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Letter FOCA - 135 985 MHz frequency v0 1_2010-11-08E

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subject **135.985 MHz frequency**

Dear Mr. Hügli, Dear Daniel

In April 2004, Geneva ACC started operating one of its sectors on frequency 135.985 MHz. It was very soon realized that reception of this frequency was problematic for the AIRBUS A320 and A321 aircraft families. Quoting [1]: "*As a direct consequence, in August 2004, about four months after it began, operational use of 135.985 MHz had to be discontinued for safety reasons*".

ICAO European Air Navigation Planning Group then initiated several actions (refer to [2]):
- a recommendation bulletin was published by the French regulator (refer to [3]),
- and the issue was escalated using the ICAO deficiencies mechanism.

In June 2010, being confident that the actions started in 2004 had been conclusive, the frequency 135.985 MHz was reintroduced for operational use as the frequency of a newly created Zurich upper sector. A few days later, air traffic controllers started to relay complains from aircrews experiencing severe interference problems not only with one VHF COM transceiver but with two or all three transceivers. The operational use of 135.985 MHz was once again suspended and emergency measures had to be taken to work around this issue.

Six years ago, it has been decided to classify this problem as minor based (quoting [2]) "*on the minimum equipment list requirement of two VHF COM transceivers and that the A-320 was equipped with three, with only one of them producing the harmful interference*". The consequence of this unfortunate decision was that no airworthiness directive (having much more weight than a simple recommendation bulletin) had been issued then. We now have in hands evidences that should lead to the revision of this issue's classification.

The unavailability of this frequency (and the closest 25 kHz spaced frequency 135.975 MHz) is not only a problem for us, but for the whole Europe. Quoting [2]: "*It was considered that apart from any safety considerations, in the frequency congested area of Europe, the total blocking of a frequency was an unacceptable situation.*"

Therefore, we would be very pleased if you could raise this topic once again at European level in order to overcome this awkward situation. The issue is still the same, but the context has evolved: it is now proven that this interference problem is worse than what was first evaluated, and frequencies are more than ever scarce resources. Therefore we hope that more-

constraining decisions regarding the A320-A321 retrofitting could be made in the interest of the whole European Civil Aviation.

Looking forward to solving this operational and safety-critical issue, we remain sincerely yours.

Best regards,

skyguide
Chief Operation Officer

Urs [illegible]

Operational Change & Project Management

Guillaume Broïon

References:

[1]	ICAO European Air Navigation Planning Group 46 Report – items 6.2.18 and 6.2.19 *Harmful interference for AIRBUS A-320 aircraft* *6.2.18 In July 2004, the Swiss air navigation service provider, Skyguide, had reported harmful interference occurrences on VHF COM channel 135.985 MHz. This interference was evident only on Airbus A320 aircraft and the effect was unacceptably poor reception on board the aircraft. Flights of SWR, EDW, AZA, VLE, AFR, among others, had been affected. As a direct consequence, in August 2004, about four months after it began, operational use of 135.985 MHz had to be discontinued for safety reasons.* *6.2.19 The problem had been submitted to Airbus who advised that the problem was not new and that a solution was available. An Airbus Technical Follow Up (TFU) document of 1996 provided a description of the problem and its solution. Unfortunately, there were still a significant number of aircraft affected by the interference. The loss of one ACC channel was a major problem for Europe.*
[2]	ICAO European Air Navigation Planning Group 47 Report – item 7 *7. DEFICIENCIES* *Harmful Radio Interference* *7.1 In July 2004, the Swiss air navigation service provider, Skyguide, reported harmful interference occurrences on a number of Airbus A-320 aircraft using VHF COM channel 135.985 MHz. This had the effect of making the frequency unusable.* *7.2 The Swiss civil aviation authority and the Federal Office for Civil Aviation (FOCA) tried to achieve a mandatory requirement to retrofit all A-320 aircraft with the fix that had been developed by Airbus. Thus, FOCA sent a letter to the French DGAC asking for the publication of an airworthiness directive. DGAC replied that this was not possible because the problem had been classified as minor. This classification was based on the minimum equipment list requirement of two VHF COM transceivers and that the A-320 was equipped with three, with only one of them producing the harmful interference. The DGAC*

had published a DGAC Recommendation Bulletin concerning this problem, but conformance was not mandatory because there was no direct impact on the safety of the aircraft.

7.3 It was considered that apart from any safety considerations, in the frequency congested area of Europe, the total blocking of a frequency was an unacceptable situation. It was agreed that the ICAO deficiencies mechanism be used to progress the issue. In support of Strategic Objectives A – Safety and D – Efficiency, the Group agreed as follows.

[3]

GROUPEMENT POUR LA SECURITE
AVIATION CIVILE

BR 2005/25(B)

DGAC RECOMMENDATION BULLETIN

Issued by : DGAC FRANCE

On : JUNE 22, 2005

Note : The actions described or referenced in this DGAC Recommendation Bulletin are not considered mandatory by French DGAC, which has determined there is no unsafe condition justifying an Airworthiness Directive. They however bring an improvement in the safety level and are recommended.

TITLE: A320/A321 - INTERFERENCE ON VHF1 CHANNEL 135.97 MHZ (25 KHZ SPACING) OR 135.985 MHZ (8.33 KHZ SPACING)

APPLICABILITY :

A320/A321 all engine equipped with EIS1 Part Number 3906130302.

REASON :

Some interferences have been reported on 135.97 MHz (25 kHz spacing) and 135.985 MHz (8.33 kHz spacing) on the VHF1 system. The interference leads to a background noise, and is therefore detectable by the flight crew.

The problem has been analysed, and the solution was described in a TFU (Technical Follow-Up) issued by AIRBUS in November 1994, and last updated in March 2005.

Quote "This interference has been blamed on the display unit :

Frequency harmonics of the Quartz located inside the symbol generator board of the DU radiate on VHF1 antenna. VHF1 only is affected because of antenna location."

A result of this problem is that FOCA has recently decided to stop using 135.985 MHz channel at Genève. Due to the difficulties of frequency management, it is not a satisfactory situation.

RECOMMENDATIONS:

The operators having aircraft with EIS1 PN 3906130302 and having to use channels 135.97 MHz or 135.985 MHz during operations should applied SB 31-1105, which corrects the problem.

Meanwhile, it is reminded that the following general FCOM procedure applied :

"Reception of some frequencies could be noisy, on one or more VHFs. In such cases, try selecting an unaffected one."

In this case, VHF2 and VHF3 are not affected and can be used.

Note: Enquiries regarding the technical content of this Recommendation Bulletin should be made to:

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