the system will capture 500 feet prior to the selected altitude. At capture, the mode control panel will display CAP and VRT will illuminate on the annunciator panel. Moving the autopilot pitch wheel will cancel altitude preselect and altitude hold when either is captured".

Given D-IMME's documented rate of descent of at least 2500 ft/min in the flight phase in question, this system must therefore have switched to altitude capture mode at least 600 ft before the preselected altitude of 7000 ft. The assumption by the crew of D-IMME that this procedure would take place only 120 ft before reaching the preselected altitude is therefore in contradiction with the technical configuration of this system. Consequently, the 300 ft altitude tolerance taken into consideration by the flight crew according to the SOP, within which no further manual inputs may be made, could no longer have any effect with regard to maintaining the correct altitude.

### **Airmanship of the D-IMME flight crew**

The D-IMME flight crew descended to the cleared altitude of 7000 ft/QNH at a high rate of descent. In the process, the CMD, as PF, made further entries to reduce the rate of descent too late, and this caused the preselect/altitude capture function to switch off. This in turn led to an unnoticed further descent below the assigned altitude, by at least 500 ft. The flight crew were clearly insufficiently acquainted with the method of operation of the installed system.

Subsequently, neither the CMD as PF with his altimeter set to Lugano QNH nor the F/O with his altimeter set to standard pressure initially noticed the error relating to the incorrect altitude. Only well after the second request from ATC to check the altitude did the pilots of D-IMME become aware of the error and climb back to the cleared altitude.

It is probable that they descended even further in the meantime. This final phase of the descent, however, is not shown on the radar recording, because the radar equipment in use

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has a low refresh rate of 12 seconds. This assumption is confirmed by the statement of the CMD of SWR77FT, according to which the conflicting aircraft was shown on his TCAS display with a short-term altitude difference of only 300 ft.

Insufficient cooperation (crew coordination) is apparent in the handling of this situation by the flight crew of D-IMME. Cross monitoring clearly did not function correctly.

The CMD's capability may therefore also have been adversely affected because he had not been trained according to AIP LSZA AD 2.12, point 1.4 Airport qualification, for IFR approaches to Lugano.

### **The radar equipment in use in the Zurich area control centre and this equipment's representation of altitude**

The radar equipment in use in the ACC has a slow refresh rate of 12 seconds. In the case of rapid changes in altitude, such as occurred to some extent in this case, this means that the displayed radar altitudes lag behind the actual developments, or that such rapid cycles of movement relating to altitudes are not fully represented. Eurocontrol's minimum requirements for the refresh rate of radar equipment for area control centres is 8 seconds.

The radar data displayed in Lugano tower originate from the Zurich radar computers. These bring the recorded aircraft altitudes down to the Zurich *transition level* (TL) on the basis of standard pressure (1013.2 hPa), to be displayed as a *flight level* (FL). Recorded *altitudes* below the TL are automatically converted to the current Zurich QNH and displayed as *altitude* on the basis of the Zurich QNH. At the time of the incident Zurich QNH was 1005 hPa. Zurich TL was 55.

The altitudes shown on the attached radar plots are accordingly the altitudes of the aircraft involved above the 1013.2 hPa pressure level, expressed in FL. In order to represent the altitude conditions in this investigation, they have been converted to *altitude* on the basis of the Lugano QNH.

## **CAUSE**

The incident is attributable to the fact that

- The flight crew of D-IMME passed below the assigned flight level of 7000 ft/QNH despite the ATC warning.  
The violation of the cleared flight level is attributable on the one hand to the pilots' lack of familiarity with the method of operation of the *flight director/autopilot system* in use and on the other hand to their inadequate coordination.

## **SAFETY RECOMMENDATION**

### **Safety deficit**

Lugano aerodrome control has a bright display (radar monitor). The training of air traffic controllers (ATCOs) in Lugano is limited to the exclusive use of this equipment as a *distance from touch down indicator* (DFTI), i.e. for monitoring the position and altitude of aircraft approaching on the approach axis and for checking the transmitted approach times (*estimates*). Except in emergency situations the *bright display* expressly must not be used for other classic radar services, such as, for example, ensuring radar separation, radar vectoring or avoiding action.

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The ATCOs in Lugano did not receive any actual radar training. Their ATC licence includes only ratings for aerodrome control and approach control without radar.

The present case does not constitute an emergency according to the ICAO definition. The ATCOs' lack of radar training prevented air traffic control from taking effective measures to prevent the incident.

The FOCA responded as follows on 4 February 2002 to the safety recommendation submitted by the AAIB on the occasion of the incident between LEA010R and CRX44UT on 3 April 2000 (see under: "Radar as an aid in Lugano, the radar qualification of the ATCOs and their handling of the situation" in this report): "The recommendation has been implemented. Lugano Tower has since acquired a radar bright display on which traffic in the vicinity of the airport can be monitored. Radar vectoring will in fact continue to be performed from Milan, but the system installed in Lugano fully meets the requirements imposed".

### **Safety recommendation No. 361**

In order to be able to achieve a high degree of safety and efficiency both in resolving conflict situations and in speeding up the flow of traffic, the necessary steps must be introduced so that air traffic control in Lugano can provide radar services.

### **MEASURES TAKEN**

By means of the AIRAC AIP Amendment 08/04 (August 2004), the Federal Office for Civil Aviation imposed new regulations for the procedure for acquiring Lugano *airport qualification* and supervision thereof.

Berne, 10 June 2005

Aircraft Accident Investigation Bureau

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date Agno, 18 October 2004

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fax n° +41 (91) 605 59 12

subject **AIR PROX between SWR77FT and DIMME**

**Transcript of radiotelephony-communications  
from tape-records**

Aerodrome concerned:	Lugano-Agno Airport
Designation of ATS unit:	Skyguide Lugano, TWR/APP
Frequencies:	120.25 (Tower) <b>T</b> assistant (telephone) <b>A</b>
Involved aircrafts	SWR77FT (SB20) <b>S</b> DIMME (C551) <b>D</b>
Period covered by attached extract:	29.08.03 14:14:30 – 14:22:20 UTC
WX	<u>LSZA 1350</u> 36007 3500 TSRA FEW010 SCT020 BKN035 20/20 Q1002 TEMPO +SHRA <u>LSZA 1420</u> VRB03 6000 FEW010 SCT030 BKN050 21/20 Q1003 RETS NOSIG

Name and position of official in charge of transcription service:

Michele Montanari,  
Chief of Air Navigation Services  
unit Lugano-Agno

S	14:14:30	Lugano buongiorno again SWISS 77 FT just reached PINIK descending to 6000		
T		SWISS 77 FT cleared approach runway 01, QNH 1 0 0 3, new QNH, report established PINIK inbound		
S		call you established PINIK inbound, cleared approach 01 and you confirm that on the missed approach is still fine		
T		on the missed approach the visibility is between 6 and 8 kilometers, FEW at 1500 ft and BKN at 3500 ft		
S		that's copied SWISS 77 FT		
A	14:16:00	dimmi, dimmi	co-ordination line	say me
Mila no		senti il ME arriva, é su ODINA ti do...		ME is coming, it's over ODINA
A		quote libere, vedi tu, al massimo 7000, 1 0 0 3, l'altro sta scendendo		vacated levels maximum 7000 the other one is in descend
Mila no		7000, 1 0 0 3, va bene		D-ME released at 7000 on QNH 1003
D	14:18:15	Lugano good afternoon, DIMME passing FL 100 descending to altitude 7000 ft, 1 0 0 2		
T		D-ME good afternoon, new QNH 1 0 0 3 join PINIK holding pattern 7000 ft number 2		
D		descending 7000 ft, number 2, ME		
T	14:19:30	D-ME just to confirm remain 7000 ft on 1 0 0 3	ATCOs change their position	
D		remaining 7000, 1 0 0 3, ME		
S	14:19:40	...and we have a TCAS descend SWISS 77 FT, TCAS descend, traffic insight now		
T		D-ME I say again maintain 7000 ft		
D		maintaining 7000 ft, ME, 1 0 0 2	wrong QNH as above	

S ...\* we the traffic insight, SWISS 77 FT, the traffic was at 6200 instead of 7 0 \*unreadable

S you copied ?

T affirm we copied

T 14:20:30 SWISS 77 FT your actual altitude ?

S well we are established and we are descending now SWISS 77 FT

T roger SWISS FT, surface wind 0 2 0 degrees 3 knots, at 800 ft 0 7 0 degrees 8 knots, rwy 0 1, cleared to land

S and SWISS 77 FT we have still 22 knots tailwind we call you if visual, if visual may be we ...\* visual 1 9, we call you back later SWISS 77 FT \*unreadable

T roger

D 14:21:40 turning inbound PINIK, ME

T ME maintain PINIK holding 7000 ft

D maintaining 7000, ME

S 14 :22 :0 0 SWISS 77 FT we are now turning in downwind for runway 1 9

T roger SWISS FT insight, recleared visual approach 1 9, surface wind 0 2 0 degrees 3 knots, at 800 ft 0 7 0 degrees 1 0 knots, runway 1 9 cleared to land

S cleared to land SWISS 77 FT we call you back on short final for the last wind

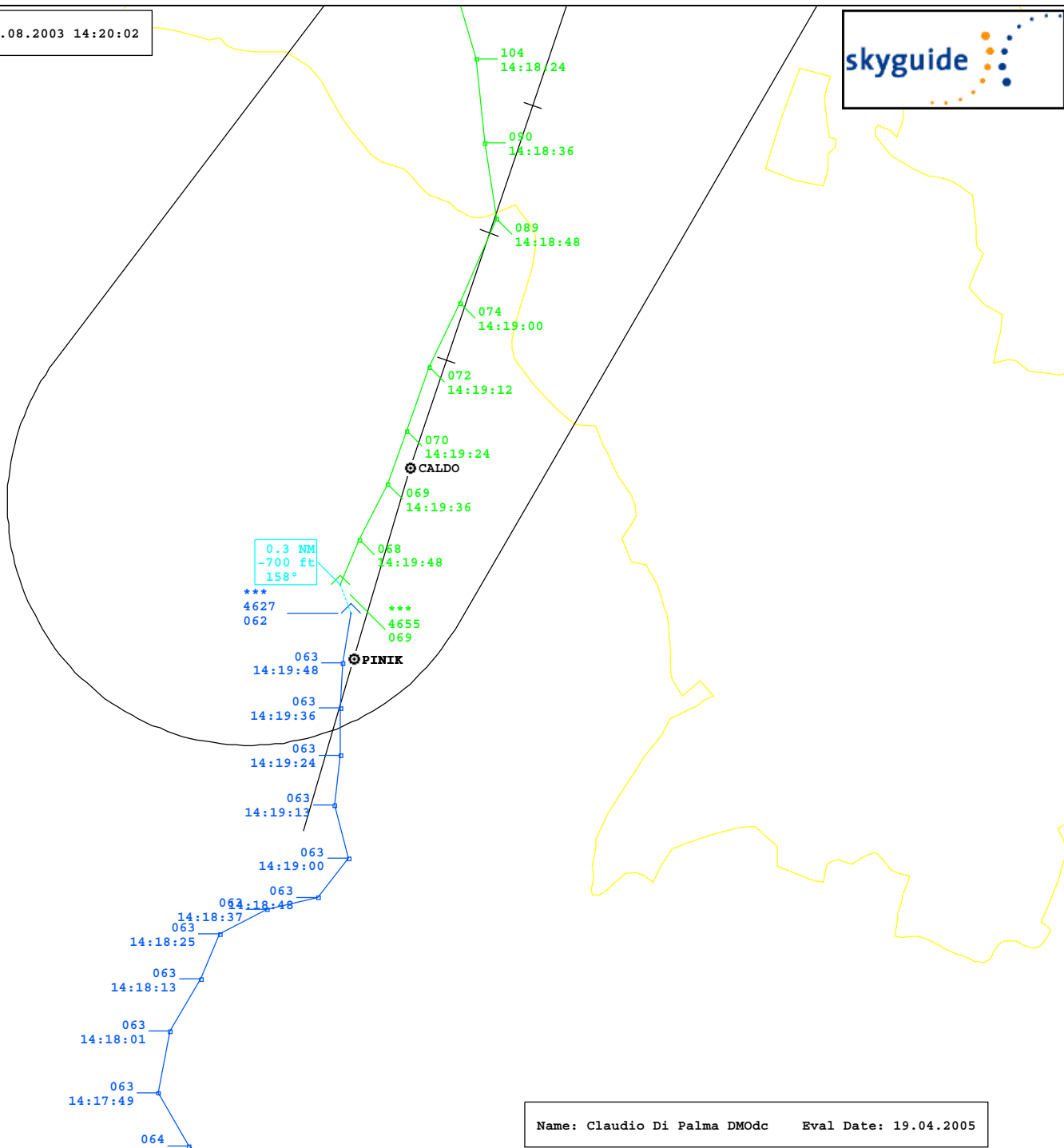
14:26:00 *lands SWISS77FT on runway 19*

*DIMME is cleared down 6000 ft and for the approach runway 01*

14:31:00 *lands DIMME on runway 01*

Src  
ACN

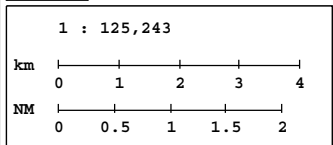
Analysis: SWR77FT D-IMME Time [UTC]: 29.08.2003 14:20:02



0.3 NM  
-700 ft  
158°

\*\*\*  
4627  
062  
\*\*\*  
4655  
069

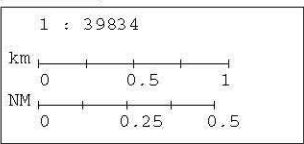
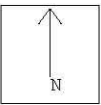
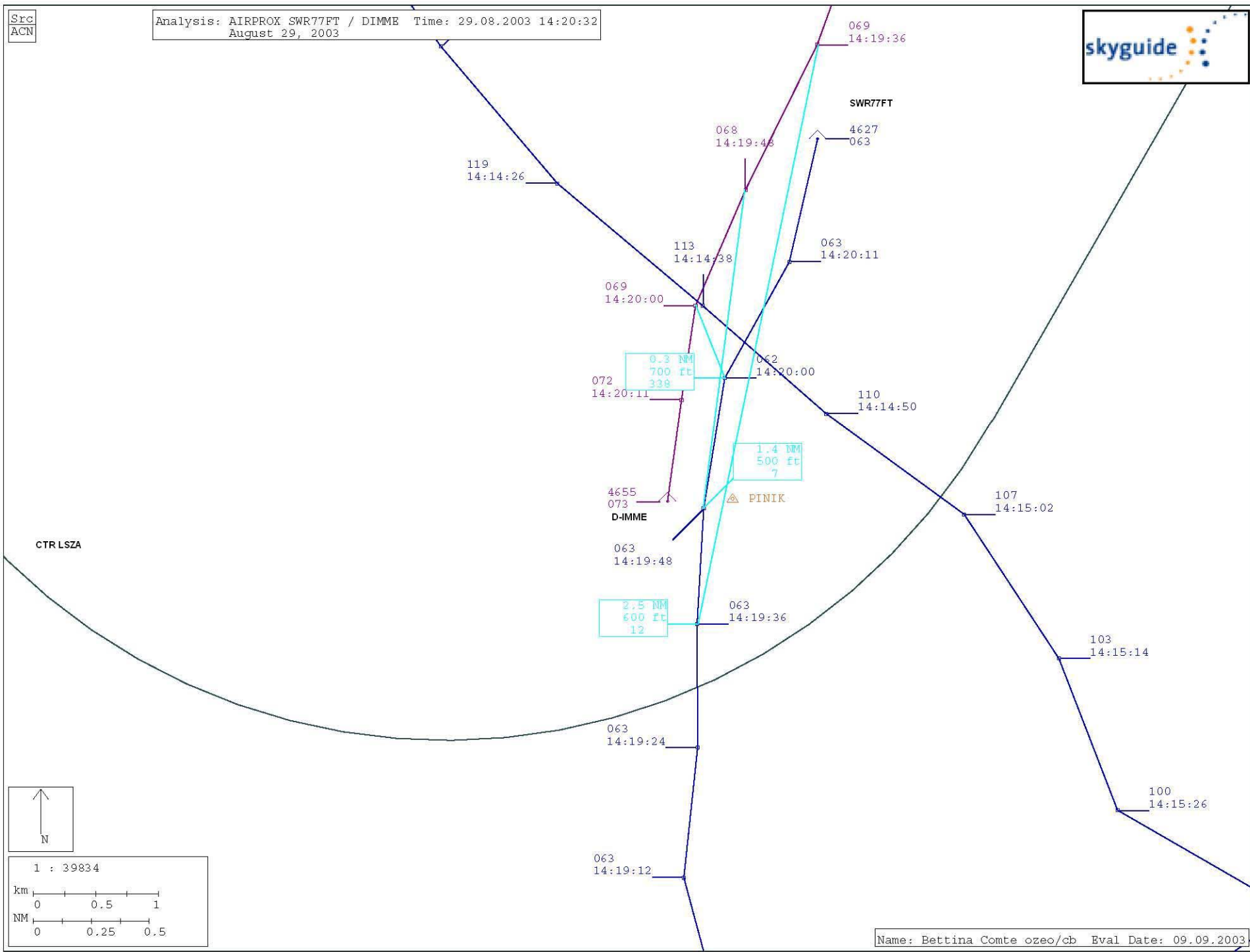
063 14:19:48  
063 14:19:36  
063 14:19:24  
063 14:19:13  
063 14:19:00  
063 14:18:48  
063 14:18:37  
063 14:18:25  
063 14:18:13  
063 14:18:01  
063 14:17:49  
064



Name: Claudio Di Palma DM0dc Eval Date: 19.04.2005

Src  
ACN

Analysis: AIRPROX SWR77FT / DIMME Time: 29.08.2003 14:20:32  
August 29, 2003



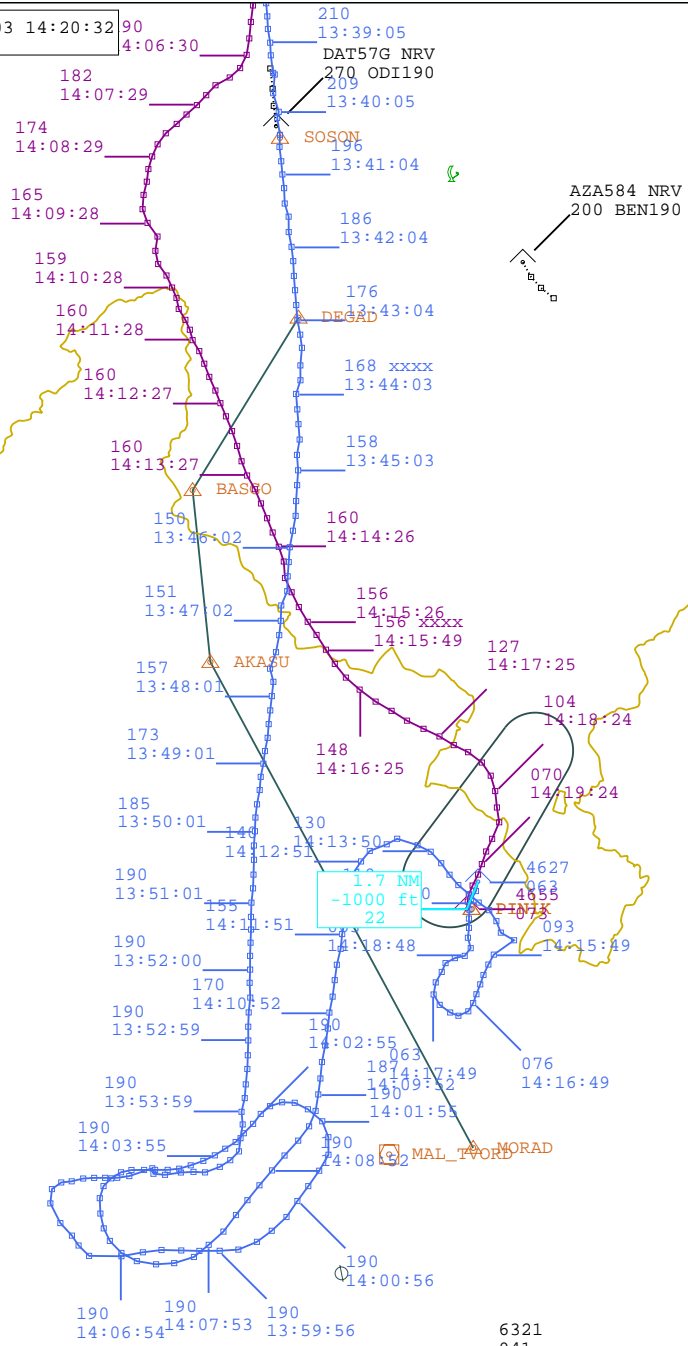
Name: Bettina Comte ozeo/cb Eval Date: 09.09.2003





Src  
ACN

Analysis: AIRPROX SWR77FT / DIMME Time: 29.08.2003 14:20:32  
August 29, 2003



AZA584 NRV  
200 BEN190

