

The Parliament of the Commonwealth of Australia

PLANE SAFE

**Inquiry into Aviation Safety: the
Commuter and General Aviation Sectors**

**Report from the House of Representatives
Standing Committee on Transport,
Communications and Infrastructure**

December 1995

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**HOUSE OF REPRESENTATIVES STANDING COMMITTEE
ON TRANSPORT, COMMUNICATIONS
AND INFRASTRUCTURE**

(37TH PARLIAMENT)

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PREFACE

This report is a first report of what has been the most comprehensive inquiry conducted by the committee in the 37th Parliament.

The next report will cover unfinished matters including flying training, sports aviation and ultra lights, Section 20A of the Civil Aviation Act 1988 and the impact of government charges on air safety.

The inquiry has been characterised by personality conflict, unsubstantiated allegations, a venom and viciousness not experienced by committee members in previous inquiries.

The catalyst for the inquiry was the report from the Bureau of Air Safety investigation on the Monarch Airlines crash in June 1993. Since then the Civil Aviation Authority, its successor the Civil Aviation Safety Authority and air safety have been the subject of constant media attention.

The period of the inquiry saw significant changes to air safety regulation in Australia. Foremost was the decision to establish a new authority, the Civil Aviation Safety Authority. The committee examined its enabling legislation and made several recommendations to improve the quality of the legislation which were accepted by the government.

The report reveals a regulator at war with itself and under constant attack from vested interests within the general aviation and commuter industry.

Ensuring safe air travel must be the first priority of all participants in the industry as well as the regulator. This will require a major change of attitude and culture by many in the industry.

Conduct of the inquiry and preparation of this report would not have been possible without the consistent support of my committee colleagues Stewart McArthur, Deputy Chair, Gavan O'Connor and John Sharp.

Other committee members participated from time to time despite their workloads.

I thank each of them. I thank also all those who made submissions, who attended public hearings and responded to our requests for additional information.

The committee made heavy demands on CAA and CASA often at short notice. We appreciate their efforts and the time they gave to committee requests.

The Bureau of Transport and Communications Economics assisted the committee again. We thank them for the advance copy of their study on general aviation.

Similarly the Department of the Parliamentary Library provided valuable assistance to the committee.

I especially thank Denis James for his support in the analysis of statistical and economic/financial data relevant to aviation.

The committee expresses special appreciation and thanks to our advisers Trevor Thomas and Robert McBride, committee secretary Malcolm Aldons and committee officer June Murphy of their hard work and support throughout the inquiry.

Much of this report deals with the Civil Aviation Authority. However the committee stresses that the Civil Aviation Safety Authority should not be judged by the performance of its predecessor.

The committee's recommendations are constructive and are intended to make the Civil Aviation Safety Authority a more effective regulator.

The committee expects industry, trade unions and others to be similarly supportive of the Civil Aviation Safety Authority.

The safety of the travelling public demands no less.

PETER MORRIS
Chairman

1 December 1995

RECOMMENDATIONS

The committee recommends that:

Improving safety

- (a) the Civil Aviation Safety Authority publish serious deficiency reports on a monthly basis, initially for charter operators, commencing March 1996;
- (b) the Civil Aviation Safety Authority undertake special unplanned surveillance of charter operators in 1996;
- (c) the Civil Aviation Safety Authority conduct randomly selected audits of aircraft maintenance organisations to check whether documentation for stores stocks comply with the regulations;
- (d) air operators and ticketing agents be required to provide information, at the point of sale and in a prominent place on all tickets, on (i) the name of the operator (ii) the type of operation (iii) the aircraft type, and (iv) an explanation of the different levels of regulated safety for the different types of operation;
- (e) the Civil Aviation Safety Authority and the Bureau of Air Safety Investigation prepare and publish aviation safety indicators;
- (f) the Civil Aviation Safety Authority accept as recommendations requiring response, the options on increased aeronautical experience and the establishment of an industry based organisation given in the report on the Review of the Australian Flying Training Industry;

Improving the effectiveness of regulation

- (g) the Civil Aviation Safety Authority publish in the next corporate plan a timetable for the completion of the harmonisation of standards with world aviation authorities;
- (h) the Civil Aviation Safety Authority enlist the assistance of the Department of Transport, the Bureau of Air Safety Investigation and the Department of Finance in the preparation of its next corporate plan;
- (i) the Civil Aviation Safety Authority appoint expert groups or panels to produce periodic reports on the adequacy of standards in the low capacity RPT and general aviation sectors;
- (j) the Civil Aviation Safety Authority enlist the services of the Department of Finance or private sector consultants in evaluating the Australian Safety Surveillance Program;

Improving organisational performance

- (k) the Civil Aviation Safety Authority examine the effectiveness of its processes for internal consultation and prepare an industrial democracy plan;
- (l) the Australian National Audit Office undertake an efficiency audit of the Civil Aviation Safety Authority in 1998;

Improving knowledge of the industry

- (m) the Australian Bureau of Statistics or the Bureau of Transport and Communications Economics conduct periodic censuses of low capacity RPT and general aviation operators;

- (n) the relevant organisation liaise closely with the Civil Aviation Safety Authority to assist the Authority to collect relevant information on the industry;
- (o) the Bureau of Transport and Communications Economics conduct a survey of aircraft maintenance organisations;
- (p) the Bureau of Transport and Communications Economics undertake a study of the structure, conduct and performance of charter operations; and

Improving accountability

- (q) industry associations be asked to encourage their members to take their complaints of victimisation by officers of the Civil Aviation Safety Authority to the Commonwealth Ombudsman.

(paragraph 12.32)

ABBREVIATIONS

AAAC	Australian Aviation Advisory Committee
AAUP	Australian Aviation Underwriting Pool Pty Ltd
AD	Airworthiness Directive
AFAP	Australian Federation of Air Pilots
Ag	Agricultural Operations
AIP	Aeronautical Information Publication
ALAEA	Australian Licensed Aircraft Engineers Association
AME	Aircraft Maintenance Engineer
AOC	Air Operators Certificate
AOPA	Aircraft Owners & Pilots' Association
ARP	Aviation Regulatory Proposal
ASIR	Air Safety Incident Reporting System
ASSP	Aviation Safety Surveillance Program
ATO	Approved Testing Officer
Awk	Aerial Work
BASI	Bureau of Air Safety Investigation
BTCE	Bureau of Transport and Communications Economics
CAA	Civil Aviation Authority
CAIR	Confidential Aviation Incident Report
CAO	Civil Aviation Order
CAR	Civil Aviation Regulation
CASA	Civil Aviation Safety Authority
CEO	Chief Executive Officer
chtr	Charter
CRM	Cockpit Resource Management
DASR	Directorate of Aviation Safety Regulation (CAA)
DOF	Department of Finance
DOT	Department of Transport
DOTC	Department of Transport & Communications
DPP	Director of Public Prosecutions
ELT	Emergency Locator Transmitter
FAA	US Federal Aviation Administration
GA	General Aviation
GBE	Government Business Enterprise
IC	Industry Commission
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
JAA	Joint Aviation Administration (Europe)
LIP	Legislative Instrument Proposal

LOFT	Line Orientated Flight Training
MDR	Major Defect Report
MTOW	Maximum Take-Off Weight
NASS	National Airworthiness Surveillance System
NIASA	National Institute of Airworthiness Surveyors Australia
NOTAM	Notice to Airmen
NTSB	National Transportation Safety Board (US)
PM&C	Department of the Prime Minister & Cabinet
pvt/bus	Private/Business flying
RAAA	Regional Airlines Association of Australia
RAS	Royal Aeronautical Society
RoR	Review of Resources
RPT	Regular Public Transport
SR&S	Safety Regulation & Standards Division (CAA)
TAAATS	The Australian Advanced Air Traffic System
trng	Flying Training
VFR	Visual Flight Rules

CHAPTER 1

INTRODUCTION

The reference

1.1 On 19 July 1994 the Minister for Transport, the Hon Laurie Brereton MP, requested the committee to inquire into and report on:

- (i) the adequacy of air safety standards in the commuter and general aviation sectors in Australia, and
- (ii) compliance with, and supervision of, air safety standards in the commuter and general aviation sectors.

1.2 On 24 November 1994 the minister wrote to the chairman saying that it would be pertinent for the committee to consider the Report of the Study Group Addressing Concerns Regarding the Operation of the Safety Regulation and Standards Division, dated 12 March 1993 - also called the Terrell Report. The minister said the report and the response of the Civil Aviation Authority (CAA) to it 'are central to the aviation safety debate'. He considered it appropriate for the committee 'to examine the Terrell Report and the adequacy of the CAA's response to the report's findings'.

1.3 The Minister for Transport wrote to the chairman on 1 June 1995 on section 20A of the *Civil Aviation Act 1988* which contains offences in relation to the flying or operation of aircraft in a manner likely to endanger life or cause danger to person or property. The minister referred the concerns of the Aircraft Owners and Pilots Association (AOPA) on the proposed changes to section 20A in the *Civil Aviation Legislation Amendment Bill 1995* and the advice of the Attorney-General's Department. The minister added that the proposed amendments would be withdrawn from the bill. He concluded that '(a)s this is an issue which falls within the broad terms of reference of the Standing Committee's inquiry into aviation safety standards in the commuter and general aviation safety sectors, I would be grateful if the Committee would look specifically

at this issue as part of its inquiry with the aim of striking an appropriate balance between the public interest in preventing dangerous flying and the legitimate needs of the aviation industry'.

1.4 On 28 June 1995 the minister wrote again to the chairman saying that an amendment to section 20A along the lines of a similar United States provision had been moved successfully in the Senate during the debate on the *Civil Aviation Legislation Amendment Bill 1995*. Mr Brereton concluded that given the need to establish the Civil Aviation Safety Authority (CASA) as soon as possible the Government had agreed to the amendment. However, he considered that the appropriateness of the provision relating to dangerous flying still warranted committee scrutiny.

Conduct of the inquiry

(a) advertisement of inquiry

1.5 The original terms of reference were advertised in *The Australian* of Friday, 29 July 1994 and the *Financial Review* of Wednesday, 3 August 1994. Submissions were invited by 30 September 1994. At the first public hearing of 16 November 1994 the committee chairman indicated that the committee would receive late submissions. At the 1 February 1995 public hearing the chairman announced a committee decision to close the receipt of submissions as of 17 February 1995. As of this date, and subject to certain exceptions, the chairman said that no submission, letter or other material would be accepted as evidence presented to the committee. The exceptions were information the committee asked for or material the committee felt would add to its database.

(b) submissions

1.6 The receipt of the initial submissions concerned the committee which asked the secretary to bring to the attention of the committee those submissions which reflected adversely on individuals and organisations. However, when it came to the question of authorising publication of submissions the committee was faced with the difficult choice of permitting authorisation of

submissions which reflected adversely on others or of acting as a censor all the time by checking every piece of paper put to it. Given the priority of an open inquiry, the right of reply and the problems of censorship the committee decided to accept all submissions made to it.

1.7 By March 1995 the committee saw fit to record in its minutes of 8 March 'the disappointment of the committee that parliamentary privilege has been used and continues to be used by some persons to attack the character of other persons'.

1.8 Over 250 submissions consisting of around 2800 pages have been received and authorised for publication. Because of the sheer size of several submissions, particularly from the Australian Licenced Aircraft Engineers Association (ALAEA) and Mr Russell Broadbent, lengthy attachments to submissions have been treated as exhibits which are also records of the committee. The number of exhibit pages are about 5000.

1.9 At the commencement of the inquiry a few confidential submissions were received. The committee decided not to accept confidential submissions and the chairman referred to this in his opening statement at the first public hearing on 16 November 1994. He said that the committee wanted a body of evidence that was available to everyone. At the 1 February 1995 hearing he added that no evidence would be taken in-camera.

1.10 The committee secretary wrote to all persons who made confidential submissions and gave them the option of making these submissions public or withdrawing their submissions. Some accepted the latter. Requests for in-camera hearings, confidential briefings and confidential submissions made at various stages of the inquiry were declined.

1.11 Requests for 'oral submissions' or presentations were also refused. The oral submission is one where a person appears before a committee and makes a lengthy presentation instead of submitting a written document. The major purpose of a public hearing is for a person who has made a submission to appear before a committee to be examined on that submission. The so-called oral submission defeats this purpose.

- (c) the departments of Prime Minister and Cabinet and the Treasury

1.12 In February 1995 the secretary to the committee wrote to the secretaries of the departments of Prime Minister and Cabinet (PM&C) and Treasury and informed them of the inquiry. They were told that the problems with aviation safety were exacerbated by the decision to depart from previous policy and reduce public funding, particularly in relation to the setting and supervision of standards.

1.13 The committee was concerned to examine the quality of the advice provided to decision makers at the time the decision was made. Submissions were sought from PM&C and Treasury who were also invited to attend public hearings.

1.14 The response from PM&C said that under the Administrative Arrangements Orders the department does not have responsibility for issues related to aviation safety nor for related programs. The only records held by PM&C were cabinet documents and related material.

1.15 The Treasury response said it does not have a responsibility for aviation safety and its role is confined to briefing the Treasurer. Treasury added that the government guidelines for public servants appearing before parliamentary committees precluded officers from canvassing more general questions of policy advice.

1.16 Both departments did not take up the invitation to appear before the committee at a public hearing. The Department of Finance (DoF) made a submission and appeared before the committee at a public hearing on 21 June 1995.

1.17 The committee concern on funding strategies arose from the 1990 decision to introduce full cost recovery for standard setting and enforcement activities. Mr Ian McPhee, DoF, came close to admitting the weakness of that decision. McPhee said that there were better ways of addressing the cost recovery issues. He accepted as 'fair comment' the view that there were better ways to deal with the issue of funding (transcript page 1469).

(d) appointment of subcommittees

1.18 A seven person subcommittee consisting of Mr Morris (chair), Mr McArthur (deputy chair), Mr Adams, Mr Mack, Mr O'Connor, Mr Sharp and Mr Swan was appointed to inquire into and report to the committee. Much of the evidence collected at public hearings was by a three person subcommittee consisting of Mr Morris (chair), Mr O'Connor and Mr Sharp. Other Members attended as available.

(e) public hearings

1.19 The public hearings were preceded by informal briefings given by the CAA and the Bureau of Air Safety Investigation (BASI). The purpose of these briefings was for Members to familiarise themselves with the technical aspects of the inquiry.

1.20 The committee also inspected facilities at some of the major secondary or general aviation airports, namely Bankstown, Moorabbin and Archerfield. These included inspections of seven maintenance organisations, two flying schools and two low capacity regular public transport (RPT) operators. Some of the organisations inspected were recommended by the CAA; others were selected by the committee.

1.21 Evidence was taken at 22 public hearings, one at Bankstown, two at Moorabbin and two at Brisbane and the balance of 17 at Canberra. The Canberra hearings were televised by the Sound and Vision Office of the Department of the Parliamentary Reporting Staff.

1.22 On 7 December 1994 the committee resolved not to take evidence at public hearings on the Monarch and Seaview accidents until the committee rescinded this resolution.

1.23 Close to 100 witnesses were examined at 22 public hearings. Details on the conduct of the inquiry are at Appendix 1.

(f) protection of witnesses

1.24 The major reason given for confidential submissions was fear of reprisal from the CAA. In his opening statement the chairman made it clear that any attempt by any third party to intimidate or discriminate against a person who has made a submission or given evidence to the inquiry would be a matter of grave concern to the committee. He said such action would receive immediate attention and if there was a *prima facie* case of contempt the committee would bring this case to the attention of the House of Representatives immediately.

1.25 On 29 July 1994 the then Chief Executive Officer of the Civil Aviation Authority (Mr D Roser) informed staff of the inquiry and encouraged staff to make submissions via the CAA or direct to the committee. Several serving CAA officers made submissions and appeared before the committee in a private capacity. None of them were discouraged or hindered in the preparation of their submissions.

1.26 Broadbent, Managing Director of Gold Coast Aviation and Surf Air, claimed that the action of a CAA official at Archerfield Airport in suspending the pilot's licence of Broadbent constituted a contempt of Parliament. His claim was that the suspension resulted from evidence he provided against the CAA.

1.27 Broadbent was asked to show the connection between the suspension of his licence and the submissions he made to the inquiry. After examining the 11 submissions on this matter - nine from Broadbent, one from the CAA, one from CASA - the committee concluded that neither the officer, the CAA or CASA had a case to answer in respect of the contempt of Parliament charge or charges brought against them by Broadbent.

(g) search and rescue submissions

1.28 A few submissions dealt with the search and rescue work of the CAA. The committee was informed of a committee, the Joint Review National Maritime and Civil Aviation Search and Rescue Arrangements (the Rowland inquiry) which was examining the organisation and management of search and rescue services within the portfolio of the Minister for Transport. Rather than duplicate the

work of this inquiry the committee decided to refer all committee submissions that deal with the CAA search and rescue functions to the Rowland inquiry. Those who made submissions on search and rescue were informed accordingly.

(h) newsletters

1.29 At the 16 November 1994 hearing the chairman said that as part of its open inquiry the committee decided to issue regular newsletters informing participants of inquiry progress. The first newsletter was released in November 1994 and the second in December 1994. A third newsletter, being a statement made by the chair at the 1 February public hearing, was released on that date. Participants were also sent a copy of the address made by the chair at the Safeski's '95 conference on 25 October 1995.

First report

1.30 The breadth of the inquiry has prevented the committee from examining all the matters associated with the inquiry. This therefore is a first report. A later report will examine matters such as:

- sports aviation and ultra lights;
- section 20A of the Civil Aviation Act 1988;
- the matters referred to in the committee report on the aviation bills;
- impact of government charges on safety; and
- flying training.

1.31 Adequate flying training is an important part of a safety culture. One of the issues of flying training is whether those who want to qualify as commercial pilots should have a basic educational qualification.

1.32 Another issue is whether pilots trained under the existing system lack aviation knowledge. If this is so there is the related need for flying schools to be affiliated with colleges of Technical and Further Education. The committee notes that such affiliations may qualify people for means tested educational assistance.

1.33 Although the committee has deferred consideration of the impact of government charges on safety, some preliminary comments are warranted. The claims were that CAA charges were crippling small operators, that CAA charges were forcing operators to reduce maintenance expenditure and that CAA charges have been the largest single factor in the dramatic decline in overall levels of safety (submissions pages 622,1684).

1.34 It is a fact that industry charges have increased significantly. Department of Finance information shows that industry contributions as a percentage of the total (industry plus government) rose from 7.5 per cent in 1988-89 to 54.6 per cent in 1994-95 (calculated from submissions page 2038).

1.35 However, government charges are low when expressed as a percentage of total expenses. For all commercial groups of general aviation they represent less than 5 per cent of total expenses. CAA charges are less than 1 per cent for general aviation (GA), less than 1 per cent for flying training and just above 1 per cent for charter and aerial work (BTCE, 1995).

1.36 This information shows that claims on excessive charging are exaggerated. The impact of charging policies on safety will be examined in a later report.

Strategy and structure of the report

1.37 In developing report parameters it is necessary to indicate what the report does not cover. This is not a report from a group of technical experts and it does not concentrate on technical matters. The Flight Test Society of Australia discussed such matters in the context of funding. Their submission referred to three main areas that can cause risk of injury or death, namely, aircraft design, aircraft operations and crew competence (submission 8, submissions page 115). The approach of the Royal Aeronautical Society (Australia Division) was to evaluate 11 factors considered to be relevant to GA safety, to establish the problems, their causes and the solutions (recommendations). The 11 factors covered aircraft operations, crew competence and other factors such as company pressure. (submission 175).

1.38 The approach of the committee is different. We ask the question, **what are the characteristics of a world best practice regulator of aviation safety?** The committee would expect the characteristics to include:

- legislation that assists the regulator to carry out its tasks effectively;
- a clear articulation of the objectives of regulation, strategies to develop those objectives and performance indicators to measure achievements;
- special emphasis on aviation safety indicators;
- adequate information and knowledge of the aviation industry and intimate knowledge of the characteristics of industry that can affect safety adversely;
- the existence of processes that can develop a good working relationship with industry;
- a cohesive well knit organisation with adequately trained and skilled personnel and effective leadership;
- adequate processes and skills in developing effective safety standards and in securing compliance with those standards; and
- an effective system of accountability.

1.39 The committee report covers these characteristics but not with equal emphasis on each. Chapter 2 discusses the work of the committee on the 1995 aviation bills. That chapter also includes discussion on the need for regulation, the cost of aviation accidents, accountability and the relationship between the regulator and the regulated. The 'boxed' paragraph on the relationship between the regulator and industry (paragraph 2.51) gives the reader the first indication of how things started to go wrong with the CAA.

1.40 The articulation of objectives, strategies and performance measures has been covered to some extent in the first corporate plan of CASA. Because of the pressure on CASA the Minister for Transport has accepted the plan as an interim document and has called for appropriate performance indicators for the future. The committee report also has comments on the need for better performance indicators.

1.41 Chapter 3 poses the threshold question: **has safety deteriorated?** The chapter concludes that with the exception of charter operations there is no hard evidence to show that safety has declined in the other sectors of GA, total GA or low capacity regular public transport (RPT). **A feature of the evidence was that discussion was guided not by facts and analysis but rather by accusations, acrimony and personality conflicts.** Another feature of the chapter is that there are no reliable indicators of aviation safety.

1.42 Chapter 4 presents information on the industry (GA and low capacity RPT), finds the data to be inadequate and asks for more regular surveys. In particular the committee expresses concern at the lack of information on aircraft maintenance organisations.

1.43 Chapter 5 is called **Destructive Competition**. It examines and agrees with the hypothesis that in certain circumstances strong competition, particularly price competition reduces profits. This leads to the cutting of corners on aircraft maintenance and this in turn has an adverse effect on safety. **The committee firmly believes that the regular publication of serious deficiency reports with the names of the offending operators will provide the much needed market discipline to reduce the problem of the 'shonky operator'.**

1.44 The purpose of Chapter 6, The Regulatory System, is to inform the reader how the system works. This should assist in understanding the next three chapters. Chapter 7 deals with safety-related specific issues. One of these is bogus or unapproved parts. In its investigations the committee found it difficult to obtain accurate and up-to-date information on these parts. This was largely a consequence of CASA's fragmented approach towards the issue. Bogus parts are a problem throughout the world and the indications

are that the safety risks from bogus parts will increase. **The industry and the regulator need to take the initiative to contain this problem. The question is not so much one of new regulations but rather one of greater compliance with and stricter supervision of the existing regulations.**

1.45 Other issues examined by the committee in this chapter were code sharing and the associated question of consumer awareness. Specific concerns were the potential of code share practices to mislead passengers, the nature and quality of information that is made available to intending passengers and the widespread ignorance of differences in regulated levels of safety. There is a clear need for passengers to be better informed on these matters at the time the ticket is purchased.

1.46 Chapters 8 and 9 deal with the initial terms of reference of the inquiry - adequacy of air safety standards and compliance with and supervision of air safety standards in the commuter and general aviation sectors. The committee has concentrated on process but the inquiry has been hampered by changes to process. **CASA does not have all the necessary skills to evaluate its surveillance program or to establish indicators that can measure the adequacy of standards.**

1.47 On 24 November 1994 the minister asked the committee to examine the Terrell Report and the adequacy of the CAA's response to the findings of the report. Chapter 10 does this. The conclusion the committee drew was that CAA responses to the Terrell Report were adequate. The Terrell report and its aftermath occurred during a particularly stormy period of the CAA when **perception and prejudice, mistrust and misrepresentation was the currency of aviation safety regulation.** The question that has to be asked is **has anything changed for the better.**

1.48 Chapter 11 is called The Civil War Within the Civil Aviation Authority, A Study of Organisational Conflict. **This is an apt description of how an organisation can be ravaged by internal disputes. The loss of skill, corporate memory and stability are the legacies of the conflict. Most important is the need for effective consultative decision making bolstered by a high quality industrial democracy plan.**

1.49 Conclusions (Chapter 12) is the final chapter of the report. That chapter identifies the key features of the report and draws conclusions on regulatory performance. **Appropriate recommendations are made divided into 5 categories, namely:**

- improving safety;
- improving the effectiveness of regulation;
- improving organisational performance;
- improving knowledge of the industry; and
- improving accountability.

1.50 Of necessity a large part of the report has been devoted to the predecessor of CASA, the Civil Aviation Authority. CASA commenced business on 1 July 1995 and has commenced the lengthy process of rebuilding the organisation, establishing appropriate processes and improving staff morale. **The recommendations of the committee are intended to assist the Civil Aviation Safety Authority to be a more effective regulator. The expectation of the committee is that industry associations, trade unions and others will be similarly supportive of the new regulator.**

Safety - a shared responsibility

1.51 If there is one thing the warring parties in the aviation industry can agree on, that is shared responsibility. The CAA recognised this. The 1992-93 annual report saw a need to continue to highlight that the authority was only a part of the aviation 'safety net' and that all elements of the industry must operate at maximum effort to maintain Australia's safety record.

1.52 Mr Leroy Keith, the Director of Aviation Safety of CASA, said something similar. He said that 'operators and companies are obliged to accept greater responsibility for ensuring that they maintain high standards without regulatory prompting' (transcript page 1595).

1.53 Information from the United States of America was that a policy goal of zero accidents is a shared responsibility of government, industry and labour organisations and each individual member of the aviation community. The achievement of zero accidents required:

- the aviation community to change from its mind set that minimises accidents to one that demands zero accidents;
- the approach of the regulator and industry to safety must be proactive and focus on anticipating safety threats and preventing mishaps; and
- safety data and information must be shared freely among members of the aviation community to ensure the greatest safety benefits to the flying public.

(FAA, 1995).

1.54 The public interest requires the industry to accept greater responsibility for aviation safety. The committee encourages industry to develop a constructive working relationship with CASA and strongly recommends that industry uses its journals to help achieve that relationship. The constant sniping at CASA officers must cease if the public is to have confidence in the aviation industry.

CHAPTER 2

BACKGROUND MATTERS

The committee inquiry

2.1 The catalyst for the chain of events that resulted in the committee inquiry and the establishment of a separate aviation safety authority was the report from the Bureau of Air Safety Investigation (BASI) into the Monarch Airlines crash at Young in June 1993 - Investigation Report 9301743, Piper PA 31-350 Chieftain, Young, NSW, 11 June 1993.

2.2 In his news release of 20 July 1994 following publication of the final BASI report on Monarch Airlines the Minister for Transport 'announced a broad strategy to improve air safety regulation in Australia'.

2.3 One of the major features of the ministerial announcement was the decision to create an Aviation Safety Agency as a separate entity within the CAA. The agency was to have discrete financial and accounting arrangements, and its head, although reporting to the Chief Executive Officer, was to be an executive member.

2.4 Another feature of the ministerial announcement was an inquiry by the House of Representatives Standing Committee on Transport, Communications and Infrastructure into the adequacy of air safety standards and the compliance with and supervision of air safety standards in the commuter and general aviation sectors in Australia

The new authority and the Seaview Judicial Commission

2.5 Following the fatal accident of an Aero Commander of Seaview Air on a flight from Williamstown, New South Wales to Lord Howe Island on 2 October 1994, the Minister for Transport announced in a news release of 12 October 1994 a cabinet decision to establish a new aviation safety agency as a separate and entirely independent statutory authority.

2.6 The news release also covered funding and insurance. The Government decided to fund from the Budget that part of aviation safety regulation which is identified as 'the public benefit component'. The release also said that it would be mandatory for all carriers of fare paying passengers to be insured against their liabilities in the event of an aircraft accident.

2.7 The minister concluded that in his view 'the new arrangements are the most appropriate way of addressing the inherent conflict between the CAA's commercial and policing functions'.

2.8 On 17 October 1994 the minister announced a judicial inquiry to be conducted by Sir Lawrence Street into the handling of the operations of Seaview Air by the CAA. The terms of reference were released on 20 October 1994. They covered the relations between the CAA and Seaview Air and the implications of findings under his reference to ensure total propriety in the administration of air safety.

2.9 On 23 December 1994, the minister announced the proposed appointment of a second commissioner, Mr James Henry Staunton, to the inquiry. Following the personal decision of Sir Lawrence Street to withdraw from further involvement in the inquiry to preserve public confidence, the Minister for Transport said in February 1995 that Mr Staunton had been appointed sole commissioner to the inquiry.

The aviation bills inquiry

2.10 On 28 March 1995 the Minister for Transport wrote to the chairman and referred two bills, the *Civil Aviation Legislation Amendment Bill 1995* and the *Air Services Bill 1995* together with the associated memorandum. Because of the need for the two new authorities to commence business on 1 July 1995 the committee gave priority to this inquiry. The report was released on 18 May 1995 when the House of Representatives was not sitting and was presented to the House on 29 May 1995.

2.11 The committee report, Civil Aviation Legislation Amendment Bill 1995, Air Services Bill 1995, endorsed the establishment of an independent aviation safety authority. The report said:

... there is broad based support for the establishment of an independent aviation safety authority. The committee endorses this approach. The creation of a new authority with a new and more specialised board and a new director is a far better solution for the troubled and turbulent world of aviation safety regulations in Australia than any reorganisation within the existing Civil Aviation Authority.

2.12 The report concentrated on the civil aviation bill which dealt with the establishment of new safety regulator, CASA. Emphasis was on clarity, accuracy and accountability. In particular the report called for:

- a broad in-principle statement of purpose rather than a detailed object clause;
- the detail to be contained in the sections on functions classified according to whether the functions are primary, related to primary or other functions; and
- accountability to be improved by the corporate plan of CASA being tabled in both Houses within 15 sitting days of the Minister receiving the final version.

2.13 In his letter of 31 May 1995 to the chairman, the Minister for Transport reacted very favourably to the recommendations in the report. He said that most of the recommendations had been accepted and that the object clause would be made a broad in-principle one. He also supported all the recommendations on functions and the tabling of the corporate plan of CASA in both Houses.

2.14 The committee is pleased with the ministerial response. It underlines the importance of parliamentary committee work on bills, links committee work with the legislative function of the House of Representatives and results in better quality legislation.

Need for regulation

2.15 The starting point in any examination of aviation safety regulation should be the need for regulation. Insufficient information and the potentially harmful effects of flying on third parties (eg innocent bystanders, those living under the flight paths) and property have been advanced as reasons why market forces are not enough to ensure the level of safety consumers desire, partly because consumers are not in a position to evaluate the safety performance of carriers.

2.16 Thus imperfect information is an explanation for market failure in the aviation industry. Some would argue that a perfectly informed market would negate the need for safety regulation. Thus through a judicious system of education, standards and penalties, governments attempt to correct market failure. In this way regulation results in the provision of a socially efficient level of safety.

2.17 However, the committee recognises that there can also be government or regulatory failure. This would occur when, for one reason or another, the safety regulator fails to carry out its functions.

2.18 In Australia a succession of fatal accidents and a desire to see aviation developed as an alternative form of transport led to the introduction of government regulation. After World War II, government interest in aviation was governed by two factors, namely, the need for assistance to develop a viable airline industry and the significant 'public good' elements of aviation services (McBride, 1993).

Costs of aviation accidents

2.19 The Bureau of Transport and Communications Economics (BTCE) publishes information on the costs of aviation accidents in Australia. BTCE (1992), report 79, *Social Cost of Transport Accidents in Australia* estimated the costs of aviation accidents in 1988. BTCE Information Sheet 5, Costs of Aviation Accidents in Australia - 1993 updated the cost information in the 1992 report.

2.20 The costs can be divided into three types - the loss or partial loss to society of the productive efforts of accident victims and others affected by accidents; the cost of resources lost as a result of the accident and the dollar estimates of human pain and suffering.

2.21 The BTCE has estimated that the total cost to the community of the 320 aviation accidents in 1993 was \$76 million. This works out at \$237 500 an accident. Fatal accidents accounted for 74 per cent of the total or \$56 million. Given that there were 36 fatal accidents in 1993, the average cost of a fatal accident was about \$1.6 million. The average cost of a non-fatal accident was around \$70 000. The total costs of fatal accidents of fare paying passengers (low capacity RPT and charter) was \$8 million.¹

2.22 The significant costs of aviation accidents are relevant to an examination of the costs of regulation. Unfortunately, it is extremely difficult to determine the precise relationship between the costs of regulation (the inputs) and accidents (the outcomes).

Affordable safety

2.23 The concept of 'affordable safety' popularised by Mr Dick Smith has its supporters and detractors. The concept can be divided into two separate parts.

¹ Fatal and non-fatal accident figures derived by Mr Denis James, Department of the Parliamentary Library from BTCE Information Sheet 5.

2.24 The first is on aircraft manufacture and benefit-cost analysis of changes. Smith argued that changes and standards are market driven and if the costs of regulated changes are too high, excessive ticket prices will result in fewer people flying and more people using less safe road transport.

2.25 One example he used was the proposition that child safety seats be compulsory for children under the age of two. This United States proposal, Smith said, was shown to be less safe because the increased costs of air tickets would have forced many families away from airline travel on to less safe roads. (submission 171, submissions page 1704 and exhibit 17, exhibit page 1982).

2.26 The other part of affordable safety was use of the finite dollar. Here the argument was the need to move the dollar into areas that save lives, for example, moving safety staff out of offices in Canberra to perform aircraft surveillance in maintenance hangars (submission 90, submissions page 1017).

2.27 Those who object to the term 'affordable safety' saw it as a key feature of the period they considered or called the 'dark ages' of aviation safety regulation in Australia or the 'slash and burn' period of safety regulation. This was the period when Smith was chairman of the CAA.

2.28 There is nothing objectionable about the term affordable safety. A lot of it is stating the obvious. However, it is not a term the committee would use. We would prefer clearer and more familiar phrases such as 'benefit cost analysis' and 'efficiency' and 'effectiveness' in the use of resources.

Accountability of CASA

2.29 Accountability is a key feature of a democratic society and covers not only the accountability of democratically elected governments, but also the accountability of officials. Accountability raises questions of accountability to whom, for what and by what means.

2.30 In examining the question to whom is CASA accountable, it is necessary to indicate to whom the regulator is not accountable. In the report on the two aviation bills, the committee was concerned about the wording of paragraph 3 A(g) of the Civil Aviation Legislation Amendment Bill - 'promoting the highest possible levels of accountability within CASA and for CASA's dealings with other bodies'.

2.31 To quote from that report the committee was concerned at the 'very real danger ... of regulatory capture'. This could happen if CASA (the regulator) is or is seen to be 'accountable' to industry (the regulated) - Parliamentary Paper 95/95. The clause was deleted from the bill.

2.32 This is why the May 1995 report on the two aviation bills said that CASA should be accountable to the Minister, the Parliament, the courts and to no one else. To go further is to muddy the water.

2.33 Even the experts can get it wrong. In his celebrated report on the crash at Dryden, Ontario, Justice Moshansky said that Transport Canada is 'responsible to the people of Canada for ensuring that commercial and private aviation activity in this country is carried out effectively at an acceptable level of safety' (Moshansky, 1992).

2.34 When applied to Australia, the committee has no problems if this statement is used as part of a public relations exercise. However, neither CASA nor its officials are accountable directly to the Australian people. The political process does not allow for that.

2.35 What is CASA accountable for? The regulator is required to carry out its functions as specified in section 9 of the *Civil Aviation Act 1988*. In carrying out its functions, CASA must regard the safety of air navigation as the most important consideration.

2.36 The act does not mention efficiency. This does not mean that CASA can ignore efficiency. Like other public sector organisations CASA has a responsibility to use resources efficiently. What CASA does and what it should do in this regard is of interest to the committee.

2.37 By what means is CASA accountable? CASA is required to produce a corporate plan which has to be tabled in both houses of Parliament. The plan has to include performance measures for CASA. The regulator also has to produce annual reports.

2.38 There are a number of ways of making CASA accountable. They include parliamentary inquiries, executive inquiries and audits by the Australian National Audit Office. The development of performance indicators including productivity indicators which reflect clearly effectiveness and efficiency is very relevant.

The relationship between the regulator and industry

2.39 Mr Buck Brooksbank, the acting Chief Executive Officer of the CAA said that the best way of developing aviation safety is for the regulator to play the educator-partner role rather than the prosecutor role (transcript page 197). The 1992-93 annual report stated 'the fact that the Authority is only part of the country's aviation "safety net" and that all elements of the industry must operate at maximum effort to ensure that Australia's aviation safety record is maintained' (CAA, 1992-93).

2.40 The *Civil Aviation Act 1988* states that CASA has 'safety-related functions' which cover encouraging greater acceptance by industry of its obligations to maintain high safety standards by education, training, provision of advice and consultation.

2.41 The view from the coal face is slightly different. Mr Ben Schiemer, Mr Willis Taylor and Captain Rick Davies, all CAA (now CASA) employees, see prosecution as a last resort but a necessary part of their powers. **'At the end of the day when all else fails we are the regulators and we are the policemen'** (transcript pages 118, 956, 1049).

2.42 Another feature of the relationship between the regulator and the regulated is the focus on the customer. For some time now in business there has been an emphasis on customer service, perhaps the result of increased competition and the battle for market share. The committee gained an insight into this when it examined the handling of customer complaints by Telecom.

2.43 In its 1991 report the committee observed that 'Telecom has been progressively evolving into a dynamic organisation which sees the need to be driven by a marketing culture based on customer satisfaction'. This 'the customer comes first' approach led the committee to place primary emphasis on the need for Telecom to deal effectively with complaints at the first point of contact or the grass roots level (Parliamentary Paper 147/91).

2.44 This is particularly relevant to the aviation industry. Qantas says that 'success depends ultimately on our ability to know, understand and meet the expectations of actual and potential customers'. One strategy used is to sharpen focus on customers through greater direct contact by staff (Qantas, 1994).

2.45 These ideas have percolated into the public sector and the earlier annual reports of the CAA are sprinkled with statements on the customer. There are references to the partnership with all sectors of industry. The 1990-91 annual report in particular has several references to the customer, customer needs, the costs of customer service and the need for the CAA to be customer-orientated. The next report said that CAA staff 'must be tuned-in to the needs of its customers' (CAA, 1990-91; 1991-92).

2.46 The customer focus can be explained as a sign of the times. The policy of cost recovery also influenced this focus as did the CAA view of micro-economic reform. The 1991-92 report said that CAA has 'a responsibility to reduce (its) cost structures and help the aviation industry to become more competitive in global terms'.

2.47 The customer approach has its opponents. The Flight Test Society (Mr Billy Collings) said that regulation is not something you provide a client. Mr Paul Nendick criticised the partnership approach and of calling the industry 'customers' saying that the new corporate attitude was a major change in direction for safety regulation (transcript pages 304, 801-804).

2.48 The evidence of Captain Robert Collins underlined the difficulties for regulation when there is too much focus on the customer. Collins supplied the committee with a memorandum dated 24 May 1993 from Mr Bill Edwards, then Acting General Manager, Safety Regulations and Standards (exhibit 108). That memo said:

... the Civil Aviation Authority must investigate complaints to ensure the maintenance of corporate integrity and to demonstrate continued accountability to the aviation industry - an industry the CAA is committed to serve.

2.49 The travelling public are the customers of the regulator. The customer is the user of air services and the industry is the provider.

2.50 The committee believes that this 'accountability to the aviation industry' approach could be an explanation for some shortcomings of the CAA in the performance of its duties.

2.51 *The Civil Aviation Authority was never captured by the aviation industry. On the contrary, the regulator offered itself as a willing captive.*

Quality of the evidence

2.52 The evidence collected on this inquiry is voluminous. Not surprisingly therefore some of it was useful and some less than useful. Some of the latter related to perceptions of what the inquiry was about. Some people who made submissions saw the committee as a complaints tribunal, a body that would examine their complaints some of which stretched back decades into the days of the Department of Aviation. Perhaps they saw the inquiry as their last chance for 'justice'.

2.53 Although the committee is in sympathy with those who made these 'complaints submissions' (perhaps these persons were treated harshly by the authorities) it is not the role of the committee to inquire into individual complaints of unfair treatment. These people were informed of this decision.

2.54 One of the many propositions put to the committee was the need for an Aviation Ombudsman. It is in this context, namely the adequacy of the processes for handling complaints, that complaints submissions should be examined.

2.55 The evidence can be divided into the good, the not so good and the nasty. The good evidence was where people backed up what they were saying or gave the committee useful factual information. The not so good was where claims and accusations could not be substantiated.

2.56 There was also misrepresentation. One witness said he 'resigned in disgust' when all that happened was that he was transferred to Canberra. Another accused the CAA of unlawful conduct but when questioned retreated behind a smokescreen of words. Yet another accused a former chief executive officer of the CAA of deliberately misleading the board but was clearly unconvincing in his explanation.

2.57 Reference has already been made to persons attacking the character of others under parliamentary privilege. This was one of the main features of the evidence. Hopefully the public inquiry process served to leach some of the poison from the system.

2.58 *The committee was dismayed by the denigration, venom and viciousness in the evidence. This attitude of mistrust if not mutual contempt between the participants places a heavy load on CASA in fulfilling its statutory function of promoting higher safety standards through education, training, advice and consultation.*

CHAPTER 3

HAS SAFETY DETERIORATED?

Safety - its meaning and measurement

3.1 The heat of the aviation safety debate has failed to throw much light or has prevented the throwing of much light on what is a threshold question: has aviation safety in Australia deteriorated in recent years? Safety can be defined as 'the probability that a flight will result in an accident' (Moses and Savage 1989). A decline in safety is relative and can be assessed or measured over time. An indication of a decline in safety can be gauged from:

- surveys over time of the travelling public;
- surveys over time of experts; and
- statistics.

3.2 The CAA was asked whether consideration had been given to carrying out a market survey of people who use airline services to establish what they believe to be a satisfactory standard of CAA services. The authority said no such survey had been conducted in Australia but that it was collecting information on similar overseas surveys on public perception of safety and services with a view to conducting a survey in Australia (CAA, submission 180, submissions page 1888).

3.3 In his so-called second report (letter of 30 March 1993 to CAA chairman) Mr Alan Terrell gave his opinion, 'a fact that safety standards/levels have been reduced so that they are closer to the regulated margins'. The reasons for this reduction were deregulation, devolution and delegation to industry, commercialisation and a major economic downturn. Terrell said standards are certainly lower and asked whether they are too low. Terrell also said that the position in GA may already be below an acceptable level if the insurance statistics showing a 40 per cent increase in GA claims between the early 90's and late 80's can be translated into operational events. (exhibit 5, exhibits page 587).

3.4 The first submission from the Australian Licenced Aircraft Engineers Association (ALAEA) said that '(s)afety standards have fallen disastrously' (submission 9, submissions page 127). In the 7:30 Report of 10 November 1994 Dr Helen James, then an employee of the CAA, accused management of misleading the CAA board on safety. The basis for her accusation was that there were words in a draft board paper to the effect that standards in some regular public transport commuter areas are decreasing. These were removed. According to James the words were deleted 'so that the board would be unaware of the exact situation with respect to deteriorating safety standards at that time' (Michael Terrell/John Ward report, 1994). The board paper transmitted the Alan Terrell report to the CAA board.

3.5 Thompson brought a different perspective to the question of deteriorating safety. He said the public perception of a deterioration of safety was caused by one event following another in close succession. First there was the release of the BASI report on Monarch on 20 July 1994 followed by a coronial inquiry report on a light aircraft crash in the Blue Mountains 'on a day when birds would not fly'. A few weeks later there was another coroner's report on the loss of life over Tarago en route to the snowfields. Shortly after that came the Seaview crash (transcript pp 514, 515).

3.6 To the Thompson information the committee would add parliamentary debates, the establishment of the parliamentary inquiry, the decision to establish a separate aviation safety authority, the judicial inquiry, the ABC 7:30 Report and the reporting of the proceedings of both inquiries and the coronial inquiry into Monarch to complete the picture of public perception.

3.7 Thompson added that the accidents were in different years but the reports and reporting followed one another. He dismissed as 'crying wolf' the view that safety has declined (transcript page 514).

3.8 Analysis of claims or perceptions of deteriorating safety should be based on facts and interpretation of inputs, outputs and outcomes. Without this, discussion can become subjective and emotive. The committee was disappointed that much of this discussion during the inquiry was guided not by facts and analysis, but rather by accusations and acrimony.

3.9 Safety inputs are the resources employed by the regulator and the expenditures on maintenance, training and the like by industry. Although there is information on resources used by the CAA, industry information is not available and is certainly not available for any period of years.

3.10 Inputs should be transformed into outputs, at least in respect of regulatory activity. Therefore the debate between Alan Terrell, former CAA board member and Mr Ron Cooper, former general manager safety regulation and standards division, about whether surveillance was reduced because staff numbers were reduced is largely irrelevant. Terrell said that the actual level of surveillance was quite deliberately reduced following the Review of Resources. Cooper responded through Smith that the actual amount of surveillance for general aviation operators was increased¹ and Terrell answered this by quoting figures given to the board on reductions in staff numbers to conclude that 'none of those figures would indicate ... that there had been an increase in surveillance' (transcript page 619, submission 178, submissions page 1826 and transcript pages 1082-1092).

3.11 It does not necessarily follow that surveillance is reduced if staff numbers are reduced. The Bosch report used United States and Australian statistics (number of staff per aircraft and hours flown) to conclude that the figures reflected unfavourably on the productivity of Department of Aviation staff (Bosch, 1984). The key question is what are the outputs of the regulator and what do the figures show over the years. **The committee was surprised that former high ranking officials of the CAA did not have a grasp of this elementary matter.**

3.12 Safety outcomes, which are different to inputs and outputs, are the fatal and non-fatal accidents - of most concern to passengers and policy analysts. A policy goal of 'no fatal accidents' or a lesser goal of 'no fatal accidents for the fare paying passenger sectors' underlines the importance of outcomes.

¹ Cooper did not make a submission to the inquiry. He is quoted in a submission made by Smith.

Safety - use and misuse of statistics

3.13 There was little information on how inputs and outputs were transformed into safety performance. Accident statistics have been used by analysts and government organisations as a measure of aviation safety. Accident statistics give some information on safety but, unless there is a statistical relationship over time, they do not measure the level of safety and cannot be used to find out whether safety has deteriorated or not.

3.14 The National Transportation Safety Board of the USA (NTSB) recognised that the frequency of accidents is not by itself a complete measure of the safety of the aviation industry and is less useful for making predictions about the future. This emphasises the need for safety indicators to be developed (Moses and Savage, 1989).

3.15 Dr Robert Lee, director of BASI, referred to 'normal' errors which were characteristic of human performance and which do not occur only in accidents and incident situations. He concluded that 'as a result accident and incident data alone are not valid indicators of the degree of errors made by people in the system, and therefore do not provide a true index of system safety' (Lee, 1994).

3.16 Further, accident statistics do not allow for the proactive enhancement of safety because the events that safety management seeks to eliminate have already occurred (Flight Safety Foundation, 1994). However this leads into strategies of accident prevention rather than measures or indicators of safety.

3.17 There are other limitations in the statistics. First, the number of accidents, fatal accidents and fatalities is small when compared to total activity. The figures are subject to significant fluctuations and attempting to derive meaningful conclusions from such volatile data is fraught with difficulties. Associated with this is the additional danger of using a single statistic, eg fatalities. As Yeend pointed out fatalities are not a good measure of the effectiveness of safety programs. The number of people killed is a matter of chance (submission 190, submissions page 2026).

3.18 Second, it follows that reliance on a purely statistical approach for measuring aviation safety is insufficient. The CAA appeared to be placing less emphasis on statistics and more on finding out the underlying causes of improving or deteriorating safety. One is not certain whether this applies to accident investigation or safety indicators.

3.19 Statistics of civil aviation accidents for the period 1981-94 are at Table 1. The statistics are for low capacity RPT and total GA and the 5 separate sectors of GA (see paragraph 4.7 for definitions of the sectors).

3.20 The relevance of the statistics for the separate sectors is associated in some minds with the role of regulation. There is a view that if a silly person does silly things and kills himself or herself then these statistics should not be counted. What is important is the statistics for fare paying passengers.

3.21 The section on the need for regulation referred to the effects of flying on innocent bystanders and property (paragraph 2.15). The section on the costs of aviation accidents said the average costs of an aviation accident was \$237 500 and the average cost of a fatal accident was \$1.6m (paragraph 2.21). Further, as Keith said, a helicopter used for mustering today could be operating in Sydney tomorrow (transcript page 1609).

3.22 The role of the regulator should cover all sectors of GA. No sector is exempt under the act. To the extent that accident statistics are used to measure the safety of aviation all the statistics should be used. The question of priorities in the allocation of CASA resources for particular sectors of GA or other sectors is another and quite a different matter.

3.23 The committee will concentrate on the statistics and statistical analysis provided by Mr Peter Patrick of PE Patrick and Associates, Smith and the CAA/CASA. Patrick asked for and was given permission to make a late submission. The Patrick submission accused the CAA of making significant statements on safety levels in general aviation that clearly have been untrue. This was the conclusion that safety levels in Australian aviation have not changed over the past ten years.

TABLE 1
AUSTRALIAN CIVIL AIRCRAFT ACCIDENTS
(1985-94)

Accidents	1985	1986	1987	1988	1989	1990	1991	1992	1993*	1994*
LCap	5	0	1	8	0	5	4	6	5	4
CHTR	32	20	33	37	43	40	33	37	43	50
AG	24	33	26	36	45	38	25	28	23	18
TRNG	23	30	25	25	38	33	30	25	33	29
AWK	20	31	33	34	31	44	35	32	41	28
PVT/BUS	106	96	113	113	93	116	137	111	118	81
Total GA	205	210	230	245	250	271	260	233	258	206

Fatal Accidents	1985	1986	1987	1988	1989	1990	1991	1992	1993*	1994*
LCap	1	0	0	1	0	0	0	0	1	0
CHTR	4	2	2	2	5	5	2	2	4	6
AG	0	3	1	6	6	2	1	3	1	5
TRNG	0	2	0	3	3	4	3	1	0	2
AWK	2	4	5	5	3	9	1	1	2	3
PVT/BUS	10	8	9	12	7	10	14	18	15	9
Total GA	16	19	17	28	24	30	21	25	22	25

Total GA non-fatal	189	191	213	217	226	241	239	208	236	181
LCap non-fatal	4	0	1	7	0	5	4	6	4	4

Fatalities	1985	1986	1987	1988	1989	1990	1991	1992	1993*	1994*
LCap	1	0	0	3	0	0	0	0	7	0
CHTR	9	3	7	11	16	18	3	2	8	22
AG	0	3	1	6	6	2	2	3	1	5
TRNG	0	3	0	7	7	7	4	2	0	4
AWK	2	10	9	8	7	14	1	1	3	4
PVT/BUS	30	24	14	26	10	23	35	41	34	16
Total GA	41	43	31	58	46	64	45	49	46	51

Hours Flown (1,000's)	1985	1986	1987	1988	1989	1990	1991	1992	1993*	1994*
LCap	146.5	141.0	154.2	181.5	195.4	204.3	212.8	224.8	229.1	231.2
CHTR	319.7	330.8	348.3	395.1	462.2	402.7	387.5	406.7	396.2	417.3
AG	119.6	114.2	117.4	147.1	159.0	161.1	110.2	89.4	97.7	83.8
TRNG	311.6	326.1	345.8	401.2	451.1	486.4	458.4	427.2	442.4	434.6
AWK	275.8	278.2	277.5	291.8	309.3	302.2	290.0	263.8	285.9	297.0
PVT/BUS	538.6	507.2	513.0	528.0	546.8	576.7	502.9	462.4	480.4	452.3
Total GA	1565.3	1556.5	1602	1763.2	1928.4	1929.1	1749	1649.5	1702.6	1685.0

Accident Rates	1985	1986	1987	1988	1989	1990	1991	1992	1993*	1994*
LCap	3.41	0.00	0.65	4.41	0.00	2.45	1.88	2.67	2.18	1.73
CHTR	10.01	6.05	9.47	9.36	9.30	9.93	8.52	9.10	10.85	11.98
AG	20.07	28.90	22.15	24.47	28.30	23.59	22.69	31.32	23.54	21.49
TRNG	7.38	9.20	7.23	6.23	8.42	6.78	6.54	5.85	7.46	6.67
AWK	7.25	11.14	11.89	11.65	10.02	14.56	12.07	12.13	14.34	9.43
PVT/BUS	19.68	18.93	22.03	21.40	17.01	20.11	27.24	24.01	24.56	17.91
Total GA	13.10	13.49	14.36	13.90	12.96	14.05	14.87	14.13	15.15	12.23

*The 1993 and 1994 numbers are preliminary figures at this stage.

Source: BASI

3.24 He said that this picture changed significantly when the series was split into pre-CAA (1981-87) and CAA (1988-94). 'Virtually all measures of magnitude point to substantial increases in fatality, levels in general aviation since the creation of the CAA'. Patrick concluded that the numbers killed in all aircraft accidents appeared to be moving inexorably forward at the average rate of one additional fatality every 15 months and that '(u)nder the stewardship of the CAA, the normalised fatality rate in general aviation has increased by nearly ten per cent' (submission 220, submissions pages 2195-2198).

3.25 However, Patrick changed his stance at the public hearing. He emphasized that it would be wrong to say that the CAA was the cause of the higher fatality rate. That fatality rate may have occurred regardless of who regulated the industry (transcript page 1419).

3.26 Nevertheless, there is some value in the Patrick evidence. He said that the statistical evidence, although circumstantial, was the best available. He also called for better quantitative data in each accident case.

3.27 Smith used statistics to support his period as chairman of the CAA. He said the reason he quoted figures 'is that they show clearly that my first full year as Chairman resulted in only one commercial passenger fatality whereas the first year of (his predecessor's tenure) ... resulted in 16 fatalities - surely the message is clear that a Chairman needs to be surrounded with competent people' (submission 171, submissions page 1702A).

3.28 The committee points out that Smith is not using official statistics. The figures he quoted are his 'adjustments' to the statistics on Australian commercial aviation passenger fatalities. The 1989 fatalities figure included 14 fatalities in the ballooning category. Smith said people bought tickets to go ballooning - a commercial operation - and therefore these fatalities should be included in the statistics (transcript page 1537). The BASI view was that the inclusion of ballooning was somewhat inconsistent with the

concept of commercial aviation passenger operations given that commercial ballooning was not a mode of travel where passengers paid to travel from one destination to another (submission 204, submissions page 2102).

3.29 The Smith figures excluded crew fatalities. The reasons given for this were that fatal accidents were caused by crew foolishness and a government decision that regulations should protect third party and property, not people from themselves (transcript page 1538).

3.30 This is an arbitrary and absurd way of compiling and interpreting statistics. Similarly, it is very doubtful whether ballooning accidents qualify for inclusion in official statistics because ballooning is not a recognised mode of passenger transport.

3.31 Even if one can put to one side the limitations of using statistics on fatalities, there should be a reasonable body of information to show the causal connection between the reduction of fatal accidents and Smith's period as chairman of the CAA. His submissions referred to the appointment of competent people with aviation experience, the purchase of newer aircraft because of the reduced costs to industry generated by reforms, the movement of staff out of Canberra into the secondary airports and specialised knowledge (submissions 171,90).

3.32 These are very broad and general reasons for causal connections. If Smith had been able to show for example that outputs had increased (eg increased number of ramp checks) this may have given some credibility to his claims.

3.33 Patrick said that the number of aviation fatalities is moving inexorably forward. According to Smith the overall accident rate was improving. The final annual report of the CAA stated that in 1994-95 the authority 'delivered the best aviation safety performance for years'. The report used figures for major and minor RPT and concluded that 'Australia continues to have one of the world's best aviation safety records' (CAA, 1994-95). But before the committee comments on these different conclusions it is necessary to show how the CAA used statistics.

3.34 The first CAA submission stated that '(a)ircraft accident data is generally used in measuring compliance to standards as it provides the most direct and accurate measure of safety across the aviation system as a whole'. The submission said that accident data cannot be used to predict successfully safety related occurrences. After examining the data in the graphs at attachments E to M (1985-93) of its submission the CAA concluded as follows:

(a)n analysis of the data reveals that there is no obvious trend in the accident statistics for the period reviewed. The changes are more likely to be due to statistical variations rather than systematic trends. Therefore, subject to the limitations of accident data discussed above, it can be concluded that there has been no change in the safety levels of commuter and general aviation operations over the last ten years (Submission 12, submissions pages 173,174).

3.35 The committee asked the Department of the Parliamentary Library (Economics, Commerce and Industrial Relations Group, Parliamentary Research Service) to examine the statistics on aviation accidents and provide an analysis/interpretation of them. The Library was also asked a more specific question namely, how valid is the CAA conclusion as quoted now at paragraph 3.34 of the committee report. The Library provided a reply to this request (submission 251) and later provided additional comment including what Patrick had said (submission 252). Long after this a member of the statistics group examined the work of his colleagues and that of Patrick and the CAA (submission 262).

3.36 What statistical analysis attempts to do is to explain the number of aircraft accidents which then becomes the dependent variable. The number of aircraft accidents would be related to a number of factors (explanatory variables) including the number of aircraft flying, the age structure of the fleet, total hours flown, total number of kilometres flown and so forth. To test the relationship between the dependant variable and the explanatory variable(s) requires a lot of information on the latter and a large number of observations over time.

3.37 The Library conclusion was that a model that used time (years) as the sole explanatory variable was limited. While this may be so time is the only explanatory variable available.

3.38 The Library rejected as 'erroneous' the Patrick conclusion that the numbers killed in all aircraft accidents appeared to be moving inexorably forward at the average rate of one additional fatality every 15 months. One reason was that the conclusion was very dependent on whether 1988, during which an above average number of accidents occurred, was considered a CAA or a pre-CAA year - the CAA came into existence on 1 July 1988. Another reason was that the methodology used by Patrick could not be used to forecast what will happen in the future. In other words, it is incorrect to say that the next 15 months will see average fatalities increase by one.

3.39 After some qualifications the CAA submission concluded that there has been no change in the safety levels of commuter and general aviation operations over the last ten years. The Library paper said that this was inaccurate. The paper said that on the basis of the statistical method used (regression analysis) one could not reject the proposition that safety has remained the same; but neither could one accept it.

3.40 CASA was asked for performance indicators for its surveillance program. The response was that the objectives established for the program will be assessed in June 1996. There was no reference to statistics which were so central to the CAA approach of measuring compliance with standards. CASA appears to have jettisoned statistics as a performance measure.

3.41 An earlier Library paper examined the accident statistics and concluded that for charter there would appear to be a statistically significant relationship between the number of accidents and time. A later paper agreed with the conclusion that there has been a decline in charter safety over the period examined. The analysis can be found at Appendix 2. However, this does not necessarily mean that this decline will continue into the future.

Conclusions

3.42 There is hard evidence on the decline of safety in charter operations. There is no hard evidence to show a deterioration of aviation safety in the other sectors of GA, in GA as a whole or in low capacity RPT. This conclusion does not say anything about the quality of administration of aviation safety regulation by the Civil Aviation Authority.

3.43 *The committee finds there was limited information on inputs, no information on outputs and limited information on outcomes. The accident statistics are of limited use and there are no surveys or safety indicators that can be used as effective alternatives of the statistics. In short, there is a scarcity of measurements of safety.*

3.44 *However, there is an abundance of accusations, acrimony and personality conflicts.*

CHAPTER 4

THE INDUSTRY

Definition of terms

4.1 Terms of reference (i) and (ii) refer to the 'commuter and general aviation sectors'. The CAA defines a commuter airline as a regular public transport (RPT) operation using low capacity aircraft to transport persons or cargo for hire or reward in accordance with fixed schedules. Low capacity aircraft are aircraft certified as having a seating capacity of 38 seats or less, or a maximum payload of less than 4200 kilograms.

4.2 The CAA describes general aviation (GA) as all private and commercial air operations other than RPT and sports aviation. BASI has supplied the committee with definitions of the five categories of GA - charter (chtr), agriculture aviation operations (ag), flying training (trng), other aviation operations (awk) and those of a business or leisure nature (pvt/bus). For example, BASI defines charter as air transport involving the carriage of passengers/cargo for hire or reward - presumably without fixed schedules (submission 12, submissions page 160).

4.3 The Regional Airlines Association of Australia pointed out that there is no definition of 'commuter' or 'commuter operations' in the aviation legislation. Thompson was critical of the CAA for continuing to lump together commuter and charter (submission 40, submissions page 571 and transcript pages 986, 995).

4.4 In the United States 'commuter airline' has been defined since 1969. That definition has many similarities with the CAA definition of low capacity RPT. In the US, the terms 'regional' and 'commuter' are used interchangeably. The NTBS report (1994) on commuter airline safety states that commuter refers to all scheduled passenger service operations conducted under 14 CFR 135. However, the distinction between commuter and major airline operations apparent to the travelling public has been blurred by code-sharing arrangements (*Safety Study Commuter Airline Safety*, National Transportation Safety Board, December 1994).

4.5 In Australia the words 'commuter', 'regional airline' and 'low capacity RPT' are used interchangeably. The AVSTATS definition of regional airline is the same as the CAA and BASI definition of low capacity RPT. The CAA used the term commuter but this is a misnomer. There is a need for standardisation and the committee would prefer the term low capacity RPT.

4.6 Regular passenger transport of both high capacity and low capacity RPT is conducted for the fare paying passenger. Charter can also include fare paying passengers particularly when it competes with scheduled services. The Seaview crash was a charter flight. However, in other instances (eg hire for company travel or bank runs) charter may not cover fare paying passengers.

4.7 The five categories of GA are as follows:

- CHTR - charter air transport involving the carriage of passenger/cargo for hire or reward;
- AG - agricultural aviation operations, eg fertilising, crop seeding, pest and disease control;
- TRNG - flying training aviation operations;
- AWK - other aviation operations such as mustering, fire spotting, survey work, parachute dropping and search and rescue; and
- PVT/BUS - aviation operations of a business or leisure nature.

(BASI, submission 204, submissions page 2100)

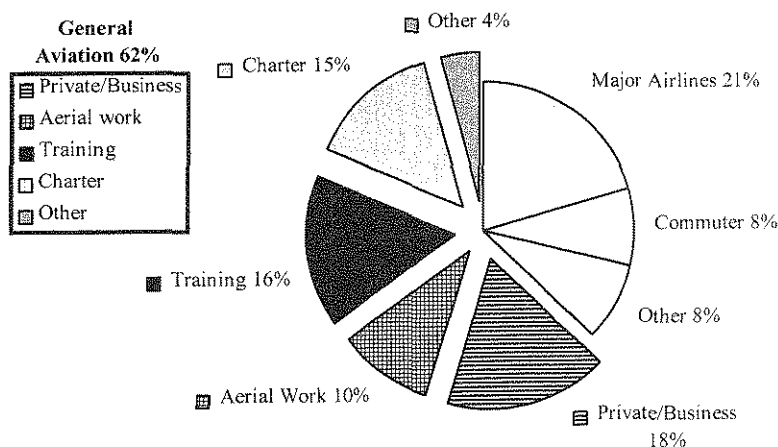
The BTCE study

4.8 The study of GA by the Bureau of Transport and Communications Economics (BTCE) is intended to contribute to more informed debate on policy. The study was based on surveys which would provide linked information on the financial, economic and physical activity levels in the GA industry. The committee was given an advance copy of the preliminary estimates arising out of the study and this information has been used in our report.

The place of commuter and GA

4.9 Figure 1 shows the relative size of commuter and GA based on hours flown.

**FIG 1. RELATIVE SIZES OF THE MAJOR INDUSTRY SECTORS,
BASED ON HOURS FLOWN, 1993.**



Source: 1993 figures, derived from CAA submission 12, submissions page 205.

4.10 Although GA dominates this picture, it is very probable that GA would occupy only a small part of a pie chart based on revenue. Unfortunately there is insufficient information to construct such a chart. The total income earned by GA in 1992-93 was \$526 million. There were no comparable figures for the major airlines or low capacity RPT.

4.11 There are however figures for passengers carried. In 1993 2.5 million passengers were uplifted for low capacity RPT and around 19 million passengers were carried by the major Australian airlines over Australian flight stages. These figures probably make these sectors much bigger than GA in terms of revenue earned.

The industry: low capacity RPT

4.12 Intrastate air services are not regulated in Victoria, South Australia, the Australian Capital Territory and the Northern Territory. There are varying degrees of regulation in Queensland, Western Australia and Tasmania. Intrastate air services are regulated in New South Wales.

4.13 Regulation in NSW is by the NSW Air Transport Council, a statutory body established under the Air Transport Act 1964. A state licence is required for carriage of passengers by air for reward or any consideration, either by chartered aircraft or by scheduled services within NSW. Licence holders must comply with the civil aviation regulations and hold adequate levels of insurance. The licences cover regulated and open routes for RPT, inclusive tour charters and air charters.

4.14 The council has on issue almost 200 air transport licences and administers some 60 air routes within the state, half of which are regulated to a limited number of operators. The routes from Sydney to other centres in NSW are regulated; of the 34 routes seven are served by two airlines and the remaining 24 by one operator.

4.15 The Air Transport Council operates within a policy framework of 'managed competition' designed to increase consumer benefits (eg lower fares, frequency of flights). A review of air services commenced in mid 1995 and has not been completed (Paragraphs 4.12 to 4.15 are based on exhibit 121).

4.16 The Industry Commission report stated that whereas ownership of general aviation operations is highly fragmented, the airline segment of the domestic aviation industry is characterised by a high degree of market concentration. The report added that the purchase of regional operators by the major airlines began in the 1950's although the movement into the commuter sector of the industry is more recent (Industry Commission, 1992).

4.17 The strength of competition is related to the number of organisations in that industry. The market concentration ratio, defined as the percentage of industry sales by the largest firms, is used to indicate the strength or weakness of competition. The four firm concentration ratio is the one commonly used.

4.18 Table 2 shows the four firm concentration ratio for the period 1992-94. The table shows that the low capacity RPT sector has a high degree of market concentration which is increasing. Eastern Australian Airlines and Sunstate (Qld) Airlines are owned by Qantas and Kendell is in the Ansett family of companies.

TABLE 2
FOUR FIRM CONCENTRATION RATIO FOR LOW
CAPACITY RPT BASED ON PASSENGERS UPLIFTED
(1992-94)

Airline	Market share		
	%		
	1992	1993	1994
Eastern Airlines	17.6	17.0	16.7
Kendell Airlines	17.5	16.4	16.1
Hazelton Airlines	8.9	11.3	12.3
Sunstate Airlines	9.1	10.5	12.0
Total 4	53.1	55.2	57.1

Source: Derived from Department of Transport AVSTATS information.

4.19 The 9 largest airlines (the top 4 and Flight West, Impulse, Southern Australia, Skywest and Aeropelican) carried 86 per cent of passengers in 1994. Of these 9 all but Hazelton, Flight West and Impulse were owned by Ansett or Qantas.

4.20 Code sharing is an arrangement in which one airline (most often a commuter) uses the flight designator code of another airline (usually a major) to list their flights in a computer reservations system. Commuter airlines with code sharing arrangements with Ansett and Qantas account for approximately 85 per cent of all commuter traffic. Further information on code sharing is provided in chapter 7.

The industry: general aviation

4.21 CASA supplied the committee with information on air operators' certificates (AOC's). The total number of AOC's on issue at 3 October 1994 was 1127. Table 3 contains the relevant information on the number of potential operators in general aviation.

TABLE 3
NUMBER OF POTENTIAL OPERATORS IN GENERAL
AVIATION-AERIAL WORK, CHARTER AND FLYING SCHOOLS
(AT 3 OCTOBER 1994)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	TOTAL
Aerial work	268	155	232	67	126	17	11	49	925
Charter	243	150	237	69	100	15	13	49	876
Flying schools	93	63	57	22	22	7	6	7	277
TOTAL	604	368	526	158	248	39	30	105	2078

Source: Derived from information provided by CASA - exhibit 122.

4.22 The number of potential operators is much greater than the total number of AOC's on issue at 3 October 1994. This is because many AOC's are for multiple activities. For example there could be a single AOC for aerial work/charter/flying school which CASA has counted once for each category to arrive at the figures in Table 3.

4.23 The number of general aviation and low capacity RPT aircraft for the period 1989-94 is at Table 4. The table also has the mean age of the aircraft. The most popular of these aircraft are the Cessna and the Piper. Part of the explanation for the ageing general aviation fleet is that until very recently these aircraft were not being manufactured due to product liability insurance costs to manufacturers in the USA.

TABLE 4
NUMBER OF GENERAL AVIATION AND LOW
CAPACITY RPT AIRCRAFT
(1989-94)

	No of aircraft	Mean age in years
1989	8446	16.90
1990	8767	17.64
1991	8882	18.56
1992	8951	19.49
1993	8952	20.35
1994	9023	21.14

Note : Excludes balloons and airships.

Source: Derived from BTCE estimates using Department of Transport AVSTATS database 1989-94.

4.24 Over two-thirds (6192 of 9159) of general aviation and regional airlines aircraft in 1993 were fixed wing single engine. Of the 6192 fixed engine single wing aircraft 95 per cent were over 11 years of age, 18 per cent were over 30 years of age and 8 per cent were over 40 years old. Of the 1700 fixed wing multie engine aircraft 91 per cent were over 11 years old, 6 per cent were over 30 years old and 3 per cent were over 40 years old (submissions pages 274,275).

4.25 The number of active pilot licences are those with valid medical certificates. There are three types of aeroplane pilot licences - private pilot licences, commercial pilot licences and air transport pilot licences.

4.26 The numbers in all three categories have declined gradually from December 1984 through to July 1995. Private pilot licences have declined from 21 844 in 1984 to 17 955 in July 1995. Commercial pilot licence numbers have fallen from 10 225 to 6 556 in the same period. Reductions in air transport pilot licences have not been so marked - from 5 153 licences in 1984 to 4 305 in July 1995 (exhibit 123).

4.27 Information on market concentration for GA is at Table 5. The conclusion drawn in the BTCE staff paper was that most sectors of GA are not very concentrated. This is supported by the information on the number of potential operators and probably reflects low barriers of entry.

TABLE 5
FOUR FIRM CONCENTRATION RATIO FOR
GENERAL AVIATION BASED ON HOURS FLOWN
(1980 and 1993)

Activity	Market share	
	%	
	1980	1993
Charter	14.9	10.5
Aerial agriculture	17.9	11.8
Other aerial	10.8	11.9
Training	9.0	13.6

Source: BTCE, 1994

4.28 The 'anecdotal' evidence confirms ease of entry. For example, the National Institute of Airworthiness Surveyors of Australia (Mr Arthur Jeeves) said that anyone with a couple of dollars can start an airline. Thompson added that bank runs are an area where any small operator can start up with a small aircraft. Captain Warwick Davies agreed with the view that one could start

up an operation with about \$800 (transcript pages 685,361,516,517,1035).

The market: commuter and GA

4.29 A feature of GA is that most activity is intrastate. Table 6 shows hours flown in GA by sector for the period 1983-93. There has been a steady increase in the number of hours flown in GA over the 11 year period. Training, charter and aerial work are the most significant areas of GA accounting for 65 per cent of total hours flown in 1993.

TABLE 6
HOURS FLOWN IN GENERAL AVIATION OPERATIONS
BY FLYING ACTIVITY
(1983-1993 - '000 Hours)

Year	Private	Business	Training	Agri- culture	Aerial work	Test & ferry	Charter	TOTAL
1983	260.5	222.1	272.9	88.3	278.8	31.1	272.5	1,426.3
1984	278.1	238.7	2918	102.7	295.3	30.2	314.7	1,551.5
1985	276.7	259.6	305.9	110.6	267.9	30.3	317.1	1,568.1
1986	266.9	238.6	321.0	105.6	271.0	28.9	327.5	1,559.5
1987	264.6	244.2	338.4	108.3	269.2	29.4	343.2	1,597.4
1988	276.8	247.4	394.5	137.0	281.7	33.4	391.9	1,762.6
1989	279.1	264.5	444.7	149.0	299.4	33.0	457.9	1,927.6
1990	296.7	276.8	479.9	151.4	294.1	32.4	399.5	1,930.8
1991	261.7	240.3	452.6	101.3	282.7	29.7	386.5	1,754.7
1992	255.4	204.2	421.6	80.9	256.7	28.2	403.9	1,651.0
1993	265.3	212.3	436.8	89.2	278.8	28.2	393.4	1,703.9

Source: CAA, submission 12, submissions page 206.

4.30 Table 7 shows the estimated income earned for GA 1992-93.

TABLE 7
GENERAL AVIATION: ESTIMATED INCOME BY
SERVICE PERFORMED
(a) - (1992-93)

Service performed	Average income (\$)	Estimated total income (b) (\$)
Charter	192 710	186 543 280
Flying training	58 305	56 439 240
Aerial agriculture	43 177	41 795 336
Aerial work (c)	114 641	110 972 488
Hire (d)	15 185	14 699 080
Other flying (e)	1 436	1 390 048
Non-flying (GA related) (f)	28 555	27 641 240
Other income (g)	89 887	87 010 616
All Services	543 896	526 491 328

Notes:

(a) Income by 'Service Performed' relates to income earned in the provision of a particular service (eg charter) by all operators performing that service, regardless of whether or not that is the principal activity of those operators.

(b) Estimated Total Income is derived by extrapolating the average income of a sample of operators to the total operator population.

(c) Includes community service flying.

(d) Includes hiring out of aircraft to other commercial operators and hiring out of aircraft for private flying.

(e) Includes income from provision of pilots/crew, winch-launching of gliders and other unspecified flying income.

(f) Includes gross profit from GA maintenance/engineering for others, sale of aircraft and parts as a dealer, airshows, membership fees/subscriptions, ground school income, fuel concession income, etc.

(g) Includes net profit/loss on sale of non-current assets, interest income, rent, gross profit from bar/accommodation, government grants, donations, sponsorship, etc.

Source: Derived from BTCE. *General Aviation Survey - Preliminary Estimates*. Working Paper 19, 1995.

4.31 General aviation is a significant part of the aviation industry with a total annual income exceeding half a billion dollars. Charter and aerial work account for over half of total annual income with charter contributing 35 per cent.

4.32 The only available measure of profitability is the profits to earnings ratio and this is shown in Table 8.

TABLE 8
GENERAL AVIATION: PROFITS AND PROFITABILITY
GA ACTIVITY GROUP (a) - (1992-93)

Activity group	Average income (\$)	Average profit (\$)	Profit/earnings ratio
Charter	484 916	7 778	1.6%
Flying training	305 082	-80 584	-26.4%
Aerial agriculture	534 037	158 953	29.8%
Aerial work (b)	975 073	45 744	4.7%
Hire (c)	287 314	152 251	53.0%
Mixed (d)	412 336	-216 648	-52.5%
All commercial groups (e)	543 896	3 026	0.6%

Notes:

- (a) Profits and income by 'Activity Group' relates to income and profits earned from all services provided by an operator, classified according to the principal activity of that operator. Operators in the 'Charter' activity group, for example, may derive additional income from commercial operations other than charter.
- (b) Includes community service flying.
- (c) Includes hiring out of aircraft to other commercial operators and hiring out of aircraft for private flying.
- (d) Includes operators with no dominant activity.
- (e) Includes all specified groups plus operators who provided insufficient information to allow allocation to an activity group.

Source: BTCE. *General Aviation Survey - Preliminary Estimates*. Working Paper 19, 1995.

4.33 The figures are for one year only and therefore have their limitations. They show an industry sector with extremely low levels of profitability. Flying training has negative returns and charter low returns. These figures should be of interest if not concern to CASA and indeed government as well.

Insurance

4.34 The Transport Legislation Amendment Act (No. 2) 1995 contains amendments to the Civil Aviation (Carriers' Liability) Act 1959. The act received the Royal Assent on 27 July 1995. The relevant provisions relating to carriers liability can be made by proclamation or would come into operation automatically after 6 months. The committee understands that these provisions would come into operation on 20 January 1996.

4.35 The amendments require carriers to hold liability insurance in respect of carriage to which the act applies. As far as practicable this will ensure that passengers receive compensation commensurate with the liability limits prescribed (ie \$500 000 for domestic passengers and \$260 000 Special Drawing Rights, which is equivalent to \$500 000 for international passengers). In particular, the amendments require that carriers' insurance policies do not contain exclusions based on violations of air safety regulatory requirements. The amendments also give the minister the power to apply to the Federal Court for an injunction to prevent a carrier which is reasonably believed not to hold insurance from operating a passenger service.

4.36 The act gives the Minister for Transport authority to require operators to provide evidence of compliance with insurance requirements. The minister has the power to delegate to CASA all of his/her powers under the carriers liability act.

4.37 The second reading speech on the bill said that this authority will be delegated to CASA which will be responsible for administration of the new arrangements. As an interim measure the minister will authorise CASA to start asking for evidence of compliance with the insurance provisions before issuing or renewing AOC's.

4.38 There will be a separate cell in CASA to check when liability insurance expires. CASA will monitor the insurance scheme separately from the awarding or renewing of AOC's. At a later date this monitoring will include non-incorporated businesses that operate exclusively intrastate. All the states are moving to amend their legislation to give CASA the relevant powers over these businesses.

4.39 The Australian Aviation Underwriting Pool Pty Limited (AAUP) was established in 1960 to act as underwriting agent for Australian insurers to underwrite Australian aviation risks. Their submission says the insurers who participate in AAUP represent 9 out of the 12 largest general insurers in Australia. AAUP has about 60 per cent of available general aviation business.

4.40 AAUP has 6 branch offices and an experienced team of professional underwriters. To ensure prudent underwriting comprehensive proposal forms and risks surveys are used. Extensive reinsurance arrangements provide suitable protection for AAUP's underwriting activities.

4.41 Although AAUP will consider any form of aviation risk it has targeted specific classes of risk such as private aircraft, corporate/industrial and jet operations and GA aircraft used for non-hazardous operations. Rarely are two risks the same and each risk is very much rated on its own merits. A \$2million twin engine aircraft with well experienced pilots and non hazardous uses may attract a rate of 1 per cent of the sum insured whereas a \$100 000 single engined aircraft used by an aeroclub and available for hire and rental may attract a rate of 4 per cent of the sum insured.

4.42 Some risks are not accepted by the AAUP. The underwriters concluded by stating that any information available from the regulator on operating standards would be a likely factor in consideration and pricing of risk (paragraphs 4.39 to 4.42, AAUP submission 239, submissions pages 2321-2323).

Conclusions

4.43 *The committee finds a paucity of information on commuter and general aviation. There is a need for the BTCE or the Australian Bureau of Statistics to conduct periodic censuses of the industry.*

4.44 *The committee sees a need for the relevant organisation to liaise closely with CASA to improve the quality of information CASA collects in the course of fulfilling its regulatory functions.*

4.45 *The committee also sees an urgent need for information on aircraft maintenance organisations. At the moment there is virtually no information on aircraft maintenance organisations and a BTCE survey similar to that on GA is warranted.*

CHAPTER 5

DESTRUCTIVE COMPETITION

Introduction

5.1 It is important for policy advisers and regulators to know the salient characteristics of the various sectors of the aviation industry. For example, if there are inbuilt characteristics that could impact adversely on aviation safety it is imperative that the regulator is aware of these characteristics.

5.2 Competition is an important policy for improving the efficiency and hence the international competitiveness of the Australian economy. The policy goal appears to be one of shining the competition torch into virtually every nook and cranny of the Australian economy. Competition is said to improve efficiency and to result in prices lower than they would otherwise be.

5.3 The BTCE has analysed and has continued to monitor the impact of the deregulation of interstate aviation. However, after almost 5 years of deregulation the BTCE said it was increasingly difficult to differentiate the impact of deregulation from other aviation reform measures and overall economic and market developments. The BTCE discussed the impact of deregulation under the headings of lower average air fares, more people travelling by air, increased competition, more efficient carriers, improved quality of service and continuing aviation reform. The conclusion drawn was that even though:

... deregulation has not resulted in sustained competition by new entrants, there is clear evidence that competition between the incumbents is much more vigorous than before deregulation Deregulation of interstate aviation was an essential step and a catalyst for the continuing reform of the aviation sector in Australia.

(BTCE, Information Sheet 6 1995)

5.4 But competition can have harmful side effects. The hypothesis the committee will put forward is that in certain circumstances strong competition, particularly price competition reduces profits. This can lead to reduced expenditure on aircraft maintenance and in turn have an adverse effect on safety.

Research

5.5 Overseas research on the effects of deregulation of the aviation industry in the United States concentrated on the major airlines. Both John Vance and Ralph Nader run the line that intense competition ('bare knuckled competition' according to Nader) destroyed profits and resulted in predictable declines in safety margins (Vance, 1986, Nader and Smith, 1993).

5.6 Other United States studies reached different conclusions. Devra Golbe concluded that empirical investigation showed that there is no significant statistical relationship between profit and safety and therefore that it was unlikely that profit-reducing changes will result in more accidents (Golbe, 1986).

5.7 The research of Nancy Rose excluded commuter airlines and non-scheduled passenger carriers (charters) because of lack of information and on theoretical grounds. Rose said that a class of models based on the effects of limited liability and bankruptcy risk could accommodate criticisms of deregulation. She said that firms that were near insolvency might choose for example to reduce maintenance expenditure and gamble on no increases in accidents in an effort to avoid bankruptcy (Rose, 1989).

5.8 The Rose study found that on the one hand the aggregate safety performance of industry was superb and showed no signs of deterioration. On the other hand she found evidence that financial conditions may be correlated with accident rates at the level of individual carriers and that higher operating margins appeared to be correlated with lower accident rates. Rose concluded that if this finding proved to be robust, this could imply the need for more intensive scrutiny of safety practices and performances (Rose, 1989).

5.9 The Australian research agrees with the views of Rose. In its report on intrastate aviation the Industry Commission examined the arguments for and against economic deregulation, said that *a priori* arguments existed for and against any tradeoff between profitability and safety and then quoted from an unpublished paper from BTCE researcher Mr J N Motha:

... (t)he substantial body of theory taken in conjunction with available anecdotal evidence and the result of some empirical studies suggest that it is very likely that in general, safety deteriorates to some extent under financial pressure. However, in the final analysis, the safety - profitability issue has to be analysed empirically.

5.10 The Industry Commission concluded that to 'the extent that greater competition provides an incentive for some operators not to comply fully with safety requirements, there may be a case for strengthening enforcement procedures' (IC, 1992).

Destructive competition and safety

5.11 There are several features of GA in general and charter in particular that point to strong competition. First, there is ease of entry or absence of barriers to entry into the industry. This is confirmed by low concentration ratios, the large number of existing and potential operators and the anecdotal evidence. For example, with respect to charter the concentration level is low (table 5) and there is a very large number of actual and potential operators (table 3). Economists would say that the GA market is contestable.

5.12 Second, there is the question of significant excess capacity in the GA sector. Capacity can be measured in terms of hours flown and a reasonable capacity is 1000 hours a year per aircraft. If this figure is applied to the total GA fleet in 1993 (minus balloons/airships and

low capacity RPT) the industry would be operating at around 20 per cent of capacity.¹ Even if these figures were adjusted for example by removing planes flown for private leisure (and the hours flown) the committee believes that the industry would still be characterised by considerable excess capacity.

5.13 Third, there is the presence of price competition. There is no statistical information on pricing but the evidence referred to undercutting prices to get a contract. King Island Airlines said that because it was required to publish fares the charter operators knew what prices they have to charge to get the business. Jeeves said that Kangaroo Island was serviced by three or four commuters and innumerable charters (submission 192, submissions page 2050, transcript pages 687,688).

5.14 Fourth, the supply of pilots and their behaviour impacts on competition and safety as well. Thompson said that some pilots fly for very little reward to get their hours up and Captain Rodney Lovell said something similar adding that the threat made was that if one did not do as one was told there were 3000 others waiting to take your place. Mr Paul Phelan said that some operators use pilots who will fly for nothing and King Island Airlines commented that some pilots are so desperate to fly twin engined aircraft that they actually pay charter operators to conduct charter flights instead of being paid to do the work (transcript pages 516,517,600,601,616, 1183 and submissions page 2049).

5.15 The Australian Federation of Air Pilots (Mr Terry O'Connell) stated that there was always a surplus of pilots to replace a pilot who refused to fly an aeroplane. Pilots complained to the federation about overloading aircraft and being asked not to comply with the regulations (transcript pages 844,845).

5.16 The evidence the committee has collected is similar to that given to the Seaview Inquiry. That inquiry was told of pilots being pressured to improperly load aircraft and to fly illegally overloaded

¹ Calculated by subtracting from the total 9159 amateur built aircraft (396), balloons (207) and low capacity RPT (250). This gives capacity hours of 8306 x 1000 when compared with hours flown of 1 703 900 to give a usage figure of 20.5 per cent.

aircraft. It also heard allegations that pilots had failed to ensure that basic safety equipment such as life jackets were available and that some had flown on forged licence papers (*The Australian* 8 March 1995, *The Daily Commercial News* 14 March 1995 and *The Sydney Morning Herald* 14 March 1995). The coronial inquiry into the Monarch accident was also told that pilots feared losing their jobs if they objected to flying aircraft with defective equipment (*The Canberra Times* 9 August 1994).

5.17 The behaviour of pilots be it the result of oversupply, ambition, disdain for the regulations (transcript pages 1175-85) or a cavalier attitude adds to the intensity of competition. This behaviour also endangers safety.

5.18 Another characteristic of GA is that there are a large number of small businesses which operate at the margin. The Flight Test Society of Australia (Mr Gilbert Moore) said that a large number of charter operators have aeroplanes owned by doctors and dentists (transcript page 306). This fits with the data on profits and profitability derived from the BTCE study.

Conclusions

5.19 The general aviation sector is characterised by strong competition which could exert downward pressure on profits. The need to defend investment without skimping on safety is reduced by the small amount of money needed to commence a business.

5.20 In short, these are the preconditions for avoiding essential maintenance which endangers safety. The anecdotal evidence supports this conclusion. So does the behaviour of pilots who break the rules.

5.21 One also has to take into consideration the conclusion of Library studies that the number of charter accidents increased over time in the last 14 years.

5.22 *There is a prima facie case in support of the destructive competition hypothesis. In GA it is a case of too many aeroplanes chasing too little business for too little return thus putting pressure on operators to reduce maintenance expenditure, with adverse effects on safety.*

5.23 The destructive competition hypothesis is not restricted to GA. Monarch Airlines was a low capacity RPT operator. The CASA corporate plan referred to the marginal financial position of many small operators which can represent a threat to safety. The document said that about 30 per cent of operators in low capacity RPT change every year.

5.24 There are a number of ways of solving any problem of destructive competition. One is the publication of serious deficiency reports by CASA. The committee would expect CASA to publish, say on a monthly basis, reports of serious defects which its surveillance has uncovered together with the names of the operators.

5.25 The major advantage of publication is additional market information which could be used by consumers or travel agents to make decisions on travel. In the section on the need for regulation one of the reasons the committee gave was imperfect information. Publication and the associated discipline of the market should lead operators to think twice before skimping on safety again.

5.26 Another benefit of publication is that such information could be used by insurers (see paragraph 4.42). Thus the increase of aviation insurance could serve as a deterrent to corner cutting on maintenance.

5.27 The CASA response to this proposal was punctuated with caution. The regulator said it was working to develop a meaningful report on industry audits without naming operators. Over time the contents would be refined. The next step would be to give industry the opportunity to comment. A potential problem to be overcome is media misreporting on named operators. Therefore the media had to be educated and according to CASA '(t)his will take some time to achieve'. CASA noted that publication of defect reports was a 'radical

departure' from past practice and that no other aviation authority in the world publishes this information (submission 246, submissions age 2494).

5.28 For CASA this is a project to be completed in the long run. And as one economist said some time ago 'in the long run we are all dead'.

5.29 Ansett was also cautious about the proposal. The company said that buyers of aviation generally lacked the expertise to determine whether a specific deficiency affects safety. Ansett also stated that only information on deficiencies which directly affect safety should be published (submission 265, submissions pages 2762,2763). The Ansett submission was defensive and patronising to the consumer. The company should be aware of the emphasis placed on the customer by airlines and the heavy penalty the market exacts for operators who do not satisfy the customer.

5.30 The serious deficiency reports could be published monthly. Publication would be a deterrent, its purpose through market discipline to deter an operator from being named a second time.

5.31 *The committee proposal is for serious deficiency reports from CASA to be developed and published with the names of operators by March 1996. Initially the reports could begin with charter operations which is the area of greatest concern.*

5.32 Another way of overcoming any problem of destructive competition is special surveillance. This should be confined to charter operations and need not be Australia wide. Special surveillance of charter could be applied to certain States (eg NSW, Queensland) or particular routes - eg Kangaroo Island.

5.33 Stricter surveillance of business background, aircrew qualifications and aircraft condition in respect of new entrants would help to address the problem arising out of ease of entry into the industry. In practice this would 'raise the hurdles' for new entrants.

5.34 A BTCE study of the structure, conduct and performance of the charter sector is also warranted. The study, with an emphasis on safety, could provide useful information on ease of entry, ownership, prices and price competition and any relationship with safety.

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CHAPTER 6

THE REGULATORY SYSTEM

The Civil Aviation Safety Authority

6.1 The Civil Aviation Act 1988 established CASA and is the primary legislative base for aviation regulation in Australia. The main object of the Act 'is to establish a regulatory framework for maintaining, enhancing and promoting the safety of civil aviation, with particular emphasis on preventing aviation accidents and incidents' (Section 3A).

6.2 Among other things the Act deals with CASA's functions and powers, the powers of the Minister, the regulation of civil aviation (including general regulatory provisions, Air Operators Certificates and offences in relation to breaches of regulatory requirements) and CASA's investigation powers.

6.3 In conducting safety regulation CASA's core functions include: developing and promulgating aviation safety standards; developing enforcement strategies to secure compliance with the safety standards; issuing certificates, licences, registrations and permits; and conducting surveillance of the aviation industry (Civil Aviation Act 1988, S.9(1)).

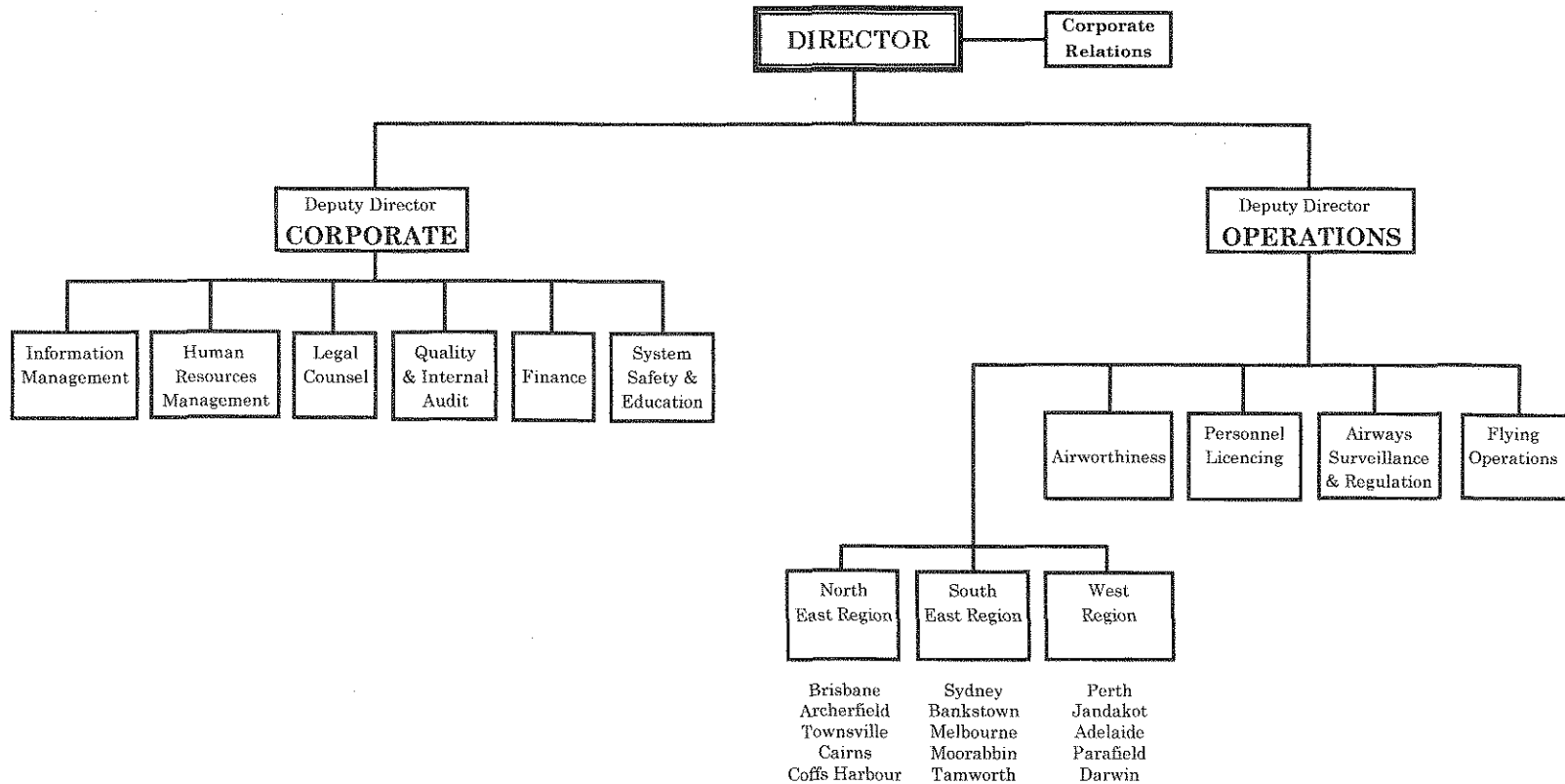
6.4 The regulations and CASA's compliance functions can be broadly divided into the flying operations and airworthiness disciplines - those dealing with the regulation of the people within the industry and those concerned with the machines and infrastructure. As Figure 2 shows these functions are undertaken through CASA's head office in Canberra, the 3 regional and 16 district offices).

FIGURE 2

Civil Aviation Safety Authority

Organisational Structure

(as at 31 October 1995)



Regulatory standards

(a) Structure

6.5 Besides the Act other formal regulatory controls are set out in the Civil Aviation Regulations (CARs) and Civil Aviation Orders (CAOs). CARs and CAOs incorporate working level legislation and are supported by a variety of information documents such as Aeronautical Information Publications (AIPs) and Notices to Airmen (NOTAMs).

(b) Catalysts to regulatory development

6.6 Australia, like most advanced aviation countries, has developed a complex set of rules and regulations for aviation safety. They are the product of a long running (and continuing) process of incremental adjustment.

6.7 There are many factors that can inspire the introduction of new standards or the amendment of existing ones. Historically, the major catalysts to regulatory development have been the standards and recommended practices established by the International Civil Aviation Organisation (ICAO), recommendations which have arisen from the investigation of aviation incidents and accidents, and the application of new technologies (McBride, 1993;9).

6.8 Other influences on regulatory development include requests from industry, community groups, and the public, government directives, international Airworthiness Directives (ADs) from either manufacturers or government agencies; major defect reporting systems, and the results of surveillance activities.

6.9 In recent years regulatory alterations have also occurred as a result of several reviews of various aspects of the aviation safety regulations. These have included: the 'Regulatory Structure and Validation Project', an ongoing attempt to consolidate and validate current regulatory material; the 'Documentation Project' which

sought to reduce the complexity of regulatory and advisory documentation; and the 'Harmonisation project' which was established to more closely align Australian regulatory requirements with international standards (CAA Annual Report 1994-95, page 27).

(c) The standards setting process

6.10 One or more of three broad approaches are used when assessing regulatory proposals: first, technical/scientific research and information; second, consultation with affected parties to elicit information, including views on the 'acceptability' of a regulation; and third, economic assessment in the form of cost/benefit or cost effectiveness analysis (I.C. 1995; 13-15).

6.11 Proposals for changes to regulatory standards can be processed with or without consultation with the industry. Changes that are handled without industry consultation typically include those which do not impose costs on the industry, or are consequential amendments to CAOs following changes to CARs. The provision of enabling legislation to policies already agreed by industry are also handled within the Authority. Proposals for regulatory changes of a substantial nature, that is those which will have a significant operational and/or cost impact on the industry and/or require specialist input from outside of the Authority, are processed through the Aviation Regulatory Proposal (ARP) process (Submission 12, submissions page 170).

6.12 The ARP process involves the formulation of a regulatory proposal, consultation with interest groups with changes being made as necessary, and a decision on the final form which is developed into either a CAR or a CAO.

6.13 Both CARs and CAOs must be notified in the *Commonwealth Gazette* and tabled in both Houses of Parliament. Each House then has 15 sitting days within which to disallow the regulation.

6.14 Following a formal Ministerial direction (13 July 1995) directing CASA to comply with specified consultation requirements before making CARs and CAOs, the ARP system will be largely replaced by the Legislative Instrument Proposal (LIP) process.

6.15 A LIP is required to contain a summary of the proposal and its objectives and an analysis of alternative means of achieving compliance. It must also give a broad indication of the benefits and costs to the government and interested parties and reasons for the preferred approach (Submission 246).

Differences in regulated levels of safety

6.16 In line with ICAO standards and recommended practices and the regulatory requirements of other advanced aviation countries, the regulations in Australia prescribe air safety standards according to a hierarchy of classes of operation (Submission 87, submissions page 972).

6.17 The highest standard applies to high capacity RPT, that is, operations running scheduled services for fare paying passengers and utilising aircraft with over 38 seats. From this level the prescribed minimum safety standards are progressively reduced from low capacity RPT (commuter), GA charter, aerial work, private operations and down to sports aviation (Submission 87, submissions page 972; Schofield, 1984;324).

6.18 The minimum requirements vary for both operating and airworthiness standards. Variations in operating standards include flight crew standards, the conditions under which flights can be conducted and the equipment that must be fitted to the aircraft. For example, a 12 seat Cessna Titan is required to have two pilots if it is carrying over nine passengers on a commuter operation. The same aircraft is only required to have one pilot if it is engaged in a charter flight, regardless of the number of passengers carried. Another example is that a pilot flying high Capacity RPT operations is required to hold an Air Transport Pilot's License (ATPL), to have extensive training and a minimum of 1,500 hours experience. In contrast, a pilot flying a GA charter flight in a single engined aircraft needs a Commercial Pilot's Licence (CPL) and a minimum of 150 hours experience.

6.19 In the airworthiness area the requirements differ on aircraft design and manufacturing standards, performance requirements and maintenance standards. For example, there are two levels of maintenance, class A and class B. GA aircraft are referred to as class B aircraft and may be maintained in accordance with either the

manufacturers maintenance system, the CASA maintenance schedule or another system approved by the Authority. Aircraft used in RPT operations are classified as class A. These aircraft are maintained to more stringent standards than class B aircraft. However, if a class A aircraft has a passenger seating capacity of nine or less the aircraft may be maintained to either of the class B maintenance standards (Exhibit 18, exhibits pages 2015-6).¹

Compliance strategy

6.20 Like many regulatory agencies the Authority utilises a compliance strategy based on a combination of incentives, privileges and sanctions in its attempt to ensure industry compliance with the regulated standards. They can be grouped into four main areas:

- education;
- licensing;
- surveillance; and
- enforcement.

(a) Industry education

6.21 To a large extent the Authority relies on the industry to comply willingly with the regulated standards. To this end a large part of its resources is dedicated to industry education programs which are directed at promoting a greater awareness and understanding of the regulations (Submission 12, page 22).

6.22 These programs are 'part of a strategy to communicate complex educational material to the aviation industry. The two key areas targeted by these programs are firstly, regulatory change or the introduction of new regulations and secondly, any identified safety deficiencies' (Submission 246).

¹ For a more complete explanation of the differences in the regulated levels of safety see CAA submission 87.

6.23 There are three specific programs: Flight Safety Forums, Seminar Programs, and Target programs. CASA also plans to produce a magazine '*Flight Safety Australia*' which will cover safety and regulatory related topics (Submission 246).

(b) Licensing

6.24 CASA controls the entry and ongoing participation of individuals and organisations in the industry by issuing various kinds of licences and certificates (including ratings and endorsements). It also licenses various aerodromes in Australia.

6.25 A variety of personnel in the aviation industry, including flight crews, maintenance engineers and air traffic controllers, are required to hold licences. The aim of the licensing system is to ensure that entrants into the industry meet minimum standards, and that appropriate levels of experience, currency and proficiency are maintained.

6.26 CASA seeks to ensure that aircraft are airworthy and comply with design requirements throughout their operational life. To achieve this CASA issues certificates for aircraft operating in Australia, certificates of airworthiness for Australian registered aircraft and certificates of approval for persons engaged in the manufacture of aircraft, aircraft components and materials.

6.27 For commercial air operations the primary instrument of control is the Air Operators' Certificate (AOC). Organisations that require an AOC to operate commercially include international and domestic airlines, charter operators, flying schools and other air work operators providing specialist services such as aerial photography and geophysical survey.

6.28 A great deal of regulatory material dealing with AOCs was recently transferred from the regulations and orders and incorporated into the Act. A new provision, S.28(2), allows for the financial position of an applicant to be taken into account when issuing an AOC.

6.29 Although the financial viability of an applicant may now be considered by the regulator this is not an attempt to impose some form of economic regulation on the industry. It is a case of attempting to ensure that an applicant has the capacity to meet the regulations and can provide a safe service rather than to determine the 'correct' number of operators that the market can bear. This involves checks of the organisation, its staff, control structures, facilities, aircraft and procedures and practices. Further detail on financial viability is at paragraphs 9.11 and 9.12.

(c) Surveillance

6.30 Surveillance of the industry by the Authority is performed under the Aviation Safety Surveillance Program (ASSP). The aim of ASSP is to enable the Authority to 'plan its surveillance in a systematic manner, to conduct effective compliance activities, to determine the level of industry compliance ... and to record observations of risk indicators' (Submission 12, page 25).

6.31 Surveillance is by flying operations inspectors, airworthiness inspectors, airworthiness engineers and aerodrome inspectors who are located at the sixteen district offices. Surveillance activities undertaken by the Authority include system audits, product audits, inspections and ramp checks. These may be either scheduled or unscheduled.

6.32 The ASSP manual defines the surveillance process to be followed by CASA while surveillance priorities are determined for the fiscal year with individual surveillance plans for each district. For example *DASR Policy Notice - 1995/96 National Surveillance Priorities* says that priorities for surveillance in this fiscal year are broadly 'to focus on the activities directly affecting the safety of the travelling public. In addition, District Office Managers are to ensure that within each industry category, those operators, approved organisations and individuals with known indications of higher risk are targeted appropriately'.

(d) Enforcement

6.33 When an infringement of the safety regulations has been detected CASA has a range of measures at its disposal to enforce compliance. The action to be taken will depend largely on the nature of the breach.

6.34 Statutory methods available for enforcing the requirements of the Civil Aviation Act and the regulations include: variation, suspension and cancellation of licences and certificates, and criminal penalties. Administrative actions that can be utilised by the Authority include counselling and warning letters (Submission 12; page 23).

6.35 The Authority has a graduated approach to enforcement. That is, the severity of the enforcement action increases with the seriousness of the breach. For example, minor infringements might only bring a warning letter whereas an instance where safety is seriously endangered may result in action to suspend or revoke a licence or certificate.

6.36 Guidance on actions to be taken for specific breaches is provided in an enforcement manual. However, final decisions on the use of the various enforcement measures are at the discretion of field staff who have the delegated powers (Submission 12; page 23).

6.37 In instances where a person believes that an enforcement action taken by the Authority is not appropriate or proper, the matter may be taken up with the Administrative Appeals Tribunal and/or the Federal Court (Submission 12; page 23).

6.38 While the Authority is responsible for investigating offences against the Act and CARs the task of prosecuting offences rests with the Director of Public Prosecutions (DPP). Decisions on whether to proceed with a prosecution once a case has been referred by the Authority rests wholly with the DPP.

BASI

6.39 The Bureau of Air Safety Investigation (BASI) is the Government's air safety investigation agency. The Bureau is a functionally separate and independent body within the Department of Transport and is completely independent of the regulatory authority (CASA). It is responsible for advising the minister on trends and significant broad issues relating to the maintenance of safety standards (Submission 12, page 2).

6.40 The Bureau's functions include:

- the investigation of incidents and accidents that occur to civil aircraft in Australia and its territories;
- the analysis and research on air safety issues;
- the maintenance of a computerised incident and accident data base; and
- the preparation and distribution of safety education material

(Lee, 1992;1).

6.41 BASI selectively investigates safety occurrences and safety deficiencies that are most likely to yield new and high value safety information. Particular emphasis is given to fare-paying passenger operations and to systemic and organisational factors affecting safety (DoT, annual report 93/94; 21).

6.42 The Bureau operates the Air Safety Incident Reporting (ASIR) system, a broad based mandatory incident reporting system, and the Confidential Aviation Incident Reporting (CAIR) program. CAIR is a voluntary reporting system which provides a facility for all personnel in both civil and military aviation to pass safety information to BASI which might not otherwise be reported under the ASIR system. People submitting reports to the CAIR program are guaranteed that their identity will not be revealed to CASA or anyone else (BASI, undated pamphlet).

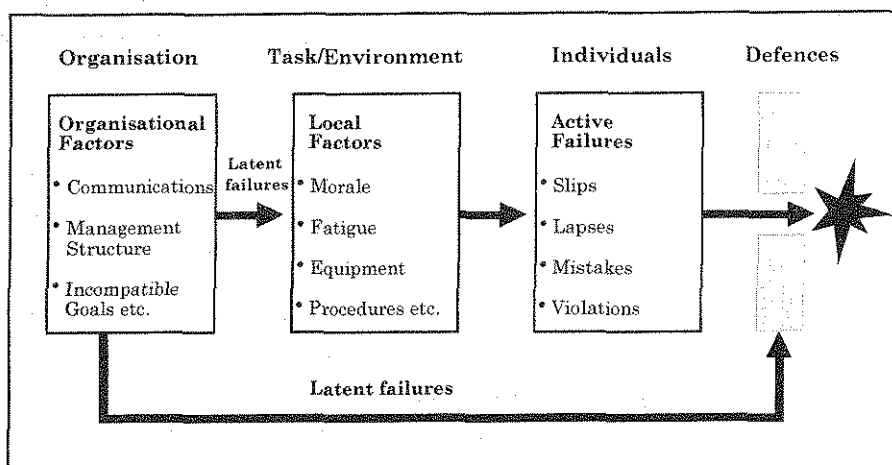
6.43 CAIR aims to identify deficiencies in equipment, facilities, regulations, instructions, publications or training that might adversely affect safety. Of particular interest to BASI are reports of systems that might cause deterioration in human performance (BASI, undated pamphlet).

6.44 In recent years BASI has endeavoured to shift its focus from being a primarily reactive organisation, investigating accidents and incidents *after they occur*, to an organisation which is also proactive and equally concerned with the prevention of safety deficiencies through the detection of safety deficiencies within the aviation system before they become significant factors in accidents (Lee, 1993; 7).

6.45 This shift in focus is largely based on the Reason Model of Systems Safety, a 'new conceptual and theoretical approach to the safety of large, complex socio-economic systems' developed by Professor James Reason (see Reason 1991a, 1991b).

6.46 Central to Reason's approach is the concept of the organisational accident 'in which *latent failures* arising mainly in the managerial and organisational spheres combine adversely with local triggering events (weather, location, etc.) and with the *active failures* of individuals at the 'sharp end' (errors and procedural violations) (Reason, 1991; 1). The relationship between these elements is shown in Figure 3.

Fig 3: Diagram of the basic reason model.



Source: BASI report on Monarch.

6.47 The Reason model was applied in BASI's 1994 report on the Monarch accident. The report found that a combination of local events and organisational failures relating to the management of the airline and the regulation and licensing of its operations by the CAA were the contributing factors to the accident (BASI, Investigation Report 9301743, 1994).

6.48 From its investigations and analyses BASI publishes reports on incidents and accidents, safety research projects and special studies. Recommendations from these reports, which CASA is not obliged to implement, and safety advisory notices are forwarded to the regulator and relevant aviation organisations. BASI also gives notification to the industry of potential threats to air safety and publishes the *Asia-Pacific AIR SAFETY* journal (Submission 12, page 5).

Department of Transport

6.49 The Department of Transport, through the Aviation Division, provides policy advice to the minister on the exercise of powers under the Act and on functional and administrative matters, including corporate plans and financial plans and targets (Submission 72, page 3).

6.50 The Department says that it 'does not have a role in second guessing the Authorities performance of its safety regulation and operational responsibilities (but that) from a broader policy perspective, the Division has a role in advising the Minister on the administration of aviation safety when substantive concerns arise' (Submission 145; page 2).

6.51 The Department has cited its role in the establishment of the 1992 Beale safety forum and in monitoring and advising the minister on the implementation of the CAA's action plan in response to the Terrell report as examples of this (Submission 145; page 2-3).

6.52 Other safety related functions undertaken by the Aviation Division are the co-ordination of the Commonwealth's involvement in CAA/CASA, auditing and checking compliance with aviation security policies and standards, and advising on consumer protection issues in the aviation industry (DOT annual report 1993/94; 129-30).

The Minister and the Parliament

6.53 The committee's May 1995 report on the two aviation bills said that CASA is accountable to the minister, the Parliament, the courts and to nobody else.

6.54 There are certain powers under the Act which go towards making CASA accountable to the minister. These include directions of a general nature on the performance of CASA's functions and the communication to CASA of the views of the minister on the appropriate strategic direction for CASA.

6.55 The power of the minister to direct CASA to vary its corporate plan underlines his/her power to influence strategic direction. The minister is required to table the corporate plan in each House of Parliament. The minister may also direct CASA to give documents and information to a person whose job is to advise the minister about the strategies and performance of CASA.

6.56 The corporate plan and the annual report are the key mechanisms in the accountability of CASA to the minister and to the Parliament. As noted in chapter two, CASA may also be brought to account through parliamentary inquiries, executive inquiries and audits by the Australian National Audit Office.

[illegible]

CHAPTER 7

SAFETY-RELATED ISSUES

A: BOGUS PARTS

Definition

7.1 In the strictest sense 'bogus parts' are only those parts which do not comply with the design requirements for the particular application. However, as the information provided by CASA shows the term 'bogus part' is often used generically. Besides parts that do not comply with design requirements bogus parts can include:

- deliberately counterfeited parts using sub-standard materials;
- parts which carry falsified documentation including counterfeit serial numbers and name plates;
- damaged and non-serviceable genuine parts;
- parts which have no genuine service records or which have exceeded their time life limit and have been reworked to appear as new;
- parts which have been salvaged from crashed or scrapped aircraft; and
- parts which have been incorrectly modified

(submission 246, submissions page 2540).

7.2 The committee uses the term 'bogus parts' in the broad, generic sense. Bogus parts range from nuts, bolts and washers, which are the most common, to much more complex and critical parts. For example, Mr Glenn Elm from the Guild of Air Pilots and

Air Navigators said that he had found main bearings of an engine, a highly critical component, which were bogus (transcript pages 410, 571).

7.3 It is important that parts used in aircraft, especially critical components, are both authentic and serviceable. The use of bogus parts can undermine the safety standards mandated by the aircraft design rules and may place the aircraft and its occupants at risk, with potentially disastrous consequences.

The regulations

7.4 For ease of understanding, the regulations concerned with the use of aircraft parts can be divided into four areas; first, responsibility for the installation of parts in an aircraft, second, rules on what parts can be used, third, when parts must be replaced and fourth, exemptions to the requirements.

7.5 Under the current regulations a person providing certification for maintenance which includes the installation of an aircraft part is responsible for ensuring that the part is approved and serviceable and that documentary evidence is available to show this.

7.6 The regulations, CAR 42W and 42X, dictate that a part or material cannot be used in an aircraft unless it is authentic and serviceable. To be authentic and serviceable it must conform with a specification approved for the purpose by the Authority, have been properly maintained and be fit for service. For certain items, such as engines and propellers, the service and maintenance history must also be known (CAA, 1995;4).

7.7 Parts used in aircraft are 'time lifed' or replaced 'on condition'. This means they must be replaced when they have reached a predetermined 'life', specified in number of flying hours, number of cycles or other similar means of measurement or have reached a defined level of wear.

7.8 CASA has the power to grant exemptions regulations to CAR 42W and CAR 42X. For example, CAR 308, Exemption No. 5 allows the use of non-documented replacement parts provided they are serviceable and applicable (submission 246, submissions page 2542).

The existence and the extent of the problem

(a) Evidence from the industry

7.9 Hawker Pacific, one of Australia's largest aircraft maintenance companies, claimed that there was a ready supply of aircraft parts of doubtful origin (so called 'bogus parts') available from both the USA and Europe (submission 50, submissions page 644).

7.10 Mr John Niarchos, a senior airworthiness inspector with the CAA, told the committee that the use of bogus parts was 'not only entrenched, it is well known fact that it happens' (transcripts page 754).

7.11 Evidence given by Mr John Corby of Corby Aeronautics supported Niarchos. He said that 'you can buy nuts, bolts and a whole host of things for which there is no traceability ... on numerous occasions I have seen faulty parts come through that system'. Corby also said that there are a lot of professionally bogus parts. These were high cost parts which people were prepared to go into business to produce, sell, reproduce inspection stamps, part numbers and whatever else was necessary (transcripts page 652).

7.12 Further evidence on the use of bogus parts was given by Mr Arthur Jeeves, the acting president of the National Institute of Airworthiness Surveyors Australia (NIASA). He said that he had detected several bogus parts including an aircraft engine, wing splice plates and a stall warning switch (submission 261, submissions pages 2693-4).

7.13 A survey conducted by Mr Lou Magritzer (Australian Quality Assurance consultants) of defects that were reported in the CAA's 1993 Airworthiness Advisory Circulars found that only 2 per cent of parts were bogus (transcripts page 661). However, given the basis for the data used in the survey this figure can not be considered a reliable indicator of the extent of the problem.

7.14 BASI's data shows that in the last 10 years there have been three cases where bogus parts were clearly a factor in aviation incidents and a number of others where there is insufficient data to clearly categorise them as bogus parts incidents (submission 264, submissions page 2732).

7.15 BASI also reported one case where an engineer at a propeller overhaul company was found to have knowingly substituted non-approved bearings in the overhaul of a specific brand of helicopter. CASA had issued an Airworthiness Directive (AD) to have the propellers checked. BASI also said that the 'CAA apparently has taken no action to suspend the engineer's Certificate of Approval or review his engineering delegations, nor has he formally been interviewed in relation to the wrongful and possibly fraudulent use of parts and certification of maintenance' (submission 264, submissions page 2731).

7.16 The size of the bogus parts problem is also the subject of debate in the USA. In 1994 the US Department of Transportation conducted an audit of 14 US Federal Aviation Administration (FAA) certified repair stations. It found that 43 per cent of the new parts on the shelves and 95 per cent of the parts obtained from brokers came with insufficient documentary evidence to show they were authentic and serviceable.

7.17 The FAA maintains that these figures greatly exaggerate the problem. It claims that 26 million aircraft parts are changed each year and that none has caused an airline accident. The Inspector General of the US Department of Transportation countered that her auditors found 76 airline accidents and incidents where bogus parts were a factor and 521 general aviation accidents and incidents related to bogus parts (*US News and World Report*, 26 June 1995).

7.18 These terms have significant differences in meaning. The FAA says that **no airline accidents had been caused by** bogus parts and the US Department of Transportation says bogus parts **were a factor in 76 airline accidents and incidents**.

7.19 BASI avoids using the term 'cause' preferring to use the term 'significant factors' because most incidents and accidents are the result of a complex interaction of factors (Lee, 1993;3).

7.20 Hawker Pacific said that it suspects that some of its smaller competitors are less than scrupulous in ensuring that parts are traceable to a sound source and the necessary certification is available to the customer. Hawker Pacific recommended that parts dealers be required to gain approval from the Authority. Because the regulations place the onus on the customer to ensure that parts are not bogus there is no incentive for parts dealers to provide genuine parts with appropriate certification, other than the safety of their customers and in defence of their reputation (submission 50, submissions page 647).

7.21 Keith claimed that in his experience with the FAA many people raising questions about bogus parts were original equipment manufacturers who have vested interests in the matter - 'they have some genuine concerns about replacement parts but they also have an economic risk if other people can produce parts and produce them at a lower price' (transcripts page 1658).

(b) Evidence from the Civil Aviation Safety Authority

7.22 Evidence on the availability and use of bogus parts given to the committee by CASA was conflicting. According to CASA there is 'enough evidence overseas that there is a world-wide pool of parts for which documentary evidence of authenticity and serviceability is either non-existent or inconclusive' (submission 246, submissions page 2541). CASA claimed that the use of unapproved (including counterfeit and bogus) parts is a matter for concern for all airworthiness authorities (submission 257, submissions page 2672).

7.23 CASA said that 'although it is believed that some of these parts are in Australia, the Authority has no black and white evidence of their use' (submission 246, page 2541). It said that its evidence was limited to several cases of unapproved substitutions of automotive bearings and unapproved repairs of engine components and some other anecdotal evidence of stockpiles overseas and the use of some bogus parts in Australia (submission 257, submissions page 2672).

7.24 A statement made in a CAA Airworthiness Advisory Circular (AL 2/95 2 Feb. 1995;16) contrasts markedly with the evidence given by CASA in paragraph 7.23. The circular said that 'the Authority is becoming increasingly concerned at the prevalence of bogus parts being discovered in use on Australian aircraft'. The advisory circular went even further when it said that 'on all current indications the problems of bogus parts will only get worse' (page 21).

7.25 Further, the CAA's Aviation System Safety Report for January 1995 reported that a bogus stall warning switch had been found. Subsequent inquiries showed that the use similar bogus switches was wide spread (submission 266).

The process of identifying the problems

7.26 The Authority said that aircraft and aircraft components have been removed from the list of controlled imports into the country with the result that it has lost knowledge and evidence of what is being imported (transcripts page 1654-5).

7.27 CASA claimed that it is notified of bogus parts through its Major Defect Report (MDR) system. It said that the information from these reports is entered into a database maintained by the Continuing Airworthiness section and forwarded to the specialist airworthiness area for investigation and appropriate action (submission 246, submissions page 2542).

7.28 A CAA Airworthiness advisory circular (AL 2/95, 2 Feb. 1995) advised that if industry thought that a MDR could give them trouble another option for the reporting of bogus parts was BASI's CAIR system (page 21).

7.29 While CASA checks aircraft and audits repair stations as part of its routine surveillance it appears that CASA does not have any specific system to randomly check for bogus parts. Mr Pike said that this was because it would not necessarily be something that would be easy to establish (transcripts page 1656).

Criticisms of CAA/CASA process

7.30 According to Niarchos the regulations are deficient in that they do not require the person issuing an aircraft part to issue a document with the part. The entire responsibility - and the regulations written around that - is placed on the person receiving and installing the part on the aircraft to make sure he or she gets the document. Niarchos argued that there is a need for a regulation to require that after maintenance or manufacture, or any activity on a part, the organisation has to issue a document (transcripts page 754).

Conclusions

7.31 There is no doubt that the use of bogus parts, especially critical components, can put an aircraft and its occupants at risk with potentially catastrophic consequences. Bogus parts are a problem around the world, they are also a problem in Australia. With a world-wide pool of these parts there is the potential for the problem to become much more serious in Australia.

7.32 CASA said that its initial approach to address the bogus parts problem was to inform the industry by issuing Airworthiness Advisory Circulars. CASA is also reviewing the regulations governing the use of aircraft parts and materials. The aim of the review is to set some practical requirements to allow the Authority to re-establish control over authentic parts (submission 246, submission page 2542-3).

7.33 A CAA discussion paper, *Proposed revisions to Civil Aviation Regulations: use of aircraft parts and materials*, was distributed in February 1995. In the discussion paper the CAA said that they were concerned that the existing legislation may not adequately ensure that only serviceable and authentic parts are fitted to aircraft (CAA, 1995; 1).

7.34 The discussion paper noted that industry bodies had complained that the requirements for documentary evidence were inflexible and difficult to satisfy. It also said that because Australian parts distributors are unregulated, unscrupulous dealers could

import parts from doubtful sources and sell them without the documentation which would allow the user to reliably determine whether the parts are authentic and serviceable (CAA, 1995;1).

7.35 The paper proposed to revise the regulations to provide clearer guidelines for the use of parts and materials, improve the traceability of parts and clarify the airworthiness requirements. It also proposed that distributors of parts and materials be required to gain approval from the Authority and to make it an offence to falsely represent aircraft components to be authentic and serviceable.

7.36 CASA has received comments on the discussion paper and has established a working group to develop a regulatory proposal. The working group plans to proceed by attempting to define the problem, generating solutions, consolidating their results and evaluating the alternatives (submission 263).

7.37 One problem with CASA's proposals is that any changes to the regulations will be a long way off. As CASA itself noted, revised regulations would not be introduced until mid 1996 at the earliest. Moreover, delays past this date are likely because of Regulatory Structure Validation Project (RSVP) activities (submission 257, submissions page 2673).

7.38 Of greater concern is that CASA's plans do not include a system for monitoring the problem. Even if the proposals were adopted there is nothing which could give CASA a clear indication of whether the changes were actually addressing the problem.

7.39 *This is yet another review being undertaken by the regulator. The evidence of CASA was not satisfactory. What was even less satisfactory is the absence of a proactive, quality monitoring system, a performance indicator which would show whether the problem of bogus parts was increasing or decreasing over time.*

7.40 *There is a clear need for an audit to target bogus parts in maintenance organisations similar to the audits conducted by the US Department of Transportation. CASA could randomly select say 5 per cent of the approximately 750 maintenance organisations and check whether documentation for stores stocks comply with the regulations.*

B: CODE SHARING

Introduction

7.41 During the inquiry some concerns were expressed over the ability of consumers to make informed choices when purchasing air tickets. Specific matters raised included code sharing, the type and quality of the information available to intending passengers and the travelling public being unaware of the differences in the regulated levels of air safety.¹

7.42 Strictly speaking, the term, 'code sharing' refers to the practice by some airlines of using the two-letter designator code of another airline to list their flights in an airline reservations system. In Australia these arrangements are most common between commuter airlines and the major airlines, Ansett and Qantas. The term 'code sharing' is also used in a broader sense to include the practice of interlining traffic through listing in computer reservations systems.

7.43 Commuter airlines that have code-sharing arrangements with a major airline often paint their aircraft with the colour scheme (the livery) of the major airline. The arrangements are often reflected by ticketing and baggage handling for connecting passengers, integrated listings in published flight schedules, and referral of passengers by major airlines to affiliated airlines.

7.44 Although the designator codes and livery used by the commuter airlines may imply ownership and control by a major airline, this is not necessarily the case. A code sharing arrangement may or may not involve some degree of ownership of the commuter airline by its major airline code-sharing partner. Code sharing

¹ See Chapter 6, The Regulatory System, for an explanation of the differences in the regulated levels of safety.

arrangements between commuter airlines and major airlines vary from simple marketing agreements to full ownership of a commuter airline by its code-sharing partner.

7.45 Code-sharing arrangements are essentially strategic alliances that afford commercial benefits to both parties. Commuter airlines channel interline traffic into the mainline network of the major airline, allowing them to access small routes that they could not otherwise service economically.

7.46 Listing on the computer reservations system and the use of the livery of a major airline act as important marketing attractions for the commuter airline. The commuter airlines benefit in two main ways. First, through the referral of passengers by the major airline. Second, because of the association that is made with a company (ie: Ansett or Qantas) whose name and product has a high degree of familiarity with the general public and has an excellent reputation for service and safety. Further advantages may result from access to airport terminals and ground handling.

Code-sharing in Australia

7.47 Brooksbank said that code-sharing is a world accepted practice (transcript, page 219). These arrangements are relatively common in Australia where Ansett and Qantas have followed the example set by airlines in the US and have created alliances with commuter airlines to consolidate their market position.

7.48 As Table 10 shows Ansett has developed code sharing arrangements with Aeropelican Airlines, Hazelton Airlines, Flight West, Impulse Airlines, Kendell Airlines and Skywest Airlines. Qantas code shares with Sunstate Airlines, Southern Australia Airlines, and Eastern Australia Airlines. Qantas also has a code-sharing arrangement with Australian Airlink.

7.49 These airlines are the top 9 of the approximately 45 active commuter operators. Together they account for about 86 per cent of commuter passengers.

TABLE 10
CODE SHARING LOW RPT AIRLINES -1994

Airline	Code-share partner	Ownership	Livery	Market share %
1 Eastern Australia	Qantas	Qantas	Qantas	16.65
2 Kendell	Ansett	TNT/News	Ansett	16.05
3 Hazelton	Ansett	Public Co.	Hazelton	12.35
4 Sunstate	Qantas	Qantas	Qantas	11.95
5 Flight West	Ansett	Private Co.	3 planes in old Ansett livery	9.75
6 Impulse	Ansett	Private Co.	old Ansett livery	7.80
7 Southern Australia	Qantas	Qantas	Qantas	4.50
8 Skywest	Ansett	TNT/News	Ansett	3.75
9 Aeropelican	Ansett	TNT/News	Ansett	3.20
Total:				86.00

Notes:

- (i) Australian Airlink was listed by Qantas as one of its code-sharing commuter airline partners. Airlink utilises BAe 146 aircraft which are above 38 seat and 4,200 MTOW. Therefore, it is not a commuter airline.
- (ii) Market share has been calculated as a percentage of total passengers carried on all commuter airlines
- (iii) Not all flights of the airlines listed above are operated on a code share basis. It follows, therefore, that somewhat less than 86% of all commuter passengers would travel on code share flights.

Source: Based on Ansett (Submission 241), Qantas (Submission 253), Department of Transport (Avstats).

NTSB (1994) Safety Study - Commuter Airline Safety

7.50 The United States National Transportation Safety Board (NTSB) considered code-sharing in its 1994 report on commuter airline safety. It made a number of interesting observations on the issue.

7.51 The report noted that in the US the visible differences between commuter and major airlines had begun to disappear. The advent of code-sharing arrangements was held to be a distinct factor in this. It found that code-sharing arrangements created and fostered a public perception that a commuter airline is owned by the major airline, and the travelling public holds the major airline accountable for the safe operation of the commuter airline (NTSB, 1994;73).

7.52 The study determined that code-sharing arrangements generally represented a positive development in commercial aviation. These arrangements often increased standardisation of checklists and operating procedures, development of operating manuals and training curriculum, information on ground handling, access to training facilities and safety audits and safety advice (NTSB, 1994;74-5).

7.53 The NTSB study concluded that a major airline has a responsibility for operational oversight of its code-share partner(s). It recommended that oversight programs be made compulsory and include (a) regular safety audits of flight operations, training programs, maintenance and inspections and (b) the exchange of information and resources (NTSB, 1994;75).

The problems

7.54 Mr John Laverick argued that the travelling public needs to know more about what they are buying when they purchase an airline ticket. He said that the only safety advice given about airlines is what their name is. The public 'do not know some flights are actually charter flights and operate to lower safety standards, or that aircraft operators may have A or B standards of maintenance' (submission 140, submissions page 1481).

7.55 The Australian Federation of Air Pilots (AFAP) said that the majority of passengers would be unaware of the different standards under which smaller planes operate. It argued that it was essential to inform the customer of the type of operation and whether the major airline is engaged in the oversight of its operations (submissions page 2387).

7.56 Concern was expressed to the committee that the airlines use of code-sharing arrangements is misleading passengers. Mr Martin Aubury argued that passengers need to know that most commuter aircraft are designed, built and maintained and flown to inferior standards. He claimed that 'major airlines use franchise and code sharing arrangements to deceive passengers that commuter airlines are just like airliners... For example, Qantas advertisements for Airlink (albeit not strictly a commuter operation) imply that the services are operated by Qantas to their renown safety standards, whereas in fact Qantas does not ..., crew or maintain the aircraft' (submission 15, submissions page 350).

7.57 Mr Alan Terrell also argued in this vein. He said that if a person buys a Qantas ticket from say, London to Sydney to Bourke and for the last leg of the journey ends up with a charter operator, then that person is being misled (transcripts pages 631-632).

7.58 A number of comments were made regarding the responsibility of the major airline for the safety of the code-sharing partner(s). Thompson told the committee that commuter airlines that use the livery of a major airline are part of the parent company's safety program and, that this was necessary if they were to engage in this practice (transcripts pages 520-522).

7.59 Brooksbank suggested that the major operators see themselves as carrying a major responsibility to ensure that the smaller airline is operating at or above the required standard. Brooksbank thinks that the two major carriers in Australia have taken that responsibility very seriously (transcripts page 219). Mr James Kimpton from Ansett argued that airlines have to be particularly mindful of their goodwill ('if your goodwill is gone, so have your passengers') and that Ansett attempts to ensure that people with whom they have relationships are running a sound operation (transcripts page 864).

7.60 Both Ansett and Qantas informed the committee that they had programs to oversight the operations of their code share partners (submission 241, submission 253). For example, Ansett has established an auditing system to monitor the achievement and maintenance of proper airworthiness standards of its associated airlines.

7.61 While these reviews occur at regular intervals they do not constitute continuous assessment (submission 51, submissions page 10). Further, the responsibility that Ansett assumes for the safety of code-sharing partners is qualified. Ansett stated that it in no way takes on the role or duties of the CAA as the national aviation safety regulator. It contends that it is the operator's management that is responsible for the overall safety of the airline and its compliance with CAA requirements (submission 51, submissions page 10).

Conclusions

7.62 It is likely that code sharing has net safety benefits for most commuter airlines that have entered into these arrangements. Nevertheless, questions of consumer awareness remain. The available evidence suggests that code sharing blurs the distinction between the code share partners. These types of arrangements can create a perception that the commuter airline is owned by the major airlines and/or operates to the same safety standard. This is not necessarily the case.

7.63 It can be argued therefore, that code sharing can mislead the travelling public. It can also be argued that by entering into a code sharing arrangement the major airline assumes a duty of care for the safety of its partner. The committee notes the both Ansett and Qantas have developed programs along these lines.

7.64 A further problem is the wide spread ignorance of the travelling public of the differences in the regulated levels of safety and the lack of information that is made available to them.

7.65 Consumers must be better informed of the differences in the regulated levels of safety and the type of service they are buying. This necessitates full and complete disclosure by operators and ticketing agents of the services they are selling.

7.66 *Specific information that should be made available to passengers includes: (i) the name of the operator/carrier providing the service(s), (ii) the type of operation, ie high capacity RPT, low capacity RPT, commuter, (iii) the type of aircraft, and (iv) a complete, meaningful and easily comprehensible explanation of the different levels of regulated safety for the different types of operations. This information should be made available for all flight sectors and offered at the point of sale and should be clearly presented in a prominent place on all tickets.*

CHAPTER 8

TERM OF REFERENCE (i)

Adequacy Of Air Safety Standards In The Commuter And General Aviation Sectors In Australia

Approach to the reference

8.1 There are at least two issues to consider when assessing the adequacy of standards in the commuter and general aviation sectors. They are:

- whether existing standards are adequate; and
- whether the processes for establishing standards are adequate.

Adequacy of standards

8.2 The CAA said that the committee inquiry was an appropriate way of finding out how well the CAA exercised expert analysis and judgement in setting and administering standards (transcript page 141).

8.3 The adequacy of existing standards can be assessed in general terms by comparing the requirements and standards of the world's regulatory authorities. The world's major civil aviation safety regulatory authorities of influence in Australia are the Federal Aviation Administration (FAA) of the United States of America, the Civil Aviation Authority of the United Kingdom and the Joint Aviation Authority (JAA) of Europe. The International Civil Aviation Organisation (ICAO) is the forum of the aviation nations of the world and Australia is a signatory to ICAO. The authority agrees and publishes standards and recommended practices. When a member nation adopts standards or practices which differ from those of ICAO that nation is required to publish differences. Because of the increasingly international nature of the aviation industry, standards of necessity need to be harmonious. An aircraft manufactured in one nation will probably operate in many nations and will require for example the same maintenance programs and schedules. Harmonisation of regulations is the writing of regulations in a way

that will enable world best practice to be the requirement in all countries. The task is massive and has been underway for about ten years in Europe. Australia has been actively harmonising regulations for about five years.

8.4 The effect of the harmonisation process on the adequacy of standards is to ensure Australian requirements over time will reflect world's best practice. Australia is already some distance down this path.

8.5 The Bureau of Air Safety Investigation is also in a good position to comment on the adequacy of standards. In general terms BASI agrees that safety standards in Australia are adequate. However, the major thrust of BASI recommendations revolve around more attention being paid to human factors, training and management. Airlines already have introduced human factors programs. Cockpit Resource Management (CRM) and Line Oriented Flight Training (LOFT) are examples of such flight crew training programs which have been introduced in airlines and are now routine requirements of all airlines flight crew training programs.

8.6 Submissions to the inquiry and in particular from BASI, are in favour of human factors training being required throughout the industry, not just for airlines. BASI would also like to see CASA establish a small human factors section employing specialists in this field. The area where change is proposed is in general aviation.

8.7 CASA has the opportunity to consider this issue in the context of the Review of the Australian Flying Training Industry recently conducted by CASA and the Australian Advisory Committee (AAAC) sub committee. However, human factors must be considered in its widest context and not just involving aircrew.

8.8 Flight crew licensing standards are the subject of the above review which is timely in view of the considerable number of adverse comments regarding the performance of general aviation pilots to the committee. The CASA/AAAC sub committee concluded that, because pilots are not required to have more flying experience before commencing training to be an instructor than that required for a commercial pilot licence, **the standards achieved by the industry are in the hands of the least experienced.**

8.9 Options to remedy this problem considered by the sub committee were the introduction of a requirement for pilots of fixed wing aircraft to have 400 hours of aeronautical experience (as is required for helicopter pilots) before commencing training as a flying instructor and, the establishment of an industry based organisation responsible for raising and maintaining the standards of flying instructors. Unfortunately these options were not included in recommendations of the sub-committee. If there is to be a clear rise in flight crew standards in Australia such that the products of the training system are acceptable to the industry generally (currently they are not) the cost of training will increase. If progress is to be made the difficult decisions must be taken and CASA should reconsider the options initially identified by the CASA/AAAC Sub-Committee. Recommendations of this sub-committee are sound and are supported but do not go far enough.

Adequacy of process - general comments

8.10 Unfortunately the committee was not able to examine the adequacy of process thoroughly because the processes have been changed. Keith said that changes were being introduced because what existed was not satisfactory (transcript page 1660).

8.11 The Aviation Regulatory Proposal (ARP) process was designed to disseminate information about proposed changes to regulatory requirements to the widest interested audience for the least cost. Both CASA (and DASR) and in general industry were satisfied with the ARP consultative process as a means of seeking input into safety regulation policy.

8.12 On 13 July 1995 the Minister for Transport issued a formal direction to CASA under section 12 of the Civil Aviation Act directing CASA to comply with specified consultation requirements before making Civil Aviation Orders or Civil Aviation Regulations. As a result the Legislative Instrument Proposal (LIP) will replace the ARP process to a large extent.

8.13 The objective of the LIP process is to develop the best solutions for the Australian situation by distilling the combined experience and knowledge of the aviation community. A LIP must contain at least the following matters:

- a summary of the proposed rule and a statement of the objectives sought to be attained by the rule;
- an analysis of alternative means of achieving the objectives;
- a broad indication of the relative costs and benefits to government and to the affected public of the proposed rule and of the alternative approach; and
- a statement of the reasons for the preferred approach.

8.14 The LIP is preceded by preliminary discussion papers which seek advice and input before the more formal LIP process commences. Input from industry to an ARP/LIP is assessed in detail. Feedback is provided to respondents and the ARP/LIP may be circulated to industry again if changes are significant. Following this a legal draft is prepared for consideration by the Regulatory Policy Panel. These legal drafts are then developed into either a Civil Aviation Order or a Civil Aviation Regulation (CASA, submission 246, submissions pages 2458-2470).

8.15 In response to a committee request for information on processes to weed out unnecessary regulations CASA said this would be done later. After the validation of the present legislative structure a review of regulatory policy will be undertaken. The review will be part of the harmonisation project and it was at this stage that the appropriateness of regulations would be reviewed (submissions page 2471).

Process and ARP 90/4

8.16 Criticism of CAA processes led the committee to check the handling of ARP 90/4. CASA said that on 1 March 1992 new regulations came into effect to update Australia's requirements relating to aircraft maintenance, which brought them into line with overseas standards and practices (submissions page 2453).

8.17 The ALAEA submission referred to the lack of consultation and totally inadequate training on the revised maintenance regulations which were introduced on 1 January 1992. The major association concern about ARP 90/4 was that the regulations that came into operation contained changes not mentioned in the original document. One of these changes appears to be the removal of the requirement to carry out 100 hourly inspections on private aircraft (submission 12, submissions pages 128,129).

8.18 The CASA response included the ALAEA response sheet, the association's support for the ARP, and admission of inadequate training and a lot of information on training. There was no attempt to answer the criticism that changes were made after ALAEA had supported the initial ARP (submissions pages 2453-2457). As a result the association has called the CASA response 'quite misleading' (submissions page 2674). The association gave examples of significant changes made after its initial support of ARP 90/4 but CASA said in response to committee questioning that the changes were 'very minor' (submissions page 2663).

8.19 **The Civil Aviation Safety Authority has missed a golden opportunity of improving relations with industry.** All that CASA had to say was that the new provision that ARP/LIP may be circulated again to industry if changes to the original document were significant should prevent problems like ARP 90/4 occurring in the future.

Process and emergency locator transmitters

8.20 The emergency locator transmitter (ELT's) is a small radio transmitter intended to guide search aircraft to the scene of a crash or other disaster. The purpose for the compulsory installation of ELT's in general aviation aircraft is to save lives. Keith said that because of industry protest CASA decided on public consultation and the commissioning of a benefit-cost study. The numbers favoured the compulsory installation of ELT's.

8.21 AOPA was concerned that the accident data on which the study was based was inaccurate. The costs to industry were estimated at \$10 million (submission 256, submissions pages 1995 2638-2651). As a result of committee questioning at the 23 October 1995 public hearing CASA has undertaken to examine its database and refine the benefit-cost study (transcript page 1667).

8.22 Since then the committee has learnt that the database of 40 accidents provided by Air Services Australia to CASA was reduced to 8 serious accidents requiring considerable search and rescue effort. It is probable that any benefit-cost ratio would be similar to that of the initial BTCE study.

8.23 For such studies the more data there is the more reliable are the results. The committee does not consider it desirable to wait years before a decision is reached. A substantial part of the benefit of fitting ELT's is saving lives and ameliorating injuries. These human costs translate into large financial costs to society (see paragraphs 2.19 to 2.21).

8.24 If there are to be regulations on ELT's, it may be preferable for ELT's to be phased in. Because charter operators are likely to carry more people than other areas of GA the benefits of installing ELT's in these aircraft are likely to be larger. Decisions on other areas of GA could then be based on the data collected.

Performance indicators

8.25 The first CAA submission said that performance indicators are used to determine the adequacy of standards. The indicators include ready compliance by industry, accident rates, public and government acceptance of the safety risk and uniformity with international standards (submissions page 172).

8.26 At the request of the committee CASA explained how the safety indicators are used to determine the adequacy of standards (submission pages 2459 and 2460). The explanations were of a general nature but it is difficult to see how much more CASA can do with these indicators.

Conclusions

8.27 The committee believes that in general terms, due to the harmonisation process and the comments of BASI that air safety standards in the commuter and general aviation sectors are such that **the public should have full confidence that the standards are adequate**. This is not to say that there are not problems of compliance and surveillance. However, there are some matters of technical detail beyond the capacity of the committee to investigate, which need consideration by the industry and CASA. Chief among these is the need for introduction of a requirement for human factors training to be included in all facets of the industry in all disciplines. There is also the technical question of CASA having a human factors cell but this matter should not be given a higher priority than the implementations of the recommendations in the committee report.

8.28 A key feature of process is consultation and it appears that the new LIP process offers better opportunities for consultation with industry than before. Consultation means seeking the views of those affected. As Keith says it is not a voting system (transcript page 1622) and therefore the fact that the majority of the members of ALAEA or AOPA disagree with a proposal is not sufficient grounds for rejection. However, if CASA is seen by industry as a body that is not prepared to listen then its stock of goodwill will be soon eroded.

8.29 *Performance indicators are used to determine the adequacy of standards. The indicators are qualitative at best and therefore cannot measure performance over time. Surveys by an expert panel or by the RAAA or the General Aviation Association could provide the measurement capability that the current indicators lack. An indicator that measures progress in achieving harmonisation would also be useful.*

CHAPTER 9

TERM OF REFERENCE (ii)

Compliance with and supervision of air safety standards in the commuter and general aviation sectors

Approach to reference

9.1 This term of reference requires the committee to evaluate, to find out how effective CAA/CASA is at checking compliance with standards. Compliance and enforcement is just as important as the establishment of adequate and appropriate standards.

9.2 The first CAA submission gave certain information on compliance. This was supplemented by the committee seeking specific information on the place of the Aviation Safety Surveillance System (ASSP) in compliance/supervision, the responses of CASA to the criticisms of ASSP, how CASA will know whether ASSP is achieving its objectives and whether there are performance indicators for ASSP. Questions were also put on enforcement and prosecutions (see submission 246, submission pages 2476-2487).

9.3 The responsibility for compliance with the act and regulations rests with the industry. All licence and certificate holders are granted specific privileges after appropriate training, qualifications and licence issue. These privileges enable members of the industry to conduct their business or profession within the framework of the legislation with which they are required to comply. However, to comply or not to comply is a decision made every day by thousands of individuals in the industry. Decisions are made on the basis of numerous factors some of which are - knowledge, training, experience, fear of the law, fear of bankruptcy, the need for regularity, efficiency, customer satisfaction and profitability.

9.4 The record of some general aviation operators is not as good as that of the major airlines. The reasons for this are various including, the difficulties of running small business without a sufficient financial base (undercapitalised), destructive competition

(see Chapter 5), isolation (of some outback based operations), poor training, personal attitude, incorrect perceptions, lack of knowledge of the regulations, financial crisis and many other factors. Larger organisations are able to benefit from economies of scale and sound quality management systems which reduce failures of compliance.

9.5 The role of CASA is to enhance the safety of the industry's operations by creating an environment conducive to all members of the industry desiring to **voluntarily** comply with the rules. Voluntary compliance is what most people wish to achieve and do achieve. If a large portion of an industry chose not to voluntarily comply, that industry would rapidly become unworkable. However, CASA also has the role of identifying the level of compliance being achieved by the industry. CASA has published instructions for its inspectors in the ASSP manual which is a means of managing the surveillance process.

Surveillance - general information

9.6 Surveillance by CAA/CASA covers airworthiness and flying operations. It includes both high capacity and low capacity RPT, general aviation, maintenance organisations and aerodromes.

9.7 There is planned and unplanned surveillance. Taylor said planned surveillance is a routine planned inspection. The organisation knows the CAA is coming and the relevant records are made available. Unplanned surveillance is the surprise visit and applies, for example, to ramp checks. Shortly after the Seaview accident there was an intensive examination of all operators in the low capacity RPT sector. Taylor said that most of the detection of deficiencies came from unplanned surveillance (transcript pages 947, 192-210).

The Australian Safety Surveillance System

9.8 This program commenced on 1 July 1994. ASSP is the first surveillance system which encompasses all the safety regulation disciplines - airworthiness, flying operations and aerodromes. It is a strategy of surveillance undertaken in a systematic and standardised manner to provide an assessment of the compliance by industry and to implement appropriate responses.

9.9 The objectives of ASSP include the following:

- to measure, record, analyse and enforce compliance with regulatory requirements;
- to identify, record and analyse risk indicators related to aviation safety;
- to provide a system of reporting and analysing the results of surveillance activities; and
- to provide for a system of review for ASSP and the regulatory framework.

9.10 The ASSP manual documents the standardised practices and procedures for CASA inspectors to follow. An inspector's surveillance program is based on an operator's profile and attempts to ensure that similar organisations are subject to similar audit programs. ASSP stipulates levels of surveillance that have to be achieved.

9.11 There has been a growing emphasis on the use of financial factors in surveillance. For some time there has been a process whereby a list of debtors who have owed the CAA money for more than 90 days was provided each month to the safety regulation division. In October 1994 a finance services company was contracted to provide a credit rating of all AOC's. The safety regulators are provided with information on adverse movements in ratings (transcript pages 156,157,161).

9.12 The financial position of the holder of the AOC is one of the matters that CASA may take into account when considering action to vary, suspend or cancel an AOC to ensure compliance with the safety legislation. This change was introduced in the 1995 legislation that established CASA. The interim policy of CASA is to get a statement to the effect that the applicant has the necessary financial resources to meet the safety obligations of an air operator as prescribed by the act, regulations and orders (submissions page 2486).

9.13 CASA does not have the power to take the financial viability of a maintenance organisation into account when assessing an application for a Certificate of Approval. This certificate is assessed in relation to four areas - equipment, data, personnel and facilities -

and the Authority ensures that maintenance standards are being met through its auditing and surveillance programs (submissions page 2487).

9.14 The Authority has no performance indicators to assess or measure the performance of ASSP. The program will be validated in June 1996 and this 'validation will look at the set of objectives established for ASSP and will measure whether the program is meeting these particular objectives' (submissions page 2482).

Enforcement

9.15 The CAA said that while compliance can be compelled where necessary, safety depends primarily on voluntary adherence to regulations. Accordingly, the regulator directs the bulk of its efforts to promote a clear awareness and understanding of the regulations. An example of this was GA pilots penetrating airspace without a clearance. The authority worked with AOPA to develop a program on pilot education. This program was implemented at various forums attended by 3500 pilots (submissions page 180 and transcript page 197).

9.16 Industry organisations have a role to play particularly in education and retraining when required. For example, airlines have a sound process for the rectification of mistakes made by aircrew. Whenever an error of significance is made the crew are temporarily suspended from the roster so that the matter can be investigated and corrective training carried out, if required, before their return to the roster. CASA does not need to become involved. In general aviation, particularly in private/business flying, pilots involved in an incident do not have recourse to an independent arbiter who could investigate and retrain pilots when required. The Aircraft Owners and Pilots Association could perform this role for its members. CASA would not need to be involved with licence suspensions as it sometimes is now and could delegate the air safety incident investigative and remedial functions to AOPA. AOPA could manage a counselling and retaining program involving member flying instructors nominated by them. This process would enhance the role of AOPA in the safety education process and allow CASA to get on with other tasks.

9.17 CASA should seek opportunities to delegate responsibilities to industry organisations better able to achieve educative remedies to incidents than CASA achieves with licence or prosecution action. Prosecution and licence action should be used as a last resort when educative remedies to non compliance have failed.

9.18 There is a graduated approach for handling non-compliance. The first is educational. Second, there is counselling. This is a more formalised process where the regulator writes to the operator and asks for a response. Third, if the breach is serious enough the regulator would examine the need for prosecution and finally the operator could be asked to show cause why his or her certificate should not be varied or suspended (transcript pages 174,175).

9.19 Enforcement decisions are at the discretion of field staff who have powers delegated to them to make the decisions. However, over the years there have been inconsistencies in the application of the graduated approach. Because of this a compliance and enforcement manual was approved by the CAA board safety committee on 29 September 1994 and has been in use since February 1995. The manual sets out the policy of the authority on enforcement and details procedures to be taken into consideration when contemplating administrative sanctions and prosecutions (submissions pages 181,2484 and transcript pages 198,199).

Conclusions

9.20 Compliance with and enforcement of standards is just as important as the establishment of adequate and appropriate standards. The major program for compliance with standards is ASSP. Several criticisms have been made of ASSP particularly by comparing it to its predecessor NASS, the National Airworthiness Surveillance System. In response to a committee request CASA provided comments on the criticisms of ASSP made in submissions and at public hearings (submissions pages 2478-2481).

9.21 It is clear that CASA is very supportive of ASSP. The Authority claims that ASSP can identify any systemic factors leading to reductions in safety and that it provides the basis nationally for measuring industry compliance with regulatory requirements.

9.22 When asked for performance indicators for ASSP the Authority said that '(e)ssentially the objectives for ASSP will form the performance indicators by which the program will be assessed and validated in June 1996' (submissions page 2482). This is inaccurate. The statement displays an inability to distinguish between tasks and results.

9.23 The Department of Finance states explicitly that the prerequisite for good performance indicators are clear and realistically achievable objectives and that strategies (grouping of activities used to achieve an objective) provide an essential link between objectives and good performance information (DoF, 1995). Most of these ingredients are conspicuous by their absence in ASSP.

9.24 The validation project of June 1996 is supposed to '**measure**' whether ASSP is achieving its objectives (emphasis added). This will require the development and application of performance indicators so it is quite misleading for CASA to say or imply that the indicators are in the objectives.

9.25 *With aviation regulation, review has become the order of the day. The ASSP is to be reviewed (validated) in June 1996. The committee is of the opinion that CASA does not have all the program evaluation skills to undertake the review. The validation should be undertaken by people with skills in program evaluation and should cover the articulation of clear and achievable objectives, relevant strategies and appropriate performance indicators which can be used to measure performance over time.*

CHAPTER 10

TERM OF REFERENCE (iii):

The Terrell Report

Background

10.1 On 24 November 1994 the Minister for Transport referred the Terrell Report to the committee. He said the report and the response of the CAA to it 'are central to the aviation safety debate'. He considered it appropriate for the committee 'to examine the Terrell Report and the adequacy of the CAA's response to the report's findings'.

10.2 This reference arose from the 10 November 1994 ABCTV 7.30 Report where Dr Helen James, then an employee of the CAA, accused the organisation of unethical conduct and senior management of withholding from the CAA board crucial paragraphs on the deterioration of safety.

10.3 The Minister advised the House of Representatives on 14 November 1994 that CAA board members, Mr Michael Terrell and Mr John Ward, would investigate the allegations made in the 7.30 Report. Because the minister considered that the matter should be the subject of external review he said that he would ask the committee to inquire into the handling of the Terrell Report by the CAA.

Approach to reference

10.4 The Terrell/Ward report was given to the CAA board on 3 December and transmitted to the Minister for Transport on 7 December 1994. A copy of the report and its annexures was given to the committee.

10.5 The conclusions of the Terrell/Ward report, the retirement of Dr Helen James and later Mr Doug Roser (then chief executive officer of the CAA) and the dominance of other aviation issues has taken the sting out of this issue. Further, the minister has established his own system of reporting on the implementation of the recommendations arising out of the report (transcript page 1674).

The Terrell Report

10.6 The Terrell study group was appointed in February 1993 by the CAA board to report on, as interpreted by the committee, the effectiveness of the operations of the Safety Regulation and Standards (SR&S) Division. The inquiry was short and the report brief. The 11 page report included an outline of the major issues, themes raised and a proposed course of action.

10.7 The committee points out that the report did not contain any recommendations. The proposed course of action can be divided into three parts, namely, subject matter, mechanisms for further examination of subject matter including implementation timetables and responsibility for oversight.

10.8 The report said that of highest priority is the need to address the future funding of DASR. The other tasks identified were a strategic plan for the management of safety, regulatory changes, information systems, human resources management plan, surveillance plan, control and monitoring, operations, administration and documentation.

10.9 The mechanism for developing these projects (other than funding) were task forces of experts drawn from industry, unions and the CAA. Task forces would report action plans including implementation timetables. Responsibility for oversight lay with a committee including the chief executive officer appointed by the CAA board.

Adequacy of the CAA response to the findings of the Terrell Report

10.10 The report was completed on 12 March 1993 and presented at the board meeting on 31 March 1993. A steering committee and three working groups were established to implement the report. The working groups were an organisation and management group, an operational group and a financial and charges group. The membership of the working groups consisted of CAA, union and industry representatives.

10.11 In June 1993 the steering committee presented its Action Plans, detailing its responses to the matters raised in the Terrell Report. That committee made 59 recommendations. All except one were accepted by the CAA board. The board rejected the recommendation that a directorate of aviation safety regulation be established within the authority.

10.12 An examination of the adequacy of the CAA board's response to the Terrell report can be made by ascertaining whether there is a link between the recommendations of the steering committee and the major issues identified in the Terrell report. Table 9 on page 105 shows the relationship between the areas of the Terrell report and the recommendations of the steering committee.

10.13 The 1993-94 CAA annual report said that 40 of the steering committee recommendations had been implemented. These included a restructure of the directorate and the preparation of a long-term funding strategy to cover the cost of safety regulation in Australia. In a later part of this report there was reference to a project team which, with the assistance of Anderson Consulting, prepared a detailed report outlining arguments which identified the ultimate beneficiaries of safety regulation.

10.14 As at September 1995 forty seven of the fifty eight recommendations had been implemented. CASA gave the committee details of the implementation status of the remaining 11 recommendations (submission 246, submissions pages 2489-2493).

Conclusions

10.15 An examination of the Terrell Report reveals little evidence of any attempt by the study group to critically analyse the issues outlined in the report. While this may have been a consequence of the brevity of the study, section two in the main body of the Terrell report, 'major issues and themes', merely amounts to a collation of the various opinions expressed to the study group in the course of its investigation. Referring to the Terrell Report and its implementation, the 1992-93 annual report of the CAA said the 'process resulted in identification of a number of changes needed to redress perceptions that safety standards may have been compromised by the pace and extent of reform in the safety regulation area'.

10.16 Despite raising a wide range of issues and calling for immediate action by the CAA to overcome the problems, the Terrell Report failed to provide specific recommendations that would directly address any of them. The proposals left significant scope for interpreting the issues and hence determining the appropriate remedies.

10.17 It is apparent from looking at the distribution of the steering committee recommendations that the issues targeted in the Terrell proposals have been covered, some more thoroughly than others. The committee is satisfied that the CAA has provided adequate responses to the proposals for change in the Terrell report.

10.18 This conclusion accords with the findings of the Vincent/Harrison report (1993) which was established to review the action plan of the steering committee. The Vincent/Harrison report concluded that the action plan adequately addressed the principal issues raised by the study group and that it was sound and consistent with current day management trends. Further, the Terrell/Ward report has an interview record with Alan Terrell who credits Roser with developing the recommendations in the Terrell Report. Alan Terrell had no concerns with the way the report was proposed to be implemented.

10.19 *Perception and prejudice, mistrust and misinterpretation - this has been the currency of aviation safety regulation. The question that has to be asked is has anything changed for the better.*

TABLE 9
RELATIONSHIP BETWEEN TERRELL REPORT
AREAS AND STEERING COMMITTEE RECOMMENDATIONS

Area identified in Terrell report	No of steering committee recommendations	Recommendation numbers
Funding	4	1-4
Strategic plan	9	5-8,23,24,36,37,59
Regulatory changes	10	22,39,42-47,57,58
Information systems	5	52-56
Human resources	11	10(a-e),11,25-27,29,32-35,38
Surveillance	2	20,51
Control and monitoring	4	18,19,21,28
Operations	6	12-17
Administrative support	2	30,31
Documentation	5	40,41,48-50
TOTAL	58	-

Sources: Derived from the Terrell Report and the report of the steering committee.

CHAPTER 11

THE CIVIL WAR WITHIN THE CIVIL AVIATION AUTHORITY

- A STUDY OF ORGANISATIONAL CONFLICT -

Introduction

11.1 When the Civil Aviation Authority began operating in 1988 there was an expectation within much of the aviation industry that most changes would be largely cosmetic (Stackhouse, 1990;24). Subsequent events have proven this belief to be grossly mistaken.

11.2 In one of the most controversial periods in the history of aviation in Australia the aviation regime was subjected to reforms of unprecedented speed and scope. They served to transform the approach taken to the regulation of aviation safety. They also sparked great resistance from within parts of the CAA and the industry. This conflict has been aptly described as a civil war.

11.3 After Mr Dick Smith was appointed chairman of the CAA in January 1990 radical changes to the structure and the way the CAA performed its functions were formally conceived and implemented. Smith had been a vociferous critic of previous aviation administrations and was a champion of change (see: Smith, 1984). In what some critics have termed the 'slash and burn' era Smith presided over a program of micro-economic reform with across the board restructuring a priority (McBride, 1993;52).

11.4 The prospects for the scale and type of change envisaged by Smith were enhanced with the appointment of Mr Frank Baldwin as the CAA's Chief Executive Officer and Managing Director. Baldwin shared Smith's zeal for reform. He described his brief as 'to take the CAA - an inert, centralised, bureaucratic edifice - and turn it into an efficient customer-oriented business enterprise' (submission 171, submissions page 1734).

11.5 The impetus for reform was bolstered as pressures on the CAA for further cost reductions and the attainment of greater economic efficiencies had progressively increased after the CAA was established. The central factors were:

- the passing of the *Civil Aviation Amendment Bill* 1990 which established the CAA as a Government Business Enterprise;
- anticipation of lower profit levels after the 1987 decision to terminate the two airlines agreement in 1990;
- the general effects on the industry of the economic recession; and
- an announcement in the budget in August 1990 that the \$73 million that the Government contributed for safety regulation under the so called 'safety contract' would be phased out with the costs for the provision of these services being met by the industry.

Strategies for reform

11.6 Guided by the concept of 'affordable safety' the stated aim of the CAA was to enable more people to benefit from safe aviation. Smith argued that while air travel should be safe it must also be within the financial reach of those who wanted to use it. He reasoned that spending increasing amounts of money to make the already safe system safer would only serve to push up fares and force people to travel by less safe means of transport. As such, the goal was to direct the finite financial, technical and human resources to where they would most effectively contribute to safety (CAA Annual Report 1989-90;1).

11.7 Working towards this goal the CAA instigated a review of its resource requirements and adopted a broadly based strategy to improve the Authority's efficiency and effectiveness. Under the strategy the CAA sought to reduce the size of the organisation, cut

running costs and take a more commercial approach to day to day business (CAA Annual Report 1990-91;5). In large part these reforms were aimed at reducing CAA charges to the industry and the costs the industry incurred through compliance with the regulations.

11.8 Completed in mid 1991, the Review of Resources (RoR) sought to identify the authority's core functions and to develop strategies to achieve optimum performance at minimum cost. Central to the plan arising from the review were massive cuts to staff numbers. As Table 10 shows the authority intended to shed over 50 per cent of its 7332 staff by mid 1996. The Safety Regulation and Standards (SR&S) division was to lose over 40 per cent of its staff within seven months.

TABLE 10
REVIEW OF RESOURCES -PLANNED STAFF REQUIREMENTS
1991 - 1996

<i>DIVISION</i>	Jan 1991	Jan 1992	Jul 1992	Jan 1993	Jul 1993	Jan 1994	Jul 1994	Jan 1995	Jul 1995	Jan 1996	Jul 1996
Corporate Secretary	15	37	37	37	37	37	37	37	37	37	37
Air Traffic Services	2517	2416	1947	1898	1733	1737	1731	1725	1725	1673	1250
Technical Services	1945	2008	1182	1167	1103	1068	1050	1047	1041	1008	890
SR&S	727	434	434	434	434	434	434	434	434	434	434
Rescue & Firefighting	728	710	721	717	717	717	717	717	717	717	717
Projects Management	250	68	63	61	61	46	46	31	31	20	20
Corporate Employee Relations	1020	332	244	244	222	222	212	212	170	170	170
Corporate Finance	96	157	77	75	75	75	72	72	70	70	70
R&D and ICAO	27	30	26	25	25	24	24	24	24	24	24
Executive Audit & QA	7	29	29	29	29	29	29	29	29	29	29
TOTAL	7332	6232	4756	4687	4436	4389	4352	4328	4278	4182	3641

Source: CAA *Resources Review*, 31 May 1991, Exhibit 56.

11.9 The RoR proposed a significant reorganisation in the structure of the CAA. Changes in the SR&S division included the abolition of field office headquarters, a reduction in resources for training and safety promotion, and the transfer of medical

licensing and medical standards and the abolition of the remaining aviation medicine functions. In the airworthiness and flying operations areas airport inspections were to be significantly reduced and the bird hazard unit and the material evaluation facility were to be abolished.

11.10 Another significant outcome from the RoR was for the CAA to concentrate on what were deemed to be its core businesses of safety regulation, air traffic and navigation and rescue and fire fighting. Baldwin explained that the divisions managing core business activities would be profit centres and would be assessed against agreed performance and 'bottom line' financial targets (CAA Annual Report 1990-91;12).

Backlash

11.11 The implementation of the review of resources and the other reforms brought about rapid and far reaching changes to the CAA's structure, activities, systems and approach to work. They also challenged entrenched power structures and cultures within the Authority.

11.12 By December 1991, the same year as the RoR, staff in the SR&S division had been reduced from 736 to 600. By October 1992 they had reached a low point of 490 (Exhibit 57, transcripts pages 351-2).

11.13 The reforms emphasised the importance of the industry, which came to be thought of as customers, and of reducing the costs of the services that the CAA provided to it. In moving towards this, regulatory reforms were aimed at revising or removing regulations which imposed costs on the industry but did not produce commensurate safety benefits, swapping the participatory quality control approach for the concept of quality assurance, devolving tasks to industry, and harmonising Australian regulations with those of other advanced aviation countries (CAA Annual Report, 1989-90;1).

11.14 Some examples of the application of these principles are amendments to the first of type certification requirements, a revision of aircraft maintenance requirements and changes to flight and duty

times for pilots. Other regulatory changes were made which devolved responsibilities for 'operation control' to the industry. They included responsibility for flight plans, the calculation of fuel requirements and testing for flight crew under the Approved Testing Officer (ATO) scheme.

11.15 The CAA also adopted an ambitious plan to overhaul the provision of air traffic and navigation services. This incorporated the modernisation of computer and communications elements under the Australian Advanced Air Traffic System (TAAATS) and an extensive re-organisation of airspace categorisation, procedures, staffing structures and facilities (CAA Annual Report 1990-91;11-13).

11.16 Several people giving evidence on the RoR expressed the belief that a review of the CAA's resources was justified, that the CAA was surrounded by red tape and carried excess staff (see: submission 99, submissions page 1095; transcripts pages 145, 530, 697). Some of the evidence to the committee told of positive developments arising from the review, namely a significant reduction in running costs, the transfer of staff and resources closer to the industry, delegations to district offices and an increase in officers available for surveillance (transcripts pages 823, 907, 918; submission 133, submissions page 1421).

11.17 Despite this it is apparent that the overwhelming reaction to the changes from the within the CAA was one of uncertainty, fear, resentment and antagonism towards senior management and between CAA staff.

11.18 One of the most common perceptions of the review was that it was not really a review of the authority's resources but merely an exercise designed to cut staff, a review of numbers (submission 43, submissions page 586). For example, Mr Anthony Haines told the committee that 'it was fairly evident early on that staff numbers were to be reduced, almost by decree' (transcripts page 45). Mr John Niarchos claimed that 'sections were given numbers we had to reduce to, it was not a matter of targeting any individual or particular sections; we simply had to reduce to a numerical value' (transcripts page 757).

11.19 Typical comments by critics of the review were that: it did not give consideration to the minimum staffing levels needed for the CAA to discharge its responsibilities (submission 63, submissions page 782), 'there was no safety related focus' (submission 113, submissions page 1197), 'it was done in a tragic manner without planning' (transcripts pages, 697), and that staff cuts were made without an understanding of the value of the staff being made redundant or their contribution to safety (submission 99, submissions page 1095).

11.20 Concerns were also expressed about the manner in which the review was implemented. One criticism was that the process of change was pushed too quickly (submission 150, submissions page 1580; transcripts page 145, 907). Another was that the cuts went too far and resulted in a significant drain on expertise within the Authority (submission 99, submissions pages 1095-6, submission 113, submissions page 1197; transcripts pages 145, 359, 952, 1130).

11.21 The ALAEA said that they regarded the 'massive de-skilling of the regulator as a result of the RoR as a monumental disaster' (transcripts page 129). According to Mr Peter Patroni, then AOPA president, a significant factor in this was that most people who asked for the redundancy package were given it, regardless of the need to retain core skills (transcripts page 73).

11.22 The RoR process was defended vigorously by Smith. He claimed that the standards division was grossly overstaffed and that 'a tremendous percentage of the work they were doing was basically not effective, it was just paperwork' (transcripts page 1562). He said that there was a careful selection process for staff reductions and that people who were in important positions and wanted to leave were not allowed to go (transcripts page 1561). Smith also refuted claims that the RoR process was pushed too quickly and that it resulted in a loss of critical skills (transcripts page 1563).

11.23 In the newly formed SR&S division the reforms incited a power struggle between the engineering groups and the airworthiness surveyors with each manoeuvring to protect their interests (transcripts page 470). According to Mr Jeffrey Way, who was responsible for the co-ordination of the RoR in the SR&S

division, the attempt to combine the engineers and airworthiness surveyors under the same 'Airworthiness Officer' classification escalated tensions between them and resulted in each group avidly pushing their own agenda (submission 150;1580-2).

11.24 Mr Albert Flemming explained that the structural changes resulted in the creation of new management positions. 'The various groups would vie to get their people in those positions, because those positions of power would then determine who was doing the jobs. It also meant that during a restructure there was a reclassification of officers ... They were fighting for those positions in many cases' (transcripts page 1113).

11.25 Infighting was not restricted to the SR&S division. As noted above, the CAA planned a total reorganisation of airspace and an overhaul of air traffic control regulations and procedures. The result was a much publicised battle between air traffic controllers and flight service officers over job functions under the new system (Australian Flying, March/April 1991;33).

Moving from bad to worse

11.26 As the reform process progressed increasingly trenchant criticisms were made by certain industry groups, some staff of the CAA and (as a result) the media which suggested that the changes that the SR&S division were implementing and the manner in which they were being applied were threatening safety. Chief among these groups was the ALAEA who were deeply distressed at the introduction of revised aircraft maintenance regulations and proposals to review aircraft maintenance engineer (AME) licences.

11.27 The agitation by these groups led to the establishment in March 1992 of the aviation safety regulation forum (the Beale safety forum) by the then minister Senator the Hon. Bob Collins. Among other things, the forum specifically examined the revised aircraft maintenance requirements and AME licensing. It recommended that the CAA publicly reaffirm the primacy of safety in the CAA's functions, the separation of its regulatory and commercial functions and full consultation with industry on regulatory changes (Beale report, August 1992).

11.28 Around the same time as the Beale forum a campaign was being waged by Hughes Aircraft of Canada Ltd, Siemens Plessey Electronic Systems Pty Ltd and the union representing air traffic controllers over the selection of Thompson Radar Australian Corporation Pty Ltd, to construct the \$300 million TAAATS project. The campaign led to a series of attacks in the Parliament and the media alleging serious safety risks in the Thompson plan, flaws in management's handling of the project and corruption within the CAA.

11.29 As a consequence an inquiry headed by the Hon. Ian Macphree into the TAAATS tender evaluation process was established. The report found fault with the CAA's tendering process and recommended that tenders be recalled (Macphree, December 1992). The TAAATS project was delayed by several years and Baldwin and Rob Edwards, the Managing Director of the Projects Division, subsequently resigned.

11.30 Despite the Beale forum persistent claims that safety was being compromised eventually led to an investigation by the Board Safety Committee (The Terrell review) into the operations of the SR&S division. The report was highly critical of the loss of staff and resources from the division, the pace of change, surveillance, regulatory framework, consultation with industry, and management practices (Terrell, March 1993)¹.

11.31 In response to the Terrell report the CAA established a steering committee to address the issues in the report. The steering committee made a series of recommendations and the SR&S division was abolished and replaced by the Directorate of Aviation Safety Regulation (DASR). However, before the plans were finalised allegations were made that the acting CEO had misled the board by altering part of the report, that the report appendices were deliberately withheld and as a result the real extent of safety problems had been suppressed (see: *Aviation Report*, 6 May 1993, *The Australian* 26 May 1993).

¹ See Chapter 10, Term of Reference (iii) for an analysis of the Terrell report.

11.32 Matters worsened for the CAA when a Monarch Airlines plane crashed at Young, NSW on 11 June 1993. The accident again brought the CAA's administration of air safety under the spotlight with serious questions asked in the media and Parliament about its competence in regulating the industry.

11.33 From this time overt attacks on the CAA continued to escalate. Following a campaign by Smith in November 1993 the CAA was forced into a humiliating backdown when it was pressured into a last minute deferral of its plans to implement major changes to airspace classification (see: Australian Aviation, November 1993;5-6). It was further embarrassed by the BASI report on the Monarch accident which was critical of its regulation of the airline (see BASI, Investigation report 9301743).

11.34 In response to the BASI report the Government announced a strategy designed to improve air safety regulation. It included decisions to establish an aviation safety agency as a separate entity within the CAA, an investigation into the adequacy of resourcing for all safety and regulatory funding, government funding for the public interest regulation of air safety, an increase in passenger carriers' liability and insurance, and the establishment of the parliamentary inquiry (Minister for Transport, Press Release 20 July 1994).

11.35 Tragically, in October 1994, a Seaview Air plane from Williamtown in NSW crashed en route to Lord Howe Island. All 9 people on board the plane were presumed dead. The accident was followed by a series of revelations and claims regarding the airline and the CAA. As the questioning increased the Director of DASR was moved from his position and later resigned from the CAA. The government announced that a new and separate aviation safety agency would be set up and that it would increase its contribution for safety regulation to over \$29 million. Even more sensational revelations prompted an investigation by the Australian Federal Police and the announcement of a judicial inquiry into the relations between the CAA and Seaview Air.

11.36 Concurrent with these events even further controversy had been created when Dr Helen James, a member of the Terrell study group, appeared on ABC TV's 7:30 Report. James' alleged that in 1993 the acting CEO had misled the board by deleting key parts of

the report relating to safety. She also claimed that the CAA had become an intensely unethical organisation, with an intensely unethical regime (10 November 1994).

11.37 Immediately following her appearance James was put under investigation for supposedly taking classified documents out of the authority to support her allegations. The report by Professor Dennis Pearce found that her actions amounted to misconduct. Although the terms of reference did not include comment on any possible penalties the Pearce report recommended that she be dismissed and that her redundancy package withheld. James questioned the finding and procedures of the report claiming that she and her lawyers had been denied access to documents during the inquiry (see: *The Sydney Morning Herald*, 13 January 1995; *The Australian*, 13 January 1995; *The Canberra Times*, 21 January 1995).

11.38 It is not clear on whose authority Pearce went beyond his original terms of reference to recommend dismissal or whether James was aware of it. If she was not, this is a clear denial of natural justice. The matter was only settled when the minister stepped in and instructed the CAA not to take action to terminate her employment or withdraw her redundancy package. Under these circumstances, the minister's direction was the only proper course of action.

Conclusions

11.39 From its formation in July 1988 the CAA was in a state of almost continual conflict with constant reviews and reorganisations. In less than seven years there had been four chairmen, four chief executives and six heads of safety regulation (transcript page 53). In the same period there had also been 8 ministerial changes in the portfolio. The new director of CASA, Mr Leroy Keith, told the committee that he had never seen an organisation quite as traumatised as the CAA had been (transcripts page 1601).

11.40 Overt conflict within the CAA emerged at or around the time of the Review of Resources. The review together with other reforms initiated under Smith and Baldwin challenged entrenched attitudes, modes of operation and power bases within the organisation.

11.41 In several fundamental ways the reforms stood in direct opposition to the traditional approach to aviation safety regulation. Affordable safety emphasised efficiency whereas the old approach gave precedence to effectiveness and tended to push issues of cost into the background. The promotion of a partnership with industry, where the industry came to be seen as the customer of the regulator, contrasted with the view of the role of the regulator as that of a policeman, and the emphasis on outcomes challenged the procedures orientated operation.

11.42 The review resulted in a large decrease in the number of CAA staff and altered the way the CAA operated. The reforms were subjected to resistance from within the industry, such as the ALAEA and the AFAP. They also brought old intra-CAA rivalries (such as that between engineers and airworthiness surveyors) to the fore.

11.43 The process of change was poorly managed. From around the time of the RoR the CAA lurched from crisis to crisis without being able to fully resolve outstanding issues before fresh problems emerged. Conflict within the CAA continued until its demise. The Terrell report aftermath, and the Helen James affair in particular, as well as the persistent leaking of information from within the CAA are examples of this.

11.44 *The Civil War Within The Civil Aviation Authority - A study of Organisational Conflict - is an apt description of how an organisation can be ravaged by internal disputes. The loss of skill, corporate memory and stability are the legacies of the struggle.*

11.45 *The directions for the future are clear. There is a need for the re-emphasis of process and the measurement of outcomes, something which is lacking even today. But above all there is a need for effective consultative decision making, bolstered by a high quality industrial democracy plan.*

CHAPTER 12

CONCLUSIONS

Key features of the report

12.1 There are four key features of aviation safety which are identified in this report, namely:

- the absence of robust indicators on the safety of aviation or the performance of CASA;
- the paucity of information on low capacity RPT and the general aviation sectors;
- an inadequate approach to those sections of industry that exhibit the characteristics of destructive competition; and
- rampant distrust between the regulator and certain sections of the industry and within CAA/CASA itself.

The CASA evidence

12.2 The Director of Aviation Safety of CASA, Mr Leroy Keith, and other officials appeared before the committee on 18 October 1995. Keith emphasized the role of all industry participants in their shared responsibility for aviation safety. In this he has the full support of the committee. He also commended the staff of CASA referring to the professionalism and dedication of the majority of its personnel.

12.3 He added that teamwork and organisational discipline are fundamental to the future success of CASA. Organisational discipline covered standardisation of procedures, training and the requirement if necessary, to make decisions that are not popular.

12.4 Keith emphasised process. He referred to clear policy and procedures, the number of manuals to guide CASA staff in their work, harmonising standards with world aviation and consulting with industry.

12.5 One part of his evidence surprised the committee. Keith said the highest priority of CASA, 'one of the initiatives that we developed', was to make sure that CASA protects the people who pay for tickets. Resources are to be concentrated in this area (transcript pages 1607, 1608).

12.6 This contrasts with the evidence of Ms Marcia Kimball that in the CAA regional and district managers set work priorities based on available staff and the scope of the regulatory tasks (transcript page 1613).

12.7 In other words, at the time that serving officers of the CAA and organisations like the RAS were calling for more staff the CAA had no national priority on the use of resources.

12.8 Keith also said that he is not asking the Australian public 'to pay for more staff right now' (transcript page 1622). Before CASA asks for more staff there should be an efficiency audit on the use of resources. In the absence of performance information such an audit is an absolute necessity.

12.9 Keith also said that the public should judge CASA on its performance (transcript page 1603). This highlights the need for robust performance measures that assist the Parliament and the public to make this judgement.

Conclusions on regulatory performance

(a) adequate legislation

12.10 The conflict between the commercial objectives of the CAA and safety was referred to in several submissions (see Mr Tony Tsipouras submissions page 462). The creation of a separate aviation authority without commercial objectives has removed the potential for conflict.

12.11 Another advantage of a separate authority is that very senior officers such as the director, as compared with the CEO of the CAA, can concentrate exclusively on safety. This allows for the appointment of a safety expert. A separate authority also allows for the appointment of a board that can concentrate exclusively on safety.

- (b) the objectives, strategies and performance indicators of aviation safety regulation

12.12 The corporate plan of CASA, called an interim working document by the Minister for Transport, is a necessary beginning and only that. To be of any use a corporate plan should be a forward looking document, not just an explanation or justification of what exists. The plan must have a vision of the future, and a position to reach say in 5 years time.

12.13 The corporate plan of CASA would inform the Parliament, industry and others of the strategic direction taken to improve and enhance aviation safety. The committee would not expect CASA to have all the necessary skills to prepare such a plan. Accordingly, CASA should call on the expertise and experience of the Department of Transport, BASI and the Department of Finance to prepare its next corporate plan.

- (c) Special emphasis on aviation safety indicators

12.14 At the moment there are no worthwhile safety indicators. The statistics have limited use. There is a need for CASA to consult with BASI, to derive indicators and send them to the industry for comment, before eventual publication.

- (d) adequate information and knowledge of the industry and intimate knowledge of the characteristics of industry that can affect safety

12.15 The following gaps have been identified by the committee:

- a need for periodic census of general aviation;
- a need for a survey of aircraft maintenance organisations;
- a need for a study of charter operations; and
- a requirement for CASA to publish every month serious deficiency reports, starting with charter.

- (e) the existence of processes that can develop a good working relationship with industry

12.16 There is still mistrust between the regulator and certain sectors of industry, shown by the correspondence between Keith and AOPA. This is an area of great concern to the committee.

12.17 Publication of safety indicators and performance indicators may help to dissolve this mistrust. But CASA has to do more. It has missed an opportunity to improve relations by its defensive response to a committee request for information on ARP 90/4.

12.18 Major industry organisations such as the Australian Air Transport Association and the Regional Airlines Association of Australia should also be more proactive. The peak consultative body, the AAAC, should monitor the relationship between CASA and the industry and where necessary report to the Minister for Transport. This could allow the minister to take necessary action such as the establishment of safety forums.

- (f) a cohesive and well knit organisation with adequately trained and skilled personnel and effective leadership.

12.19 The chapter on the civil war shows how an organisation can be ravaged by internal disputes. CASA has to rebuild its skills base, recover corporate memory and provide stability and continuity.

12.20 This is a big task. Internal conflict must not be allowed to re-emerge. The committee calls on all CASA officers to support its director. The corollary is for CASA to ensure that its internal consultative processes are effective and to embody them in a high quality industrial democracy plan.

- (g) adequate processes and skills in developing effective safety standards and securing compliance with those standards

12.21 The committee has concluded that the public should have full confidence that aviation safety standards are adequate. There are nevertheless some matters that require attention.

12.22 First, there is the need for more robust indicators. The existing indicators are qualitative at best and cannot be used to measure performance over time. In respect of harmonisation CASA needs to develop and publish a timetable for bringing Australian standards into line with those of the major civil aviation safety authorities. Second, there is also a need for a panel of experts to report regularly on the adequacy of standards.

12.23 Third, it appears to the committee that the important matter of flying training has not been addressed adequately in the review of flying training by CASA/AAAC subcommittee. That report produced sound options which it failed to translate into recommendations. One of these options was a requirement for pilots of fixed winged aircraft to have 400 hours of aeronautical experience before commencing training as a flying instructor.

12.24 Another option was the establishment of an industry based organisation responsible for raising and maintaining the standards of flying instructors. CASA should accept these options as recommendations which require attention. Industry needs to act on the need to raise standards of flying instructors and ultimately all commercial pilots.

12.25 Compliance with standards is just as important as adequate standards. CASA is proposing to validate ASSP in June 1996. The committee has concluded that CASA does not have all the necessary skills to undertake this evaluation and will have to enlist the services of the Department of Finance or a consultant for the task to be carried out effectively.

12.26 Bogus or unapproved parts is a growing problem. There is a clear need for CASA audits to target bogus parts in maintenance organisations. This could be done by CASA selecting at random a certain number of maintenance organisations to check whether documentation for stores complies with the regulations.

12.27 Code sharing and the associated consumer awareness issues are also a concern. Passengers need to be better informed of the type of service(s) they are buying. This can be achieved if operators and ticketing agents provide basic information such as the name of the operator, the type of operation, the aircraft type, and an explanation of the differences in the regulated levels of safety.

(h) an effective system of accountability

12.28 An additional link in the chain of accountability is required. One of the many proposals put to the committee was for an Aviation Ombudsman. This was based probably on experiences of victimisation and intimidation. Broadbent, Mr Roy Griffith and Captain Stephen Sheehan and Captain Jack Ellis made claims or accusations (submissions 49, 146 and 174 respectively).

12.29 As mentioned in paragraph 2.53 the committee did not see its role as inquiring into these complaints submissions. What concerns the committee is the judgement in a Federal Court case which does not reflect favourably on a CAA official and supports the victimisation claims. The judge said:

Mr ... zeal in taking unsolicited action to bring to Mr Bryant's attention his dissatisfaction with the report by Mr Collins that favoured Dr Broadbent reinforces the impression I have that he saw his role as being to do what he could to prevent Dr Broadbent obtaining the approval he sought.

[Broadbent and ANOR v Civil Aviation Safety Authority, No. QG 118 of 1991, Federal Court, Brisbane]

12.30 The committee believes that industry organisations should encourage their members to appeal to the Commonwealth Ombudsman if they consider they are being victimised. Over the years the office of the ombudsman should be able to develop a profile of CASA which may require the regulator to retrain, admonish or transfer staff who are found wanting. If necessary the ombudsman should be given the necessary resources to handle any large increase in workload.

Recommendations

12.31 The committee recommendations can be divided into 5 areas, namely - improving safety, improving the effectiveness of CASA, increasing the knowledge of the industry, improving organisational performance and improving accountability.

12.32 The committee recommends that:

Improving safety

- (a) the Civil Aviation Safety Authority publish serious deficiency reports on a monthly basis, initially for charter operators, commencing March 1996;
- (b) the Civil Aviation Safety Authority undertake special unplanned surveillance of charter operators in 1996;
- (c) the Civil Aviation Safety Authority conduct randomly selected audits of aircraft maintenance organisations to check whether documentation for stores stocks comply with the regulations;
- (d) air operators and ticketing agents be required to provide information, at the point of sale and in a prominent place on all tickets, on (i) the name of the operator (ii) the type of operation (iii) the aircraft type, and (iv) an explanation of the different levels of regulated safety for the different types of operation;
- (e) the Civil Aviation Safety Authority and the Bureau of Air Safety Investigation prepare and publish aviation safety indicators;
- (f) the Civil Aviation Safety Authority accept as recommendations requiring response, the options on increased aeronautical experience and the establishment of an industry based organisation given in the report on the Review of the Australian Flying Training Industry;

Improving the effectiveness of regulation

- (g) the Civil Aviation Safety Authority publish in the next corporate plan a timetable for the completion of the harmonisation of standards with world aviation authorities;
- (h) the Civil Aviation Safety Authority enlist the assistance of the Department of Transport, the Bureau of Air Safety Investigation and the Department of Finance in the preparation of its next corporate plan;
- (i) the Civil Aviation Safety Authority appoint expert groups or panels to produce periodic reports on the adequacy of standards in the low capacity RPT and general aviation sectors;
- (j) the Civil Aviation Safety Authority enlist the services of the Department of Finance or private sector consultants in evaluating the Australian Safety Surveillance Program;

Improving organisational performance

- (k) the Civil Aviation Safety Authority examine the effectiveness of its processes for internal consultation and prepare an industrial democracy plan;
- (l) the Australian National Audit Office undertake an efficiency audit of the Civil Aviation Safety Authority in 1998;

Improving knowledge of the industry

- (m) the Australian Bureau of Statistics or the Bureau of Transport and Communications Economics conduct periodic censuses of low capacity RPT and general aviation operators;

- (n) the relevant organisation liaise closely with the Civil Aviation Safety Authority to assist the Authority to collect relevant information on the industry;
- (o) the Bureau of Transport and Communications Economics conduct a survey of aircraft maintenance organisations;
- (p) the Bureau of Transport and Communications Economics undertake a study of the structure, conduct and performance of charter operations; and

Improving accountability

- (q) industry associations be asked to encourage their members to take their complaints of victimisation by officers of the Civil Aviation Safety Authority to the Commonwealth Ombudsman.

Overview

12.33 Of necessity, a large part of this report has been devoted to the predecessor of CASA, the Civil Aviation Safety Authority. CASA commenced business on 1 July 1995 and should not be judged by the shortcomings of its predecessor. Nevertheless, analysis of these shortcomings should assist CASA to avoid the mistakes of the past.

12.34 The new regulator is still in the process of establishing itself. Mr Keith told the committee what is being done and we recognise that in the 5 months of its existence CASA has commenced the lengthy process of rebuilding the organisation, establishing appropriate processes and improving staff morale.

12.35 Be that as it may, the way ahead is full of challenges. Ageing aircraft, unscrupulous maintenance organisations, the potentially explosive problem of bogus parts, pilots prepared to bend the rules and shonky operators are a dangerous mix. This requires CASA to be

free of internal conflict, free of daily confrontation with sections of the industry and free to concentrate its resources to maximise its effectiveness.

12.36 The recommendations of the committee are intended to assist the Civil Aviation Safety Authority to be a more effective safety regulator. The expectation of the committee is that industry organisations, trade unions and others will be similarly supportive of the new regulator of aviation safety in Australia.

PETER MORRIS MHR
Chairman

1 December 1995

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Appendix 1

CONDUCT OF THE INQUIRY, WITNESSES AND EVIDENCE

Conduct of the inquiry

The conduct of the inquiry has been detailed in chapter 1.

Witnesses

The following witnesses, including organisations and individuals appeared before the committee.

Organisations

Date(s) Of Appearance(s)

Aero Support Pty Ltd

Mr Herbert David Ray
Manager

16 February 1995

Aircraft Owners and Pilots Association of Australia

Mr Peter Patroni
President

16 November 1994

Archerfield Airport Chamber of Commerce

Mrs Alice May Jean Jenkinson
President

7 April 1995

Mr James Leonard Jones
Secretary-Treasurer

7 April 1995

Organisations	Date(s) Of Appearance(s)
Australasian Licensed Aircraft Engineers Association	
Mr John Edgar Alldis Technical Manager	9 February 1995 9 March 1995
Mr Rick Leeds Federal Secretary	9 February 1995 9 March 1995
Australian Quality Assurance Consultants	
Mr Lou Magritzer Principal Consultant	16 February 1995
Australian Society of Air Safety Investigators	
Mr Clive Howard Phillips Secretary Asia-Pacific Cabin Safety Working Group	23 February 1995
Captain Peter Budd Chairman Asia-Pacific Cabin Safety Working Group	23 February 1995
Bureau of Air Safety Investigation	
Mr Bernard John Friend Manager Safety Analysis Branch	2 February 1995
Mr Robert Bruce Lee Director	2 February 1995 21 June 1995
Mr Paul Edward Mayes Manager Safety Analysis Branch	21 June 1995

Organisations	Date(s) Of Appearance(s)
Mr David Jeffrey Adams Deputy Director Policy	21 June 1995
Mr Terry Charles Arthur Wilson Acting Deputy Director Operations	21 June 1995
Bureau of Transport & Communications Economics	
Mr Andrew John Grainge Biggs Principal Research Officer Air and Sea Transport Branch	2 February 1995
Mr David Smith Project Leader	23 October 1995
Civil Aviation Authority/Civil Aviation Safety Authority	
Mr Graham Maurice Beer Manager Financial Strategy Finance and Administration Division	15 December 1994
Mr Buckhurst Alan Brooksbank Acting Chief Executive Officer Aviation Authority	15 December 1994
Mr Trevor Burns General Manager Aviation Licensing and Medicine Branch	15 December 1994 23 February 1995 23 October 1995
Mr Robert Stephen Elder Adviser/Manager Corporate Relations	15 December 1994 23 November 1995

Organisations	Date(s) Of Appearance(s)
Mr William Allan Fairbairn Regional Manager South East Region	15 December 1994
Mr Peter Ilyk General Manager Legislation and Legal Services Branch	15 December 1994
Ms Marcia Ellen Kimball General Manager Human Resource Management Branch	15 December 1994 18 October 1995
Mr John Edwin Pike Deputy Director Operations	15 December 1994 23 November 1995
Mr Bob Scott Manager Airworthiness Branch	15 December 1994
Mr Colin Torkington International Airworthiness Advisor	15 December 1994
Mr Holger Von Muenchhausen Manager Flying Operations Directorate of Aviation Safety Regulation	15 December 1994 23 October 1995
Mr George William Wood Regional Manager West Region	15 December 1994 23 February 1995
Mr Leroy Allen Keith Director of Aviation Safety	18 October 1995 23 October 1995 23 November 1995

Organisations	Date(s) Of Appearance(s)
Mr Kenneth Ross Cannane Manager Continuing Airworthiness	23 November 1995
Corby Aeronautics Pty Ltd	
Mr John Cyril Corby Consulting Engineer	16 February 1995
Department of Finance	
Mr Ian McPhee First Assistant Secretary Transport and Government Division	21 June 1995
Mr Stephen Donald Davis Acting Assistant Secretary Transport and Government Business Enterprises Branch	21 June 1995
Department of Transport	
Ms Ann Buttsworth Principal Adviser	2 February 1995
Ms Vanessa Helen Fanning First Assistant Secretary Aviation Division	2 February 1995 21 June 1995
Mr Richard Leslie Wade Director CAA Coordination Section Aviation Division	2 February 1995 21 June 1995
Mr Tony Wheelens Acting Assistant Secretary	2 February 1995

Organisations	Date(s) Of Appearance(s)
Mr John Bernard Bowdler Deputy Secretary Operations	21 June 1995
Flight Test Society of Australia	
Mr Bill Hicks Collings President	1 February 1995
Mr Gilbert John Moore Vice-President	1 February 1995
Guild of Air Pilots and Air Navigators (GAPAN)	
Mr Glenn Twyman Elms Chairman	16 February 1995
Grif Air Helicopters Pty Ltd	
Mr Roy Frederick Griffiths	6 April 1995
Hawker Pacific Pty Limited	
Mr Daniel Edward O'Neill Technical and Quality Manager	2 February 1995
Mr James William Pilkington Chief Inspector	2 February 1995
National Institute of Airworthiness Surveyors of Australia	
Mr Peter Frank Shepherd Committee Member	23 February 1995

Organisations	Date(s) Of Appearance(s)
Mr Arthur George Jeeves Acting President	23 February 1995
Mr Anthony Snook Member	18 October 1995 23 October 1995
Qantas Airways Ltd	
Captain Gary John Cox General Manager Flight Safety	18 October 1995
Mr David Charles Hawes General Manager Government Affairs	18 October 1995
Mr Kenneth Stanley Lewis General Manager Safety and Environment	18 October 1995
Mr Barry James Pulbrook General Manager Engineering Services	18 October 1995
Regional Airlines Association of Australia Ltd	
Mr Richard Hugh John Thompson Executive Director	9 February 1995 9 March 1995
Scimitar Aviation	
Mr Stephen Ingham Manager and Chief Pilot	7 April 1995

Organisations**Date(s) Of
Appearance(s)****Surf Air, Gold Coast Aviation Centre
Pty Ltd**

Mr Michael Russell Mark Broadbent
Managing Director

7 April 1995

Tourism Task Force Ltd

Mr Christopher Brown
Chief Executive

2 February 1995

Ms Genine Louise Vurtheim Wallinga
Convenor
Aviation Taxation Subcommittee

2 February 1995

Transport Quality Services

Mr Laurence Frederick Foley
Director/General Manager

16 November 1994

Mr Anthony Haines
Quality Manager

16 November 1994

United Firefighters Union of Australia

Mr Kenneth Felton Griggs
Branch Secretary

6 April 1995

Yanda Airlines

Mr Paul Desmond Rees
Governing Director

2 February 1995

Individuals	Date(s) of Appearance(s)
Mr Tony Tsipouras Flynn, ACT	16 November 1994
Mr Frank Edward Yeend Wanniassa, ACT	16 November 1994
Mr Martin Brett Aubury Fraser, ACT	17 November 1994
Mr Benedict William Schiemer Weston, ACT	17 November 1994 1 February 1995
Mr Steven John Swift Kambah, ACT	1 February 1995
Mr Alan John Emmerson Scullin, ACT	8 February 1995
Mr John William Hogan Canberra Airport, ACT	8 February 1995
Mr Neale Leslie Fulton Kambah, ACT	8 February 1995
Mr Paul Oatway Middleton Flynn, ACT	8 February 1995
Mr Robert John Leonard Narromine, NSW	16 February 1995
Captain Rodney Desmond Moore Lovell Narromine, NSW	16 February 1995
Mr Alan Ivor Terrell Bellevue Hill, NSW	16 February 1995 29 March 1995

Individuals	Date(s) of Appearance(s)
Mr Trevor Donald Thomas Florey, ACT	16 February 1995
Mr Peter David Goujon Mitcham, Victoria	23 February 1995
Mr William Ross Mattes Beaumaris, Victoria	23 February 1995
Mr John Niarchos Ashburton, Victoria	23 February 1995
Mr John Marsh Leaversuch Swanbourne, Western Australia	24 February 1995
Mr Paul Gordon Nendick Kalamunda Western Australia	24 February 1995
Captain Jacques Louis William Ellis Dromana, Victoria	24 February 1995
Mr John Clarke McCauley Mangoplah, NSW	8 March 1995
Mr Willis George Taylor Mackenzie, Queensland	8 March 1995
Mr Jeffrey Howard Way Gowrie, ACT	8 March 1995
Captain Warwick Hugh Davies Nightcliff, Northern Territory	29 March 1995
Mr Charles Francis Shipway Miranda, NSW	29 March 1995
Mr Graham John Bailey Essendon, Victoria	30 March 1995

Individuals	Date(s) of Appearance(s)
Mr Albert Fleming Chapman, ACT	30 March 1995
Captain Stephen William Peter Sheehan Longreach, Queensland	6 April 1995
Mr Paul David Phelan Cairns, Queensland	6 April 1995
Mr Leon Brett Kippin Townsville, Queensland	6 April 1995
Mr Robert Douglas Graham Collins Gordonvale, Queensland	7 April 1995
Mr William Maxwell Edwards Brisbane, Queensland	7 April 1995
Mr John Alfred Laverick Fullerton Cove, NSW	31 May 1995
Mr Peter Edmund Patrick Brighton, Victoria	31 May 1995

SUBMISSIONS

Submission Number	Person/Organisations
1/187	J C McCauley
2	L G Smith
3/128/214/218	Captain P S W Sheehan
4/202	K R N Lyons
5/	R C Baker
6	J Niarchos
7	S Ingham
8	Flight Test Society of Australia
9/258	Australian Licenced Aircraft Engineers Association
10	J Nolan
11	D Pilkington
12/87/137/176/180/ 183/217/231/232/ 246/255/257/260/266	The Civil Aviation Authority/Civil Aviation Safety Authority
13/147/198/238	G Bailey
14	R Marshall
15/115	M B Aubury
16	E N Nash
17	P Phelan
18/101/223	Transport Quality Services
19/116/148/190	F E Yeend
20/81/156	C F Shipway
21	Western Aerial Pty Ltd
22/182	P G Nendick
23	The Australian Society of Air Safety Investigators
24	D Irons
25	North Residents Against Helicopter Noise
26	Bristow Helicopters Australia Pty Ltd
27	A J Emmerson
28/69/126	T Tsipouras
29	J Fraser

Submission Number	Person/Organisations
30/142/149/228	Aircraft Owners and Pilots Association of Australia
31/209	Australian International Pilots Association
32	Community Independents
33	Chair - Northside Residents Against Helicopter Noise
34	B Bruyn
35	Narromine Aviation
36	R Leonard
37	General Aviation Engineering Advisory Committee
38/200/219/221	Archerfield Airport Chamber of Commerce
39	L B Kippin
40	Regional Airlines Association of Australia
41/54/243	The Australian Federation of Air Pilots
42	Yanda Airlines
43	Captain R Davies
44	G J Moore
45	Lane Cove Municipal Council
46	W R Mattes
47/185	Captain R D M Lovell
48	L D Ingram
49/193/194/195/196/ 197/214/201/240/245/ 247/248/249/250	R Broadbent
50/184/263	Hawker Pacific Pty Ltd
51/213/241	Ansett Australia
52/80/88/92/139	B W Schiemer
53/211	The Royal Federation of Aero Clubs of Australia
54	Australian Federation of Air Pilots
55	C Van der Weyden
56/125	S Swift

Submission Number	Person/Organisations
57	J W Hogan, Convenor Canberra Regional Airspace Advisory Committee
58	D M Lines
59/144	Queensland Aircraft Manufacturers Association Inc
60/215	The Guild of Air Pilots and Air Navigators
61	D S Baker
62	A Terrell
63/199/227/235	National Institute of Airworthiness Surveyors
64	Inter City & Foreshores Community Action Group
65	H Caldwell
66	The Tourism Task Force
67	Australian Labour Party (Adamstown Branch)
68	J Sisson
70	United Firefighters Union of Australia
71	Environment Protection Authority NSW
72/141/145/212/244	Department of Transport
73/131	General Aviation Association (Aust) Inc
74/83	P Croft
75	General Aviation Professional Association Inc
76	A E Burton
77	Garry Stewart & Associates, Solicitors
78/167	Australian Quality Assurance Consultants
79	The Gliding Federation of Australia
80	B W Schiemer
82	Gold Coast Aviation Centre

**Submission
Number**

Person/Organisations

84	L Blyth
86	W L H Armstrong
89	North Sydney Council
90/143/171/178	D Smith
91	A W Marshall
93	J M Leaversuch
94	Scholfield Aerodrome For Ever Committee
95	AeroStar Aviation
96	Professor R Wettehall
97/132/174/179/186/ 188/222	Captain J L W Ellis
98/163	Gold Coast Aviation Centre
99	Archerfield District Office (CAA)
100	Dr H James
102	K V McLeod
103	B Williams
104/157	Aero Support P/L
105	People Against Kuranda Skyrail
106	B Campbell
107	Industry, Meteorology and CAA Committee (Perth)
108	Promair Australia Pty Ltd
109/123	Montchel Pty Trading as Surf Air
110	W J Enright & Son (Mrs Bowen)
111	E Atkins
112	N Powell
113	P Goujon
114	G Matthews
117	Garland Hawthorn Brahe (Mrs Ward)
118	South Sydney Council
119	Carnarvon Tourist Bureau (Inc)
120	Northern Australia Light Aviation Co
121	J Hoy
122	R Grezl
124	Search & Rescue

Submission Number	Person/Organisations
127	The Helicopter Pilot College
129	W Edwards
130	Air Transport - Aviation Management Services
133/153	P Middleton
134/158/166/266	The Australian Ultralight Federation Limited
135	Ferrier & Associates
136	J Bell
138	J Johanson
140	J Laverick
146/214	R Griffiths
150	J Way
151	Corby Aeronautics Pty Ltd
152	AVTECH Pty Ltd
153	P Middleton
154	A Fleming
155/165	Australian Light Wing
159	W Taylor
160/205	G Naranjo
161	G Reading
162	Sport Aircraft Association of Australia
164	T Baker
168	P Ware
169	Skyfox Aviation
170	R Collins
172	C Godfrey
173	S Walden
175	The Royal Aeronautical Society
177/181	ACT Aerial Service Pty Ltd
189	Captain J Curtis
191/254	Department of Finance
192	King Island Airlines P/L
202	K R N Lyons
203	B Taylor et al
204/264	Bureau of Air Safety Investigation
206	R F McInerney

**Submission
Number**

Person/Organisations

207	D Lang
210	Gippsland Aeronautics Pty Ltd
212	Department of Transport
213/265	Ansett Australia
216	RapAir Maintenance Pty Ltd
220/233	P E Patrick & Associates
251/252/262	Department of the Parliamentary Library
253/267	Qantas

EXHIBITS

Exhibit No.	Description
1.	Extracts from the business plan, Directorate of Aviation Safety Regulation, Civil Aviation Authority,
2.	CAA, Industry Discussion Paper, Commercial Passenger Carrying Operations in Single Engined Aeroplanes under the IFR and at right.
3.	CAA, Aviation Regulatory Proposal 4/93.
4.	J1 Ramp Check Inspection Aircraft, Not Agricultural Operations
5.	Volumes 2 to 6 of the submission from the Australian Licensed Aircraft Engineers association (ALAEA)

Vol 2 (Attachments 1-3)

- Attachment 1, Relevant ALAEA correspondence 1991-94
- Attachment 2, ALAEA submission to the Beale Safety Forum
- Attachment 3, Report and recommendations of the safety forum and CAA response to the safety forum report

Vol 3 (Attachments 4-8)

- Attachment 4, Minutes of meeting between ALAEA and the Board Safety Committee, August 1992
- January 1993

**Exhibit
No.**

Description

- Attachment 5, The Report of the Terrell Study Group (Terrell Report)
- Attachment 6, Captain Terrell's "second" report to Mr Ted Butcher, 30 March 1993
- Attachment 7, List of skilled airworthiness and flying operations staff who separated from the CAA under the redundancy arrangements of the Review of Resources
- Attachment 8, Notes of 14 April meeting between Mr Doug Roser, Ansett, Qantas, AATA, AAIA
- Volume 4 (Attachments 9-12)
- Attachment 9, Vincent/Harrison Report, June 1993
- Attachment 10, Steering Committee Report, June 1993
- Attachment 11, Sypher Mueller Report, November 1993
- Attachment 12, Williams Report, CAA External Customer Perception Survey: a report on a survey of the views of the low capacity regular public transport group, June 1992
- 5. Volume 5 (Attachments 13-17)
 - Attachment 13, Selected documentation on air safety issues relating to Winrye, Piccolo, Singleton/Yanda etc
 - Attachment 14, CAA report on Services to be provided to GA

**Exhibit
No.**

Description

- Attachment 15, Minister's 20 July announcement establishing Aviation Safety Agency
- Attachment 16, CAA Funding Strategy - Aviation Safety Regulation, 1994
- Attachment 17, 5 August report by Director, DASR, on implementation of Steering Committee recommendations and June Surveillance report
- Volume 6 (Attachments 18-23)
- Attachment 18, May 1993 surveillance report
- Attachment 19, List of training courses for DASR staff
- Attachment 20, Excerpts from BASI report on the Monarch accident
- Attachment 21, October 1993 CAA draft Strategic Plan
- Attachment 22, DJ Llewellyn, "What Price Safety? How Effective is the Civil Aviation Authority in Improving Safety in Aviation?", AOPA, 1993
- Attachment 23, Article by Martin Aubury, "The High Price of skimping on Safety", and other press clippings relevant to air safety accidents and incidents in the period 1991-1994

**Exhibit
No.**

Description

6. Attachments 1 to 3 of the submission from Mr Yeend
- . Attachment 1, Summary of experience and qualifications
 - . Attachment 2, Flight Standards proposals - Mr F Yeend
 - . Attachment 3, The Administration of Flight Standards, a comparative study of the administrative arrangements in the UK, USA, Canada, Japan and Australia by Mr F Yeend
7. Attachments from the submission from the Regional Airlines of Australia Ltd
- . RAAA Memorandum of Association
 - . Civil Aviation Orders Part 82
 - . Report of the Independent Inquiry into Aviation Cost Recovery
 - terms of reference, overview and recommendations
 - . General information paper on the RAAA
8. Annexe 1 from the submission from Mr R Broadbent
8. Annexures 2 and 3 from the submission from Mr R Broadbent
9. Appendixes N1 to N13 from the submission from Mr A Jeeves as follows:
- Appendix: N1 Hansard 1988
- Appendix: N2 Extract ICAO Model Document

Exhibit No.	Description
Appendix: N3	PSU Interim Report to CAA re Internal problems
Appendix: N4	RAS submission to inquiry re CAA in 1992
Appendix: N5	"Maintenance Down Under" & Union Concerns
Appendix: N6	Advert illustrates presents deficiency of CAR 31
Appendix: N7	Repealed CAR 300 to advantage foreign nationals
Appendix: N8	correspondence - HR disputes Inspector recruitment
Appendix: N9	employee comment on useless consultancies
Appendix: N10	Ombudsman's Report on Nomad Fatality
Appendix: N11	flawed OAPA Editorial - also member of AAC
Appendix: N12	Author's report on AUF non- conformances
Appendix: N13	Extract re corporatisation of FAA
10.	Attachments to submission 77 - BASI report on the Tarago accident, submissions by Ms E Fullarton, counsel for the family of the late Alison Jane Barry and findings of Mr P D Gould, Deputy State Coroner

Exhibit No.	Description
11.	Attachments to submission 78 - Qualcon 94 conference information and copy of AS/NZS ISO 9001: 1994
12.	Attachments to submission 82 - Correspondence between Mr Broadbent and the Civil Aviation Authority
13.	Attachments to submission 83 -
	Attachment A Civil Aviation Regulation (amendment) 93RS019
	Attachment B CAA letter dated 11 April 1993 authorizing an airline to increase flight hours for pilots
	Attachment C Worksafe Australia report on Flight Crew Duty And Rest-summary only
	Attachment D AIPA newsletter extracts detailing CAO discussions with the CAA
	Attachment E CAA letter dated 20 September 1994 to the Australian International Pilots Association
	Attachment F CAA letter dated 22 September 1994 to the Australian International Pilots Association
14.	Copy of the submission on behalf of the family of the late Mr S L C Howard made to the coroner's court
16.	Letter dated 20 October from Mr D Smith enclosing PP McGuinness article, 'What price air safety?'

Exhibit No.	Description
17.	Letter dated 20 October from Mr D Smith enclosing presentation he made as chairman of the CAA entitled, 'Facts Not Phobia'
18.	Attachments to submission 87
Attachment B	Strategic Directions for the Civil Aviation Authority - Australia, March 1994
Attachment C	Status of recommendations arising from the Terrell Review
Attachment D classes	Standards applicable to different of aircraft operation
Attachment E	Attendance at a meeting of the United States Technical Oversight Group of Aging Aircraft (TOGAA) Monterey, California, July 19, 1991
Attachment F	Proposed Renewal Fees
Attachment G	Funding strategy, Aviation Safety Regulation
Attachment H	CAA, Schedule of Fees
19.	Correspondence between Captain JLW Ellis and Ministers/ departments, forwarded to the committee by the Minister for Transport
20.	Letter to the Minister for Transport from Duells solicitors forwarded to the committee

Exhibit No.	Description
21.	Letters from Mr R Griffiths 24 Altissimo Close, Stephens to the Minister for Transport, forwarded to the committee
22.	Report from Anderson Consulting to CAA entitled, Aviation Safety Regulation Costing and Pricing, Recommendations for a Funding Strategy (December 1993)
23.	Letter from secretary to caucus forwarded to the committee
24.	Unsigned letter to Minister for Transport forwarded to the committee
25.	Letter from Mrs EM Askins 6 Ulua Place, Macquarie, Canberra, to Minister for Transport, forwarded to the committee
26.	Letter from Mrs R Hughs 3 Jones Place, Weetangera, ACT, to Minister for Transport, forwarded to the committee
27.	Letter from Mr K Dobak, Yamba, NSW to the Minister for Transport, forwarded to the committee
28.	Letter from WJ Enright & Sons, solicitors to Minister for Transport, forwarded to the committee
29.	Letter from Prof Emeritus HT Clifford 13 Warren Street, St Lucia, Queensland, to Minister for Transport, forwarded to the committee
30.	Letter from Mr R Broadbent, Surf Air, to Minister for Transport, forwarded to the committee
31.	Letter from Mr L Bennett, 9/23 Mitchell Avenue, Singleton, NSW, to Minister for Transport, forwarded to the committee

Exhibit No.	Description
32.	Letter from the Hon Dorothy M Isaksen MLC, Legislative Council, Parliament House, Sydney, NSW, to Minister for Transport, forwarded to the committee
33.	<i>Letter from Skyworx Aviation to Minister for Transport, forwarded to the committee</i>
34.	Letter from Dr AC Harding, 71 Pittwater Road, Hunters Hill, NSW, to Minister for Transport, forwarded to the committee
35.	Letter from Mr L Haines, Southport, Queensland, to Minister for Transport, forwarded to the committee
36.	Letter from Mr D Page, Member for Ballina, Legislative Assembly, Parliament of NSW, to Minister for Transport, forwarded to the committee
37.	Letter from Mr B Macdonald, Nhulunbuy, Northern Territory, to Minister for Transport, forwarded to the committee
38.	Unsigned letter to Mr G McMahon, Ansett Australia, forwarded to the committee
39.	Letter from Mr DA Stehlik, PF Marsh, 9 Naughton Street, Rockhampton to Minister for Transport, forwarded to the committee
40.	Letter from Mr H Manton, 38 Canberra Street, Randwick, NSW, to Minister for Transport, forwarded to the committee
41.	Letter from Mr V Challenor, 20 John Street, Scarness, Queensland, to Minister for Transport, forwarded to the committee

Exhibit No.	Description
42.	Letter from Professor A Wood, The Sir Lawrence Wackett RMIT Centre, to Minister for Transport, forwarded to the committee
43.	Civil Aviation Authority Australia, <i>Airspace</i> , magazine, September 27, 1990
44.	Letter from Mr G Creed "The Old Station" RAGLAN, Qld to Captain Allan Terrell
45.	Letter to the Minister for Transport from Mr R J Kelly, 2/22 Halifax Street, Garbutt, Townsville forwarded to the committee
46.	Letter to the Minister for Transport from Mr P and Ms C Hewitt, Skywork Aviation, PO Box 106, Greenwood, WA, forwarded to the committee
47.	Letter to the Minister for Transport from Mr R P Travers, PO Box, Benarkin Qld, forwarded to the committee
48.	Letter from Senator S Loosely on Singleton Air Services to the committee
49.	Submission by the CAA to the Senate Select Committee on Public Interest Whistleblowing
50.	CAA - Memo to all Managers and Staff
51.	CAA - Directorate of Aviation Safety Regulation - Training and Development
52.	CAA - Directorate of Aviation Safety Regulation - Corporate Structure (Current 1994)
53.	CAA - Aviation Safety Regulation - Key Dates
54.	CAA - DASR Information Management Strategy

Exhibit No.	Description
55.	CAA - National Transportation Safety Board Washington, DC 20594, Safety Study, Commuter Airline Safety
56.	CAA - Resources Review
57.	Report on the Current Resource Situation in the Direcorate of Aviation Safety Regulation (DASR) of the CAA
58.	Annexure of Documents to submission 98
59.	Letter to the Minister for Transport from Mr R J Mulcahy, Australian Hotels Assocation, PO Box E350, Queen Victoria Terrace, ACT forwarded to the committee
60.	Letter to the Minister for Transport from Mr Sandy Robinson, 7 Coane Street, Holder forwarded to the committee
61.	Letter to the Minister for Transport from Mr P Cunningham, PO Box 767, Queanbeyn forwarded to the committee
62.	Annexures to submission 109 Annexe A Annexe B Annexe C Annexe D
63.	Annexures to submission 123 Annexe A Annexe B
64.	Attachment to submission 125
65.	The Abberton report, presented by Mr B Schiemer at the 1 Febuary public hearing in Canberra

Exhibit No.	Description
66.	Memo (11-3-93) from Mr B Schiemer re resignation of Mr Cochran presented at the 1 February public hearing in Canberra
67.	Mr M Shannon report, dated 25.3.93, on Western New South Wales Airlines presented by Mr B Schiemer at the 1 February public hearing in Canberra
68.	Response of Mr B Schiemer dated 17.6.93 to letter from RAAA presented by Mr B Schiemer at the 1 February public hearing in Canberra
69.	Correspondence between Mr B Schiemer and Mr G Marcionis presented by Mr B Schiemer at the 1 February public hearing in Canberra
70.	Discussion paper on performance pay dated 20 June 1994 presented by Mr B Schiemer at the 1 February public hearing
71.	A discussion paper on flying training for HO FO1s dated 5 October 1994 presented by Mr B Schiemer at the 1 February public hearing
72.	Report on Twin Commander Wing Review Meeting dated 11, 12 June 1991 by Mr S Swift presented by Mr S Swift at the 1 February public hearing in Canberra
73.	February 1991 monthly report to Assistant General Manager Airworthiness Engineering from Manager Fatigue Section presented by Mr S Swift at the 1 February public hearing in Canberra
74.	Photograph on aircraft corrosion presented by Mr A Emmerson at the 8 February public hearing in Canberra

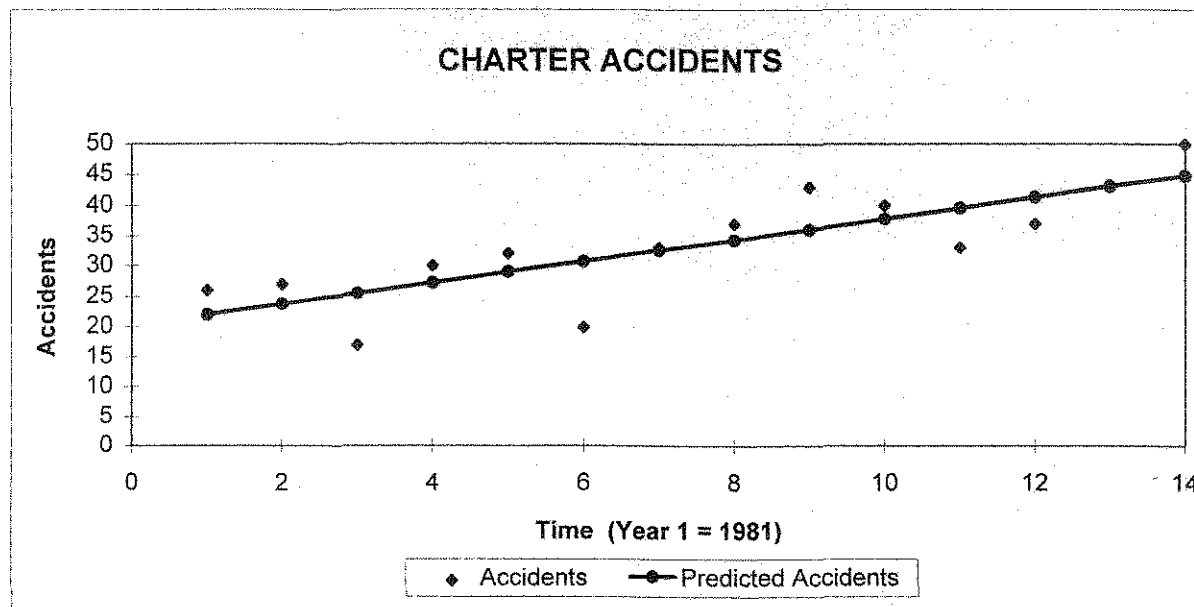
Exhibit No.	Description
75.	Airworthiness branch personnel requirements 1994 and beyond, document presented by Mr A Emmerson at the 8 February public hearing in Canberra
76.	Graphs on number of accidents per year and technical staff per 100 aircraft 1951-93, presented by Mr A Emmerson at the 8 February public hearing in Canberra
77.	Graphs on charter and commuter accident rates, 1985-94, presented by Mr A Emmerson at the 8 February public hearing
78.	Miscellaneous documents presented by Mr A Emmerson at the 8 February public hearing in Canberra
79.	Document on Hawker Pacific Pty Ltd presented by the company on 16 February 1995 at the inspection of the Bankstown operations
80.	Documents presented by Aero Support at the 16 February public hearing at Bankstown
81.	Copy of letter from Captain P Sheehan dated 28 November 1994 to Staunton judicial inquiry
82.	Attachment to submission 160
83.	Attachment to submission 162
84.	Attachment to submission 163
85.	Attachments to submission 174
86.	CAA document, proposed fees for renewals of air operator certificates, certificates of approval and aerodrome licences, dated 14 September 1994, presented on 23 February during the inspection of Moorabbin airport

Exhibit No.	Description
87.	Miscellaneous documents presented by Mr A Jeeves at the 23 February public hearing in Moorabbin
88.	Documents presented to the 24 February 95 public hearing in Moorabbin by Mr P Nendick
89.	Miscellaneous documents presented by Mr P Nendick at the 24 February public hearing in Moorabbin
90.	Address by Mr F Baldwin to senior managers, 5 December 1990, presented by Mr Nendick at the 24 February public hearing in Moorabbin
91.	Letter from Mr B MacDonald, Ms S Robinson and Mr H Mantor forwarded to the Minister for Transport, forwarded to the committee
92.	Report on Publication Centre Review Corporate Audit and Quality Assurance April 1992 from Mr P Goujon
93.	Attachments to submission 153
94.	Letter dated 27 October 1994 from Captain P Sheehan
95.	Letters from the General Aviation Association, Helitech Industries Pty Ltd, and Mr C Grey to the Minister for Transport, forwarded to the committee
96.	Letter from Captain P Sheehan dated 20 February
97.	Attachments to CAA submission 180
Attachment A -	report to the safety committee of the board from ALAEA dated 26 August 1992

Exhibit No.	Description
	Attachment B - general permission under regulation 134 for ex-military aeroplanes and Warbirds - A new approach, a briefing paper for the CAA board safety committee
	Attachment C - Canadian Aviation Regulation Advisory Council CARAC Newsletters and CARAC management charter and procedures
98.	Documents presented by ALAEA at the 9 March public hearing in Canberra
99.	Quality Certification News - received from Australian Quality Assurance Consultants at the Bankstown hearing 16 February 95
100	Attachments to submission 184
101	Documents tendered by CASA at the 18 October 1995 Canberra public hearing - Erikson and Associates, Consultants' Written Critique of the CAA's Procedures in Relation to Continued Airworthiness
102	Documents relevant to the dispute between Mr B Schiemer and Mr M Baston in relation to Western Airlines
103	Documents tendered by Captain R Davies at the 29 March 1995 Canberra public hearing
104	Documents tendered by Captain Alan Terrell at the 29 March 1995 Canberra public hearing
105	Documents tendered by Mr G Bailey at the 30 March 1995 Canberra public hearing

Exhibit No.	Description
106	Letter from Mr K Lyons
107	Documents on Review of the Flying Training Industry presented by the Civil Aviation Authority
108	Documents tendered by Captain R Collins at the 7 April 1995 Brisbane public hearing
109	Documents tendered by the Queensland Aircraft Manufacturers at the 7 April 1995 Brisbane public hearing
110	Documents tendered by Mr S Ingham at the 7 April 1995 Brisbane public hearing
111	Statement tendered by Mr R Broadbent at the 7 April 1995 Brisbane public hearing
112	Letters of 10 March and 18 April from the Civil Aviation Authority on Airworthiness Directives
113	Attachments to submission 119
114	Information from Queensland Aircraft Manufacturers Association sought at 7 April 1995 Brisbane public hearing
115	Fastbook Holidays - 1994/95 holiday prices, Lord Howe Island, tendered by Mr J Laverick at the 31 May public hearing
116	Table, changes in Australian GA fatality rate 1981/94, presented by Mr P E Patrick at the 31 May public hearing
117	Attachments to submission 231 from Captain Davies
118	Attachments to submission 235 from the National Institute of Airworthiness Surveyors

Exhibit No.	Description
119	Attachments to submission 237 from Qantas
120	Documents presented by the National Institute of Airworthiness Surveyors
121	Information from the Air Transport Council, Department of Transport, New South Wales
122	Information on AOC's, Civil Aviation Safety Authority
123	Number of pilot licences 1984 - 95, Civil Aviation Safety Authority
124	Federal Court Judgement: Broadbent and Montchel Pty Ltd v CASA (15 September 1995)
125	Attachment 5 to submission 253 - Qantas safety material
126	Attachments to submission 261. Documents re reverse thruster problems
127	CAA - Emergency locator transmittro, discussion paper
128	Report - Critique of CAA's procedures in relation to continued airworthiness
129	Documents re Captain R Lovell
130	Documentation prepared by Mr Maurie Baston relating to his dealings with Mr Ben Shiemer
131	Various Airworthiness Directives and Advisory circulars
132	CASA paper re bogus parts
133	CASA regulatory proposals re use of parts
134	CASA bogus parts and insurance



Regression results:

$$\text{Accidents} = 20.21 + 1.76 \text{ Time}$$

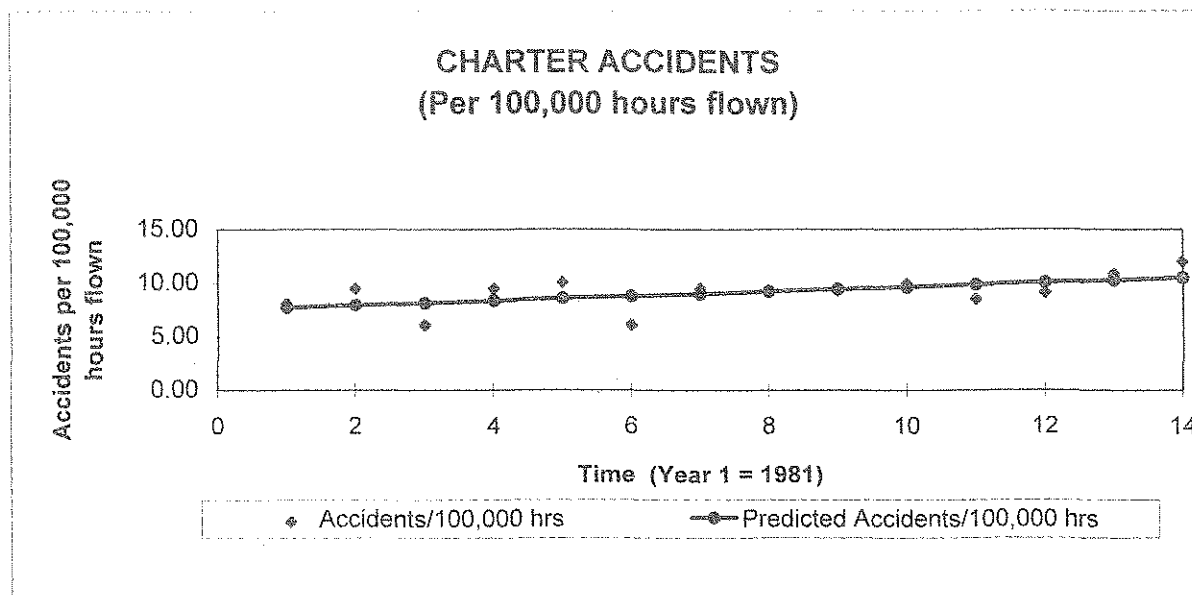
(6.36) (4.72)

$$R \text{ Squared} = 0.65$$

(Figures in brackets are t statistics)

Time trend is significant at the 99% level of confidence.

Source: Derived by the Parliamentary Research Service from BASI data.



Regression results:

$$\text{Accidents/100,000 hrs} = 7.53 + 0.21 \text{ Time}$$

(9.57) (2.29)

R Squared = 0.30

(Figures in brackets are t statistics)

Time trend is significant at the 95% level of confidence.

Source: Derived by the Parliamentary Research Service from BASI data.