

Close Calls

Similar call signs were the most frequent contributing factor in reported air-ground communication incidents in European airspace.

BY RICK DARBY

Confusion caused by similar call signs was the most frequently reported contributing factor in air-ground voice communication incidents in European airspace, according to a study of data from a survey of airlines and air navigation service providers.¹ In 535 reported incidents during communication between pilots and air traffic controllers

from Oct. 25, 2004, to March 31, 2005, “similar call sign” was a contributing factor in 33 percent. The next most frequent contributing factor, “frequency change,” was found in 12 percent.²

The study, undertaken by National Aerospace Laboratory (NLR)–Netherlands for Eurocontrol, analyzed incidents classified as loss of communication; readback/hearback error; communication equipment problem; no pilot readback; or hearback error. Another category — the largest — included incidents that did not fit into any of those and were classified as “other communication problem.” In some incidents, the type of problem was not reported. The number of incidents and percentages by category are shown in Table 1. In every category, “similar call sign” was at the top of the list of contributing factors.

Numerous other factors contributed to the 535 incidents, but most played a role in less than 5 percent of incidents (Figure 1).

The study found that 36 percent of all incidents had no safety consequence (Figure 2, page 52). About one-fourth involved a “prolonged loss of communication.” Other

European Air-Ground Voice Communication Incidents

Oct. 25, 2004, through March 31, 2005

Category	No. of Incidents	Percentage
Loss of communication	137	26
Readback/hearback error	52	10
Communication equipment problem	44	8
Hearback error	6	1
No pilot readback	5	1
Other communication problem	194	36
Type of communication problem not reported	97	18
Total	535	100

Incidents were reported by 12 airlines and 10 air navigation service providers in European countries.

Source: Eurocontrol

Table 1

consequences included “altitude deviation,” “loss of separation” and “wrong aircraft accepted clearance.”

The term “loss of communication” refers to situations in which the flight crew has no radio contact with air traffic control (ATC) for “some time for some reason,” the report says. Most of these incidents (73 percent) occurred in the cruise phase of flight; 9 percent and 4 percent occurred during the approach phase and landing phase, respectively.

In “loss of communication” incidents, the three most common contributing factors were “frequency change” (35 percent), “sleeping VHF receivers”³ (15 percent) and “radio equipment malfunction — air” (12 percent).

The most frequent consequence, found in 81 percent of the “loss of communication” incidents, was “prolonged loss of communication.”

The report says, “An incorrect readback was reported in 15 of the 52 ‘readback/hearback error’ occurrences, while in 11 of those 15 cases, the incorrect readback was not detected by the controller.”⁴ Contributing factors in the category included “similar call sign” (37 percent), “pilot expectation” (17 percent) and “frequency change” (15 percent). Consequences of a readback/hearback error included “altitude deviation” (in 37 percent), “wrong aircraft accepted clearance” (31 percent) and “heading/track deviation” (8 percent). There were no safety consequences in 13 percent.

Contributing Factors

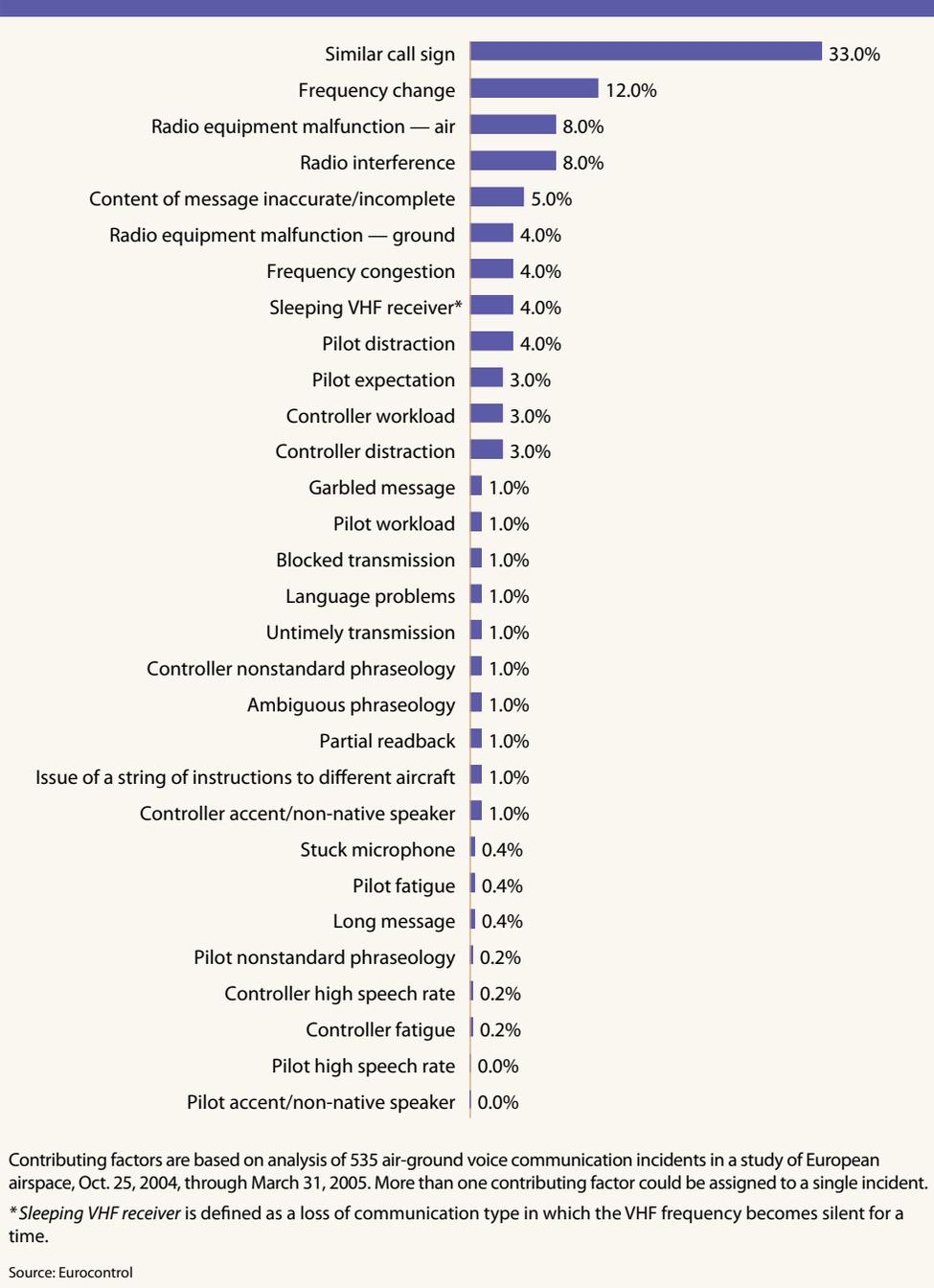


Figure 1

Communication equipment problems were involved in 44 of the 535 incidents. The most frequent problems in this category were “radio equipment malfunction — air” (52 percent), “radio equipment malfunction — ground” (36 percent) and “radio interference” (11 percent). In 34 percent of the incidents there were no

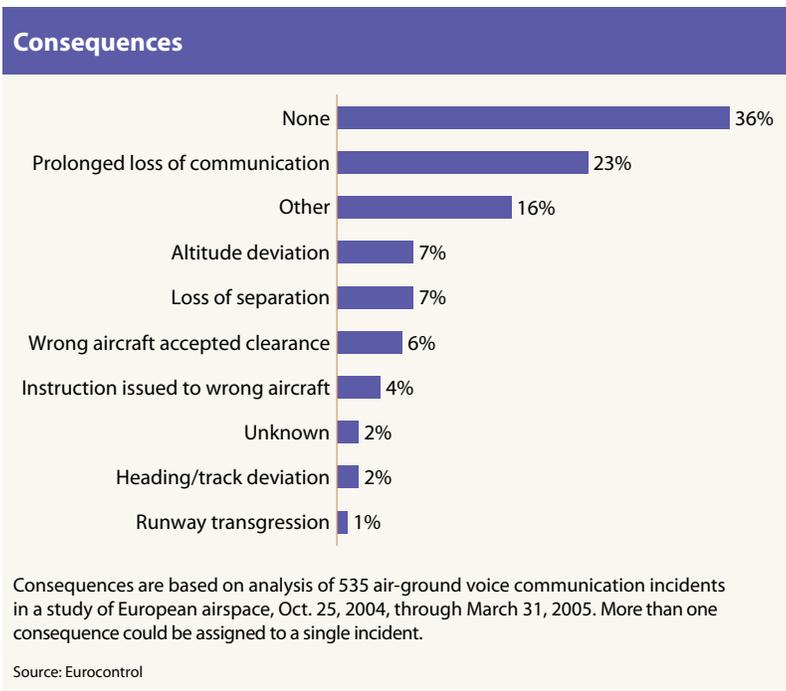


Figure 2

safety consequences; “prolonged loss of communication” occurred in 27 percent; “other” in 23 percent; “altitude deviation” in 7 percent; and “loss of communication” and “wrong aircraft accepted clearance,” each in 2 percent.

The study found “no pilot readback” and “hearback error” in five and six incidents, respectively, and researchers considered the samples too small for meaningful findings.

“Other communication problem” represented the largest single category, with 194 incidents representing 36 percent of the total.⁵ The most frequent contributing factors were “similar call sign” (46 percent), “radio interference” (13 percent) and “content of message inaccurate/incomplete” (9 percent).

There were no safety consequences in 49 percent of the incidents in this category and “other” consequences in 29 percent. The most frequently identified safety consequences included “loss of separation” (8 percent), “altitude deviation” (4 percent) and “instruction issued to wrong aircraft” (4 percent).

Among incidents categorized as “type of communication problem not reported,” the contributing factor most often identified was “similar

call sign” (64 percent). Of the consequences with safety implications, most frequent were “loss of separation,” found in 12 percent, “instruction issued to wrong aircraft” in 10 percent and “wrong aircraft accepted clearance” in 8 percent.

The report also includes results of a survey of pilots and controllers about the findings, discussion of causal factors and safety recommendations. ●

Notes

1. The study, *Air-Ground Communication Safety Study: Causes and Recommendations*, by Rombout Wever, Gerard van Es and Marcel Verbeek, is available via the Internet at <www.eurocontrol.int/safety/gallery/content/public/library/AGC%20safety%20study%20causes_recommendations.pdf>. It was released in January 2006.

Twelve airlines and 10 air navigation service providers participated in a confidential reporting project in which incident data were de-identified.

- “Frequency change” included such events as the receiver tuned incorrectly, air traffic control (ATC) neglecting to hand off the flight to the next controller, the flight crew missing a call from ATC and radio equipment malfunction.
- A “sleeping VHF receiver” problem was defined as a “loss of communication type in which the VHF frequency becomes silent for a period of time.” It was a problem with the VHF receivers on the aircraft, not always recognized as such by the pilots and controllers.
- In a “readback/hearback error,” a pilot reads back the clearance *incorrectly*, and the controller fails to correct the error, or a pilot of the wrong aircraft reads back the instruction. Four of the 15 “incorrect readbacks” were reported as “readback/hearback errors” and therefore classified as such, although it was not specifically stated that the controller did not detect the incorrect readback.

In a “hearback error,” a pilot reads back the clearance *correctly*, and the controller fails to notice his or her own error or fails to correct critical erroneous information in a pilot’s statement of intent.

- “Other communication problem” was a miscellaneous category for reported incidents that fit no other. Reported examples included, “Three aircraft with similar call signs are confusing ATC” and “there was some noise on frequency.”