

Department of Transport and Regional Development

Bureau of Air Safety Investigation

INVESTIGATION REPORT

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Testing for Drugs and Alcohol

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ABBREVIATIONS

AAIB	Air Accidents Investigation Branch (UK)
ANR	Air Navigation Regulation
ATS	Air Traffic Services
BASI	Bureau of Air Safety Investigation
CAA	Civil Aviation Authority
CAR	Civil Aviation Regulation
FAA	Federal Aviation Administration (USA)
GA	General Aviation
ICAO	International Civil Aviation Organisation
NSW	New South Wales
NTSB	National Transportation Safety Board (USA)
RPT	Regular Public Transport
SAB	Safety Analysis Branch
TSB	Transportation Safety Board (Canada)
VMC	Visual Meteorological Conditions

EXECUTIVE SUMMARY

This information paper reviews the Bureau's policy on testing for drugs and alcohol, attempts to assess the prevalence of drugs and alcohol in aviation accidents and incidents, and discusses the adequacy of the present policy. The policies of Canada, the United Kingdom, and the United States are also outlined.

The study was conducted as a result of a Coroner's recommendation that all surviving pilots be compulsorily tested for drugs and alcohol following an accident. This recommendation arose from the inquest into an air accident in which the pilot of one aircraft was killed, and the pilot of another survived. Toxicological testing was conducted on the deceased pilot as part of the postmortem examination, but the surviving pilot was not tested.

The study concludes that accident and incident records in Australia and other countries do not indicate that drugs and alcohol are significant factors in air safety occurrences. It would not be appropriate for BASI personnel to be involved in testing for drugs and alcohol; this is normally a police function.

The Bureau does not believe that it is necessary to introduce mandatory testing for drugs and alcohol at this time.

1. INTRODUCTION

A requirement has arisen to review BASI policy on the testing for drugs and alcohol of surviving pilots and air traffic services (ATS) personnel following accidents and incidents. The requirement arose from a recommendation by Coroner Colin H Becker to the Minister for Transport and Communications that surviving pilots be compulsorily tested for drugs and alcohol following an accident.

The case from which the Coroner's recommendation was made did not involve drugs or alcohol. The police Sergeant who attended the accident was satisfied that the surviving pilot was unaffected by drugs or alcohol, and this fact was mentioned at the Coroner's inquest. However, legal representation for the other, deceased, pilot noted that testing for drugs and alcohol had been conducted as part of the post-mortem and questioned the fairness of the surviving pilot not being subjected to the same testing.

2. REGULATORY POWERS

2.1 CAA

The Civil Aviation Authority, as the regulatory body, has prescribed under Civil Aviation Regulation (CAR) 256 the offences that relate to drugs and alcohol. However, the CAA Safety Regulation and Standards Division advise that CAA officers have no authority to conduct tests in relation to this Regulation.

2.2 BASI

The Bureau's investigators have no authority to perform such testing. No such specific power is given under the Air Navigation Regulations (ANRs), Civil Aviation Regulations, Air Safety Investigation Instructions and Circulars, or International Civil Aviation Organisation (ICAO) Convention Annex 13.

2.3 POLICE

The NSW Police Legal Branch has advised that there is no statutory authority to test pilots or ATS personnel for drugs or alcohol. The only such authority is under the Motor Traffic Act and the Water Safety Act, and neither of these apply to aviation. There is a provision under the NSW Crimes Act for a medical practitioner to perform an invasive body search, which may include taking a blood sample, on a person in custody for a criminal offence, on the request of a police officer of Sergeant rank or higher. In practice this is extremely unlikely to occur in aviation, and in any case has only punitive use. The Bureau is concerned only with advancing air safety and has no interest in apportioning blame or liability.

The Australian Federal Police Legal Branch advises that the situation for the Commonwealth and for Territories is similar to that described for NSW. No testing authority exists except for persons in control of vehicles on public streets and waterways.

2.4 OVERSEAS

2.4.1 CANADA

The Transportation Safety Board (TSB) of Canada has indicated that its officers do not conduct toxicological testing on living persons following air safety occurrences, nor is the TSB empowered to conduct any random testing in situations where there is no occurrence.

The TSB Act does enable investigators to require that a medical examination be conducted on any person who is directly or indirectly involved with the operation of an aircraft if he or she believes on reasonable grounds that it is relevant to the investigation. This does not require that the person submit to any procedure involving surgery, perforation of the skin or any external tissue, or the entry into the body of any drug or foreign substance.

The TSB can request that post-mortem examinations be carried out on the body of a deceased person. As well, full toxicological testing will normally be performed on the human remains of deceased flight crew.

The Canadian regulatory authority, Transport Canada, has initiated a legislative proposal for pre-employment and post-occurrence substance testing, and testing in safety-sensitive

positions in transportation. The TSB made a submission on this legislative proposal seeking authority to conduct independent post-occurrence testing for toxicological substances. The TSB is concerned that its independence in investigating for safety should not be compromised by the (possibly conflicting) interests of other agencies following an occurrence.

2.4.2 UNITED KINGDOM

The Air Accidents Investigation Branch (AAIB) of the UK has informed the Bureau that the legislation governing drug and alcohol testing currently differs somewhat between the road and rail transport modes, and does not exist at all for air transport. The AAIB made a recommendation to the UK Department of Transport some two years ago calling for drug and alcohol testing after accidents and incidents.

The aim of this recommendation was to arrive at a single piece of legislation governing such testing in all public transport operations across the different modes, but the AAIB advises that progress has been slow.

2.4.3 UNITED STATES

Federal Aviation Administration (FAA) regulations require surviving commercial pilots to submit to a toxicological test for drugs (but not alcohol) following an accident that results in death, serious injury, or substantial aircraft damage. Although not required by the FAA, many commercial operators require alcohol testing of their pilots after accidents.

The FAA is in the process of developing alcohol testing requirements for both FAA employees (mostly air traffic controllers) and individuals in the aviation industry. These new rules may include testing following accidents and/or random tests. However, the FAA is not attempting to gain drug or alcohol testing authority for pilots of non-passenger-carrying commercial or non-commercial operations, believing that such testing lies within the domain of local law enforcement authorities.

The FAA introduced a programme in November 1990 to identify pilots who engage in drunk or drugged driving. Examination of driving offences may highlight a pilot's drug or alcohol abuse or dependency, and each of these is a disqualifying condition under FAA regulations for pilot qualifications.

The National Transportation Safety Board (NTSB) considers that the various state laws covering alcohol testing are inadequate. Under present federal regulations, civil pilots must submit to toxicological testing for alcohol only if a test is requested by a law enforcement officer under the provisions of state law. The authority to request such a test is dependent on the existence of a state law pertaining to flying while intoxicated, and only 16 of the 50 states have laws with the necessary implied consent provision for chemical testing.

In October 1992, the NTSB adopted a report recommending to state governors and legislative leaders that they enact or amend laws to include an implied consent provision to obtain specimens for alcohol and drug testing from pilots involved in the accidents described above.

2.5 REQUIREMENTS OF CHANGE IN AUSTRALIA

Regulatory change would be necessary if the testing of pilots and ATS personnel for drugs and alcohol was to be enabled. Australian Commonwealth, State, or Territory legislation would be required to empower police officers to conduct the testing. The investigative authority of BASI investigators comes from the ANRs, and if additional authority was sought, it would need to be given here, or under the CARs. If the CAA sought such powers, it would need to authorise its officers under the same Regulations.

3. ACCIDENTS & INCIDENTS

3.1 AUSTRALIA

A review was undertaken of accidents and incidents in the years 1983–1992 where drugs or alcohol were identified as causal factors. No accidents or incidents were found where non-alcoholic drugs had been identified as contributing to the development of the occurrence. No occurrences were identified as involving ATS personnel.

Of 2,757 accidents and approximately 39,800 reported incidents during this ten year period, BASI's database identified 17 accidents and incidents involving alcohol. This is equivalent to 0.04 per cent of occurrences. (See Appendix.) Five of these were incidents concerning disorderly passengers. Another was an accident where a parachutist was killed because his judgement of the landing approach was impaired by alcohol, and another accident occurred when an intoxicated person gained access to an aircraft and taxied it into a stationary vehicle. None of these seven would have been affected by the Coroner's recommendation, so they have been excluded from further consideration in this section.

The remaining ten occurrences involved pilots who operated aircraft after consuming alcohol. Five were fatal; one of these was a charter flight. Three other non-fatal accidents involved alcohol-impaired pilots. Another incident resulted in no injuries or damage, despite the pilot having a blood/alcohol level of 0.285, and the tenth involved an instructor having to divert the flight when a hung-over student pilot became unwell. It appears that the blood/alcohol reading of 0.285 may have been obtained under the pilot's misapprehension that he was required to submit to a test.

Occurrences captured in BASI's database, then, indicate that approximately one accident in 344, or 0.290 per cent of accidents, has alcohol as a contributing factor. This is less than one per year. One fatal accident in 57 involved alcohol.

Australian aircraft flew a total of 22,346,800 hours during this ten year period. The 5,583,700 hours flown in regular public transport (RPT) operations, though, will be excluded because they did not contribute to the alcohol-related accident or incident statistics. The database, then, shows one alcohol-related accident per 2,095,387 flying hours.

It should not be assumed that these figures reveal the full extent of the effects of alcohol upon air safety, since it is not known in how many occurrences the involvement of alcohol was not recognised. Investigators often do not arrive at an accident site until many hours after the occurrence.

3.2 CANADA

The TSB conducted a study of aircraft accidents in which alcohol was a factor. Data were not available to identify Occurrences in which the consumption of other drugs was causal. During the period from 1976 to 1989, this factor was assigned to 50 accidents, of which 38 were fatal. There were 7850 accidents recorded during this period. Thus, one accident in 157, or approximately 0.637 per cent of recorded accidents, was considered to have involved alcohol.

This study points out that, due to the problems of detection, these figures should not be interpreted as documenting the total presence of alcohol in aviation. Also, the report does not imply that alcohol use was the primary cause of these accidents.

3.3 UNITED KINGDOM

Of 57,007 occurrences in the UK database, 96 incidents and eight accidents (of which seven were fatal) were considered to have involved alcohol or drugs. Thus, the use of alcohol or another drug was thought to have contributed to one occurrence in 548, or approximately 0.182 per cent of recorded occurrences.

3.4 UNITED STATES

NTSB data show that no accident in scheduled commercial aviation has ever been attributed to drug or alcohol use. During the past ten years, representing over 25,502,000 flying hours, two accidents involving small non-scheduled cargo aircraft were caused by alcohol use.

The NTSB conducted a study into the involvement of alcohol and other drugs in fatal general aviation (CA) accidents. Little is known, however, about CA accidents that were non-fatal because toxicological tests were only performed after about one per cent of all non-fatal CA accidents.

During the past ten years, approximately four per cent (206 out of 4,723) of fatal CA accidents were considered to have been caused by drug or alcohol use. From 1983 through 1988, a total of 174 fatal accidents involved unscheduled commercial flights and 1.8 per cent of the conclusive toxicological tests from these accidents were positive for alcohol.

A substantially larger percentage of the alcohol-involved fatal accidents occurred on flights that were private, without a flight plan, or in Visual Meteorological Conditions (VMC). About one third of the accidents which were associated with low passes or "buzzing" involved alcohol.

4. DISCUSSION

4.1 ROLE OF BASI

The role of the Bureau at an accident site is to determine what occurred and why, so that air safety may be improved. In discovering this information, BASI investigators do not use techniques which are calculated to gather evidence which is admissible in a court. If this was the practice of investigators, much of the information which is presently provided to BASI for the purpose of promoting air safety would cease to be available. Prosecution is not the objective of investigation by BASI, and it is for this reason that the Bureau's investigators are often able to make successful enquiries.

4.2 RESPONSIBLE AUTHORITY

If testing for drugs or alcohol was mandated following an accident or incident, such testing would not be within the functions of BASI. The Bureau is not the regulatory body and to fulfil its role requires the cooperation and trust of pilots and others involved in occurrences. Investigators seeking to obtain samples from personnel in order to test for drugs and alcohol would often have difficulty obtaining the cooperation of these personnel.

Further, BASI investigators are rarely the first to reach an accident site and often do not arrive for many hours. It would not be appropriate to rely on Bureau personnel to conduct testing "within a prescribed time". Police normally attend air accidents within a short time and are well able to undertake such testing.

4.3 USEFULNESS OF TESTING

If a surviving pilot's performance has been affected by drugs or alcohol, this may be apparent to a BASI investigator or attending police officer. However, this effect is frequently difficult to determine when a person has suffered trauma. It may therefore be useful for the investigator to be able to quantify the effect of drugs or alcohol on that pilot or ATS person. This knowledge can then be considered by the investigator in his or her determination of the causal factors of, the accident or incident. This can usually be achieved by interviewing, but there may be occasional cases where an investigator might wish to require a formal test. This is not legally possible at present. A positive identification of all factors will increase the safety value of an investigation.

It may also be to the advantage of a pilot or ATS person to discount the possibility of performance impairment by drugs or alcohol. This situation presents no difficulties, since a voluntary or consent test is legally straightforward. A compulsory test is another matter and may have the potential to hinder BASI in the performance of its safety function.

4.4 POSSIBLE INEQUITY

It has been suggested that examining deceased personnel in all cases for the presence of drugs and alcohol might be inequitable, since surviving personnel are seldom subject to the same examination. Australia, however, by convention carries out a formal post-mortem examination on all aircraft accident fatalities. The primary functions of a post-mortem are the identification

of the deceased, and the determination of the cause of death, and toxicological testing is a normal part of such pathological examination. It is not considered that there is any great inequity in this state of affairs.

4.5 NON-CREW PERSONNEL

The degree of impairment of passengers and non-crew personnel is often relevant to the investigation. The behaviour of passengers can significantly affect the performance of operating personnel, and an investigator may find it helpful to obtain toxicological information about others on board an aircraft.

Such information can often be obtained by interviews and observation, and BASI's purpose would rarely be better served by a compulsory test. There may, however, be the occasional case where it seems to an investigator that intoxicated or alcohol-impaired passengers may have contributed to the development of an occurrence, and the investigation would be assisted if the presence of alcohol could be quantified. This is presently legally impossible.

5. CONCLUSIONS

It is not considered that a mandatory test for drugs or alcohol would make any contribution to air safety. There may, however, be occasional cases where a BASI investigation might be assisted by the capacity to test on an as required basis. This is not possible under existing regulations. It is thought that these cases would be uncommon, and that a compulsory test in every case might often hinder the investigation more than assisting it.

Accident and incident records, both in Australia and in comparable nations, do indicate that alcohol or drugs are statistically significant causal factors of air safety occurrences. The Bureau, therefore, does not believe that it is necessary to introduce mandatory testing at this stage.

The Bureau's investigators do not presently have the expertise, training, or equipment to conduct testing for drugs or alcohol. If such testing was ever required and legally possible, BASI suggests that the tests ought to be conducted by police officers, who are usually in attendance and are properly trained and equipped to do so. The cost of training, equipment, and insurance related to any testing by BASI is unlikely to contribute to the Bureau's effectiveness.

APPENDIX

Australian Occurrence Statistics

	accidents	(fatal)	incidents
1992	254	(24)	3281
1991	275-	(24)	3157
1990	345	(45)	3830
1989	343	(46)	4650
1988	323	(37)	3500+
1987	312	(30)	3000+
1986	208	(19)	4096
1985	213	(17)	4456
1984	220	(19)	4902
1983	264	(24)	4748