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Performance Audit

# Aviation Safety Compliance Follow-up Audit

## Civil Aviation Safety Authority

Australian National Audit Office

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Australian National
Audit Office

Canberra ACT
28 June 2002

Dear Madam President
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit in the Civil Aviation Safety Authority in accordance with the authority contained in the *Auditor-General Act 1997.* I present this report of this audit, and the accompanying brochure, to the Parliament. The report is titled *Aviation Safety Compliance Follow-up Audit.*

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—http://www.anao.gov.au.

Yours sincerely

P. J. Barrett
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

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# Abbreviations/Glossary

| | |
|---|---|
| 1999 audit | ANAO's Audit Report No.19 1999–2000 *Aviation Safety Compliance* |
| AAT | Administrative Appeals Tribunal |
| Act | *Civil Aviation Act 1988* |
| Airlines | all the High Capacity Regular Public Transport (HCRPT) operators, the larger Low Capacity Regular Public Transport (LCRPT) operators and the Certificate of Approval (COA) operators that maintain those aircraft. These operators are managed by CASA's Airline Operations Offices |
| AOC | Air Operator's Certificate. The *Civil Aviation Act 1988* requires an AOC to be issued for operation of an aircraft, for prescribed commercial purposes, that fly in, into or out of Australian territory and Australian aircraft flying outside Australian territory |
| ANAO | Australian National Audit Office |
| ASIR | Air Safety Incident Report |
| ASSP | Aviation Safety Surveillance Program |
| ATSB | Australian Transport Safety Bureau |
| CAIRS | Confidential Aviation Incident Reporting Service |
| CAR | Civil Aviation Regulation |
| CASA | Civil Aviation Safety Authority |
| COA | Certificate of Approval is issued to persons and organisations that intend to carry out the design, distribution or maintenance of aircraft, aircraft components or aircraft materials |
| charter | Operation of an aircraft to provide air transportation of people or goods or both that is provided for a fee payable by persons using the service and is not available to the general public on a regular basis |
| CSF | Critical Success Factor |
| DCAS | Divisional Coordination and Systems Section (of the Aviation Safety Compliance Division in CASA) |
| DOTARS | Department of Transport and Regional Services |
| DPP | Director of Public Prosecutions |

| | |
|---|---|
| ESC | Executive Safety Committee |
| ESIR | Electronic Safety Incident Report |
| FVA | Financial Viability Assessment |
| General Aviation | the smaller Low Capacity Regular Public Transport (LCRPT) operators, charter operators, operators who conduct aerial work, flying training organisations and the Certificate of Approval (COA) operators that maintain those aircraft. These operators are managed by CASA's Area Offices |
| HCRPT | High Capacity Regular Public Transport refers to aircraft with 38 seat capacity or greater operating Regular Public Transport (RPT) services |
| IT | Information Technology |
| LCRPT | Low Capacity Regular Public Transport refers to aircraft with less than 38 seat capacity operating Regular Public Transport (RPT) services |
| MDR | Major Defect Report |
| ME&I | Manager, Enforcement and Investigations |
| Minister | Minister for Transport and Regional Services |
| MOU | Memorandum of Understanding |
| NCN | Non-Compliance Notice |
| QA | quality assurance |
| RCA | Request for Corrective Action |
| RPT | Regular Public Transport is defined as the operation of an aircraft to provide a service for a fee payable by persons using the service conducted in accordance with fixed schedules to or from fixed terminals over specific routes and available to the general public on a regular basis |
| SIS | Safety Intelligence System |
| STI | Safety Trend Indicator |

# Summary and Recommendations

# Summary

## Background

**1.** Aviation plays a prominent role in Australian business, trade and tourism, as well as meeting important community needs. Australia generally has an impressive aviation safety record. However, any loss of confidence in aviation safety could have serious detrimental repercussions for the industry.

**2.** The Civil Aviation Safety Authority (CASA) is responsible for the regulation of aviation safety in Australia, except for aviation security. Under the *Civil Aviation Act 1988* (the Act), CASA has the role of regulating the safety of all civil air operations in Australia and Australian civil air operations overseas by, among other things: setting aviation safety standards; issuing certificates, licences, registrations and permits; conducting surveillance of the aviation industry; and enforcing compliance with the safety standards. In 1999, the Government advised CASA that its regulatory efforts should focus on protecting fare-paying passengers.

**3.** A well-documented and transparent safety surveillance and enforcement regime that ensures targeted and adequate industry coverage, as well as consistency and fairness for all, is necessary for CASA to demonstrate that it is effectively performing its functions under the Act.

**4.** CASA has changed, or is changing, a significant portion of its approach to the Aviation Safety Compliance activities that were in place during the previous Australian National Audit Office (ANAO) audit in 1999. This requires, among other things, a considerable cultural change from the industry and CASA's inspectors. CASA has grouped many of the changes under the CASA Improvement Program, a five-year program to modernise CASA's business processes and IT support systems.

## Follow-up audit objectives, scope and methodology

**5.** In November 1999, the ANAO tabled Audit Report No.19 1999–2000 *Aviation Safety Compliance* on CASA's aviation safety regulatory activities ('the 1999 audit'). The 1999 audit concluded that CASA's regulatory regime had contributed towards Australia's highly regarded record in aviation safety, but that potential existed for this regime to be improved and strengthened, with consequential increased confidence of all stakeholders. The 1999 audit made 13 recommendations for improvement, all of which CASA agreed with, except for one part of one recommendation, where CASA agreed with qualification.

**6.** The objectives of this follow-up audit were to determine, in respect of the issues addressed by the 1999 audit recommendations, whether:

- CASA has made satisfactory progress to improve its aviation safety surveillance and compliance activities; and
- the introduction of new strategies for further improvement is being appropriately managed.

**7.** Due to the scale of the changes to CASA's Aviation Safety Compliance activities since the 1999 audit, the ANAO adopted an issues-based approach and incorporated the 1999 audit recommendations into five main themes: risk identification; surveillance; enforcement; resources; and corporate governance.

**8.** As was the case with the 1999 audit, the follow-up audit focused on the surveillance and compliance of organisations that CASA has certified to:

- operate aircraft for prescribed commercial purposes (Air Operator's Certificates (AOC) operators); and
- maintain, design or distribute aircraft and their components (Certificate of Approval (COA) operators).

**9.** The follow-up audit methodology included consultations with a range of key personnel in CASA's Head Office in Canberra and at its various locations throughout Australia; consultations with the Department of Transport and Regional Services (DOTARS); examining comments made by members of the Aviation Safety Forum; and examining documentation held by CASA concerning its surveillance and compliance activities.

## Overall conclusions

**10.** Overall, CASA has improved its management of aviation safety compliance since the 1999 audit, particularly in areas such as the identification of risks at the operator level; the frequency and coverage of surveillance; and enforcement of the Act. CASA has adequately addressed the majority of the recommendations from the 1999 audit and has partially implemented the remaining relevant recommendations.

### Risk identification

**11.** CASA has improved its means of identifying and prioritising risks to aviation safety at the operator level. The Safety Trend Indicator (STI) is a useful tool for doing this. It will improve further with the introduction of STI version 2. Recognising the potential increased risk to safety posed by financially marginal operators, CASA has targeted its financial viability assessment (FVA) process according to the areas of perceived greatest financial risk.

**12.** However, the ANAO considers that CASA has not improved its means of identifying and prioritising risks to aviation safety at the sector or industry level. Progress with the development and implementation of the Safety Intelligence System (SIS) has been overly protracted. There is much that CASA can do to improve its analysis of aviation safety data to help to identify emerging risk issues and trends; and to apply the results to CASA's strategic decision-making about where to best allocate its resources to achieve required performance.

## Surveillance

**13.** Overall, there has been a significant improvement in the coverage of operators due to the introduction of a combination of scheduled and risk-based surveillance. Scheduled surveillance of operators continues to improve. Surveillance of General Aviation is generally conducted in time to be taken into account when CASA considers renewing AOCs and COAs. CASA uses the results from the STIs and other intelligence to, in the main, appropriately target its risk-based surveillance to the operators that CASA perceives pose the greatest risks to aviation safety.

**14.** CASA is changing its surveillance approach from product checks, such as in-flight observations, to systems-based audits, supplemented by product checks. These systems-based audits focus on the design and operation of the range of systems that operators have in place to continue meeting the requirements of the Act and Civil Aviation Regulations (CARs).

**15.** Inspectors consider that operators, as a group, have a considerable way to go to attain the comprehensiveness in their safety systems sought by CASA. CASA considers that its systems-based audit approach, which is being implemented in phases, will ultimately deliver this and believes that the new approach is already delivering better safety outcomes. The safety systems approach and CASA's systems-based auditing, when fully implemented, will enable CASA to better monitor operators' compliance with the Act and CARs. However, considerable work remains to be done to refine their implementation, otherwise there is a risk that CASA's agenda of aviation safety reform may falter.

**16.** In particular, CASA could:

- better demonstrate that it is conducting sufficient product checks, commensurate with the comprehensiveness of operators' safety systems; and
- improve its use of the surveillance results as a decision point (or trigger) for considering whether action—such as additional surveillance, enforcement action or other suitably related measures—is necessary to maintain operator compliance with the Act and CARs.

## Enforcement

**17.** Overall, the ANAO considers that CASA has better enforcement strategies in place to secure operator compliance with the Act and CARs than the enforcement strategies that were in place at the time of the 1999 audit. Although informal enforcement action is under-used and CASA applies it inconsistently, the more severe enforcement actions—civil and criminal—when pursued, are generally effective at removing threats to aviation safety and supporting prosecutions of offenders.

## Resources

**18.** CASA has bettered its target of allocating 40 per cent of its inspectors' time to surveillance activities, which is a marked improvement from the 1999 audit. CASA appears to have adequate resources in its Area / Airline Operations Offices to conduct the required scheduled surveillance, and to maintain the current number of risk-based audits. Nevertheless, CASA should monitor and review the quantum of resources it spends on both scheduled and risk-based audits to inform future strategies for surveillance.

**19.** CASA has recognised that the key section responsible for coordinating its surveillance approach, the Divisional Coordination and Systems Section (DCAS), has been significantly understaffed for some time. The ANAO considers that this has significantly impeded the implementation and 'bedding down' of systems-based auditing. The training of inspectors, guidance materials, and quality assurance (QA) reviews of systems-based audits have not been as effective as they might have been due to a lack of resources in DCAS.

## Corporate governance

**20.** The ANAO considers that CASA has significantly improved its corporate governance in some areas, such as the production of corporate plans and the lines of communication throughout the Aviation Safety Compliance Division. On the other hand, more work needs to be done in other areas such as developing credible and useful performance measures and tracking recommendations made as a result of reviews of CASA operations by the Australian Transport Safety Bureau (ATSB), parliamentary committees and others.

**21.** Significant improvements can also be made in CASA's corporate governance by:

- the Executive Safety Committee (ESC) better fulfilling its responsibilities through commissioning analysis of available aviation safety data to assist in the targeting of CASA's resources to address emerging aviation safety risk issues and trends; and

- staff improving their adherence to CASA's surveillance policies and procedures.

**22.** The CASA Improvement Program is a major attempt to modernise CASA's business processes and IT support systems. The ANAO appreciates that CASA and the CASA Board recognise that the implementation of the Program involves significant risks. Therefore, in the ANAO's view, CASA and its Board should continue to monitor closely whether the Program is achieving the desired results. It may therefore be necessary to supplement monitoring arrangements with appropriate reviews and evaluations.

## CASA response

**23.** CASA agreed to all three recommendations arising from this audit. However, CASA is concerned that in the process of reaching key findings and summarising the report, the ANAO has downplayed CASA's achievements and placed greater emphasis on what remains to be done.

# Key Findings

## Risk Identification (Chapter 2)

### Sector and industry risk—Safety Intelligence System (SIS)

**24.** CASA has access to a great deal of data related to aviation safety. Regular analysis of this data, which is currently stored in a variety of databases, would allow CASA to identify risk issues or trends in aviation safety and therefore to assess the safety performance of the aviation industry as required by the Act. CASA could then also direct its resources to address the greatest risk issues. As part of the SIS, CASA is attempting to overlay the variety of databases with a framework that allows CASA to determine how effectively it is performing its regulatory responsibilities.

**25.** The ANAO found that, generally, CASA does not analyse the various databases available to it to identify risk issues or trends in aviation safety. In the few cases where analysis has been undertaken, the results have not been applied to CASA's strategic decision-making about the allocation of its resources. However, CASA indicated that the data it holds is of varying usefulness.

**26.** CASA indicated that the SIS is conceptually and intellectually difficult to develop and implement. The ANAO found that the completion and use of the SIS to measure CASA's overall effectiveness is still some years away. However, CASA advised that it is now moving to set up an expert analytical cell to analyse the data that is collected and logged in various databases that CASA has access to.

**27.** The ANAO considers that CASA's progress in implementing Recommendation No.10 from the 1999 audit, which related to enhancing CASA's analytical capability and monitoring the progress with the introduction of the SIS, has been overly protracted given the significance of those elements for CASA's performance.

### Operator risk—Safety Trend Indicator (STI)

**28.** The ANAO considers that the STI is a useful tool for: quantifying and rationalising the relative safety risks of each operator; retaining corporate memory; and ensuring inspectors consider every operator regularly. STI forms are generally completed as frequently as CASA surveillance policy requires.

**29.** The STI can be applied to both large and small operators and, although its usefulness is limited for airline operators, CASA is working on a modified version to address this issue. Adequate training has been, and continues to be,

given to inspectors in the use of the STI, but written guidance on interpreting STI questions would help to reduce any inconsistency in its application.

**30.** Version 2 will further enhance the usefulness of the STI. The ANAO considers that the effectiveness of STI version 2 would benefit from a well-planned implementation program that coordinated training for CASA staff and briefings for the aviation industry with the necessary IT support systems. CASA indicated that the development and implementation of STI version 2 is part of the 'early works' projects within the CASA Improvement Program.

**31.** Regular analysis of the STI data could be a valuable input into CASA's SIS to allow CASA to better target its resources to its various functions and improve its performance.

**32.** The STI represents a significant improvement on CASA's previous risk assessment methods for surveillance planning. Overall, the ANAO considers that CASA has adequately addressed Recommendation No.7 from the 1999 audit, which concerned improving the determination of surveillance priorities.

## Operator risk—Financial Viability Assessments (FVA)

**33.** The ANAO considers that CASA has targeted its FVA process according to the areas of perceived greatest financial risk. The FVA process, as currently implemented by CASA, is a good means of educating the unwary, or poorly informed applicants, at entry control, of the capital-intensive nature of the industry.

**34.** The ANAO also agrees with CASA that, after an AOC has been issued, industry intelligence and the STI are sound, cost-effective tools for factoring an operator's financial circumstances into CASA's surveillance program.

**35.** The setting of financial reporting conditions, as part of the FVA process, gives rise to expectations that CASA will monitor whether operators meet the conditions, and then take appropriate action. However, CASA is not in a position to perform this monitoring role. The ANAO considers that CASA should consider replacing specific reporting conditions with guidance that puts the onus on operators to consider for themselves the ramifications of any changed financial circumstances for their operations. CASA indicated that it agrees with this approach.

**36.** CASA intends to extend the FVA process so that all AOC applicants and operators renewing their AOCs would submit a simple self-assessment of their financial position. This is a useful initiative for making all operators consider their financial position at entry control. It is likely this could be achieved without greatly increasing CASA's workload.

**37.** The ANAO considers that CASA has adequately addressed Recommendation No.2 from the 1999 audit, which related to increasing the effectiveness of FVAs.

## Surveillance—Frequency and Coverage (Chapter 3)

### Combination of scheduled and risk-based surveillance

**38.** Overall, there has been a significant improvement in the coverage of operators due to the introduction of a combination of scheduled and risk-based surveillance. CASA's coverage of the industry is more systematic and consistent than it was in 1999.

**39.** The Divisional Coordination and Systems Section (DCAS) in CASA monitors the achievement of scheduled and risk-based surveillance and provides a list of all audits conducted to the bi-monthly ESC meetings. This action addresses Recommendation No.3(c) from the 1999 audit, which was about monitoring the conduct of surveillance. To improve this position further, CASA should analyse surveillance coverage from a national perspective, as well as by Area Office, which would ensure that resources are more consistently directed to operators that pose the greatest safety risks.

### Scheduled surveillance

**40.** The surveillance of General Aviation is generally conducted in time to be taken into account when CASA considers renewing AOCs and COAs. This addresses Recommendation No.1 from the 1999 audit, which related to timing surveillance to inform certificate renewal. For Airlines, CASA has sustained adequate levels of surveillance during the transition from product checks to systems-based audits in line with Recommendation No.6(b) from the 1999 audit. However, the ANAO considers the balance between the quantum of systems and product checks is also important in the transition phase (discussed further in Chapter 4).

### Risk-based surveillance

**41.** The risk-based audits now used to monitor particular operators more closely are, in the main, appropriately targeted to the operators that CASA perceives pose the greatest risks to aviation safety. The ANAO found that 85 per cent of operators listed in the 'top ten' highest STI scores in Area Offices during the period examined were adequately covered by either scheduled or risk-based surveillance. This addresses Recommendation No.3(a) from the 1999 audit, which was about undertaking surveillance of operators that pose the

greatest safety risks. To improve this situation further, the ANAO considers that CASA should adequately document the reasons for selecting operators for risk-based surveillance; should better monitor the completion rate of these audits; and should ensure consistency across offices in what kind of surveillance activity constitutes a risk-based audit.

## Surveillance—Systems-based Audits (Chapter 4)

### Overview of systems-based auditing

**42.** CASA is changing its surveillance approach from product checks, such as in-flight observations, to systems-based audits. These focus on the design and operation of the range of systems that operators have in place to continue meeting the Act and CAR requirements. As noted earlier, CASA needs to balance its systems checks with sufficient product checks, to ensure that aviation safety is not compromised in the transition—particularly for operators whose safety systems are not yet comprehensive. The ANAO concurs with CASA that the systems-based approach to surveillance has potential advantages over the previous product-based approach.

**43.** In recognition of the extent of cultural change and considerable improvement in safety systems required from operators, CASA is implementing the new approach in phases. CASA believes that the new approach is already delivering better safety outcomes and will ultimately deliver a more safety-focused industry.

**44.** As is to be expected at this early stage of implementation, operators, as a group, have a considerable way to go to attain the comprehensiveness in their safety systems desired by CASA. Systems-based auditing relies on operators' ability to apply their documented procedures and to address the root causes of problems. The ANAO found that inspectors are currently not confident that a significant proportion of operators do either consistently. This makes it all the more important that CASA's systems-based audits assess operator compliance; rigorously identify breaches; and make clear the systems/areas that operators are required to address. The audits are, and will continue to be, an important educative tool that conveys feedback to operators about how they are progressing in the context of the systems-based approach.

### Audit planning and the use of multi-disciplinary teams

**45.** It is important that systems-based audits are well planned to ensure adequate coverage of the operator's safety systems and to demonstrate that surveillance is appropriately targeted to the operators' areas of greatest risk.

This is important if operators are to be effectively guided towards the standard of safety systems that CASA considers is necessary.

**46.** However, for most of the General Aviation audits examined, the ANAO found little record of audit planning that demonstrated that past audit findings and industry intelligence were actually taken into account. Audit planning for Airline audits was more evident than for General Aviation audits, which might be attributable to the former's longer experience with the systems-based auditing approach. The ANAO considers that the audit planning process should be better documented, and that CASA should monitor the extent of the Audit Elements covered for each operator over the life of their certificate. This would help ensure that all key facets of safety are addressed over time and that CASA's surveillance policy is being achieved.

**47.** CASA has moved away from the previous arrangement of *controlling* and *conducting* offices for the surveillance of operators with bases at multiple locations. Instead of using different teams to conduct surveillance at different locations for these operators, the same audit team now usually travels to the operators' various locations. Therefore, Recommendation No.4 from the 1999 audit, which related to improving the effectiveness of the controlling and conducting office arrangement, is no longer relevant.

## Audit conduct and the Audit Element List

**48.** Systems-based audits are centred on the Audit Element List, which is a generic inventory of all the systems and auditable areas that could be applicable to an operator. In examining the audit reports (and some operator files), the ANAO found that, in most cases, the processes the particular team had followed were poorly documented. It was difficult to track what testing, including product checks, was actually done under each of the Elements, and to know where to draw the boundaries of each Element. Consequently, it was not possible for the ANAO to determine the extent to which CASA inspectors followed the testing guidelines outlined in CASA's surveillance policy. It also makes it difficult for subsequent teams to plan effectively. A paper highlighting similar shortcomings was presented at the Area Managers meeting in September 2001.

**49.** The importance of balancing reliance on operator's safety systems, and conducting sufficient product checks to verify that systems are operating as they should, was illustrated by the grounding of Ansett Airline's 767 aircraft in December 2000 and April 2001. In this case, substantial organisational changes led to systemic maintenance issues that resulted in significant airworthiness problems. The general lack of clarity of the testing performed during systems-based audits means that, in cases such as this, it is difficult for CASA to

demonstrate that it is conducting sufficient product checks commensurate with the comprehensiveness of operators' safety systems, particularly during periods of transition. CASA advised that the systemic failures in Ansett Airlines were the result of latent conditions within at least four organisations and that the probability that product audits would have identified this issue was extremely low.

**50.** CASA acknowledged that it does have a considerable way to go with comprehensive surveillance record keeping and records management and with the establishment of good 'paper' trails for quality assurance. CASA also emphasised that it is still focusing strongly on reinforcing consistency through staff training and policy, together with guidance to industry. DCAS' plans to map the relationship between the Audit Elements and the CARs and to rewrite the surveillance manuals should be of considerable assistance in this regard.

## Audit reporting—the Audit Report Package

**51.** When the CASA audit reports were comprehensive, they represented a significant improvement over the checklists approach in place during the 1999 audit—their scope, findings and outcomes were clear and they provided an effective basis for deciding whether further action was required. However, the majority of the General Aviation audit reports examined by the ANAO were not comprehensive. CASA indicated that the inspectors are still on a 'learning curve' with respect to writing audit reports and that it is not reasonable to expect that a new approach will be fully correct from the outset or that the implementation difficulties that will be encountered can be fully anticipated. CASA considers that the rewriting of the Aviation Safety Surveillance Program (ASSP) manual and further guidance will help inspectors to improve the quality of their reports until they routinely meet the required standard.

**52.** Although only snapshots in time, systems-based audits, subject to their scope, provide the most up to date information on the standard of operators' activities. It is at this point that inspectors should use their professional judgement to determine whether some action by CASA is necessary to ensure operators continue to comply with the Act and CARs. This decision should take into account the cumulative impact of: the latest audit results; the operators' general compliance history; any unacquitted breaches; and any repeat breaches. Action could take the form of a risk-based audit, some formal or informal enforcement action, or other suitably related measures.[1] It is important that any action is timely to avoid any potential compromise to aviation safety.

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[1] CASA indicated that between surveillance and enforcement there is an educative role. If CASA is to work constructively with operators to encourage them to accept their safety responsibilities, CASA considers it needs to distinguish between an intention to breach the regulations and a lack of understanding of the regulations.

**53.** CASA indicated its current surveillance policies, procedures and practices ensured that further action was undertaken where necessary. However, the ANAO:

- found generally, little or no record, at the completion of an audit, of consideration being given to identifying broad systemic issues or how to improve an operator's safety culture;
- considers that a review of an operator's compliance history only at the time of certificate renewal every three years may not be timely enough to sufficiently manage threats to aviation safety; and
- considers that circumstances arise that are not so serious as to warrant an immediate suspension of an operator's activities and where Requests for Corrective Action (RCAs) alone are an insufficient response to manage compound and/or repeat issues.

## Audit follow-up—Requests for Corrective Action

**54.** The ANAO found that the RCAs issued by inspectors were precise; were adequately linked to the Act/CARs and Audit Elements; showed the breach clearly; and sought preventive action from the operator as well as corrective action. CASA considers that its RCAs are achieving their intended purpose of obtaining corrective and preventive action from operators to breaches CASA identifies. For example, the number of RCAs issued to airlines has decreased markedly over the two years systems-based audits have been in place as the airline operators take the preventative actions required.

**55.** However, the ANAO found instances of supposedly acquitted breaches in one audit requiring further RCAs in subsequent audits—with no additional comment or penalty for the operator. This would imply a failure in the systems-based approach, as it would mean that the operators were not, in fact, correcting their systems. In this regard, this audit did not find the same pattern of serious non-compliance by operators that was evident during the 1999 audit.

**56.** CASA also should acquit RCAs in a timely manner to reduce the risk of the breaches recurring because of tardy or inadequate preventive action from operators. During 2000–01, the average number of days RCA acquittals were overdue grew. However, more recent CASA analysis indicates that CASA is well on the way to bettering its target of 50 days overdue for 2001–02, and to achieving its target of 30 days in 2003–04. As CASA has recognised, its RCA monitoring systems do not record sufficient information for CASA to determine whether an overdue acquittal is the fault of the operator or the inspector assigned to follow it up. For the longer term, CASA indicated that the redesign of CASA's IT systems

under the CASA Improvement Program will address this problem. In the shorter term, the ANAO considers that CASA could introduce other mechanisms to ensure that RCA acquittal times do not grow unnecessarily.

## Enforcement (Chapter 5)

### Informal enforcement action

**57.** Well-timed informal enforcement action, the least severe of CASA's enforcement tools, may put minor offenders back on the compliance 'path' and thus avoid more serious non-compliance in the future. The ANAO found that CASA applies informal enforcement action inconsistently and under-uses this enforcement tool. These deficiencies seem to result from a combination of a lack of clear guidance to CASA inspectors on the types of situations where informal enforcement action is appropriate, and a lack of understanding, or willingness, of inspectors to apply informal enforcement actions.

**58.** RCAs are a valuable tool for improving operator compliance. However, they alone may not be sufficient to address compound and/or repeat breaches of the Act or CARs. Informal enforcement action may prove to be a better way to address such breaches.

**59.** CASA indicated that it now monitors informal enforcement action; has identified the offices that undertake it; and recorded the circumstances where it is being used. CASA is now developing strategies to ensure that all field offices use informal enforcement action appropriately. CASA expects it will take another six months before the scheme is fully effective.

### Civil enforcement action

**60.** CASA's civil enforcement action process is operating well, when being pursued, and is generally effective at removing threats to aviation safety. Of the 29 challenges to CASA's civil enforcement actions determined by the Administrative Appeals Tribunal (AAT) and Federal Court in 2000–01, only four were set aside or overturned. CASA's established processes for handling civil actions are followed, with decisions and reasons for decisions being well documented. However, the ANAO considers that closer monitoring of the enforcement process would ensure the timeliness of preparing key documents and making key decisions. Any delays in preparing the required paperwork once CASA decides to cancel, or vary, a certificate or licence mean that offenders remain operating longer than necessary (unless under suspension), with consequential risks to aviation safety.

### Criminal enforcement action

**61.** CASA's criminal enforcement action process is also operating well. It is generally effective in supporting prosecution of offenders by the Director of Public Prosecutions (DPP) in accordance with the Prosecution Policy of the Commonwealth. Of the 30 prosecution cases pursued by the DPP that were completed in 2000–01, only three acquittals resulted. CASA's investigators are directed to the most serious offences. Established processes for handling criminal actions are generally followed and are usually timely, with decisions and reasons for decisions being well documented.

**62.** The ANAO considers that CASA has adequately addressed Recommendation No.8 from the 1999 audit, which was about ensuring appropriate and timely enforcement action.

### Enforcement training

**63.** CASA requires staff with the appropriate skills and training to effectively enforce compliance with the Act and CARs. CASA indicated that all of its investigators have been undertaking an accreditation program that commenced in September 2001. All investigators have obtained their diploma in fraud control investigation, which is above the minimum standard the Government expects. This was not the case at the time of the 1999 audit and, as such, represents an improvement in capability.

**64.** CASA also indicated that it has developed, and has begun to deliver, training courses to deal with general and particular enforcement issues of concern to inspectors. CASA should continue to monitor the sufficiency of the training in legal issues delivered to inspectors to adequately support CASA's role of enforcing compliance with the Act and CARs.

## Resources for surveillance (Chapter 6)

### Resources for systems-based audits

**65.** In 2000–01, CASA achieved its target of allocating 40 per cent of inspectors' time to surveillance activities. This increased to 52 per cent for the first three quarters of 2001–02. This is a marked improvement from the 1999 audit where only 15–17 per cent of resources were used on surveillance activities. The ANAO considers that Recommendation No.3(b) from the 1999 audit, which related to balancing the distribution of resources between surveillance and regulatory service work, has been adequately addressed.

**66.** CASA appears to have adequate resources in its Area / Airline Operations Offices to conduct the required scheduled surveillance, and to maintain the

current number of risk-based audits. However, CASA's Area Offices may not have sufficient resources to allocate 50 per cent of their surveillance time to risk-based audits in line with intended targets. During the ANAO's audit, CASA began to monitor the distribution of resources between scheduled and risk-based audits. This will help inform future strategies for surveillance.

## Training in systems-based auditing

**67.** DCAS staff have put considerable effort into endeavouring to meet, and to be responsive to, inspectors' needs for training on the new systems-based auditing approach. However, the training and the provision of adequate support materials have generally lacked cohesion. This may have inhibited inspectors' take-up of the messages about systems-based auditing.

**68.** Given the significant recruitment of inspectors in 2000–01, there is a risk that some inspectors will not have received timely or sufficient training in the new approach. The ANAO notes that CASA has formed a Training Program Working Group to address inspector training needs. This Working Group will provide a final report to CASA management by the end of June 2002. The ANAO supports this initiative and recognises that adequate, timely and effective training and guidance are critical to ensure the success of CASA's surveillance reforms.

## Quality assurance processes for audits

**69.** Quality assurance (QA) is an important mechanism in any program. Part of DCAS' role is to coordinate, monitor and evaluate the implementation of CASA's audit approach to ensure quality and consistency across CASA. Some QA and evaluation initiatives have been proposed, with a few undertaken—but none has been conducted regularly enough to have the desired impact of markedly improving the quality and consistency of CASA's surveillance activities.

**70.** In May 2001, DCAS began conducting QA reviews of selected systems-based audits. Where these were done, the QA reviews improved inspector confidence through on-site feedback and emphasised the importance of adhering to the audit report package. However, a lack of resources in DCAS has meant that they undertook only about 10 QA reviews by the end of 2001. CASA has yet to determine whether the wider lessons learned from them have now become standard audit practice for all inspectors. CASA indicated that further monitoring reviews are planned for 2002. The ANAO considers that CASA's progress in implementing Recommendation No.12 from the 1999 audit, which was about ensuring an effective system for quality management of compliance activities, has been protracted.

### Resources in DCAS

**71.** DCAS is the central coordinating section for compliance activities that CASA agreed to establish after the 1999 audit. It drives the policy and procedures for all surveillance activities. It is also responsible for overseeing the development of surveillance training courses; peer evaluation; the development of all the underpinning tools such as the manuals and IT systems; and for reporting surveillance outcomes and issues to CASA's Executive and Board.

**72.** With this range of key functions, it is important that DCAS is sufficiently resourced. However, the ANAO found that DCAS has been resourced below the optimum level for some time, which has significantly impeded the implementation and 'bedding down' of systems-based auditing.

**73.** In May 2001, CASA engaged a consultant to undertake a workload analysis of DCAS. The consultant's report found that DCAS was performing well, given its level of resourcing, and recommended an immediate increase of five staff to bring the DCAS establishment to 11 people. CASA indicated that eight positions in total in DCAS would be filled by the end of June 2002. Consequently, the ANAO considers that CASA has substantially implemented Recommendation No.6(a) from the 1999 audit, which related to monitoring and evaluating the development and implementation of systems-based auditing.

## Corporate Governance (Chapter 7)

### Corporate planning

**74.** Since the 1999 audit, CASA has submitted Corporate Plans annually to the Minister for Transport and Regional Services (the Minister) in accordance with the Act. The most recent Corporate Plan, covering the period 2001–02 to 2003–04, was given to the Minister before the end of 2000–01 and was tabled in Parliament in September 2001. The ANAO considers that CASA has adequately addressed Recommendation No.9 from the 1999 audit, which related to the preparation of CASA's annual Corporate Plans.

### Organisational structure and lines of communication

**75.** Two key changes to CASA's lines of communication introduced since the 1999 audit are the replacement of the Board Safety Committee with the ESC and the introduction of a cascading set of Compliance meetings within the Aviation Safety Compliance Division.

**76.** The ESC, which meets bi-monthly, has the same charter as did the Board Safety Committee. One of the ESC's primary responsibilities is to monitor the safety performance of the aviation industry as a whole, and to determine if

safety-related trends and risk factors have been identified. As such, the ANAO considers that the ESC could better fulfil its responsibilities through commissioning analysis of available aviation safety data to assist in the targeting of CASA's resources to address emerging aviation safety risk issues and trends.

**77.** The Compliance meetings, held every two to three months, allow for regular consultations between CASA managers at various levels within CASA and for issues to be raised and recorded until they are resolved. These meetings are a useful mechanism for senior management to develop and promote surveillance policy and procedures and for surveillance staff to convey feedback. Furthermore, control over raising matters for CASA's consideration empowers staff to raise problems and to suggest improvements to senior management and hence to make improvements within their own areas of responsibility.

**78.** The ANAO considers that CASA has adequately addressed Recommendation No.5 from the 1999 audit, which concerned the mechanisms for providing feedback to Area and Airline Operations Offices.

## Adherence to surveillance policy and procedures

**79.** Staff adherence to surveillance policy and procedures is necessary for CASA to achieve its outputs and outcomes and to demonstrate that its compliance activities are applied consistently across Australia. During the 1999 audit, the ANAO identified significant non-compliance with CASA's surveillance policy and procedures. Although the quantum and significance of non-compliance have lessened and the issues have changed, the ANAO still identified some significant non-compliance with aspects of CASA's surveillance policies and procedures.

**80.** CASA has been aware of the non-compliance issues identified by the ANAO for some time. CASA indicated that it now has, or will, take action to correct them. Inaction on CASA's part to correct non-compliance as it arises creates the perception that CASA tolerates non-compliance by its staff. The ANAO considers that, where CASA detects non-compliance, it should take prompt action to either rectify a defect in the policy/procedures, or correct the practice of CASA inspectors (by training and, where necessary, disciplinary action).

## Performance measures

**81.** The Board's current consideration of CASA's quarterly performance against its Corporate Plan is a useful initiative that allows the Board to better discharge its corporate governance responsibilities in a timely manner. Although there has generally been some improvement in the quality of CASA's

performance measures since the 1999 audit, there is still room for significant improvement in the performance indicators reported publicly in CASA's Corporate Plan, Portfolio Budget Statements and Annual Report. For example, relevant performance measures in the Portfolio Budget Statements 2002–03 concentrate on LCRPT operators and do not mention other sectors of the aviation industry.

**82.** The Minister has also indicated that, although the current Corporate Plan showed considerable improvement over previous plans, CASA's performance indicators for some of its functions could still improve further. A draft of CASA's Corporate Plan for 2002–03 to 2004–05 reviewed by the ANAO showed little improvement from the previous one. Overall, the ANAO considers that CASA's progress in implementing Recommendation No.11 from the 1999 audit, which was about developing and publishing performance measures, has been overly protracted despite improvements made.

## Tracking recommendations

**83.** Many reports and reviews of CASA's performance or aviation safety accidents have directed recommendations for change to CASA. CASA recognises the need to monitor, or track, the determination of appropriate responses to recommendations and, where applicable, their implementation, to make lasting improvements to aviation safety.

**84.** To this end, CASA is in the final stages of developing a Recommendations Tracking System (database) that will allow the CASA Executive to view, in real-time, the status of any recommendation directed to CASA and to identify recommendations for which CASA action is overdue. From mid-2002, CASA expects to provide summary quarterly reports on the progress of outstanding recommendations to the Board. CASA is now in the process of clearing the older recommendations that have been actioned by CASA since its establishment in 1995.

**85.** Timely action to implement agreed recommendations is required to remedy the situation as soon as possible. Prompt action also demonstrates to the industry and the public the importance CASA places on improving the systems of aviation safety. CASA has recently been the subject of criticisms over the length of time it takes to implement ATSB recommendations. The Recommendations Tracking System will allow CASA to set target dates for implementing agreed recommendations and to monitor progress against those targets.

**86.** The ANAO considers that CASA's progress in implementing Recommendation No.13 from the 1999 audit, which related to ensuring that all recommendations directed at CASA receive appropriate attention, has been unduly protracted. After some two and half years since this recommendation

was made, CASA is yet to have a fully effective method of monitoring recommendations directed towards it. CASA indicated that a lack of resources has prevented it from making progress at the rate it would desire. Instead, its resources have been strained to the utmost in dealing with the huge volume of work associated with the many inquiries and reports over the period since the 1999 audit. While the ANAO recognises CASA's situation, such recommendations are central to its improved performance and, as such, deserved some priority over a lengthy period.

## CASA Improvement Program

**87.** The CASA Improvement Program is a major attempt to modernise CASA's business processes and IT support systems. The Program is expected to take another five years to complete and to cost some $63 million overall. At the time of the audit, the detailed planning for the Program and its constituent projects was scheduled for completion in April 2002, at which time it was to be presented to the CASA Board. CASA advised that the Board has now agreed the scope and budget for the Program. A number of due diligence issues are being pursued in order for the Board to adequately consider the offer of a contract. It is expected that the implementation phase would begin after letting the contract.

**88.** The ANAO appreciates that CASA and the CASA Board recognise that the implementation of the Program involves significant risks. CASA is managing this risk, in part, by engaging a project alliance partner, experienced in major business reengineering projects, to work with CASA to develop project plans and coordinate their implementation. However, CASA does not have a good track record of implementing some major change programs. Therefore, in the ANAO's view, CASA and its Board should continue to monitor closely whether the Program is achieving the desired results. It may therefore be necessary to supplement monitoring arrangements with appropriate reviews and evaluations.

# Recommendations

*Set out below are the ANAO's recommendations. The ANAO considers that CASA should give priority to Recommendation Nos. 1 and 2.*

**Recommendation No.1 (para. 2.23)**

The ANAO *recommends* that, to meet the requirements of s.9(1)(g) of the *Civil Aviation Act 1988* and to better target CASA's resources to the areas of greatest risk, CASA clearly identify risk issues and trends in aviation safety by regularly analysing the relevant databases, that it has access to, as a basis for its own decision-making and action.

***CASA response:*** Agreed.

**Recommendation No.2 (para. 4.66)**

The ANAO *recommends* that, to ensure that systems-based auditing identifies systemic risks to aviation safety in a timely manner and encourages a culture of safety by operators, CASA documents after each audit the further action, such as risk-based surveillance or enforcement action, it considers necessary. This decision would take into account the cumulative impact of: the latest audit results; the operator's general compliance history; any unacquitted breaches; and any repeat breaches.

***CASA response:*** Agreed.

**Recommendation No.3 (para. 4.83)**

The ANAO *recommends* that, to help ensure that systems-based auditing is implemented effectively, CASA's surveillance audit reports clearly document:

(a) the testing performed; and

(b) the standard against which the operator's activities were audited (that is, the safety standards required at entry control).

***CASA response:*** Agreed.

# Audit Findings and Conclusions

# 1. Introduction

## Aviation safety in Australia

**1.1** Aviation plays a prominent role in Australian business, trade and tourism, as well as meeting important community needs. In 2000, 38.3 million passengers were carried on regular public transport aircraft within or into/out of Australia. This represents a rise of nearly nine per cent in passenger traffic from 1998 and continues a trend of increases in annual passenger traffic during the 1990s.[2]

**1.2** Australia generally has an impressive aviation safety record. Australia has the lowest accident rate for high-capacity aircraft in the world.[3] Between 1998 and 2000, the accident rate for regular public transport and charter aircraft fell by 30 per cent to a little over two accidents per 100 000 hours flown.[4] However, over the past decade, air transport fatalities have fluctuated substantially from year to year with no significant trend.[5]

**1.3** A loss of confidence in the safety of Australian civil aviation could have serious detrimental repercussions for the industry. As well as the potential for serious injuries and loss of lives, accidents impose significant costs on the Australian community. In 2000–01, there were 216 aviation accidents and 5916 aviation incidents reported to the ATSB. These resulted in 57 fatalities and serious injuries to some 200 people.[6] The Bureau of Transport Economics estimated the cost of aviation accidents in 1996 to be close to $112 million.[7] This equates to about $545 000 per accident, on average.

**1.4** Recent volatility in the aviation industry could have implications for the safety or perceived safety of the industry. Within the last 18 months, the aviation industry has seen:

- The mainstay of Ansett Airlines' aircraft fleet grounded twice—at the busiest times of the year—due to fundamental aircraft maintenance problems;
- the cessation of Ansett Airlines (due to financial problems) and the ensuing repositioning of Australia's airline industry;

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2 Australian Transport Safety Bureau, *ATSB Annual Review 2001*, Canberra, 2001, p. 37.

3 When based on hull losses per million departures (Source: ibid., p.41).

4 ibid., pp. 40, 41.

5 ibid., p. 22.

6 ibid., pp. 13, 21, 24. 'Serious injuries' are defined as injuries resulting in admission to hospital for a period of two days or more but not death.

7 ibid., p. 44.

- regional airlines under increasing financial pressures, resulting in more than one going out of business; and
- the terrorist attacks on the World Trade Centre and the Pentagon in the United States on 11 September 2001 that have caused a major crisis in the aviation industry worldwide.

## The role and responsibilities of CASA

**1.5** CASA is responsible for the regulation of aviation safety in Australia, with the exception of aviation security.[8] CASA's *Corporate Plan 2001–2002 to 2003–2004* states that CASA's vision is 'Safe skies for all' and their challenge is to 'Lead the aviation community in providing Australia with a world-class air safety environment which has public trust and confidence.'

**1.6** Under s.9 of the Act, CASA has the role of regulating the safety of all civil air operations in Australia and Australian civil air operations overseas by, among other things: setting aviation safety standards; issuing certificates, licences, registrations and permits; conducting surveillance of the aviation industry; and enforcing compliance with the safety standards. CASA's safety-related functions also include encouraging a greater acceptance by the aviation industry of its obligation to maintain high standards of aviation safety.

**1.7** In September 1999, the Minister produced a Policy Statement outlining the Government's strategic vision for CASA.[9] The accompanying Charter Letter advised CASA that the 'Government's view is that CASA's regulatory efforts should focus on protecting fare-paying passengers'.

**1.8** Public perceptions of safety are significantly influenced by CASA's actions. Grounding of an operator by CASA engenders much public interest, often media interest, and loss of business for the operator concerned. CASA is frequently the subject of Parliamentary Questions on Notice, Senate Inquiries and Ministerial representations. CASA's analysis of media reports relating to its role and activities showed the reporting tone has been negative for all quarters since the second quarter of 1999. On the other hand, a recent national survey commissioned by CASA into the public's perceptions of aviation safety found that Australians are increasingly confident about the safety of air travel, and that dissatisfaction with CASA's performance had dropped by almost half, to eight per cent.

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[8] Whereas aviation security covers the 'intentional or wilful' human element to disrupt or disturb (for example, to sabotage) the normal operation of flight, aviation safety is primarily focused on the prevention of accidents.

[9] The Hon. John Anderson, MP, *A Measured Approach to Aviation Safety Reform*.

**1.9** An effective aviation safety regulator is necessary to ensure that operators do not compromise safety in the face of economic and potential political pressures and perceptions that CASA is unnecessarily harsh on the aviation industry.

**1.10** A well-documented and transparent safety surveillance and enforcement regime that ensures targeted and adequate industry coverage, as well as consistency and fairness for all, is necessary for CASA to demonstrate that it is effectively performing its functions under the Act.

## The 1999 audit

**1.11** In November 1999, the ANAO tabled Audit Report No.19 1999–2000 *Aviation Safety Compliance* on CASA's aviation safety regulatory activities ('the 1999 audit'). The 1999 audit concluded that CASA's regulatory regime had contributed towards Australia's highly regarded record in aviation safety, but that potential existed for this regime to be improved and strengthened, with consequential increased confidence of all stakeholders.

**1.12** The ANAO made 13 recommendations to CASA where improvements could be made, including:

- identifying the greatest areas of risk and targeting CASA's resources accordingly;
- improving the quality, quantity and timing of CASA's surveillance of the aviation industry;
- improving the lines of communication throughout CASA;
- initiating appropriate and timely enforcement action;
- analysing surveillance data to better inform CASA strategic decisions;
- developing QA processes for surveillance and enforcement activities;
- developing appropriate performance indicators;
- producing annual Corporate Plans in accordance with legislation; and
- tracking the implementation of all recommendations made to CASA.

**1.13** CASA agreed to all the recommendations, except for one part of one recommendation, where CASA agreed with qualification (see Appendix 1).

## Follow-up audit objectives and scope

**1.14** The follow-up audit process reinforces the ANAO's commitment to improving public administration and accountability through monitoring the implementation of recommendations made in selected audit reports. It is

apparent that agreed recommendations are only effective when actually implemented. Improved performance is not optimised by partial, unnecessarily delayed or quasi-implementation of any recommendations.

**1.15** The objectives of this follow-up audit were to determine, in respect of the issues addressed by the 1999 audit recommendations, whether:

- CASA has made satisfactory progress to improve its aviation safety surveillance and compliance activities; and
- the introduction of new strategies for further improvement is being appropriately managed.

**1.16** As was the case with the 1999 audit, the follow-up audit focused on the surveillance and compliance activities of organisations and people that CASA has certified and that hold:

- Air Operators' Certificates (AOCs)—those who operate aircraft for prescribed commercial purposes, including high-capacity regular public transport (HCRPT), low-capacity regular public transport (LCRPT) and charter operations; or
- Certificates of Approval (COAs)—those who maintain, design, or distribute aircraft, aircraft components or aircraft materials.

**1.17** The scope of this audit also did not include international carriers that operate in Australia as well as CASA's surveillance of aerodromes, as these were not covered by the 1999 audit. Unlike the 1999 audit, the ANAO did not examine entry control process—that is, CASA's determinations whether to issue AOCs / COAs to applicants—because the 1999 audit recommendations were not directed at CASA's entry control processes.

## Follow-up audit conduct and methodology

**1.18** The follow-up audit was conducted in accordance with ANAO Auditing Standards, with the fieldwork undertaken between September 2001 and February 2002. The total cost was $295 000.

**1.19** The follow-up audit methodology included:

- obtaining a submission from CASA on its progress in implementing the ANAO recommendations;
- consultations with a range of key personnel in CASA;
- visits to three of CASA's Area Offices and one of CASA's Airline Operations Offices;

- examining the minutes and agenda papers from meetings of the CASA Board, the ESC and other compliance related meetings;
- examining a sample of risk assessment forms, surveillance audits and enforcement files and reports;
- determining the impact of current management initiatives including the CASA Improvement Program;
- determining the current status of, and future directions for, the systems-based surveillance regime and the SIS; and
- seeking the views of DOTARS and taking note of comments made by members of the Aviation Safety Forum.

## Context for CASA's aviation safety compliance activities

**1.20** Aviation Safety Compliance is Output Group 2 of CASA's Portfolio Budget Statements 2001–02. Under this output group, CASA's aim is to 'Secure compliance with Australian aviation safety legislation through effective surveillance and procedurally fair enforcement'.[10]

**1.21** CASA's operating budget for 2001–02 is $105.9 million. This includes $50 million for Aviation Safety Compliance activities at its 12 locations throughout Australia. It represents, in real terms, an increase of some 10 per cent in funding from 1999–2000 ($41.9 million).

**1.22** CASA's three Airline Operations Offices, comprising 53 inspectors and 16 administrative staff, manage some 59 Airline operators. These include all the HCRPT operators, the larger LCRPT operators and the COA operators that maintain those aircraft. CASA's eight Area Offices, comprising 129 inspectors and 58 administrative staff, manage some 1498 General Aviation operators. These are the remaining LCRPT operators, charter operators, operators who conduct aerial work, flying training organisations and the remaining COA operators.[11]

**1.23** This represents a decrease of some 17 per cent in the number of AOC and COA operators that CASA monitored at the time of the 1999 audit.[12] However, over the same period, the total hours flown by HCRPT, LCRPT and charter operators has risen by some five per cent.[13]

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[10] CASA, *Civil Aviation Safety Authority Corporate Plan 2001–02 to 2003–04*, Critical Success Factor 2, Canberra, 2001, p. 28.

[11] An additional 86 inspectors are located in CASA's Head Office in Canberra and are not regularly involved in the surveillance of operators.

[12] Based on a comparison of data from the ASSP database (1998) and COGNOS reports (2002).

[13] ATSB, op. cit., pp. 40, 41.

**1.24** Since the 1999 audit, CASA has experienced a period of relative stability in the composition of its senior management and Board, unlike the period before the previous ANAO audit. As part of broader corporate changes, CASA has changed, or is changing, a significant portion of its approach to the Aviation Safety Compliance activities that were in place during the 1999 audit. This requires, among other things, a considerable cultural change from the industry and CASA's inspectors. CASA is:

- revising the aviation safety regulations and standards to be less prescriptive and more outcome focused;
- progressively introducing fundamental changes to its surveillance coverage and methods that will better align with the revised aviation safety regulations;
- enhancing both its civil and criminal enforcement strategies and procedures; and
- developing the necessary IT systems to support the new safety compliance regime.

**1.25** CASA has grouped many of these changes under the CASA Improvement Program, which has the goal of modernising CASA's business processes and IT support systems. Detailed planning for an overarching business case for the Program, as well as business cases for the many projects that make up the Program, has been completed and agreed to by the CASA Board. Full implementation of the CASA Improvement Program is not expected to be complete for another five years or so.

## Internal Audit activity

**1.26** During the audit, CASA engaged its internal audit contractors to examine CASA's surveillance of Airline and General Aviation operators. The findings presented in the contractor's draft report of April 2002 align substantially with the findings in this follow-up audit report.

## Structure of the Report

**1.27** The scale of the changes since the 1999 audit meant that it was not practical for the ANAO to track the 13 recommendations specifically as many of the systems and processes referred to have ceased to exist, or have changed radically, from their 1999 format. Accordingly, the ANAO adopted an issues-based approach and incorporated the original recommendations into five main themes, which are covered in the following chapters of this report.

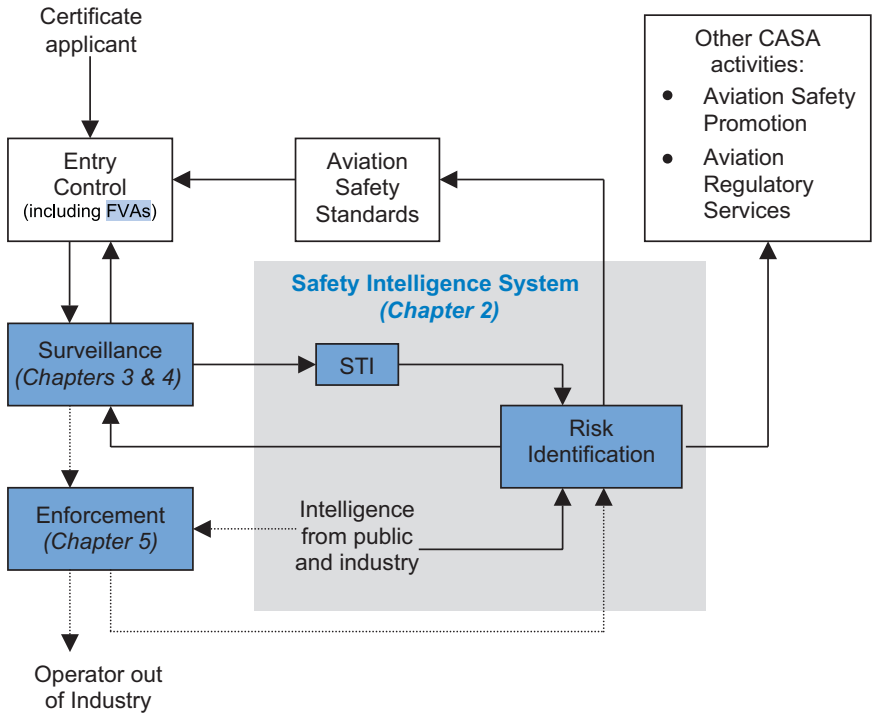
**1.28** The five themes, and their underlying issues, are:

- **Risk Identification** (Chapter 2)—Has CASA improved its means of identifying and prioritising risks to aviation safety at the sector and operator level?
- **Surveillance** (Chapters 3 and 4)—Does CASA's safety surveillance better monitor operators' compliance with the Act and CARs?
- **Enforcement** (Chapter 5)—Does CASA have better enforcement strategies to ensure compliance with aviation safety standards (the Act and CARs)?
- **Resources** (Chapter 6)—Has CASA improved the quantum, quality and management of its resources devoted to aviation safety surveillance and compliance?
- **Corporate Governance** (Chapter 7)—Has CASA improved the processes by which its Executive and Board direct, control, and are accountable for, aviation safety compliance?

**1.29** Figure 1 illustrates the relationships between the five audit themes in terms of CASA's Aviation Safety Compliance activities.

## Figure 1

**Aviation Safety Compliance activities**




Other elements examined include Resources *(Chapter 6)* and Corporate Governance *(Chapter 7)* that overlay the above process.

Shaded areas are those examined in the current audit.

FVA—Financial Viability Assessments *(Chapter 2)*

STI—Safety Trend Indicator *(Chapter 2)*

**Source**: ANAO based on CASA's data

# 2. Risk Identification

*This chapter examines whether CASA has improved its means of identifying and prioritising risks to aviation safety at the sector and operator level, since the 1999 audit. This is important so that surveillance can be targeted towards the greatest areas of risk.*

**2.1** Some sectors of the aviation industry, and some operators, operate more safely than others. A structured approach to identifying and assessing the risks to aviation safety at the sector and operator level allows CASA to direct its resources to the areas of greatest risk.

**2.2** CASA indicated that is committed to risk management in all of its major business processes, as evidenced by the appointment of a Risk Manager as part of its Executive and the inclusion of risk management as a Critical Success Factor in CASA's Corporate Plan. Risk management is also closely related to one of CASA's functions under the Act:

> CASA has the function of conducting … safety regulation … by means that include … conducting regular reviews of the system of civil aviation safety in order to monitor the safety performance of the aviation industry, to identify safety-related trends and risk factors and to promote the development and improvement of the system. (s.9(1)(g))

**2.3** For the purposes of this audit, the ANAO has focused on CASA's risk identification and treatment at the:

- sector and industry level, via CASA's SIS—where various sources of intelligence from the industry and public are used to inform CASA's strategic decisions on targeting resources to its various functions; and
- operator level, via CASA's:
  - STI—where operators are assessed against common risk factors to determine their relative 'riskiness' from an aviation safety perspective; and
  - FVAs—which assess the financial position of certain applicants for new or varied AOCs before they are issued or varied.

## The 1999 audit

**2.4** The 1999 audit noted that the management of safety information has been the subject of several reports and internal audits since 1994. Two reports commissioned by CASA in 1998 and 1999 concluded it was doubtful that CASA was effectively meeting the requirements of s.9(1)(g) of the Act. Both reports found that although there were numerous sources of data within and outside

CASA, there were few direct links or formal interfaces between them to produce a comprehensive set of safety measures/indicators. To address this deficiency, CASA initiated the SIS strategy in May 1999.

**2.5** At the operator level, the 1999 audit also found that CASA infrequently considered risk indicators when allocating priorities or resources to surveillance. Although CASA had a mechanism for considering operator safety risks, Area Offices did not use it during their surveillance planning. This inhibited CASA's ability to identify and prioritise risks to aviation safety at the industry, sector and operator level.

**2.6** It is generally recognised in the aviation industry that there is an increased risk to safety by financially marginal operators. The 1999 audit found that the FVA process for new passenger-carrying AOC applicants ensured that CASA had a better appreciation of the financial viability of these applicants. However, the ANAO considered that the financial viability process should be evaluated within 12–18 months of its introduction.

**2.7** The 1999 audit recommended that CASA:

- undertake regular analyses of safety data and monitor progress in implementing the proposed SIS;
- improve the determination of surveillance priorities by conducting risk assessments of operators and providing guidance and training to CASA inspectors; and
- improve the monitoring of, and review the coverage of, its FVA process.

## Sector and industry risk—Safety Intelligence System (SIS)

### Introduction

**2.8** CASA has access to a great deal of data related to aviation safety that it and others collect. Regular analysis of this data would aid CASA to identify risk issues and trends in aviation safety and therefore to assess the safety performance of the aviation industry as required by the Act. Once risk issues or trends are identified, CASA can then also direct its resources, as appropriate, to:

- improve aviation safety regulations and standards;
- better target its surveillance and enforcement efforts; and
- better target the education of the aviation industry and the promotion of aviation safety.

**2.9** During the 1999 audit, CASA initiated a SIS strategy that would monitor safety trends, identify emerging safety issues and identify safety performance indicators at the aviation sector and industry level. Ultimately, CASA's goal for the SIS is to improve CASA's effectiveness by providing better information that supports its strategic decisions about allocating or targeting its resources to its various functions.

**2.10** At the time of the 1999 audit, the ANAO recommended that progress towards the implementation of the SIS should be closely monitored. However, little progress was made with the SIS until early 2001, after CASA appointed an Executive Risk Manager. CASA's SIS has not progressed much past the conceptual stage and is some time away from becoming operational.

## Databases containing aviation safety information

**2.11** There are a variety of databases that regularly collect aviation safety information that could enhance CASA's strategic decisions on allocating and targeting its resources to its various functions. These databases record:

- CASA's interactions with, or perceptions of, operators;
- other aviation-related government agencies' interactions with operators;
- aircraft or aircraft component defects;
- public or industry complaints against operators; and
- results of accidents or incident investigations.

**2.12** Table 1 summarises the data sources available.

**Table 1**

**Data sources for CASA's Safety Intelligence System**

| Data source | Description |
|---|---|
| ***Maintained by CASA*** | |
| Requests for Corrective Action (RCAs) | CASA inspectors issue RCAs to operators for breaches of the aviation safety regulations. |
| Safety Trend Indicator (STI) | Operators are assessed against common risk factors to determine their relative 'riskiness' from an aviation safety perspective. |
| Major Defect Reports (MDRs) | Operators report major aircraft or aircraft component defects to the original equipment manufacturer and CASA. |
| CASA Hotline | A toll-free telephone number where anyone can report (anonymously, if they wish) an aviation safety incident. |
| ***Maintained by Others*** | |
| Electronic Safety Incident Reports (ESIRs) | Incidents observed by AirServices Australia in controlled airspace (for example, violations of controlled airspace, disobeying Air Traffic Control). AirServices Australia forwards all ESIRs to CASA. |
| Air Safety Incident Reports (ASIRs) | Incidents reported to ATSB. |
| Australian Transport Safety Bureau (ATSB) Occurrence Briefs | The published results of ATSB's investigations of a less serious nature that give similar information to that provided by ESIRs. |
| Confidential Aviation Incident Reporting Service (CAIRS) | ATSB's equivalent of the CASA Hotline except that CAIRS is email-based. ATSB forward all CAIRS reports to CASA. |

**Source**: Compiled by the ANAO

**2.13** The ANAO found that, generally, CASA does not analyse the various databases available to it to identify risk issues or trends in aviation safety. In the few cases where analysis may have been undertaken, the results have not been applied to CASA's strategic decision-making about the allocation of its resources.

**2.14** CASA indicated that the data it holds is of varying usefulness. There are gaps in the coverage of individual systems. The data is of dubious quality and integrity, and CASA has no means to validate the accuracy of information. The quality of data collected by others is not within CASA's control.

**2.15** Nevertheless, in some cases, CASA has enhanced the usefulness of the data since the 1999 audit. For example, information from CASA's licensing system allows AirServices Australia to better match incidents to aircraft owners and

operators (in relation to the Electronic Safety Incident Reports (ESIRs)). For a time, CASA analysed ESIRs monthly by type of incident, location, and operator.[14]

**2.16** During the audit there was a two-year backlog of Major Defect Reports (MDRs)—some 4500 reports—that required acquittal as having been actioned. Although inspectors consider the individual defects as they arise, until the MDRs have been acquitted, CASA cannot be confident that all required actions have been taken. CASA indicated that a project team has now completed the review of all unacquitted MDRs and all reports up to the end of 2001 have been actioned. A plan is in place to finalise the MDRs issued in 2002.

**2.17** While recognising the limitations of the existing databases, regular analysis of these data sources would help to broadly identify safety trends related to particular risk issues, particular sectors of the industry and/or at particular locations throughout Australia. This would also assist CASA to meet the requirements of s.9(1)(g) of the Act. CASA could then use these trends to target its resources to address emerging risk issues. CASA's ESC is an appropriate forum to consider these strategic issues.

**2.18** The ANAO also recognises that maintaining databases and regularly analysing their contents comes at a cost. However, the data identified in Table 1 is already systemically collected, logged and used to inform or target CASA's surveillance of the offending operators. It is therefore not such a great step, or impost, to improve the accuracy of, and to collectively analyse, the data.

**2.19** The ANAO considers that CASA's progress in implementing Recommendation No.10 from the 1999 audit, which related to enhancing CASA's analytical capability and monitoring progress with the introduction of the SIS, has been overly protracted given the significance of those elements for CASA's performance.

## Measuring CASA's effectiveness

**2.20** As part of the SIS, CASA is attempting to overlay the databases with a framework that allows CASA to determine how effectively it is performing its regulatory responsibilities. CASA is in the early stages of:

- reassessing its role in Australia's aviation transport sector and clarifying the inputs, processes and outputs required of CASA to fulfil that role;
- developing performance indicators that will measure the effectiveness of CASA's processes and outputs; and

[14] CASA indicated that analysis of ESIRs will become more regular when the necessary IT support systems are developed as part of the 'early works' projects of the CASA Improvement Program.

- identifying the external factors beyond CASA's control that are likely to influence CASA's effectiveness.

### Further progression of the SIS

**2.21** CASA indicated that the SIS is conceptually and intellectually difficult to develop and implement. The development of the SIS has recently been subsumed as part of the CASA Improvement Program. While acknowledging that it will be some time before the SIS is fully realised, CASA considers that the SIS is an important tool that should be implemented in the shortest time consistent with other priorities.

**2.22** The ANAO found that the completion and use of the SIS to measure CASA's overall effectiveness is still some years away. However, there is much that CASA can do, in the interim, to regularly analyse the data that is continually collected and logged in various databases that CASA has access to. This form of analysis, and its application to CASA's strategic decision-making, should preferably not be put on hold pending the finalisation of the means to measure CASA's effectiveness.

## Recommendation No.1

**2.23** The ANAO *recommends* that, to meet the requirements of s.9(1)(g) of the *Civil Aviation Act 1988* and to better target CASA's resources to the areas of greatest risk, CASA clearly identify risk issues and trends in aviation safety by regularly analysing the relevant databases, that it has access to, as a basis for its own decision-making and action.

### *CASA Response*

**2.24** Agreed. The CASA Improvement Program offers a longer-term solution specifically designed to integrate information and support strategic and operational decision-making. In addition, CASA advised that it is now moving to set up an expert analytical cell that will begin identifying CASA's data holdings, what is useful and what analysis can be supported without significant investment over the shorter term. If there is a simple way ahead, such as that suggested by the ANAO, CASA will use it and report as appropriate to the Executive Safety Committee.

# Operator risk—Safety Trend Indicator (STI)

## Introduction

**2.25** CASA's audit surveillance of operators now comprises regular, scheduled audits that are supported by targeted risk-based audits. CASA inspectors indicated that they have always directed their surveillance efforts to operators that pose the greatest risks to aviation safety. However, the lack of a credible means to capture the reasons behind their surveillance decisions has meant that, in the past, it was not possible to gauge the factors they took into account and their relative importance. It was also neither possible to determine the consistency of risk assessments between inspectors, nor to prioritise the risks at the Area Office level or nationally.

**2.26** Since the 1999 audit, CASA has introduced the STI as the key tool for determining, in a consistent manner, the relative 'riskiness' of operators from an aviation safety perspective. CASA uses the results from the STI as an input into deciding which operators should be subject to extra (or risk-based) surveillance.

**2.27** The STI, implemented from October 2000, is a standard questionnaire with safety-related questions to be completed by CASA inspectors on every operator, every six months (and after a surveillance audit). All questions have YES, NO or DON'T KNOW answers and cover matters relating to changes to the operators' organisation, the operators' safety systems, and CASA's interactions with the operators. There is one form with 30 questions for AOC operators and a similar form with 29 questions for COA operators.

**2.28** Each month, DCAS, in CASA's Head Office, compiles reports for each Area/Airline Operations Office that ranks their operators according to their STI scores.[15] The STI scores are one factor taken into account when Area/Airline Operations Offices plan their risk-based surveillance coverage of operators.

## STI development and inspector training

**2.29** The ANAO considers that the development and introduction of the STI in CASA was handled well. The ANAO found that CASA:

- used the knowledge of its inspectors to identify the risk factors and to compose appropriate questions;
- documented the reasons for each question's inclusion;
- considered international practice, including that from the New Zealand Civil Aviation Authority;

[15] The greater the risk, the higher the STI score.

- visited all Area/Airline Operations Offices to get feedback on the questionnaire and deliver training; and
- trained all newly recruited inspectors on the STI during the General Induction Course.

**2.30** From June 2001, CASA improved the usefulness of the STI. CASA changed the calculation of the STI scores by factoring in the DON'T KNOW responses and weighting scores in line with CASA's surveillance priorities—fare-paying passengers (for example, aerial work operators were weighted by a factor of 1, charter operations with more than nine seats by a factor of 1.5 and LCRPT operators by a factor of 2). CASA is soon to introduce a second version of the STI.

## Usefulness of the STI

### *Frequency*

**2.31** STIs have generally been completed for all operators every six months in accordance with CASA surveillance policy. The STI process means that inspectors consider all operators every six months. Without the STIs, most of the small operators would only be considered when visited, that is, once every three years.

### *Quality*

**2.32** The quality of the STI scores as an indicator of operator safety risk is only as good as the answers to the STI questions. Inspectors use their professional judgment to complete STIs. The form encourages them to consider the operator as a whole against the less tangible aspects of aviation safety, such as whether the operator has mature, well functioning safety systems or whether safety is an organisational priority.

**2.33** The ANAO found that, at times, there were many DON'T KNOW responses for some questions, which reduces the accuracy and usefulness of the resulting STI scores. Analysis of the STI database indicates that total DON'T KNOW responses for some questions from the AOC STI form are greater than 30 per cent.[16]

**2.34** Potential reasons for the DON'T KNOW responses could include:

- insufficient guidance to inspectors on how to interpret the questions;[17]

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[16] For example, questions on financial stress and safety systems have DON'T KNOW response rates of 32 and 35 per cent, respectively. (This is based on 257 active General Transport Charter, LCRPT and HCRPT operators recorded in CASA's STI database).

[17] For example, there are no standard definitions for some terms used on the forms, such as 'significant organisational change' and 'financial stress'. Different inspectors could interpret questions differently, leading to inconsistent answers or inspectors resorting to the DON'T KNOW option.

- some complex questions may not lend themselves easily to yes or no responses;
- inspectors are neither encouraged to guess nor encouraged to spend much time finding the answers;
- inspectors are reluctant to form general opinions on an operator's safety systems based on audits that examine only selected components of their operations; and/or
- inspectors have not undertaken surveillance on those operators recently.

**2.35** Area Managers are generally satisfied that their inspectors complete STIs in a consistent manner. However, some preliminary analysis by DCAS indicates that there may be some problems with the internal consistency of inspectors' answers in some of the completed STIs.

**2.36** The ANAO notes that CASA has considered the effects of the DON'T KNOW response option and plans to clarify the questions and their meaning in the development of the second version of the STI.

**2.37** During the audit fieldwork, the ANAO was informed that the STIs for AOC and COA operators take about 15 minutes each to complete. CASA indicated that this amount of time may be appropriate for an inspector who is familiar with the operator. However, given that surveillance policy allows for 1½–2 hours to complete each STI, it may be that the large difference indicates that STIs are not completed as thoughtfully or as assiduously as they might.

### *Effectiveness*

**2.38** For General Aviation operators, the ANAO considers that the STI, despite the quality shortcomings, is a useful tool for quantifying and rationalising the relative safety risk of each operator. The STI is less useful at determining the safety risks of airline operators, as answers to STI questions are too general to cover all the complex components of an airline's operations. This has been exemplified by one of CASA's Airline Offices not completing any STIs for its operators since February 2000.

**2.39** CASA audits airline operators every six months. Therefore, the STI does not add the same level of value as it does for General Aviation operators. CASA is aware of the shortcomings of the STI for airline operators. It is developing a version of the STI specifically for airlines that can be completed for each major component of airline operations. The airline STI could assist CASA to focus its airline audits on the components that pose the greatest safety risk.

**2.40** Overall, the ANAO considers that CASA has adequately addressed Recommendation No.7 from the 1999 audit, which concerned improving the determination of surveillance priorities.

### *Future benefits and risks*

**2.41** As a management tool, Area Offices see the STI as confirmatory rather than predictive—that is, the STI tells inspectors what they already know about operators. Nevertheless, the information gathered on STI forms is still useful for passing knowledge to new inspectors, enhancing CASA's corporate memory and as a basis for building a picture of the risks posed by different sectors of the aviation industry.

**2.42** The STI has the capacity to provide valuable safety trend information on particular risk issues affecting particular sectors of the industry at particular locations throughout Australia. This kind of analysis could be used as part of CASA's SIS to improve the strategic allocation of its resources to its various functions and improve its performance. For example, the ANAO has briefly analysed responses to some key questions, which give a useful insight into inspectors' views of operators' current safety systems (see Chapter 4).

**2.43** The impending move to STI version 2 creates a risk that trend information will be difficult to interpret due to the differences in the phrasing of questions and the scoring methodology between the two versions. CASA indicated that it would undertake further analysis of the data from the first version of the STI to inform the development of version 2.

## STI version 2

**2.44** CASA considers, and the ANAO agrees, that STI version 2 will, when introduced, further improve CASA's identification of high-risk operators. Version 2 replaces the YES, NO and DON'T KNOW responses with graded responses, which removes the problem encountered in version 1 of an excessive number of DON'T KNOW responses inhibiting the value of those STI scores.

**2.45** However, the ANAO notes the lack of firm plans for its implementation, including training for CASA staff, IT support systems and briefings for the aviation industry. Version 2 will be more resource intensive for CASA inspectors, as it requires the operators to also complete a form and to return it to CASA. Hence, CASA will need to direct resources to educate, advise and follow up with operators and their returned forms. CASA may encounter resistance from its inspectors if they see no added benefit from the extra effort needed to make version 2 work. CASA indicated that it intends to manage this risk by demonstrating to staff the importance of the new version to improve CASA's knowledge base and operational performance.

**2.46** The ANAO considers that the effectiveness of STI version 2 would benefit from a well-planned implementation program that coordinated training for CASA staff, and provided briefings for the aviation industry with the necessary IT support systems. CASA indicated that the development and implementation of STI version 2 is part of the 'early works' projects within the CASA Improvement Program.

## Operator risk—Financial Viability Assessments (FVAs)

### Introduction

**2.47** S.28(2) of the Act indicates that CASA may take into account the financial position of an AOC applicant when CASA is determining whether to issue an AOC to the applicant (that is, at 'entry control'). To this end, CASA undertakes FVAs for certain types of AOCs at entry control.

**2.48** Applicants supply CASA with certain financial information as part of the FVAs. The FVA team undertakes the assessments and produces a report that the delegate considers as he makes his decision to issue an AOC. The FVA reports may recommend that specific reporting conditions accompany the issue of an AOC.

**2.49** CASA emphasised that the effort directed towards FVAs must be tempered by the fact that there is not necessarily a causal link between financial viability and safety compromise. CASA cannot take enforcement action against operators on the basis that they are not financially viable. All CASA can do is increase the surveillance of these operators to manage the potential increased risk to safety posed by financially marginal operators.

**2.50** CASA indicated that it has received legal advice that indicates CASA cannot refuse to issue an AOC solely on the basis that CASA considers an operator not to be financially viable.

### Coverage of financial viability assessments

**2.51** CASA undertakes about 50 FVAs per year, which represents a small proportion of all AOC applications, renewals or variations processed by CASA each year. CASA currently performs an FVA on:

- new AOC applications that involve passenger-carrying charter or regular public transport (RPT) operations; or
- AOC applications or 'upgrade' variations that would add: passenger-carrying charter or RPT operations; a new aircraft type over 5700 kilograms; or a new turbine-powered aircraft type.

**2.52** CASA indicated that it sees the value of FVAs as educating the unwary or poorly informed applicants of the capital-intensive nature of the industry. Going through the FVA process makes new applicants, or operators upgrading their operations, consider carefully the significant costs involved. CASA believes that a significant number of new applicants decide not to pursue their applications once they undergo an assessment. However, it is acknowledged that other factors are likely to have played a part in their decisions.

**2.53** CASA considers that extending the FVA process to cover all AOC issues and renewals does not represent value for money because:

- the accuracy of FVAs is tied to a set of business and financial assumptions that could change dramatically in a short period of time—rendering the FVA obsolete;
- FVAs indicate operator capacity, but not intent—for example, although operators may have the financial capacity to maintain their aircraft to the appropriate safety standard, it does not mean that they are willing to spend the money to do so;
- industry intelligence[18] provides a more tangible indication of financial problems; and
- 'financial stress' is one of the risk factors considered in an operator's STI score that, in turn, helps CASA target its risk-based surveillance.

**2.54** The ANAO considers that CASA has targeted its FVA process to the perceived areas of greatest financial risk. The ANAO also agrees that FVAs are best used for new AOC applicants or for certificate upgrades, and that STI scores or industry intelligence have more value when considering the financial viability of established operators. The ANAO considers that CASA has adequately addressed Recommendation No.2 from the 1999 audit, which related to increasing the effectiveness of FVAs.

## Financial reporting conditions

**2.55** The FVA team sometimes recommends that a specific financial reporting condition accompany the issuing of an AOC. Reporting conditions are statements that require the AOC operator to inform CASA if certain financial conditions are met—usually a significant shortfall in revenues below the forecast level (for example, if revenues are only 60 per cent of that forecast for three consecutive months).

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[18] The intelligence received includes tardy payment of landing fees or staff; and fuel companies insisting on cash only before delivery of fuel.

**2.56** CASA indicated that the delegate considers an operator's financial capacity into the future as part of his decision whether to issue an AOC. As financial information can go stale quickly in the light of operational realities, the delegate is reassured by financial reporting conditions that put the onus on the operator to inform CASA of changes in their financial circumstances.

**2.57** The ANAO considers that setting reporting conditions gives rise to an expectation that CASA will monitor whether those reporting conditions have been met, and then take appropriate action. However, the ANAO found that:

- very few, if any, AOC holders have notified CASA that they met the reporting conditions—although it is generally acknowledged that quite a few operators would have done so;
- CASA inspectors do not have the legislative power to require operators to submit their financial information to enable them to check whether the reporting conditions have been met;
- CASA inspectors do not have the necessary accounting or financial management skills to determine whether the reporting conditions have been met; and
- there is little that CASA can do, other than to increase surveillance, if an operator's reporting conditions have been met.

**2.58** Given that industry intelligence and the STI are good tools for monitoring adverse financial circumstances of operators after an AOC has been issued, the ANAO sees little value in using the FVAs as an ongoing risk management tool. The ANAO considers that CASA should consider replacing specific reporting conditions with guidance that puts the onus on operators to consider for themselves the ramifications of any changed financial circumstances for their operations. CASA indicated that it agrees with this approach.

## Proposed revisions to the financial viability assessment process

**2.59** In late 2000, CASA conducted an evaluation of the FVA process. As a result, CASA intends to extend the FVA process so that all AOC applicants and operators renewing their AOCs would submit a simple self-assessment of their financial position (in the form of a forecast of cash flows). Operators would be required to explain how any shortfalls in their cash forecast would be covered.

**2.60** CASA would not check the accuracy of the forecasts, but is reassured by all operators considering their financial position as part of the entry control process. This would not greatly increase CASA's workload. The current FVA process would continue for those AOC applications or renewals that involve the highest financial risk.

**2.61** CASA considers that the extension to the FVA process would better demonstrate CASA's consideration of the financial circumstances of all applicants and operators at the time of AOC issue or renewal. The ANAO considers this to be a useful initiative, as long as it does not give rise to expectations that CASA will validate the accuracy of the cash flow forecasts supplied.

## Conclusion

**2.62** The ANAO considers that CASA has improved its means of identifying and prioritising risks to aviation safety at the operator level. The STI is a useful tool for doing this. It will improve further with the introduction of STI version 2. Recognising the potential increased risk to safety posed by financially marginal operators, CASA has targeted its FVA process according to the areas of perceived greatest financial risk.

**2.63** However, the ANAO considers that CASA has still not improved its means of identifying and prioritising risks to aviation safety at the sector or industry level. Progress with the development and implementation of the SIS has been overly protracted. There is much that CASA can do to improve its analysis of aviation safety data to help to identify emerging risk issues and trends; and to apply the results to CASA's strategic decision-making about where to best allocate its resources to achieve required performance.

# 3. Surveillance—Frequency and Coverage

*This chapter and Chapter 4 examine whether CASA's safety surveillance better monitors operators' compliance with the Civil Aviation Act and the Civil Aviation Regulations, than at the time of the 1999 audit. This chapter sets out the two key changes that CASA has introduced since then. The first, addressed in this chapter, is a move to a combination of scheduled and risk-based surveillance as a means of improving sector and industry coverage. The second change, addressed in Chapter 4, is the shift from product checks to systems-based audits as the method of covering individual operators and their compliance with the legislation. For both changes, the ANAO examined the policies, their implementation status, and their timeliness and effectiveness.*

**3.1** Under S.9(1)(f) of the Act, one of CASA's functions is to 'conduct comprehensive aviation surveillance, including an assessment of safety related decisions taken by industry management at all levels for their impact on aviation safety'.

**3.2** Table 2 illustrates the important functions served by CASA's surveillance of the aviation industry.

**Table 2**

**Practical outcomes from CASA's surveillance**

| | |
|---|---|
| **Maintaining safety standards by:**<br>**Ensuring** operators maintain the standards set out in the Civil Aviation Act and Civil Aviation Regulations appropriate to the nature, size and type of the operator. | **Identifying safety concerns by:**<br>**Uncovering** any deficiencies in an operator's systems that lead to safety concerns and require corrective action by operators—and that may give rise to subsequent enforcement action. |
| **Informing certificate renewal by:**<br>**Providing** a recent assessment that helps to inform the decision to renew operator certificates when the expiry date is reached. | **Educating operators by:**<br>**Providing** a critical feedback and education role to operators, which assists and encourages operators to maintain their operations to the appropriate standard. |

**Source**: ANAO based on CASA's data

**3.3** The inspectors that undertake surveillance of the aviation industry also perform Regulatory Services and Enforcement work. The first includes the checks necessary to assess applicants seeking entry to the aviation industry as an operator as well as the checks required when a current operator requests a change to the conditions of their AOC or COA (for example, the addition of a new type of aircraft or new routes). Enforcement work usually involves the collection of additional evidence that will support some form of civil or criminal enforcement action.

**3.4** CASA sets performance targets for all its Area / Airline Operations Offices of 40 per cent of resources to be allocated to regulatory services work, 40 per cent to surveillance work, and 20 per cent to enforcement work. Progress against these performance targets, at both the national and office level, is monitored and reported to the ESC, which meets every two months.

## The 1999 audit

**3.5** The 1999 audit raised concerns about the timing, coverage and adequacy of CASA's surveillance. The audit showed that inspectors were spending only 15–17 per cent of their time on surveillance work; that some operators were not being covered; that many operators were not assessed before their certificate renewal; and that the overall history of an operator was not taken into account.

**3.6** The ANAO recommended that CASA:

- take into account recent (within six months) surveillance history before any certificate renewals or variations;
- devote adequate resources to surveillance and ensure they are targeted to the areas of highest risk;
- analyse surveillance data regularly to ensure that priorities and procedures were adhered to;
- monitor the introduction of systems-based auditing against the agreed milestones; and
- ensure adequate surveillance of all airline operations was maintained during the transition phase to systems-based audits.

## Changes to CASA's surveillance processes since the 1999 audit

**3.7** CASA has introduced two key changes to its surveillance processes since the 1999 audit. The first, which impacts upon how overall operator coverage is achieved, is the introduction of a strategy of regular, scheduled audits that is supported by targeted risk-based audits. The second change, which addresses how individual operators are covered, is a shift from product checks that were centred on checklists, such as in-flight observations, to systems-based audits that are reported in an audit report format.

**3.8** The formal division between scheduled and risk-based audits provides a sound basis for the planning of audits, and is the prime mechanism for ensuring adequate coverage of **all** aviation operators. The second change, to

systems-based audits, is the methodology for the conduct of the audits, and is a platform for the consideration of any necessary enforcement action. This change is the basis for the coverage at **individual** operator level.

**3.9** The main area in CASA responsible for coordinating the implementation of the changes is DCAS. For most of the implementation period thus far, this section has operated with a staff of three to six people.

**3.10** This chapter focuses on CASA's surveillance coverage of all operators and Chapter 4 addresses the coverage of individual operators via systems-based auditing.

## The combination of scheduled and risk-based surveillance

**3.11** There has been a significant improvement in the overall coverage of operators under CASA's revised surveillance policies. The 1999 audit found that CASA's surveillance schedule was not well structured around either the certificate life cycles, nor the operators with perceived higher safety risks. That audit also found that not all operators were being covered.

**3.12** To address these deficiencies, CASA has introduced formal processes for determining a combination of scheduled surveillance and risk-based surveillance. Both are important. Scheduled surveillance plays a critical role in informing certificate renewals as well as encouraging operators to sustain high standards of safety. Risk-based surveillance allows CASA to target its resources to monitor the operators that pose the greatest risks to aviation safety.

**3.13** CASA has to balance its inspector resources to ensure that:

- the planned scheduled surveillance is conducted on time—as part of the overall risk reduction strategy; and
- sufficient risk-based audits are conducted—to address any identified risks in a prompt manner.

**3.14** DCAS advised the ANAO that the targets established were 80 per cent scheduled and 20 per cent risk-based for Airline Operations Offices, and 50 per cent each for the Area Offices. These targets were met in 2000–01, in terms of the numbers of audits conducted. Nevertheless, when resources are tight, the scheduled surveillance takes priority.

**3.15** There is also significant improvement in CASA's monitoring of its surveillance. The 1999 audit stated that regular analyses should be undertaken to ensure surveillance priorities were adhered to. DCAS tracks the timely

completion of scheduled audits. A list of all scheduled and risk-based audits conducted is given to the ESC at their bi-monthly meetings. The ANAO considers that Recommendation No.3(c) from the 1999 audit, which was about monitoring the conduct of surveillance, has been met.

**3.16** The mechanics of the scheduled and risk-based surveillance are outlined below.

## Scheduled surveillance

### Policy

**3.17** The current CASA surveillance strategy requires **all** General Aviation operators to be audited at least once in a three-year certificate lifecycle. The 're-certification audit' is conducted within three to six months of certificate expiry so that the operator's recent history can be taken into account when the application for certificate renewal is considered. Each operator is also considered every six months, albeit briefly, when the STI forms are completed. Staff in the Area Offices visited by the ANAO expressed the view that 'operators no longer sit on the shelf'. This represents a clear improvement over the surveillance strategy that was in place at the time of the 1999 audit and addresses Recommendation No.1, which related to timing surveillance to inform certificate renewal.

**3.18** The larger, passenger carrying operators and the COA operators that undertake maintenance for these have more frequent scheduled surveillance. HCRPT operators also have scheduled audits every six months, and the LCRPT and large charter operators have 'annual audits' scheduled every year. The processes for determining who should be audited, and when, are clear, and are generally well tracked. Table 3 summarises CASA's current surveillance strategy.

**Table 3**

**CASA's Current Surveillance Strategy**

| Operator type | Scheduled re-certification audits | Other scheduled audits | Risk-based Audits |
|---|---|---|---|
| **AOC**—HCRPT<br><br>*Approx 20 operators* | Every 3 years, 6 months before the certificate expiry date | Six monthly audits | As required |
| **AOC**—LCRPT and charter above 10 seats/5700 kilograms<br>*Approx 30 LCRPT plus 25 large charter operators* | Every 3 years, 3 to 6 months before the certificate expiry date | Annual audits | As required |
| **AOC**—charter < 10 seats, aerial work, cargo, flying training, other small General Aviation.<br>*Approx 770 operators* | Every 3 years, 3 to 6 months before the certificate expiry date | nil | As required |
| **COA**—Maintaining aircraft & components or aircraft only with >9 seats<br>*Approx 75 operators* | Every 3 years, 3 to 6 months before a notional certificate expiry date | Annual audits | As required |
| **COA—**Maintaining aircraft & components or aircraft only with ≤ 9 seats OR maintaining components only<br>*Approx 640 operators* | Every 3 years, 3 to 6 months before a notional certificate expiry date | nil | As required |

**Source**: Analysis of Compliance Management Instructions 01/AA and 00/10

**3.19** The ANAO examined how well CASA's surveillance strategy is implemented in practice, for airlines as well as General Aviation operators.

## Planning and tracking scheduled audits—Airlines

**3.20** The General Manager Airline Offices formulates the annual Airline audit plan in June of each year. Audit tracking reports show that the scheduled audits for all three Airline Operations Offices were timed according to policy and that, for the first six months of 2001–02, audits were completed on time.

**3.21** CASA has certainly sustained adequate levels of surveillance of the airlines during the transition from product checks to systems-based audits in line with Recommendation No.6(b) from the 1999 audit. However, the ANAO considers the balance between the quantum of systems and product checks is also important in the transition phase, as demonstrated by Case Study 3 in Chapter 4.

### Planning and tracking scheduled audits—General Aviation

**3.22** The planning for General Aviation was more complex, and CASA indicated that there were some problems with inconsistent planning by Area Offices in 2000–01. To rectify this, at the start of 2001–02, DCAS determined the timing of all scheduled audits, including the annual audits, for all the General Aviation operators in each Area Office. This was done in consultation with the Area Managers and Team Leaders. The re-certification audits were planned so that they would fall due three to six months before the certificate expiry date.[19]

**3.23** An analysis of the audit tracking reports confirmed that there were problems with the timing and conduct of scheduled audits in 2000–01, with some 19 per cent of scheduled surveillance not occurring. The ANAO found a marked improvement during 2001–02, with 93 per cent of the scheduled audits (that had become due) completed. In general, CASA's strategy for scheduled surveillance now appears to be working well.

## Risk-based surveillance

### Policy

**3.24** The scheduled surveillance is supported by risk-based audits on operators that CASA perceives to pose relatively greater risks to aviation safety. This risk-based surveillance may be triggered by:

- a high STI score;
- industry intelligence (including ESIRs, ASIRs, MDRs, CAIRS, CASA Hotline, inspector observations);
- aviation incidents or accidents; or
- findings from the scheduled surveillance.

**3.25** Risk-based audits can be broad ranging, or may focus on a particular area/system of concern to satisfy the inspector about the perceived risk. Area Offices can ask for additional resources if they consider that they are unable to adequately cover the risks.

**3.26** The ANAO analysed the coverage of operators that CASA perceived to have greater risk. Overall, the combination of scheduled and risk-based audits is effective in generally covering those who need to be covered.

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[19] As most COAs do not have expiry dates, CASA allocated notional expiry dates and divided the workload over a three-year period. CASA then planned the COA re-certification audits 3–6 months before the notional dates.

## Determining perceived risk

**3.27** The Area Offices hold monthly planning meetings for the purposes of allocating resources to the next month's surveillance, as well as determining which operators should be subject to risk-based audits. Given the size of an Airline audit, Airline Operations Offices hold planning meetings with audit teams more regularly—before each individual audit.

**3.28** There is evidence that, at these meetings, the Area/Airline Operations Offices do determine risk-based audit priorities on the basis of STI scores, and other intelligence, in accordance with CASA policy. However, the documentation of the reason for the selection of operators is generally poor.

**3.29** The ANAO also found little evidence of adequate tracking of the risk-based selections to ensure that the audits had actually occurred. CASA had not undertaken any analyses of its own to ensure that the coverage was either appropriate or adequate. The ANAO considers that, in the absence of appropriate tracking, there is a risk that some operators listed for risk-based audits may be overlooked and the audits may not occur.

**3.30** The ANAO considers that the effectiveness and transparency of the planning for risk-based surveillance would be improved by clearer documentation of:

- the reasons for recommending each risk-based audit;
- their relative priority;
- those conducted each month and those remaining on the list; and
- regular analysis of the overall coverage of riskier operators.

## Coverage of perceived risks

**3.31** The operators with the higher STI scores are perceived to pose the greater risks relative to other operators. The ANAO found that 29 per cent of the risk-based audits undertaken over the thirteen month period October 2000 to October 2001 were conducted on operators with current STI rankings in the 'top ten'. A further 21 per cent of the risk-based audits were conducted on operators who had at some time been listed in the 'top ten'. Over the period analysed, the ANAO found that 85 per cent of operators listed in the 'top ten' during the period examined were adequately covered by either scheduled or risk-based surveillance. This addresses Recommendation No.3(a) from the 1999 audit, which was about undertaking surveillance of operators that pose the greatest safety risks.

**3.32** In addition to the need to improve documentation of the reasons for decisions to undertake risk-based audits, and the subsequent tracking of audit

completion, the ANAO identified some other areas of concern, which have the potential to misrepresent the extent of risk-based surveillance coverage. These relate to the classification of what constitutes a risk-based audit, and the consideration of the risk-based audit coverage at the national level.

## Classification of a risk-based audit

**3.33** The ANAO concluded that there is the potential for misconceptions about the extent and nature of risk-based surveillance due to the inconsistency in what inspectors classify as a risk-based audit. A paper presented by one Area Manager at the Area Managers meeting in September 2001 highlighted anecdotal evidence of varying practices in the classification of risk-based audits. The paper suggested that some Area Offices recorded a risk-based audit when a CASA inspector made contact with the certificate holder to seek information to help the inspector to complete the STI.

**3.34** DCAS gives limited guidance to inspectors about what surveillance activity should be classified as a risk-based audit, other than to state these audits should take up to six person days to conduct, and that audit follow-up consuming more than two days may be classified as a risk-based audit.

**3.35** The inconsistency in the classification of what constitutes risk-based audits gives rise to the risks that CASA will believe an individual operator has undergone more surveillance than has actually been undertaken. As well, CASA may also believe that more operators have been covered. Further, there is a risk that scheduled surveillance will be erroneously cancelled due to the perception that a risk-based audit has occurred.[20]

**3.36** The ANAO considers that clearer guidance should be given to inspectors about what should be classified as a risk-based audit to reduce the possibility that risks are left unaddressed due to mistaken perceptions of coverage.

## Consideration of risks nationally

**3.37** The ANAO found no evidence that CASA monitors the coverage of risks at the national level. Although surveillance coverage of the 'top ten' is good at the Area Office level, if the STI scores are not considered from a national perspective, operators with relatively low STI scores could be subjected to risk-based surveillance in some Area Offices. On the other hand, those with higher STI scores in other Area Offices could miss out.

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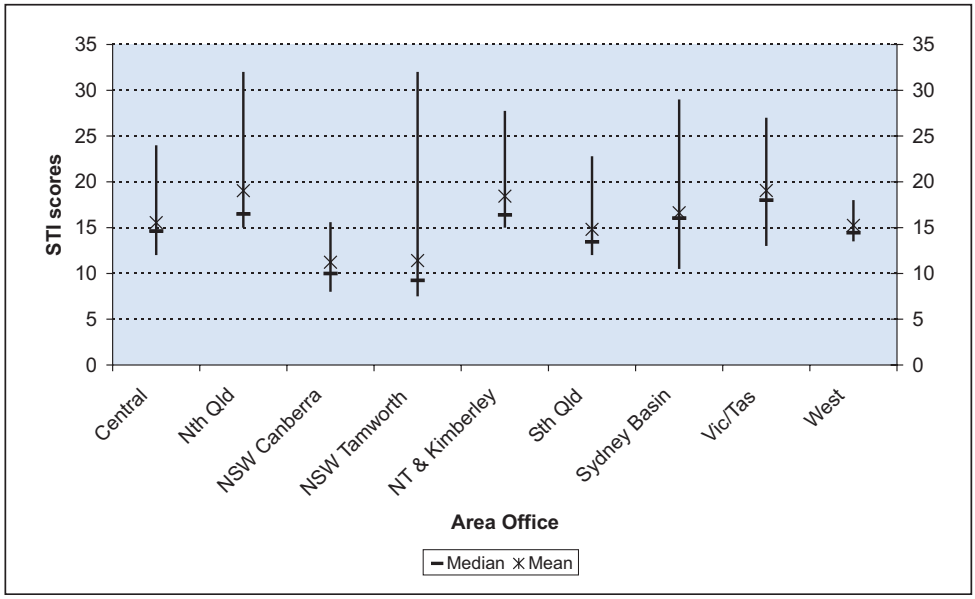
[20] Policy allows for a risk-based audit to replace a scheduled audit if it is within three months of when the scheduled audit was planned.

**3.38** The ANAO analysed the range of STI scores across the Area Offices for the month of October 2001. Figure 2 shows that the range, median and mean of the AOC STI scores for the Area Offices vary considerably. For example, the median and mean AOC STI scores for Vic/Tas Area Office are 18 and 19, respectively, whereas for NSW Canberra they are 10 and 11 respectively. Similar variations were identified in an analysis of the COA scores.

## Figure 2

**Range of top 10 AOC STI scores by Area Office: October 2001**




**Source**: ANAO analysis of STI database

**3.39** The net result of this is that operators with scores that ought to put them in the 'top ten' may not be covered. Given the apparent correlation between higher STI scores and inspector concerns about operators, it would seem important that those with the higher scores nationally should be considered for risk-based audits.

**3.40** The ANAO considers that CASA should regularly analyse the distribution of the highest risk operators to quality assure the overall results; to ensure adequate coverage; and to assist in the allocation of inspector resources (even temporarily) to the areas they are most needed. Area Managers can seek additional resources from Head Office if they consider that there are insufficient resources to undertake all of the risk-based audits considered necessary. However, in practice, this occurs very infrequently.

## Conclusion

**3.41** Overall, there has been a significant improvement in the coverage of operators due to the introduction of a combination of scheduled and risk-based surveillance. CASA's coverage of the industry is more systematic and consistent than it was in 1999. The surveillance of General Aviation is generally conducted in time to be taken into account when CASA considers renewing AOCs and COAs. This addresses Recommendation No.1 from the 1999 audit. For Airlines, CASA has sustained adequate levels of surveillance during the transition from product checks to systems-based audits in line with Recommendation No.6(b) from the 1999 audit. However, the ANAO considers the balance between the quantum of systems and product checks is also important in the transition phase, as demonstrated by Case Study 3 in Chapter 4.

**3.42** The risk-based audits now used to monitor particular operators more closely are, in the main, appropriately targeted. The ANAO found that 85 per cent of operators listed in the 'top ten' STI scores during the period examined were adequately covered by either scheduled or risk-based surveillance. This addresses Recommendation No.3(a) from the 1999 audit. To improve this situation further, the ANAO considers that CASA should adequately document the reasons for selecting operators for risk-based surveillance; should better monitor the completion rate of these audits; and should ensure consistency in what kind of surveillance activity constitutes a risk-based audit.

**3.43** DCAS monitors the achievement of scheduled and risk-based surveillance and reports the results regularly to the ESC. This addresses Recommendation No.3(c) from the 1999 audit. To improve this position further, CASA should analyse surveillance coverage from a national perspective as well as by Office, which would ensure that inspector resources are more consistently directed to those operators that pose the greatest safety risks.

# 4. Surveillance—Systems-based Approach

*This chapter covers the second change to CASA's surveillance strategy, the shift from product checks to systems-based audits, supplemented by product checks. The chapter looks at how the industry has embraced the systems-based approach to aviation safety thus far, and then examines CASA's audit methodology that is designed to guide the industry to comprehensive safety systems. The chapter addresses the issue of whether CASA's new systems-based approach better addresses operator compliance with the Act and CARs.*

**4.1** One stated goal of CASA's Aviation Safety Compliance Division is 'To encourage and achieve industry development of management responsibility and effective safety management processes whilst effectively monitoring and evaluating industry compliance'. This is consistent with s.9(2) of the Act, under which CASA is to encourage the aviation industry to accept its obligation to maintain high standards of aviation safety and to comply with the appropriate legislation.

**4.2** During the 1999 audit, CASA flagged its intention to progressively move away from reliance on product checks, such as in-flight observations, to systems-based audits. The systems-based approach is the new methodology for the coverage of individual operators. The ANAO concurs with CASA that this approach has potential advantages over the previous product-based approach. CASA indicated that its adoption of the systems auditing approach was in keeping with international standards, including those of the International Civil Aviation Organization, and followed its introduction by other leading aviation nations.

**4.3** Systems-based auditing focuses on the design and operation of the range of systems that an operator has in place to continue meeting the Act and CAR requirements, and thus to produce a 'safe' aviation operation. Systems-based auditing better attempts to address the root causes for any problems identified. However, some testing of the end products is still required to ensure that the systems are effective in practice. Table 4 compares the product-based and systems-based surveillance approaches.

## Table 4

**Comparison of product-based and systems-based surveillance**

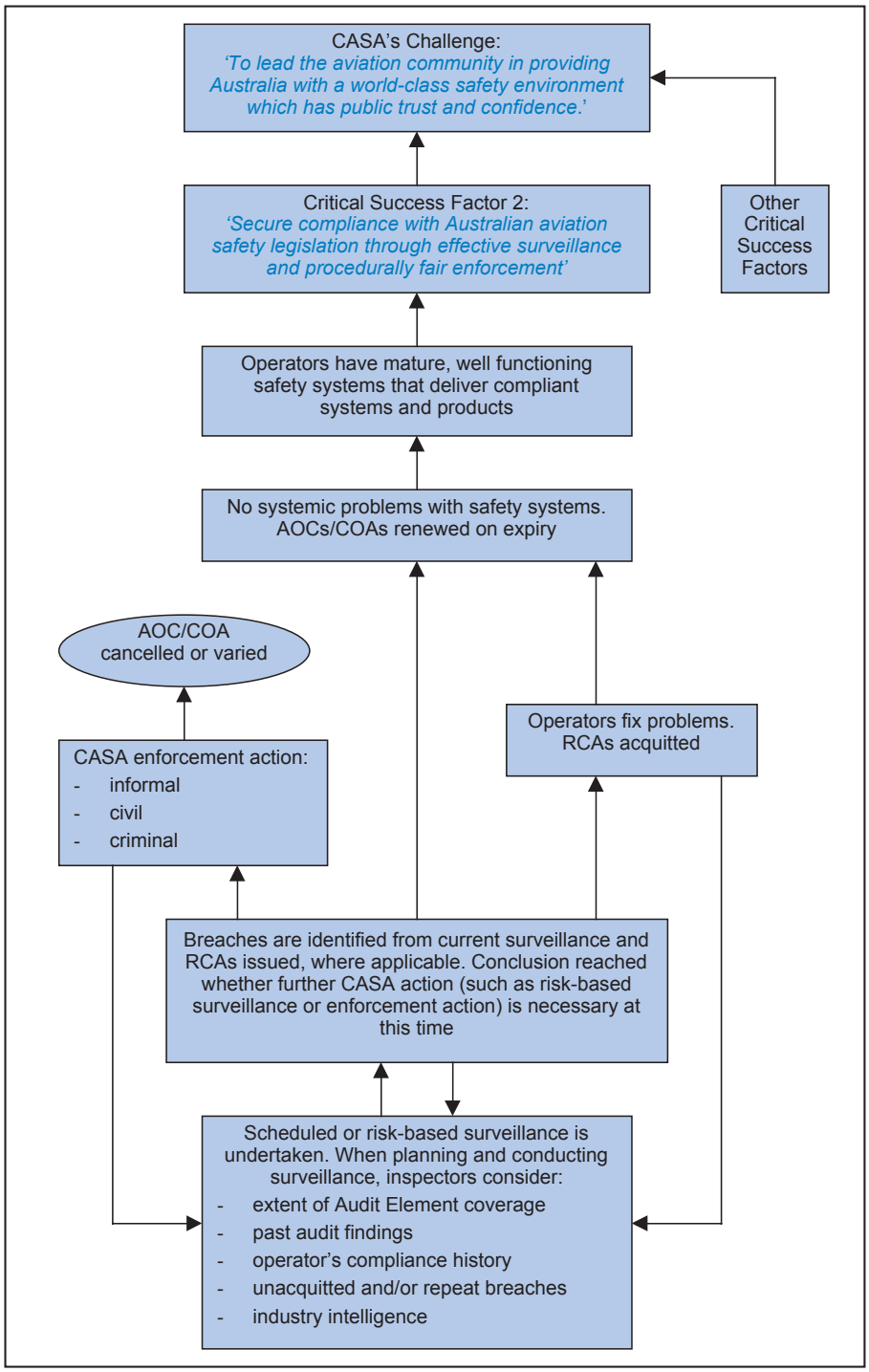
| Product-based surveillance | Systems-based surveillance |
|---|---|
| Task-focused | Focuses on organisation's systems |
| Tended to focus on the end product of systems | Focuses on the systems used to produce safe outcomes |
| Identified problems tended to be fixed by 'patches' | Required fixes are based on the systems needed to produce consistent results |
| Inflexible planning process | Surveillance planning is organisation based |
| Much repetition of tasks | Planning is based on sector and individual organisation risk |
| Checklist based | Uses team-based audit techniques where practicable |
| | Reporting systems are guideline-based |

**Source**: CASA presentation to the five-day *A Quality System Auditor Training Course*

**4.4** Systems-based auditing forms an integral part of CASA's Challenge, which is 'to lead the aviation community in providing Australia with a world-class safety environment which has public trust and confidence'. Figure 3 illustrates how systems-based auditing contributes to CASA's goals for a safe aviation industry.

**4.5** CASA drew heavily on the practices of other aviation regulatory bodies, such as the New Zealand Civil Aviation Authority, Transport Canada and the Federal Aviation Administration in the USA, when CASA developed its own systems-based approach.

## Figure 3
**Contribution of systems-based auditing to CASA's goals**




**Source**: ANAO based on CASA's data

## A phased implementation

**4.6** Although operators are required to have systems that operate safely, they are not yet required under legislation to have in place 'safety management systems'. However, in the longer-term, CASA desires that operators have comprehensive safety management systems and sound safety management cultures. This would allow CASA to obtain the greatest benefit from its systems-based auditing approach.

**4.7** CASA introduced the systems-based audit approach for the HCRPT operators in July 1999, and is gradually extending the change across the various operator types. During 2000–01, the LCRPT operators were added. During 2001–02, the coverage has been further extended to the larger charter operators.

**4.8** DCAS and Area/Airline Operations Office staff commented upon the cultural change that was required to gradually move CASA inspectors and the aviation industry from a tightly focused product-based checklist approach to a systems-based audit approach with a more open testing and reporting format. This has required considerable thought and planning from DCAS staff, as well as a staged implementation process. Inspectors, although aviation experts, have required coaching in the concepts of 'safety systems', 'management responsibility' and 'monitoring and feedback loops' so they can better apply their expertise and judgment under the new surveillance approach.

**4.9** CASA is progressively educating the aviation industry as systems-based auditing is phased in to their industry sector, as well as providing general information on the CASA website and in public addresses.

## Stakeholder views

**4.10** DOTARS advised the ANAO that it is generally satisfied with CASA's approach to introducing systems-based auditing. The large operators are generally satisfied with systems-based auditing (as evidenced by a reduction in the number of complaints to the Minister). The smaller operators are less satisfied, as they consider that they will have to allocate extra resources and time to put the necessary systems in place. However, DOTARS considers that CASA is trying hard to educate and assist the smaller operators. Overall, DOTARS considers that CASA's organisational improvements are heading in the right direction.

**4.11** Over the last couple of years, the Aviation Safety Forum, a consultative body comprising representatives from the aviation community and CASA, has made various comments on aspects of CASA's surveillance work. These comments are acknowledged throughout this report.

# Systems-based auditing

## Industry overview

**4.12** It is still relatively early days in the phased introduction of the systems-based approach and all the necessary revisions to the CARs to mandate that operators have safely systems are not yet in place. Of course, it does not automatically follow that the existence of safety systems or otherwise means that an operator is operating safely or not. Nevertheless, the ANAO considered it would be useful to examine where CASA perceives the industry needs to improve to meet its goals. The STI captures inspectors' broad thoughts on these aspects. The ANAO conducted an analysis of inspector responses to some key questions on the STI. The ANAO limited its analysis to those operators where CASA has focused its systems-based approach thus far.[21]

**4.13** The ANAO examined the inspector responses on the latest STI forms completed for operators to gauge how the inspectors assess whether:

- the operators have mature, well-functioning safety systems and safety is identifiable as a major organisational priority;
- the operators' documented processes are applied in practice;
- the operators have procedures to address the root causes rather than to apply superficial remedies; and
- the operators have improved their safety performance over the last 12 months.

**4.14** In conducting this analysis, the ANAO acknowledges that the STI is still being improved. The ANAO also notes that there is a significant proportion of DON'T KNOW responses in the analysis below, which inhibits the interpretation of the results.[22]

## Well functioning safety systems

**4.15** The ANAO found that CASA inspectors consider that the majority of operators have identified safety as a major organisational priority. Inspector responses ranged from over 80 per cent for COA operators to 59 per cent for HCPRT operators to 42 per cent for LCRPT/Charter operators. Encouragingly, inspector responses in the negative ranged from only two per cent for COA operators to 11 per cent for LCRPT operators to 12 per cent for HCRPT operators.

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[21] The analysis was limited to the HCRPT (17), LCRPT and General Transport Charter operators (241) as well as the COA operators (494) who maintain aircraft and components or aircraft only.

[22] The potential reasons for DON'T KNOW responses are discussed in Chapter 2.

**4.16** Inspectors consider that only some 26 per cent of operators have mature, well-functioning safety systems. Inspector responses ranged from 31 per cent for COA operators to 18 per cent for both HCRPT and LCRPT / Charter operators. This result is not unexpected as CASA is in the early stages of implementing its new surveillance approach. It does, however, emphasise the need for CASA to balance their systems checks (essential for progressing operators along the comprehensive systems continuum) with sufficient product checks, to ensure that aviation safety is not compromised in the transition—particularly for operators whose safety systems are not yet comprehensive.

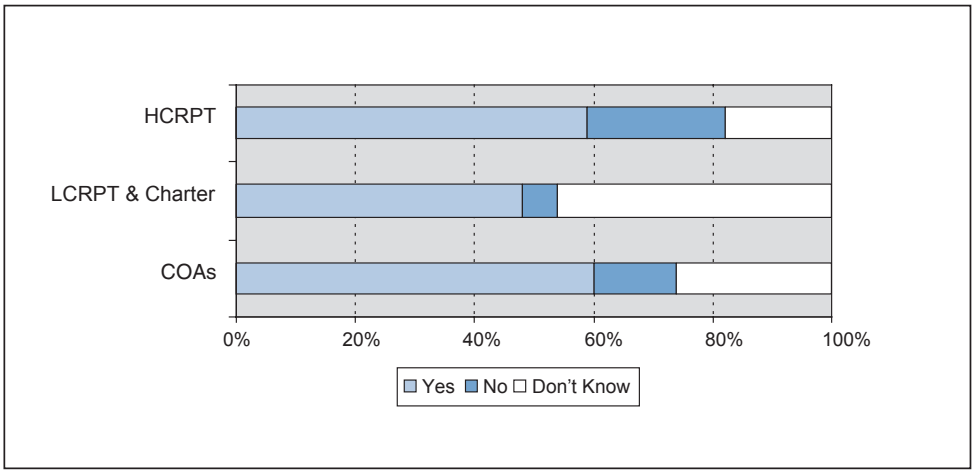
## Application of documented procedures in practice

**4.17** Systems-based auditing relies heavily on the ability of operators to effectively apply their documented procedures. The ANAO found that inspectors believe that 59 per cent of HCRPT and COA operators, and 49 per cent of LCRPT and charter operators, are generally applying their documented procedures. However, the large number of DON'T KNOW responses, particularly for LCRPT and charter operators, is of concern.

**4.18** It is important for inspectors to conduct adequate product checks to ensure that they know whether operators' practices do indeed match their manuals / documentation. Figure 4 summarises inspector responses on this matter.

**Figure 4**

**Responses to STI question: Are the organisation's documented processes generally applied in practice?**



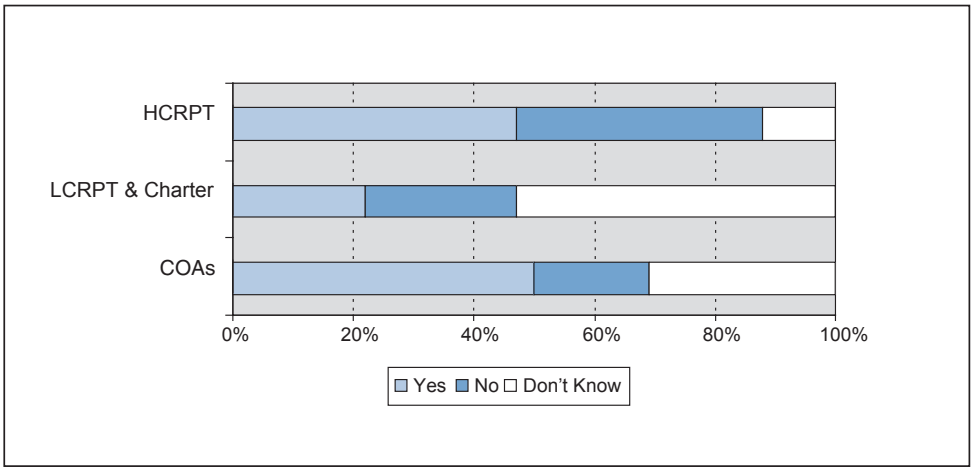

**Source**: ANAO analysis of CASA STI database

## Procedures to address root causes

**4.19** The need for operators to address root causes and to sustain adequate safety systems is one of the most compelling arguments for the shift to systems-based auditing. For the desired change to be achieved, it is important that CASA inspectors identify breaches and ensure that any systemic or root cause problems are remedied promptly. The ANAO found that, for the majority of operators, inspectors are generally not confident that operators have procedures in place to address the root causes of problems. CASA inspectors consider that less than a quarter of all the LCRPT and charter operators have procedures in place to address root causes rather than applying superficial remedies. In the case of the HCRPT and COA operators, the proportion is closer to 50 per cent. Figure 5 summarises inspector responses on this matter.

### Figure 5

**Responses to STI question: Does the operator have procedures to address root causes rather than applying superficial fixes?**




**Source**: ANAO analysis of CASA STI database.

**4.20** This result emphasises the need for CASA to carefully manage the acquittal of breaches and for inspectors to, where necessary, revisit operators' problem areas to ensure that breaches do not recur—as this would indicate a continuation of a systemic breach.

## Industry progression

**4.21** The STI forms also seek inspectors' feelings on whether the safety performance of the operator is better, the same, or worse than at their last STI assessment. The ANAO considered this data might be a useful early indicator as to whether, in the inspectors' views, the industry is improving in response to the phased implementation of systems-based auditing.

**4.22** The ANAO found that, as at October 2001, LCRPT and selected charter operators, as a group, were marginally improving their safety performance, while HCRPT operators' safety performance remained static.

### Conclusion

**4.23** CASA considers that the systems-based surveillance approach will ultimately deliver a more safety-focused industry. CASA has indicated the evolutionary nature of the transition, and the degree of cultural change that will be required by both the industry and inspectors to bring the systems approach to aviation safety to fruition. Clearly, CASA needs to balance its systems checks with sufficient product checks, to ensure that aviation safety is not compromised in the transition—particularly for operators whose safety systems are not yet comprehensive.

**4.24** As is to be expected at this early stage of implementation, operators, as a group, have a considerable way to go to attain the comprehensiveness in their safety systems desired by CASA. Systems-based auditing relies on operators' ability to apply their documented procedures and to address the root causes of problems. The ANAO found that inspectors are currently not confident that a significant proportion of operators do either consistently. This makes it all the more important that CASA's systems-based audits assess operator compliance; rigorously identify breaches; and make clear the systems/areas that operators are required to address. The audits are, and will continue to be, an important educative tool that conveys feedback to operators about how they are progressing in the context of the systems-based approach.

## ANAO methodology for examining systems-based auditing

**4.25** The ANAO examined the key aspects of systems-based auditing to ascertain how well they have been implemented and their effectiveness in:

- identifying operator compliance with the legislation; and
- encouraging operators towards achieving and maintaining the comprehensive safety systems necessary under the systems-based approach.

**4.26** In addition to discussions with a range of CASA staff, the ANAO examined a sample of audits undertaken between August 2000 and October 2001. The sample, taken from all Airline and Area Offices, was weighted towards audits undertaken during 2001 to allow for an assessment of more recent progress in the implementation of systems-based auditing and the use of the Audit Report Package.

**4.27** The move to systems-based auditing covers several key changes from product-based surveillance, each of which the ANAO examined in turn. These are:

- audit planning—the use of multi-disciplinary teams;
- audit conduct—the introduction of the Audit Element List;[23]
- audit reporting—the introduction of the Audit Report Package; and
- audit follow-up—the introduction of RCAs to address any breaches identified during the audits and to require systemic remedies.

## Audit planning and the use of multi-disciplinary teams

**4.28** It is important that systems-based audits are well planned to ensure adequate coverage of the operator's safety systems and to demonstrate that surveillance is appropriately targeted to the operators' areas of greatest risk. Coverage needs to be comprehensive for those operators that are only audited once in their certificate life cycle. For those covered by more regular scheduled surveillance, it is important that the audits are well coordinated and cumulatively seek to ensure adequate coverage over the certificate life, as well as the prompt rectification of any deficiencies identified.

**4.29** At the time of the 1999 audit, the surveillance of operators with bases at multiple locations throughout Australia was planned by one Area Office (the 'controlling office') with the surveillance work undertaken by the local Area Offices (the 'conducting offices'). DCAS now determines the timing of all Area Office scheduled surveillance and multi-disciplinary audit teams usually travel to the operators' various locations to conduct surveillance. Therefore, Recommendation No.4 from the 1999 audit, which related to improving the effectiveness of the controlling and conducting office arrangement, is no longer relevant.

**4.30** CASA also no longer necessarily uses 'assigned inspectors' for its surveillance work, but compiles multi-disciplinary audit teams that range in size from a sole inspector for smaller operators to up to seven or eight inspectors for an airline audit.[24] The inspector heading the audit team (the Lead Auditor) is responsible for the planning and conduct of the audit as well as writing the audit report and for acquitting any RCAs.

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[23] The Audit Element List is a generic inventory of all systems and auditable areas that could be applicable to an operator (see Appendix 2).

[24] Most CASA offices still have assigned inspectors to handle particular operators' regulatory service work.

**4.31** Not using assigned inspectors for surveillance prevents 'inadvertent capture' of inspectors through over-familiarity with operators, which has sometimes been an issue in the past. Multi-disciplinary teams bring a mixture of skills and experience that should lead to a more comprehensive and considered audit.

**4.32** However, this arrangement has implications for knowledge management. Inspectors may know little about the operator they are auditing or risk assessing (via the STI). They will, therefore, be more reliant upon effective record keeping by previous inspectors/teams. To this end, CASA's surveillance policy requires inspectors to record their findings and notes on the audits.

## Evidence of audit planning

**4.33** For most of the General Aviation audits examined, the ANAO found little record of audit planning in either the audit report or the operator surveillance files examined. This included a lack of reasons for the selection of those Audit Elements to be covered and the testing methodology to be used. The ANAO found evidence of the planning and the testing conducted in only 15 of the 48 General Aviation audits examined. Audit planning for Airline audits was more evident than for General Aviation audits, which might be attributable to Airline inspectors' longer experience with the systems-based auditing approach. Inspectors indicated that appropriate audit planning was done in practice, although documentation may be lacking.

**4.34** Records of the audit planning would be useful as it would demonstrate that the inspector/team had considered:

- past audit findings;
- the acquittal status of previous RCAs;[25]
- any intelligence gathered, or CASA interactions, since the last audit; and
- the most appropriate Audit Elements to be covered.

**4.35** Records of the planning would allay any concerns that the audit may not have been as well targeted as it could be. The following Case Studies 1 and 2 illustrate this. CASA indicated that it will reinforce the requirement for inspectors to thoroughly search the operator files.

[25] CASA advised that RCAs are entered into the ASSP database and it is easy for inspectors to run reports by operator to ascertain any previous or outstanding RCAs.

### Case Study 1

An LCRPT annual audit was conducted in February 2001 that reported several issues related to insufficient pilots being available and the risk of pilot fatigue. But the next visit to the operator, a risk-based audit conducted during October 2001, made no reference to these issues.

### Case Study 2

An annual audit was conducted and the conclusion was that the COA 'appears to be carrying out their activities to a satisfactory standard'. Other papers on the file, however, showed that the operator was part of a current investigation about the fitting of incorrect parts that had led to a series of aviation incidents over the preceding six months.

**Source**: ANAO analysis of CASA surveillance records

## Audit conduct and the Audit Element List

**4.36** Systems-based audits are centred on the Audit Element List. The Audit Element List is a generic inventory of all the systems and auditable areas that could be applicable to an operator.[26] It contains a break down of the systems and processes to be tested under four key areas:

- management responsibility;
- infrastructure;
- processes; and
- monitoring, feedback, corrective and preventive action.

**4.37** A copy of the Audit Element Lists for AOC and COA operators is attached at Appendix 2. The Audit Elements are not mutually exclusive, but are interrelated. Inspectors are required to test the applicable organisational systems as well as some of the processes/products they produce.[27]

**4.38** For the audits to be conducted effectively, inspectors should ensure that the Audit Elements selected are covered comprehensively. CASA's surveillance

[26] The Audit Element List applicable to AOC and COA holders is similar, but takes into account the inherent differences in their types of operations.

[27] For example, an inspector wishing to test the areas under Management Responsibility such as *961.8 Control of Documents* and *961.9 Control of Records*, would examine the operators' manuals and guidelines and would then select the Process elements (for example, *963.4 Load Control* and *963.6 Rostering*) to test their application. Conversely, an inspector wishing to test an operator's processes of *963.4 Load Control* and *963.6 Rostering*, would also check the operator's manuals for compliance with company policy and would comment on *961.8 Control of Documents* and *961.9 Control of Records* with respect to those documents and records relating to Load Control and Rostering.

policy outlines the approach inspectors should take and suggests that each Element of the audit should:

- identify the current practices and establish they are appropriate;
- establish that the documentation matches the processes;
- review the system for regulatory compliance;
- consider whether the operators' staff are appropriately trained;
- consider whether QA processes and controls exist; and
- if issues are uncovered, try to establish the root cause.

## Monitoring coverage over the life of the certificate

**4.39** DCAS advises that the policy intent is for all applicable Audit Elements to be covered for every operator over the life of the certificate. However, with the larger airlines this extent of coverage is not practical. Therefore CASA, in consultation with the airlines, has identified the areas of greatest safety significance and is directing its surveillance effort for the larger airlines there.

**4.40** As AOCs and COAs are issued for three years, it is too early for the ANAO to determine whether all applicable Audit Elements have been subject to surveillance during the certificate lifecycles. However, the ANAO considers that there is a risk that all applicable Audit Elements may not be audited in the certificate life cycle—contrary to the intent of the surveillance policy. Although tools exist for the tracking of Audit Element coverage, the ANAO noted that some Area Offices did not regularly record on any database the Audit Elements examined during audits. There was also little evidence that offices were monitoring past coverage of Audit Elements over the certificate lifecycle.

## Coverage of operators against the legislation

**4.41** CASA indicated that if all, or the majority of, the Audit Elements are covered during the certificate life cycle, then coverage against the legislation should be comprehensive. DCAS is currently mapping the Audit Elements to the regulations, but the lack of resources in DCAS has inhibited progress from beyond the early stage. The results of this exercise should make it easier for CASA to demonstrate that all sections of the Act and CARs are covered throughout a certificate lifecycle. The Audit Element List identifies some additional areas to those that were covered under product-based surveillance and these are being added to the regulations in the current rewrite.[28]

[28] These areas are currently shaded grey on the Audit Element List (see Appendix 2).

## Consistency of approach

**4.42** In examining the audit reports (and some operator files), the ANAO found that in most cases the processes the particular team had followed were poorly documented. It was difficult to track what testing, including product checks, was actually done under each of the Elements, and to know where to draw the boundaries of each Element. Consequently, it was not possible for the ANAO to determine the extent to which CASA inspectors followed the testing guidelines outlined in CASA's surveillance policy. It also makes it difficult for subsequent teams to plan effectively.

**4.43** Under the product-based approach, inspectors were given checklists that were directly linked to the standards and factors tested at entry control. The ANAO found that many inspectors were unsure of the workings of the free-form audit report format and the Audit Element list, which resulted in a lack of clarity in the standards being audited against.

**4.44** In August 2001, the Aviation Safety Forum commented upon apparent confusion amongst CASA's inspectors with respect to systems-based auditing and how much product testing was required.

**4.45** These observations were confirmed by a paper that received widespread support at the Area Managers meeting in September 2001. This paper identified shortcomings with respect to CASA's implementation of systems-based auditing. These include that:

- many inspectors are unable to break down the processes and Elements and are unable to form effective test plans;
- the lack of standards for auditing, which make it difficult to implement a QA process;
- the audits are not providing evidence that coverage is adequate over the three year certificate cycles; and
- inspectors tend to focus on the Management Responsibility audit elements (such as *Control of Documents* and *Control of Records*), resulting in insufficient focus on, and product checking of, processes.

## Balance between testing systems and products

**4.46** The importance of balancing reliance on operator's safety systems, and conducting sufficient product checks to verify that systems are operating as they should, was illustrated by the grounding of Ansett Airline's 767 aircraft in December 2000 and April 2001 (see Case Study 3). In this case, substantial organisational changes led to systemic maintenance issues that resulted in

significant airworthiness problems. The general lack of clarity of the testing performed during systems-based audits means that, in cases such as this, it is difficult for CASA to demonstrate that it is conducting sufficient product checks commensurate with the comprehensiveness of operators' safety systems, particularly during periods of transition.

**4.47** CASA advised that the systemic failures in Ansett Airlines were the result of latent conditions within at least four organisations and that the probability that product audits would have identified this issue was extremely low.

## Further guidance for inspectors

**4.48** The ANAO considers that the need to track operators via processes and products 'up through the management systems' as well as to track the systems 'down through the processes and products' may have contributed to inspector uncertainty. Although guidance was provided on aspects of the systems-based approach, it appears that greater clarification of the matrix-like nature of the Audit Element List and the balance between testing systems and products is required. In addition, a case can be argued for a closer alignment of surveillance testing with the tests undertaken at entry control. At the very least, if inspectors are not already doing so, they should be asking themselves whether the operator's systems are performing to the standard expected at entry control.

**4.49** CASA acknowledged that it does have a considerable way to go with comprehensive surveillance record keeping and records management and with the establishment of good 'paper trails' for quality assurance. CASA also emphasised that it is still focusing strongly on reinforcing consistency through staff training and policy, together with guidance to industry. The mapping of the Audit Elements to the CARs will be helpful when it is completed.

**4.50** Inspectors have requested updated ASSP surveillance manuals. In the absence of these, the audit teams are developing their test programs independently of each other, which is unnecessarily duplicating effort and may lead to varying quality of testing and coverage. DCAS is aware of the issue, but advised that it did not have sufficient resources to rewrite the ASSP manual earlier. The ANAO notes that the ASSP manual rewrite project has now been approved under the CASA Improvement Program and is scheduled for completion in November 2002.

## Case Study 3

Organisational change is recognised as an aviation safety risk factor on CASA's STI forms on the basis that the maturity of an organisation's safety systems will be affected during periods of significant change. In recognition of this, in times of organisational change, CASA should re-evaluate the balance between testing the operator's revised systems as well as the systems' end products.

From mid-2000, Ansett Airlines' organisation and management structure for its maintenance arm underwent significant change. In December 2000, CASA was alerted to the fact that Ansett Airline's 767 aircraft were flying beyond the time limits imposed in a service bulletin from the manufacturer (Boeing) before undergoing certain maintenance. Consequently, Ansett grounded its aircraft until CASA was satisfied they were fit to fly. Neither Ansett's own maintenance systems nor CASA's surveillance activities identified this maintenance oversight.

Normally, safety-related service bulletins are assessed by the aviation safety regulator in the manufacturer's country (in this case, the Federal Aviation Administration in the United States) and, where appropriate, are made mandatory in the manufacturer's country. After an assessment by CASA for relevance, they are usually made mandatory in Australia as well. In this case, delays in the assessment process by the Federal Aviation Administration meant that this did not occur. CASA is currently reviewing its system for the handling of service bulletins to ensure that CASA receives more timely alerts to those that are safety-related and thus may require mandatory status.

However, the December 2000 incident, plus the results from risk-based surveillance conducted in early 2001 and a number of subsequent incidents, led CASA to conclude that there may be systemic problems in Ansett's system of maintenance. Consequently, CASA grounded Ansett's 767 fleet in April 2001 and a number of major airworthiness problems with some aircraft were found, which required rectification before the aircraft resumed flying. This illustrates the importance of conducting sufficient product checks when an operator's safety systems are in transition.

Although the ANAO did not audit these incidents in any detail, they are significant and suggest that CASA may not have been conducting sufficient product checks in their earlier systems-based audits of Ansett Airlines, commensurate with the comprehensiveness of the airline's safety systems.

**Source**: ANAO based on CASA's data

## Audit reporting—the Audit Report Package

**4.51** DCAS has progressively introduced an Audit Report Package in a manner that more or less parallels the phased introduction of systems-based audits and the extension of annual audit coverage.[29] Audit teams conducting surveillance of the smaller operators continue to use the old ASSP surveillance report forms, but are expected to base the audit testing and findings around the Audit Element List.

**4.52** The objectives of the Audit Report Package include a requirement to produce reports that are 'well-argued, focused and succinct, and will withstand external scrutiny' and are 'an effective basis for deciding further action'.[30]

**4.53** The Audit Report Package consists of a cover sheet, an Executive Summary, Element Summaries, an Index of Findings and any RCAs issued. The ANAO found that, where CASA inspectors were required to use the Audit Report Package (in some 20 per cent of the audits the ANAO examined), the required sections were nearly always there.

### Audit reports a valuable tool

**4.54** The Audit Report Package is an important tool that can yield considerable information about the safety status of an operator. When the reports are comprehensive, they represent a significant improvement over the checklists approach in place during the 1999 audit. The reports are designed to aid the targeting of future surveillance by summarising the status of the Elements examined and highlighting areas of future attention. They should also form the basis for considering any necessary enforcement action.

**4.55** The reports are also a valuable feedback mechanism and an educative tool that can be used to raise operators' understanding of systems-based auditing and their own standard of performance. However, the majority of General Aviation audit reports examined by the ANAO were not comprehensive. Audit reports rarely came to conclusions at either the Element/System level or in aggregate, about the sufficiency of the operators' compliance with the Act and CARs.

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[29] This included the LCRPT operators in 2000–01, and from 2001–02 included the larger charter operators and the medium-sized COA operators.

[30] Source: Audit Report Writing Training Course for CASA inspectors.

## Audit completion—a decision point for further CASA action

**4.56** Systems-based audits, subject to their scope, provide the most up to date information on the standard of operators' activities. However, they are snapshots in time. Their reports should therefore be clear about the outcomes of the audit, including the systemic implications of any deficiencies identified. It is at this point that inspectors should use their professional judgment to determine whether some action by CASA is necessary to ensure operators continue to comply with the Act and CARs. This decision should take into account the cumulative impact of: the latest audit results; the operators' general compliance history; any unacquitted breaches; and any repeat breaches. Action could take the form of a risk-based audit, some formal or informal enforcement action or other related measures. It is important that any action is timely to avoid any potential compromise to aviation safety.

**4.57** CASA indicated that between surveillance and enforcement there is an educative role. If CASA is to work constructively with operators to encourage them to accept their safety responsibilities, CASA considers it needs to distinguish between an intention to breach the regulations and a lack of understanding of the regulations. An immediate punitive approach in the case of the latter could be counterproductive. This does not mean that CASA places safety at risk, while giving operators the benefit of the doubt. Where there is an immediate safety concern, CASA issues an Immediate Safety Alert and inspectors have certain powers under the CARs to direct organisations to perform certain actions. Where there is no immediate safety issue, however, it is appropriate to await the operator's response to RCAs before making a judgment as to whether some form of enforcement action is necessary.

**4.58** CASA further indicated that:

- inspectors do consider the need for further action after undertaking surveillance;
- the delegate for AOC and COA renewals considers operators' compliance history to inform his decision on whether to renew the certificates every three years; and
- existing surveillance policy allows Safety Alerts to be issued during audits, which can immediately suspend operators' activities pending their addressing of a serious safety concern.

**4.59** However, the ANAO:

- found generally, little or no record, at the completion of an audit, of consideration being given to identifying broad systemic issues or how to improve an operator's safety culture;

- considers that a review of an operator's compliance history only at the time of certificate renewal may not be timely enough to sufficiently manage threats to aviation safety; and
- considers that circumstances arise that are not so serious as to warrant a Safety Alert and where RCAs alone are an insufficient response to manage compound and/or repeat issues.

**4.60** The lack of documented consideration of the need to take further CASA action could be a reflection of the shortcomings of CASA's audit approach mentioned earlier, such as the general uncertainty about the workings of the Audit Element List, and the lack of clear standards that the audit is being conducted against. Nevertheless, it has the potential to undermine confidence in CASA's implementation of the systems-based approach and in CASA's ability to take timely action to improve aviation safety.

**4.61** Case Study 4 illustrates this. From the ANAO's perspective, these multiple violations appear serious and systemic. It is not clear that their collective ramifications were considered. CASA did not appear to take any enforcement action in response to these findings, even at an informal level. Nor did the audit indicate whether a follow up risk-based audit should be conducted to satisfy CASA that the operator had successfully changed the systems that resulted in the combination of breaches. It is not clear from CASA records whether these options were considered and deemed unnecessary. CASA indicated that the audit report should have provided more detail of the decisions made by the inspector.

### Case Study 4

An audit conducted in March 2001 concluded that 'the control and supervision of staff needs to be improved'.

Yet the audit team issued eight RCAs, six of which were identified as 'System—Violations'. These included:

- the pilot incorrectly recording flight times (exceeding limits set under Civil Aviation Orders);
- failing to maintain flight and duty records;
- giving instruction on aircraft without the mandatory hours on type;
- the lack of Chief Flying Instructor certification on proficiency flight checks; and
- some pilots not complying with the operations flight manual.

A further six Audit Observations were issued for related issues.

**Source**: ANAO analysis of CASA surveillance records

**4.62** If CASA were to consider the need to take further action after an audit, it would produce a more consistent trigger for any necessary enforcement action (discussed in Chapter 5). It would also provide an opportunity to recommend to the next audit team the Audit Elements that should be considered in the next audit. In this way, the next audit team would not waste time researching the operator's history and the areas that require targeting would be clearer.

### Operators to receive copies

**4.63** Copies of Airlines audit reports are routinely given to the airlines.[31] According to Area Office Managers, copies of GA audit reports are also given to operators in addition to the RCAs raised. However, during an examination of 48 audits, there was only evidence in 11 cases that this occurred. The ANAO considers that, as audits reports are a useful educative tool, it would be good practice for CASA to provide all operators with copies of the audit reports of their operations. If inspectors already provide reports to operators, it would provide a useful QA trail to briefly record on file when this was done.

### Conclusion

**4.64** The ANAO considers the quality of CASA's audit reports can be significantly improved. CASA indicated that the inspectors are still on a 'learning curve' with respect to writing audit reports and that it is not reasonable to expect that a new approach will be fully correct from the outset or that the implementation difficulties that will be encountered can be fully anticipated. CASA considers that the ASSP manual rewrite and further guidance will help inspectors to improve the quality of their reports until they regularly meet the required standard.

**4.65** The completion of an audit is a timely point for CASA to consider whether some further CASA action, in addition to issuing RCAs, should be taken to improve operator compliance with the Act and CARs. However, the ANAO generally found little or no documentation to demonstrate that inspectors consider this after undertaking surveillance.

## Recommendation No.2

**4.66** The ANAO *recommends* that, to ensure that systems-based auditing identifies systemic risks to aviation safety in a timely manner and encourages a culture of safety by operators, CASA documents after each audit the further action, such as risk-based surveillance or enforcement action, it considers necessary. This decision would take into account the cumulative impact of: the latest audit results; the operator's general compliance history; any unacquitted breaches; and any repeat breaches.

### *CASA response*

**4.67** Agreed.

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[31] CASA's surveillance policy for Airline operators states that copies of the audit reports should be provided to the airline operators. CASA's surveillance policy for General Aviation operators makes no mention about providing copies of reports to General Aviation operators.

## Audit follow-up—Requests for Corrective Action

**4.68** RCAs replace the former Non-Compliance Notices (NCNs) and are the primary surveillance mechanism by which CASA encourages operators to raise their standards. RCAs are issued against specific breaches of the Act and CARs and require operators to remedy their policies and/or practices. RCAs also indicate which Audit Elements have been breached.

**4.69** In line with the systems-based approach and the need for well functioning safety-systems, the RCAs seek *corrective* and *preventive* action from the operator, whereas the NCNs only sought corrective action. The operator must not only address the issue, but must also identify the systemic change they will make to ensure the same breach does not recur.

**4.70** RCAs do not 'ground' the operator unless they are issued in conjunction with a Safety Alert. Surveillance policy guides inspectors on when to issue Safety Alerts, RCAs and Audit Observations.

### Numbers and Quality of RCAs

**4.71** CASA's Annual Report for 2000–01 shows that, during the year, some 2359 RCAs were issued. CASA's view is that the RCA approach is achieving its intended purpose. Staff in the Airline Operations Office the ANAO visited advised that when the systems-based audits were first introduced they issued large numbers of RCAs. Staff said this was because systems-based audits detected many more breaches than the product checks did. However, the number of RCAs issued to airlines has decreased markedly over the two years as the airline operators take the preventive actions required, and become more familiar with the systems-based requirements.

**4.72** Generally, RCAs are issued in accordance with policy. The RCAs issued as part of the audit reports examined by the ANAO were found to be precise; were linked to the Act/CARs and Audit Elements; showed the breach clearly; and sought preventive action from the operator, as well as corrective action.

### Management of repeat breaches

**4.73** This audit did not find the same pattern of serious non-compliance by operators that was evident during the 1999 audit. However, the ANAO questions the management of repeat breaches over time. For systems-based auditing to be effective, operators must rectify identified breaches promptly. Analysis of the audit reports sampled showed some instances where a number of RCAs covering fairly serious breaches were raised in one audit and then either not referred to at all in subsequent audits of the same operator, or required further RCAs in

subsequent audits with no additional comment or penalty. (See Case Studies 1, 2 and 4 in this chapter).

**4.74** The issuing of repeat RCAs for repeated breaches would imply a failure in the systems-based approach, as it would mean that the operators were not, in fact, correcting their systems. For systems-based auditing to work effectively, the systemic issues raised in RCAs must be adequately addressed—and in a timely manner. This is illustrated in Figure 3 (page 67).

## Timely acquittal of RCAs

**4.75** When issuing RCAs, inspectors specify a time within which defects must be remedied. CASA has identified the timely acquittal of RCAs as a performance indicator in its *Corporate Plan 2001–2002 to 2003–2004*. During 2000–01, the average acquittal time grew to an average of 76 days for the year. Consequently, the average number of days acquittals were overdue grew, culminating in an average for the year of 49 days overdue. More recent CASA analysis indicates that the time acquittals remain overdue has decreased in the second and third quarters of 2001–02 to 33 and 29 days, respectively. This would indicate that CASA is well on the way to bettering its target of 50 days overdue for 2001–02, and to achieving its target of 30 days in 2003–04.

**4.76** The ANAO commends CASA's desire to shorten the acquittal times, and also notes there are some problems in determining the reasons why RCA acquittals are not as timely as CASA wishes. As CASA has recognised, their database does not record sufficient information to determine the reasons why an outstanding or overdue RCA has not been acquitted.[32] It will be difficult for CASA to ensure operator compliance if it cannot ascertain whether an overdue response is due to operator non-compliance or a failure on CASA's part to follow-up on an outstanding RCA. CASA has indicated that the redesign of CASA's IT systems under the CASA Improvement Program will address this problem in the longer term.

**4.77** The ANAO suggests that, until CASA has redesigned its IT systems, it would be useful for CASA to introduce other mechanisms to ensure that RCA acquittal times do not grow unnecessarily. At least one Area Office has the acquittal of outstanding RCAs as a standing agenda item at their monthly surveillance planning meetings. The ANAO suggests that other Area Offices

[32] The potential reasons include:

- the initial operator response was inadequate and another had been sought, which changed the response due date;
- the inspector is awaiting an opportunity to verify the operator's actions first hand—be it on the next risk-based audit or scheduled audit or when he/she has a moment; or
- the operator has ceased to be active and the RCA is therefore no longer relevant.

could adopt this approach so that RCA acquittals are kept in the minds of inspectors. CASA agreed that this could be a useful practice.

## Conclusion

**4.78** The ANAO concurs with CASA that the systems-based approach to surveillance has potential advantages over the previous product-based approach. In recognition of the extent of cultural change and considerable improvement in safety systems required from operators, CASA is implementing the new approach in phases. CASA believes that the new approach is already delivering better safety outcomes and will ultimately deliver a more safety-focused industry. In the interim, CASA needs to balance its systems checks with sufficient product checks to ensure that aviation safety is not compromised in the transition.

**4.79** Systems-based auditing relies on operators' ability to apply their documented procedures and address the root causes of problems. As inspectors have identified shortcomings in these areas, it is important that CASA's systems-based audits assess operator compliance; rigorously identify breaches; and make clear the systems/areas that operators are required to address.

**4.80** The ANAO's examination of the systems-based approach found that clarification of, and greater guidance material on, the mechanics of planning, conducting, reporting and following-up audits would improve their quality and effectiveness. In particular, CASA could:

- better demonstrate that it is conducting sufficient product checks, commensurate with the comprehensiveness of operators' safety systems; and
- improve its use of the surveillance results as a decision point (or trigger) for considering whether further action is necessary.

**4.81** The ANAO considers that the audits will work best if:

- the audits are targeted and planned appropriately;
- the standard the operators' activities were audited against is clear;
- the systems coverage of individual operators is sufficient to ensure overall compliance as well as to ensure follow up to prevent repeat breaches;
- the cumulative impact of any problems is considered; and
- the audits are clear about their findings, what is required and whether some form of follow up action should be taken by either the operator or by CASA.

**4.82** The safety systems approach and CASA's systems-based auditing, when fully implemented, will enable CASA to better monitor operators' compliance with the Act and CARs. However, considerable work remains to be done to refine their implementation, otherwise there is a risk that CASA's agenda of aviation safety reform may falter.

## Recommendation No.3

**4.83** The ANAO *recommends* that, to help ensure that systems-based auditing is implemented effectively, CASA's surveillance audit reports clearly document:

(a) the testing performed; and

(b) the standard against which the operator's activities were audited (that is, the safety standards required at entry control).

### *CASA response*

**4.84** Agreed.

# 5. Enforcement

*This chapter examines whether CASA has better enforcement strategies to ensure compliance with the aviation safety standards (outlined in the Act and the CARs). The tools CASA uses for this purpose include informal enforcement action, civil enforcement action and criminal enforcement action. The new enforcement methods of Notices of Concern (under informal enforcement) and Infringement Notices (under criminal enforcement) are also examined.*

**5.1** One of CASA's functions under the Act (s.9(1)(d)) is to '[develop] effective enforcement strategies to secure compliance with aviation safety standards'. CASA's Enforcement Manual clearly states its enforcement philosophy:

> … where individuals or organisations in the aviation industry choose to break the rules, or demonstrate that they are either unwilling or unable to meet their legal obligations to aviation safety, there will be swift and firm action from CASA. This will include prosecution and/or suspension or cancellation action where necessary. (Foreword)

**5.2** In its role as an industry regulator, CASA has identified the great importance of trust between CASA, the aviation industry and the public. Many of CASA's enforcement actions are prompted by intelligence gathered from the aviation industry and the public, and any decline in trust could lead to valuable safety information no longer reaching CASA.

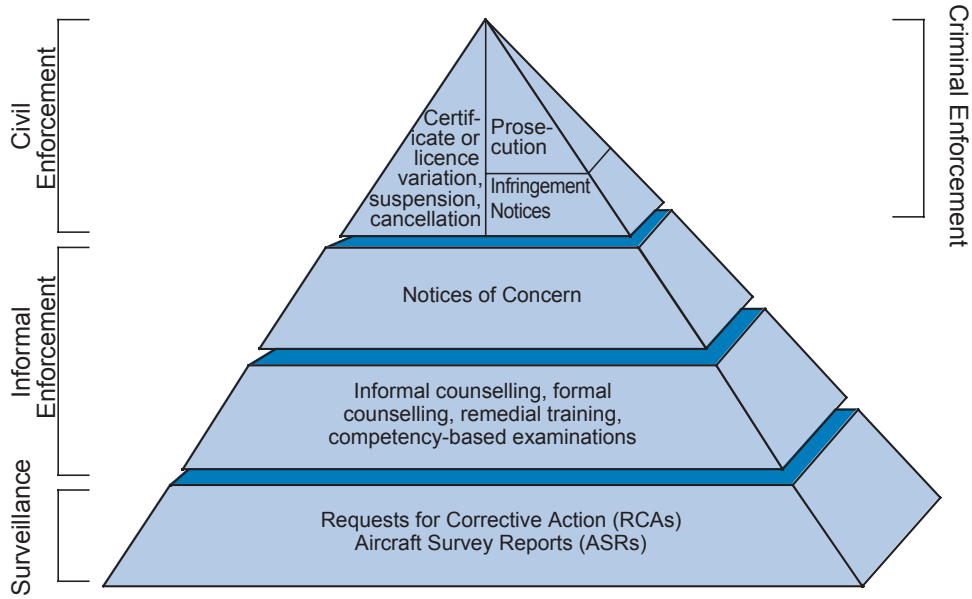
**5.3** To maintain and enhance this trust, CASA's approach to enforcement is:

- for its enforcement actions to be open, uniform, consistent, fair and appropriate; and
- unless there is an immediate threat to air safety, for offenders to receive procedural fairness.

**5.4** CASA has three categories of enforcement tools that it can use to secure compliance with aviation safety legislation: informal enforcement; civil enforcement; and criminal enforcement. These tools, together with the RCAs issued during surveillance, form an enforcement framework—or pyramid of enforcement—which is illustrated at Figure 6 following.

**5.5** This chapter identifies CASA's response to the relevant recommendation from the 1999 audit and then examines the triggering of enforcement actions and the operations of CASA informal, civil and criminal enforcement tools.

**Figure 6**
**CASA's Pyramid of Enforcement**




**Source**: ANAO based on CASA's data

## The 1999 audit

**5.6** During the 1999 audit, the ANAO found some uncertainty in Area / Airline Operations Offices over the revised enforcement philosophy that had been approved by the Board in October 1998. The audit also found that CASA had taken no special action to address the apparent risks to safety posed by operators who had a significant history of non-compliance. The ANAO considered that appropriate enforcement strategies should be developed for such cases.

## Triggers for enforcement action

**5.7** CASA identifies operator breaches of the Act or CARs through surveillance and from intelligence received from the aviation industry or the public, or a combination of both. As breaches can compromise aviation safety, it is important that CASA considers the need to take some form of enforcement action as soon as surveillance is completed and as intelligence is evaluated.

**5.8** This requires inspectors to use their professional judgment to form an opinion on the sufficiency of the operator's compliance with the Act and CARs and thus their ability to operate safely by considering:

- the latest surveillance results or intelligence received;
- the operator's general compliance history;
- any unacquitted breaches; and
- any repeat breaches.

**5.9** As noted earlier, the ANAO found that there were no clear links between the outcomes of surveillance and consideration of the need to take some form of informal enforcement action, such as counselling. The sample of the operator files examined by the ANAO did not document whether any further CASA action was considered. The enforcement files, while demonstrating the breaches, did not document the accumulated evidence that triggered the decision to take action.

**5.10** However, this audit did not find the same pattern of continuing serious non-compliance that was evident during the 1999 Audit. Nevertheless, the ANAO found some audits contained instances of significant non-compliance when, taken collectively, some form of CASA enforcement action may have been warranted (see Case Studies 1, 2 and 4 in Chapter 4). While the ANAO acknowledges that inspectors use their professional judgment, the decision-making process should be clear to demonstrate the industry is being treated fairly and consistently.

## Informal enforcement action

### Introduction

**5.11** Informal enforcement action is the least severe—but nonetheless an important part—of CASA's enforcement tools. Table 5 illustrates the circumstances where informal enforcement action is appropriate. Well-timed informal enforcement action may put minor offenders back on the compliance 'path' and thus avoid more severe enforcement action in the future.

## Table 5

**Circumstances where enforcement action should be considered**

| Informal Enforcement | Civil and Criminal Enforcement |
|---|---|
| To be considered where:<br>➢ the non-compliance was inadvertent and not deliberate;<br>➢ the non-compliance was not the result of a substantial disregard for safety (that is, not a substantial deviation from the degree of care expected);<br>➢ the non-compliant person has a constructive attitude to complying with their obligations;<br>➢ the non-compliant person has not been involved in similar instances of non-compliance; and<br>➢ informal enforcement action will provide an adequate deterrent. | To be considered where the opposite occurs with respect to any of circumstances listed under Informal Enforcement (see left). The underlying premise of civil enforcement action is to '*remove a threat to aviation safety*'.<br>The matters that the DPP will consider when deciding to prosecute breaches of the Act and CARs are:<br>➢ the seriousness or triviality of the alleged offence;<br>➢ the presence of mitigating or aggravating circumstances;<br>➢ the age, physical or mental health of the alleged offender and any witnesses;<br>➢ the alleged offender's history of compliance;<br>➢ the degree of culpability of the alleged offender in connection with the offence; and<br>➢ whether the alleged offence is of considerable public concern. |
| Examples of actions in 2001:*<br>➢ Compliance with air traffic control clearances and air traffic control instructions (CAR 100)<br>➢ Low flying (CAR 157) | Examples of actions in 2001:*<br>➢ Negligent etc. operation of aircraft (s.20A of the Act)<br>➢ Flying aircraft without licence etc. (s.20AB of the Act)<br>➢ Defects and major damage to be endorsed on maintenance release (CAR 50) |

**Source**: Adapted from the CASA Enforcement Manual (May 2001)

* These are examples of actions undertaken by CASA in 2001. The appropriate enforcement action for any breach of aviation legislation depends on the facts of each case.

**5.12** Informal enforcement action includes informal counselling, formal counselling, remedial training and competency-based examinations. Counselling involves getting the offender to signal that they will comply with their legislative obligations in future. Remedial training and competency-based examinations involve offenders undertaking training or sitting examinations to correct a training deficiency or to prove their competency.

**5.13** CASA inspectors have the power to take informal enforcement action against offending operators. Revisions to the Enforcement Manual in May 2001 now require inspectors to record informal enforcement actions taken on proforma

reports. Area/Airline Operations Managers clear these reports before they are forwarded to CASA's Enforcement & Investigations Branch in Canberra.

**5.14** CASA indicated that informal enforcement action is centrally collated so CASA can identify the types of breaches where such action is taken and to gauge the consistency of its application. Ultimately, Area/Airline Offices will receive feedback on the types of situations where informal enforcement action is appropriate, to improve the consistency of its use.

## Taking informal enforcement action

**5.15** The ANAO notes that CASA currently uses informal enforcement action inconsistently and that this enforcement tool is under-used. The ANAO found that only five of the eight Area Offices, and none of the Airline Operations Offices, have completed informal enforcement reports. On the other hand, one Area Office had completed ten of the 26 reports completed between June 2001 (when monitoring commenced) and January 2002. By far the greatest reason for conducting informal enforcement action was for Air Traffic Control offences (including violations of controlled airspace) identified by AirServices Australia. However, only three Area Offices conducted informal enforcement action for these offences, despite their frequent occurrence everywhere in Australia.

**5.16** In any organisation that applies a graded enforcement framework, it could be expected that there would be a greater number of less severe enforcement actions and a smaller number of more severe enforcement actions. In this context, the 26 informal enforcement actions seems too few given that, over the same period more than 1000 RCAs would have been issued, and some 30 civil and criminal enforcement actions were undertaken.

**5.17** RCAs are a valuable tool for improving operator compliance. However, they alone may not be sufficient to address compound and/or repeat breaches of the Act or CARs. Informal enforcement action may prove to be a better way to address such breaches.

**5.18** The ANAO considers that the inconsistency and under-use result from a combination of a lack of clear guidance and a lack of understanding or willingness of inspectors to apply informal enforcement actions.

**5.19** The fact that CASA generally takes no action for Air Traffic Control offences traced to operators/individuals indicates either a lack of inspector understanding or willingness to take informal enforcement action. Although CASA's Enforcement Manual identifies the circumstances where informal enforcement action is appropriate, in many cases, no enforcement action is taken and only an RCA is issued. Case Study 4, described in Chapter 4, illustrates regulatory

breaches highlighted by RCAs where CASA could have considered some form of informal enforcement action. The ANAO considers that CASA should develop clearer guidance to distinguish the circumstances where inspectors should consider informal enforcement action in addition to issuing RCAs.[33] Furthermore, CASA could reinforce the benefits of informal enforcement action at the same time.

**5.20** CASA indicated that it now monitors informal enforcement action; has identified the offices that undertake it; and recorded the circumstances where it is being used. CASA is now developing strategies to ensure that all field offices use informal enforcement action appropriately. CASA expects it will take another six months before the scheme is fully effective.

## Notices of Concern

**5.21** In February 2001, the CASA Board approved the use of Notices of Concern as a more directive form of counselling. Notices of Concern stem from criticisms of CASA's enforcement process that operators first became aware that CASA had a problem with their operations when CASA gave the operator a Show Cause Notice. Notices of Concern are an intermediate step between formal counselling and certificate suspension or cancellation.

**5.22** Notices of Concern document CASA's concerns and lay a paper trail for possible future enforcement action. The desired result from a Notice of Concern is for CASA and the operator to agree on action that will remove CASA's concerns.

**5.23** The ANAO found that Notices of Concern are not specifically covered in CASA's Enforcement Manual and no other guidance or training has been given on their appropriate application. Without appropriate guidance and training, the take up and use of Notices of Concern is likely to be inconsistent. The CASA Board noted that Notices of Concern should be seen as an important part of CASA's enforcement options across all sectors of aviation 'and not just a soft option for high capacity operations'. However, as at January 2002, only two Notices of Concern had been issued, and both were to HCRPT operators.

**5.24** The ANAO considers that CASA should promote the use of Notices of Concern in their guidance material and training to avoid accusations of inconsistency in the treatment of different sectors of the aviation industry. CASA indicated that the next amendment to the Enforcement Manual would make it clear that a counselling letter may take the form of a Notice of Concern.

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[33] It should be noted that CASA does not issue RCAs for Air Traffic Control offences.

## Civil enforcement action

### Introduction

**5.25** Civil enforcement action is intended to 'remove a threat to aviation safety'. The Enforcement Manual gives no specific guidance on the circumstances where civil enforcement action should be considered. However, such circumstances can be inferred from the circumstances under which informal enforcement action is not appropriate and criminal enforcement action may be appropriate.

**5.26** Civil enforcement action is a more severe enforcement tool than informal enforcement action. Various provisions of the Act and CARs empower CASA to vary, suspend or cancel (or refuse to renew) AOCs or COAs and other licences, permits or authorities. Such action can significantly restrain or put an end to an operator's activities.

**5.27** In cases where there may be a serious risk to air safety, CASA can suspend a licence, certificate or authority with immediate effect, for a maximum of 28 days, pending investigation. In other cases, CASA follows a 'show cause' procedure before taking civil enforcement action.

**5.28** CASA's civil enforcement actions can be subject to review by the Administrative Appeals Tribunal under the *Administrative Appeals Tribunal Act 1975* or by the Federal Court under the *Administrative Decisions (Judicial Review) Act 1977* or section 39B of the *Judiciary Act 1903*.

**5.29** From March 1999, the power to take civil enforcement action was centralised in CASA's Head Office in Canberra. The current delegates are the General Manager, General Aviation and General Manager, Airline Operations. The delegate takes prime responsibility for the enforcement decision. To carry out this function, the delegate must be given all the relevant information and evidence to establish, to his reasonable satisfaction, the grounds for the proposed action.

**5.30** To this end, Area/Airline Operations Managers are responsible for: following the show cause process; preparing a recommendation to the delegate after taking the offender's comments into account; and forwarding all the relevant and necessary documentation to the delegate so that he can make an informed decision.

### Taking civil enforcement action

**5.31** The ANAO considers that the civil enforcement action process, when being pursued, is operating well. The ANAO found that:

- Area/Airline Operations Managers followed the show cause process;

- Area/Airline Operations Managers considered operator's oral and written responses to the show cause process;
- Area/Airline Operations Managers documented the reasons for the recommended actions and canvassed enforcement options;
- Area/Airline Operations Managers forwarded all the relevant documentation to the delegate, generally within three weeks of the operator's responses; and
- the delegate endorsed the Area/Airline Operations Manager's recommended action in all the cases examined by the ANAO, usually within seven days.

**5.32** Most, but not all, enforcement actions are timely, with about a quarter of enforcement actions outside the timeframes mentioned above. Any delays in preparing the required paperwork once CASA decides to cancel, or vary, a certificate or licence mean that offenders remain operating longer than necessary (unless under suspension), with consequential risks to aviation safety. The ANAO considers that closer monitoring of the enforcement process by the delegates would ensure the timeliness of preparing key documents and making key decisions.

**5.33** CASA Area Office Managers and Team Leaders generally considered that centralising the decision-making power for civil enforcement action had improved the consistency of these actions. All felt that the process involving themselves, investigators, CASA's Office of Legal Counsel and the delegate worked fairly well. However, some questioned the capacity of a remote delegate to consistently make good enforcement decisions, and the effort and information needed to convince the delegate.

**5.34** However, the ANAO notes that in any 'merits review' by the Administrative Appeals Tribunal (AAT) the matter stands or falls on the information the delegate has to make the enforcement decision. If a remote delegate cannot be convinced to take civil enforcement action, it is highly unlikely that the AAT would uphold a CASA action.

**5.35** To further enhance the consistency of its enforcement decisions, the Office of Legal Counsel is to shortly develop a Rulings Database for use by CASA staff. The Rulings Database will be a reference point for determining what action has been taken in the past for what breaches and under what circumstances. The ANAO considers that this is a good initiative and that searches of the Rulings Database should be used to support a recommended course of civil enforcement action.

### Challenges to CASA's decisions

**5.36** CASA is generally successful when operators challenge its civil enforcement actions. Of the 23 decisions handed down by the AAT in 2000–01, only three were set aside. Of the six decisions handed down by the Federal Court in 2000–01, only one was set aside or overturned (CASA's Annual Report 2000–01).

**5.37** However, it is not evident that Area/Airline Operations Managers received feedback on the reasons the AAT or Federal Court set aside or overturned CASA's civil enforcement decisions. The ANAO considers that the lessons learnt from AAT and Federal Court judgements should be shared at the Area/Airline Operations Manager meetings to improve the civil enforcement action process for the future.

## Criminal enforcement action

### Introduction

**5.38** CASA is responsible for investigating offences against the Act and CARs. The DPP is responsible for prosecuting the offences CASA refers in accordance with the Prosecution Policy of the Commonwealth. CASA's primary role in the prosecution process is to collect evidence for consideration by the DPP, monitor the progress of referred matters, and assist the DPP during prosecutions. At times, CASA also consults the DPP on general legal issues and asks the DPP for independent advice on the adequacy of evidence supporting particular CASA investigations.

**5.39** Criminal enforcement action can occur concurrently with, or separately from, civil enforcement action.

**5.40** CASA's Enforcement Manual contains guidance for Area Managers on the factors that the DPP will consider when deciding whether a prosecution is in the public interest (see Table 5).

### Investigations

**5.41** Criminal enforcement action usually involves CASA carrying out an investigation of alleged offences. At the time of the audit, CASA had 5.5 full-time equivalent investigators appointed under Part IIIA of the Act who: investigate alleged offences; prepare associated briefs of evidence, reports and submissions on the matters investigated; and represent CASA in criminal proceedings. Most investigators are out-posted at certain Area/Airline Operations Offices, but they can, and have been, tasked outside their normal geographic area of responsibility when the need arises.

**5.42** The ANAO considers that investigators are tasked in a sound manner which adequately reflects a risk management approach. When an alleged offence is identified, the relevant Area/Airline Operations Manager asks the Manager-Enforcement and Investigations Branch (ME&I) to task an investigator to investigate the matter.[34] ME&I sets the priorities for investigations from a national perspective, according to time limitations and the seriousness of the alleged offences. For example, investigations conducted after an operator has been suspended (under CAR 268) receive the highest priority as the suspension lasts a maximum of 28 days. (The ANAO found that in all the cases involving a CAR 268 suspension, the investigations were completed within the 28-day period.)

**5.43** In the past three years, ME&I received in the vicinity of 100 requests for investigations per annum, of which between 75 and 80 per cent proceeded to formal investigation.

**5.44** However, CASA's Investigations Register indicates that for the 2000 and 2001 calendar years, twelve investigation requests were refused due to a lack of investigators. CASA Area/Airline Operations Managers also mentioned to the ANAO that at times it was difficult to obtain sufficient investigator resources. One Area Manager indicated that this did not influence the quantum of matters referred for investigation to ME&I. On the other hand, another Area Manager indicated that he had not referred some less serious matters to ME&I as he knew that an investigator would not be tasked due to a shortage of investigators. ME&I indicated that this situation should be alleviated shortly with the recruitment of an additional investigator.

## Taking criminal enforcement action

**5.45** CASA's criminal enforcement action process, where pursued, is generally operating well and is usually timely. The ANAO found that:

- investigation reports canvassed the strengths and weaknesses of the evidence supporting the possible offences, drawing to a conclusion whether, in the investigator's opinion, there was sufficient evidence to prove the offences;[35]
- investigation reports outlined a recommended course of action (be it no action, preparing a brief to the DPP, infringement notice or a referral of the matter to the Area/Airline Operations Manager for consideration of civil enforcement action such as formal counselling);

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[34] Area/Airline Operations Managers can task an investigator for up to Ω day without ME&I approval.

[35] The standard of proof against which the evidence is judged is 'beyond reasonable doubt', which is the standard applied in court.

- CASA completed 88 per cent of investigations within six months of tasking, which is in line with CASA's performance target of 90 per cent;[36]
- investigation reports, and their conclusions and recommendations, were reviewed by ME&I;
- CASA completed 93 per cent of briefs of evidence and sent them to the DPP within three months of completing the investigations, which is not far short of CASA's performance target of 100 per cent;[37] and
- prosecutions pursued by the DPP were generally successful, with only three (10 per cent) acquitted of the 30 prosecution cases completed in 2001.

**5.46** However, the ANAO found little evidence to justify the recommended course of action in some investigation reports examined. The ANAO considers that investigators should canvass the pros and cons of all the available courses of action before recommending a course of action in their reports. In this way, CASA can better demonstrate the fairness and consistency of its criminal enforcement actions. CASA indicated that it has now implemented this suggested change.

**5.47** In addition, in February 2001, CASA advised its Board that a Memorandum of Understanding (MOU) with the DPP was being pursued in order to clarify the types of matters the DPP are likely to prosecute. CASA indicated that the MOU has not yet been completed due to delays by the DPP. The ANAO considers that the MOU may assist CASA to identify more consistently the matters that the DPP are likely to pursue to prosecution.

**5.48** As noted earlier, the Office of Legal Counsel is to shortly develop a Rulings Database for CASA staff to further enhance the consistency of its enforcement decisions.

**5.49** Although CASA's criminal enforcement actions are generally handled well, there are cases or investigations that are not as timely as CASA would like. All CASA's enforcement actions need to be timely so CASA can take action to preserve aviation safety. The ANAO considers that CASA, and in particular the ESC, should more closely monitor the timeliness of enforcement actions.

## Infringement Notices

**5.50** Since the 1999 audit, CASA has implemented a system of administrative fines for CAR breaches (not breaches of the Act) not involving serious safety

[36] For the 2001–02, 2002–03 and 2003–04 years as outlined in CASA's Corporate Plan 2001–02 to 2003–04.

[37] ibid.

matters. From July 2001, Infringement Notices can be issued and monetary fines imposed of between $110 and $550 per offence. The details of any infringement notices issued are available to the public on CASA's website.

**5.51** CASA's Enforcement Manual gives some guidance on the situations where Infringement Notices are appropriate and inappropriate. This additional enforcement tool is intended to apply in circumstances where neither prosecution nor suspension action is warranted, but where some formal enforcement action is justified. CASA still needs to prove the offences for which infringement notices have been issued. Should the offender challenge the infringement notice (by refusing to pay the fine), CASA would refer the matter to the DPP for prosecution action.

**5.52** ME&I is the only person authorised to issue Infringement Notices, which has disappointed CASA's Area/Airline Operations Managers. They expected to have the delegation to issue Notices from their area offices. However, given that CASA will need to refer the matter to the DPP should the operator refuse to pay, the ANAO considers that it is logical for the delegation to issue the fines to lie with the person responsible for referring matters to the DPP.

**5.53** Infringement Notices have been integrated within the existing criminal enforcement action process, and are an option now considered by investigators when recommending a course of action.

**5.54** Five Infringement Notices were issued between November and December 2001, of which three were paid and, at the time of the audit, the remaining two were not yet due to be paid. ME&I is using a register to monitor their status and to document the regulatory breaches for which they were issued. In this way, CASA can refer to past Infringement Notices to inform future decisions on the appropriateness of issuing Infringement Notices—as a means of aiding consistency. CASA considers that Infringement Notices will become a valuable enforcement tool.

## Enforcement training

**5.55** CASA requires staff with the appropriate skills and training to effectively enforce compliance with the Act and CARs. CASA's enforcement options—particularly the more severe ones—are necessarily legalistic in process. CASA's investigators should have the skills to conduct an investigation that would support a prosecution by the DPP. CASA's surveillance inspectors should have the skills and training to recognise circumstances where some form of enforcement action may be warranted. They must also be aware of the distinction between the powers of inspectors and investigators to gather evidence.

**5.56** CASA indicated that all of its investigators have been undertaking an accreditation program that commenced in September 2001. All investigators have obtained their diploma in fraud control investigation, which is above the minimum standard the Government expects. This was not the case at the time of the 1999 audit and, as such, represents an improvement in capability.

**5.57** CASA indicated that new surveillance inspectors receive detailed training courses in general legal issues as part of CASA's General Induction Course. CASA further indicated that, during the audit, the Office of Legal Counsel developed, and has begun to deliver, training courses to deal with particular enforcement issues of concern to all inspectors. For example, inspectors in two Area Offices have recently received training in regulatory decision-making (including appearing as witnesses in external review bodies such as the AAT). Inspectors in other Area Offices will receive this training throughout the year. Training in legal drafting, another identified training need, is scheduled to start in late-April and early-May 2002.

**5.58** CASA should continue to monitor the sufficiency of the training in legal issues delivered to inspectors to adequately support CASA's role of enforcing compliance with the Act and CARs.

## Conclusion

**5.59** Overall, the ANAO considers that CASA has better enforcement strategies in place to secure operator compliance with the Act and CARs than the enforcement strategies that were in place at the time of the 1999 audit. However, the ANAO considers there should be clearer links between the outcomes of surveillance and CASA's consideration of the need to take some form of informal enforcement action, such as counselling.

**5.60** Well-timed informal enforcement action may put minor offenders back on the compliance 'path' and thus avoid more serious non-compliance in the future. However, the ANAO found that CASA applies informal enforcement action inconsistently, and this enforcement tool is under-used. These deficiencies seem to result from a combination of a lack of clear guidance to CASA inspectors on the types of situations where informal enforcement action is appropriate, and a lack of understanding or willingness of inspectors to apply informal enforcement actions. CASA indicated that it now monitors informal enforcement action and is developing strategies to ensure that all field offices use informal enforcement action appropriately.

**5.61** CASA's civil and criminal enforcement actions, when being pursued, are generally effective at: removing threats to aviation safety by varying or cancelling AOCs and COAs; and supporting prosecution of offenders in accordance with

the Prosecution Policy of the Commonwealth. CASA's established processes for handling civil and criminal enforcement actions are generally operating well. Investigators are directed to the most serious offences, and the enforcement decisions and reasons for decisions are well documented. The ANAO considers that closer monitoring of the enforcement process by the delegates would ensure the timeliness of preparing key documents and making key decisions.

**5.62** CASA indicated that all of its investigators have been undertaking an accreditation program that commenced in September 2001. CASA also indicated that it has developed, and has begun to deliver, training courses to deal with general and particular enforcement issues of concern to inspectors.

**5.63** The ANAO considers that CASA has adequately addressed Recommendation No.8 from the 1999 audit, which was about ensuring appropriate and timely enforcement action.

# 6. Resources for Surveillance

*This chapter examines the quantum, quality and management of resources devoted to aviation safety surveillance and compliance, and whether this has improved since the 1999 audit. The chapter covers the resources devoted to the conduct of surveillance, surveillance workload targets and their achievement, the training and guidance provided in the new systems to CASA inspectors and QA processes. The chapter also examines the role of DCAS, the coordinating section, and the adequacy of its resources.*

**6.1** The ANAO recognises that new policies and procedures can only be effective in practice if sufficient resources are allocated to their development and implementation, and to providing guidance to staff to ensure a consistent and comprehensive approach.

**6.2** As part of the shift to systems-based auditing, CASA has significantly changed the way the inspectors undertake their surveillance work. The inspectors now work in multi-disciplinary teams, use a free form audit report package, must master the Audit Element list and must master management/organisation based concepts and models. Overall, as CASA has identified, a large cultural shift has been required. The adequacy of resources, guidance and training will impact significantly on the overall success of the changes to CASA's surveillance strategy.

**6.3** In this audit, the ANAO sought to determine whether CASA had improved the quantum and management of its resources devoted to aviation safety surveillance and compliance. The ANAO limited its examination of resources to:

- whether sufficient inspectors had been allocated to achieve CASA's revised surveillance schedule;
- the training and guidance provided to inspectors to assist them in the change to systems-based auditing;
- QA systems for surveillance audits; and
- the quantum of staff in DCAS to perform the policy and procedural development role required of it as well the training and QA monitoring role.

## The 1999 audit

**6.4** The 1999 audit found that CASA was having difficulty meeting the planned surveillance targets, and that it was not achieving the anticipated resource usage for surveillance work but was spending greater time on regulatory services work.

**6.5** The ANAO recommended that CASA increase the resources for surveillance, and that CASA consider formally allocating inspectors to either regulatory work or surveillance work to ensure both functions were maintained.

**6.6** The 1999 audit found a recurring theme of a lack of QA processes and oversight of the compliance functions. Although CASA had well documented compliance procedures, there was a lack of consistency in the way the procedures were applied. CASA intended to establish a central, coordinating section in Canberra to monitor the compliance functions as well as a process of peer evaluation.

**6.7** The ANAO considered these initiatives would represent an improvement, and recommended that clear guidelines be developed for the peer evaluation process, and that the outcomes be analysed regularly to identify trends and opportunities for improvements to CASA's compliance function. CASA agreed with the recommendations and established a working group to address the issues.

## Resources for systems-based surveillance

**6.8** CASA has improved the quantum of resources it has to undertake surveillance work. Compliance Division obtained approval for an increase of 17 staff in the 2000–01 Budget. As well CASA exerted significant effort during 2000–01 to recruit to their full complement of staff, particularly inspectors. The Corporate Performance Report for 2000–01 shows that 91 vacancies were filled in Compliance Division during the year. This is a significant intake into a Division with an establishment target of 363 staff.

**6.9** DCAS estimates that in 1999, when systems-based auditing was introduced, CASA was operating at about 60 per cent inspector capacity. The ANAO notes that the reduced resources and increased workload pressures would have added to the strain for inspectors also trying to learn a new approach. CASA has done well to recruit to address the shortfall in inspectors.

### Surveillance targets

**6.10** CASA has addressed the 1999 audit issue of failing to meet surveillance work targets. CASA has set resource usage targets for both Airline Operations Offices and Area Offices, which are: 40 per cent allocated to regulatory work; 40 per cent to surveillance work, and 20 per cent to enforcement work. Progress against the targets is reported to the ESC every two months. CASA's Annual Report for 2000–01 indicates that, overall, CASA achieved its target of allocating 40 per cent of inspectors' time to surveillance activities. Furthermore, for the

first three quarters of 2001–02, inspectors' time devoted to surveillance increased to 52 per cent.[38]

**6.11** This is a marked improvement on the situation at the time of the 1999 audit, where only 15–17 per cent of resources were used on surveillance activities. The ANAO considers that Recommendation No.3(b) from the 1999 audit, which related to balancing the distribution of resources between surveillance and regulatory service work, has been adequately addressed.

## Resources in the Area Offices

**6.12** The ANAO examined whether adequate inspectors exist in the area and airline offices to implement the required number of scheduled and risk-based audits. The analysis suggests that, at a macro level, there are sufficient resources to conduct the required number of scheduled audits and to maintain the current number of risk-based audits.

**6.13** The ANAO estimates that 7260 inspector days are required to meet CASA's surveillance policy for its Area Offices during 2001–02.[39] This was based on the advice DCAS gave to Area Offices re the anticipated resource usage for the various types of audits.

**6.14** The ANAO has calculated that CASA has 8280 inspector days available to meet the surveillance program.[40] It appears that there are sufficient inspectors to meet CASA's current surveillance program, although this calculation does not take into account less predictable factors such as long service leave, additional training requirements or positions being unfilled for a period of time.

**6.15** However, given the ANAO's earlier analysis of the classification issues surrounding risk-based audits (see Chapter 3), and CASA's intention to extend the coverage of annual scheduled surveillance, the ANAO concluded that CASA may not have sufficient inspectors to allocate 50 per cent of their surveillance time to risk-based audits in line with intended targets.

**6.16** During the ANAO's audit, CASA began to monitor the distribution of resources between scheduled and risk-based audits. This will help to:

- determine whether scheduled versus risk-based surveillance resource targets are being met;

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[38] CASA, Corporate Plan 2002-2003 to 2004-2005 (draft), 2002.

[39] The calculation of resources for risk-based audits for 2001–02 has been based on the number of risk-based audits conducted in 2000–01 (458).

[40] This was based on a starting point of 231 working days available in any year for its 128 inspectors who regularly undertake surveillance in Area Offices. Only 70 per cent is productive time, and only 40 per cent of productive time is designated for surveillance activities.

- provide a better mechanism to review the balance between scheduled and risk-based audits; and
- provide a better mechanism to review the composition of CASA's scheduled surveillance and the resulting resource implications.

### Resources in the Airline Operations Offices

**6.17** It was not possible to estimate the workload of CASA's Airlines Operations Offices, as CASA has not established benchmarks for the number of days it should take to conduct Airline audits. Nevertheless, as is mentioned in the previous sub-section, the ANAO considers that CASA should monitor the quantum of resources it allocates to scheduled and risk-based audits.

## Training in systems-based auditing

**6.18** CASA has undertaken a significant recruitment drive to reach its full establishment level of inspectors, and has introduced multi-disciplinary audit teams. The new inspectors will have required significant guidance and training. Inspectors will be more reliant upon effective audit reporting and record keeping by previous audit teams, given that they may now be part of a convened multi-disciplinary team and may know little about the history of the operator they are to audit.[41]

**6.19** Determining the overall training requirements for inspectors is the responsibility of the Aviation Safety Compliance Division. However, DCAS is responsible for implementing new systems and technology and for identifying and coordinating the delivery of the training required.

### DCAS' approach

**6.20** To achieve inspectors' training needs, DCAS' approach is a combination of:

- providing policy guidance through management instructions;
- visits to Area/Airline Operations Offices to introduce new concepts or procedures;
- listing issues for discussion/presentation at the appropriate compliance management meetings (for example, Area Managers Meetings);
- particular training courses on auditing and report writing;

[41] See Chapter 4 for issues relating to the audit reports.

- segments on the General Induction Course for example, STI forms and Aviation Law, and
- QA monitoring of audits and feedback to teams.

### *Key training courses*

**6.21** DCAS coordinates the courses related to aviation surveillance and systems-based auditing. Consultants deliver some of these, and others are designed and delivered by DCAS staff.

**6.22** The three main courses are as follows:

- ***The Safety and Lead Auditor Course***, delivered by a consultant with a duration of five days, and with the stated aim 'to enable staff to conduct audits of industry.' It covers the principles of QA and Total Quality Management, a range of systems and models as well as the processes in auditing.
- ***Audit Workshops*** (now no longer provided), designed and delivered by DCAS, over two days, with the stated aim 'to improve system audits of participants in the Australian aviation system.' This course revisits systems and covers the Audit Element list.
- ***Report Writing***, delivered by a consultant over two days, with the aim 'to provide staff with an effective framework for reporting the outcomes of audits'.

**6.23** These courses are offered to all new inspectors/staff as well as existing staff who wish a refresher or who require training in the new audit approach. Staff also attend courses covering AOC Manuals and Processes that are relevant for both regulatory and surveillance work.

### *Monitoring of training*

**6.24** Although DCAS keeps records of the participants for each training course, no area in CASA is monitoring the meeting of individual inspector training needs. It is thus not possible to readily establish the number of inspectors who require training in which courses. The statistics suggest that out of a total of 268 inspectors there are still some 50–60 who require training in the Safety and Lead Auditor Course and the Report Writing Course. CASA advised that the Audit Workshops were found to be ineffective and that on-the-job training in the form of enhanced audit monitoring was being provided instead.

**6.25** This finding is disappointing given that the need for training needs analyses and monitoring of participation were mentioned during the 1999 audit. DCAS indicated that it was confident that most of the 182 inspectors located in

its Area/Airline Operations Offices would have undergone training in these courses/workshops.[42]

**6.26** Given the significant recruitment of inspectors in 2000–01, there is a risk that some inspectors will not have received timely or sufficient training in the new approach, beyond that included in the induction course. Timely training for the more established inspectors would also seem important, given CASA's recognition of the cultural change required to ensure an effective transition from product checks to systems-based audits. The ANAO considers that the training of individual inspectors should be monitored to ensure that all inspectors receive the relevant training.

## Provision of support materials

**6.27** The ANAO notes DCAS' early efforts to ensure that courses were available to staff. However, the approach seems to have lacked cohesion, in terms of, the timing of delivery to various inspectors, and the release of appropriate supporting guidance materials, such as the updated ASSP manual.

**6.28** As noted earlier, the Aviation Safety Forum meeting of August 2001 commented that a number of its members had referred to apparent confusion amongst CASA's inspectors about the application of systems-based auditing. These observations are cause for concern when they are made during late 2001—after the teams have had a year of systems-based auditing practice and exposure to several courses and guidance processes.

**6.29** DCAS is working on materials that will assist inspectors with systems-based auditing, such as the mapping of the Audit Elements to the regulations and the rewrite of the ASSP manual. Progress has been more protracted than anticipated due to the shortage of resources in DCAS.

## Conclusion

**6.30** DCAS staff have put considerable effort into endeavouring to meet, and to be responsive to, inspectors' needs. However, the training and the provision of adequate support materials have generally lacked cohesion. This may have inhibited inspectors' take-up of the messages about systems-based auditing.

**6.31** Given the significant recruitment undertaken during 2000–01, there is a risk that some inspectors will not receive timely or sufficient training in the new approach. The ANAO notes that CASA has formed a Training Program Working Group to address inspector training needs. This Working Group will provide a

[42] The remaining 86 inspectors are located in CASA's Head Office in Canberra and are not regularly involved in the surveillance of operators.

final report to CASA management by the end of June 2002. The ANAO supports this initiative and recognises that adequate, timely and effective training and guidance are critical to ensure the success of CASA's surveillance reforms.

## Quality assurance processes for audits

**6.32** QA is an important mechanism in any program. Part of DCAS' role is to coordinate, monitor and evaluate the implementation of CASA's audit approach to ensure quality and consistency across CASA.

### Audit monitoring

**6.33** In May 2001, DCAS nominated four staff to conduct QA monitoring reviews of the surveillance audit teams. Where these were done, the QA reviews improved inspector confidence through on-site feedback and emphasised the importance of adhering to the audit report package. The wider lessons identified during the QA reviews were written up as Monitored Audit Observations for dissemination to the applicable areas in CASA. CASA indicated that observations were followed-up verbally, but this has not been documented. Furthermore, CASA has yet to determine whether the lessons have now become standard audit practice for all inspectors.

**6.34** DCAS has endeavoured to undertake audit monitoring whenever resources permit. Five monitoring reviews were undertaken in late 2000–01 and a further handful was undertaken in November 2001, but these had not been written up at the time of this audit. CASA indicated that further monitoring reviews are planned for 2002. The ANAO considers that the audit monitoring process is a valuable tool for improving the quality of systems-based audits, and the resulting audit reports, and suggests that CASA allocate sufficient resources to maintain this QA review function and to direct it to known problem areas. Setting targets for the number of QA reviews (for example, a nominated proportion of all audits each year) may assist in this regard.

**6.35** CASA has recently appointed a Quality System Auditor as an additional resource for QA evaluation of audits.

### Peer review

**6.36** In May 2001, the General Manager-General Aviation accepted a proposal put forward at the Area Managers meeting that a sample of assessments be reviewed every month or two by another Area Office to ensure consistency of practice. Although the proposed initiation date for this arrangement was later in 2001, CASA has advised that at a subsequent meeting it was decided not to pursue this approach.

### External review

**6.37** As noted in Chapter 1, during this audit, CASA engaged its internal audit contractors to review the surveillance of Airline and General Aviation operators. The findings presented in the contractor's draft report of April 2002 align substantially with the findings of the ANAO's audit.

### Conclusion

**6.38** The ANAO considers that CASA's progress in implementing Recommendation No.12 from the 1999 audit, which was about ensuring an effective system for quality management of compliance activities, has been protracted. Some QA and evaluation initiatives have been proposed, with a few undertaken—but none has been conducted regularly enough to have the desired impact of markedly improving the quality and consistency of CASA's surveillance activities.

## Resources in DCAS

### DCAS' Role

**6.39** DCAS is the central coordinating section for compliance activities that CASA agreed to establish after the 1999 audit. It is the key area in CASA Head Office responsible for the surveillance and monitoring of the aviation industry. It drives the policy and procedures for all surveillance activities. It is also responsible for overseeing the development of surveillance training courses, peer evaluation, the development of all the underpinning tools such as the manuals and IT systems, and for reporting surveillance outcomes and issues to CASA's Executive and Board.

### DCAS staffing levels

**6.40** Clearly, with the range of functions listed above, and a key role in ensuring systems-based auditing is successful, it is important that DCAS is sufficiently resourced. However, the ANAO found that DCAS had been resourced below the optimum level for some time. In mid-1999, DCAS had a staff of three to four people and by late-2001, DCAS was operating with a staff of six. The ANAO was advised that the section had operated with a staff of three for some time before this, and the staff had worked extended hours in an endeavour to maintain the momentum of the change process.

**6.41** The staff stated this was manageable while the new systems and policies were in the design phase, but once the policies were progressively implemented and required training, coordination and monitoring, it was impossible for DCAS

to keep up with the workload generated. This was doubly difficult in the face of on-going change and the development of more new policies and procedures.

**6.42** In May 2001, a consultant was contracted to undertake a workload analysis of DCAS. The consultant's report stated that:

> The section has performed well, managing to attack most of its responsibilities… Staff believed there are opportunities to lead the world in aviation safety. However, there is a frustration with its inability to devote full attention to tasks or to follow through, and the belief that it is spread too thin.

**6.43** The report concluded that:

> …it is clear, despite the hard work and commitment of its existing staff, [DCAS] is not currently able to perform the work required of it by the organisation. Further, it is in danger of not consolidating work already done and of not progressing its substantial agenda of aviation safety reform.

**6.44** The ANAO concurs with the findings of the consultant's report.

## Impact upon CASA's surveillance reforms

**6.45** During the course of the follow-up audit, it was apparent that some key tasks had been either not performed or delayed due to a lack of resources in DCAS. These have been mentioned throughout the report, but include:

- limited analysis of STI scores at the national level and infrequent analysis of overall trend data;
- delays to the mapping of the Audit Elements to the CARs and drawing parallels to the previous product checks;
- delays to the ASSP manual rewrite;
- the need for coordinated IT systems to assist both DCAS and Area Offices to plan and manage the surveillance schedules;
- a lack of monitoring of the time taken to perform audits as well as the Audit Element coverage for operators over the certificate life-cycles;
- infrequent QA oversight of the quality of the audit reports;
- little follow through on previous Monitored Audit Observations; and
- missing out on the potential for better integration of the training courses and further guidance materials.

**6.46** The ANAO found that the staff in DCAS are well aware of all of these issues, but are not able to address them in an efficient and coordinated manner without additional resources. The ANAO considers that CASA should ensure

that DCAS remains sufficiently resourced, particularly to manage the change to systems-based auditing until it is fully established and is working smoothly. Without adequate guidance and coordination there is a real risk that CASA's agenda of aviation safety reform will falter in the implementation phase.

**6.47** The consultant's report recommended an immediate increase of five full-time equivalent staff to bring the DCAS establishment to 11 people. CASA's Executive approved the increase in September 2001, and some recruitment activity has since taken place. CASA indicated that eight positions in total in DCAS would be filled by the end of June 2002. A new manager has also been appointed.

**6.48** Consequently, the ANAO considers that CASA has substantially implemented Recommendation No.6(a) from the 1999 audit, which related to monitoring and evaluating the development and implementation of systems-based auditing.

## Conclusion

### Surveillance resources

**6.49** Overall, there is a marked improvement in the quantum of surveillance resources and their usage since the 1999 audit. In 2000–01, CASA achieved its target of allocating 40 per cent of its inspectors' time to surveillance activities. This increased to 52 per cent for the first three quarters of 2002. The ANAO considers that Recommendation No.3(b) from the 1999 audit has been addressed.

**6.50** CASA appears to have adequate resources in its Airline Operations and Area Offices to conduct the required scheduled surveillance, and to maintain the current number of risk-based audits. However, the ANAO considers that CASA may not have sufficient inspectors in its Area Offices to allocate 50 per cent of their surveillance time to risk-based audits in line with intended targets. During the ANAO's audit, CASA began to monitor the distribution of resources between scheduled and risk-based audits. This will help inform future strategies for surveillance.

### Monitoring, QA and DCAS resources

**6.51** There remain some issues with the QA, monitoring, training and guidance processes, which are all directly related to the resources in DCAS. The ANAO commends the efforts extended by DCAS, but notes that the ratio of workload to staff has prevented a consistent application of the critical guidance and evaluation roles.

**6.52** The ANAO notes the potential for better coordination of the training, and considers that the training of individual inspectors should be monitored to ensure that all inspectors receive the relevant training. The work of CASA's Training Program Working Group will help to address this.

**6.53** The audit monitoring process is a valuable tool for improving the quality of systems-based audits and the resulting audit reports and the ANAO suggests that CASA allocate sufficient resources to maintain this QA review function and to target it to known problem areas. The ANAO considers that CASA's progress in implementing Recommendation No.12 from the 1999 audit has been protracted. Although appropriate mechanisms exist, they are not applied regularly enough to have the desired impact upon the quality and consistency of CASA's surveillance.

**6.54** CASA has recognised that the key coordinating section, DCAS, has been significantly understaffed for some time. The ANAO considers that this has significantly impeded the implementation and 'bedding down' of systems-based auditing. CASA approved an increase to DCAS staff numbers in September 2001, and some recruitment activity has since taken place.. Consequently, the ANAO considers that CASA has substantially implemented Recommendation No.6(a) from the 1999 audit.

# 7. Corporate Governance

*This chapter examines whether CASA has improved the processes by which its Executive and Board direct, control, and are accountable for, aviation safety compliance. The aspects of CASA's corporate governance examined include corporate planning; organisational structure and lines of communication; adherence to surveillance policies and procedures; performance measures; tracking recommendations directed at CASA; and the CASA Improvement Program.*

**7.1** In the broadest sense, corporate governance generally refers to the processes by which organisations are directed, controlled and held to account. It encompasses the authority, accountability, stewardship, leadership, direction and control exercised in the organisation. When considered in its entirety, it involves the Parliament, the responsible Minister, the Board and Management.

**7.2** For the purposes of this audit, the ANAO has limited its consideration of CASA's corporate governance to those issues related to the recommendations of the 1999 audit, CASA's adherence to its own surveillance policy and procedures and the CASA Improvement Program.

## The 1999 audit

**7.3** The 1999 audit found that the existing monthly reporting system covering compliance activities was not satisfactory. CASA's Head Office conveyed no feedback and the monthly reports prepared by Area / Airline Operations Offices were found to be of varying quality and comprehensiveness.

**7.4** The 1999 audit also found that:

- CASA was not meeting its legislative requirements to produce a Corporate Plan annually and to present it to the Minister;
- CASA's performance measures could be improved by identifying productivity levels, identifying achievement against plans for major resource areas, identifying matters completed within assigned timeframes, identifying tasks outstanding and including comparative data from previous years; and
- CASA's monitoring of its responses to external and internal reviews, and where applicable, implementation of their recommendations, was in need of improvement.

## Corporate planning

**7.5** The Act requires the CASA Board to prepare a Corporate Plan at least once a year and to give it to the Minister (section 44(1)). S.44(2) states that the plan must cover a period of at least three years, and must include certain details.

**7.6** Since the 1999 audit, CASA has submitted Corporate Plans annually to its Minister in accordance with legislative requirements. The most recent Corporate Plan, covering the period 2001–02 to 2003–04, was given to the Minister before the end of the 2000–01 and was tabled in Parliament in September 2001.

**7.7** The ANAO considers that CASA has adequately addressed Recommendation No.9 from the 1999 audit, which related to the preparation of CASA's annual Corporate Plans.

## Organisational structure and lines of communication

**7.8** In April 2001, the position of Deputy Director was created and filled to assist the Director to discharge his aviation safety functions. One of the Deputy Director's tasks has been to oversee CASA's Regulatory Reform Program, which has suffered significant delays.

**7.9** In July 2001, CASA announced a revision to CASA's Executive structure. CASA's executive has been reduced from 12 members to six by merging several current divisions and limiting the positions included on the Executive. CASA indicated that this revision will better focus CASA's activities towards the aviation industry and the Australian public.

**7.10** The other key changes to CASA's lines of communication are the replacement of the Board Safety Committee with the ESC and the introduction of a cascading set of Compliance meetings within the Aviation Safety Compliance Division, both of which are discussed below.

### Executive Safety Committee

**7.11** CASA's ESC met for the first time in August 1999. The Director indicated that the ESC would take over from the Board Safety Committee, looking at the same issues and, where necessary, drill down to a lower level. This Committee would report back to the CASA Board on safety issues that may give cause for concern.

**7.12** The ESC comprises the Director (Chair), another member of the CASA Board and most of CASA's Executive. The ESC meets every two months. CASA indicated that the ESC's charter has been that of the Board Safety Committee. During the audit, a revised charter for the ESC was developed and it is awaiting

comments and approval from the CASA Board. The revised charter is the same as the charter for the old Board Safety Committee in nearly all material respects.

**7.13** One of the primary responsibilities of the ESC, under its charter is to:

> conduct reviews of the systems of civil aviation safety in order to monitor the safety performance of the aviation industry and to determine if safety-related trends and risk factors have been identified and appropriate management action taken.

**7.14** Given this responsibility, the ANAO considers that the ESC could better fulfil its responsibilities through commissioning analysis of available aviation safety data to assist in the targeting of CASA's resources to address emerging aviation safety risk issues and trends (see Chapter 2). This could be done in addition to the current matters that the ESC considers, which include:

- some of CASA's safety related performance measures (for example, the proportion of time inspectors spend on surveillance, the acquittal status of RCAs and the achievement of the surveillance program);
- CASA's enforcement actions and 'operators under review'; and
- other important generic issues pertaining to aviation safety.

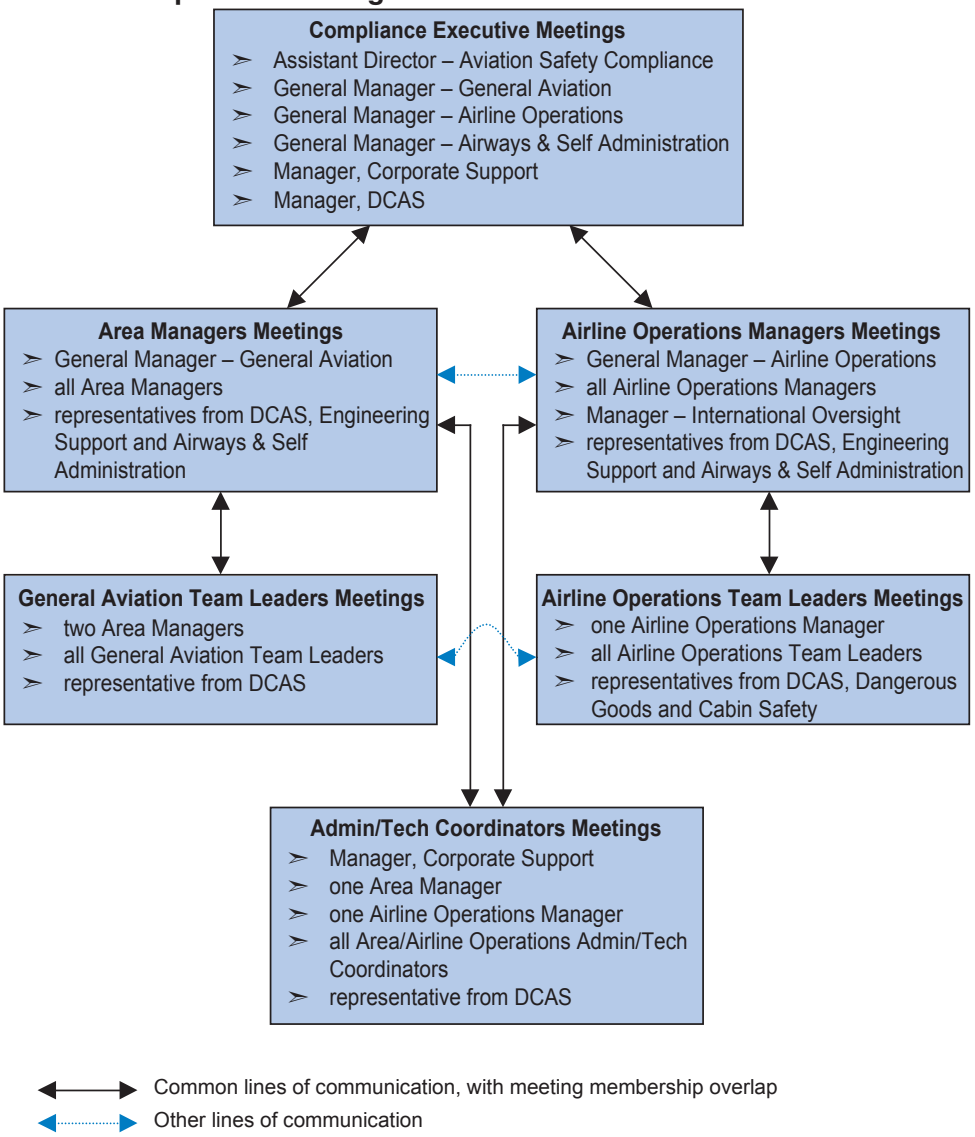
## Compliance meetings

**7.15** In early-mid 2001, CASA replaced the Compliance Managers meetings with regular meetings ('compliance meetings') for the different position levels in the Aviation Safety Compliance division of CASA. These compliance meetings, held every two to three months, allow for regular consultation between CASA managers at various levels within CASA. For example, Team Leaders from across Australia meet regularly to discuss issues relevant to their work. Agendas are set and papers circulated before each meeting. DCAS take minutes of all meetings and posts them on CASA's Intranet site.

**7.16** Compliance meetings form an important part of the process of identifying and remedying problems with the implementation of systems-based auditing. Figure 7 illustrates the compliance meetings structure.

**7.17** The meetings of the Area and Airline Operations Managers are scheduled for the same time, in the same vicinity, on two occasions per year so that they can meet separately, but also come together to discuss issues that affect both groups. A similar arrangement is in place for the General Aviation and Airline Operations Team Leaders meetings.

## Figure 7
**CASA's Compliance Meetings**




**Source**: ANAO based on CASA's data

**7.18** Furthermore, at least one Area/Airline Operations Manager attends meetings of the Team Leaders and Admin/Tech Coordinators to allow for direct consultation and feedback between the various meetings.

**7.19** Issues that cannot be resolved at the meetings are entered onto an Issues Register. However, the ANAO found little evidence in the minutes of consideration of the outstanding issues at subsequent meetings. The risk is that without timely and appropriate monitoring, the list of outstanding issues will continue to grow, and the matters requiring action could be overlooked. The ANAO considers that each compliance meeting should formally consider progress on all relevant outstanding issues and, where action is complete, formally close the issue.

**7.20** The Compliance meetings are a useful mechanism for senior management to develop and promote surveillance policy and procedures and for surveillance staff to convey feedback. Furthermore, control over raising matters for inclusion on the Issues Register empowers staff to raise problems and to suggest improvements to senior management and hence to make improvements within their own areas of responsibility.

**7.21** The ANAO considers that CASA has adequately addressed Recommendation No.5 from the 1999 audit, which concerned examining the mechanisms for providing feedback to Area and Airline Operations Offices.

## Adherence to surveillance policy and procedures

**7.22** Staff adherence to surveillance policy and procedures is necessary for CASA to achieve its outputs and outcomes and to demonstrate that its compliance activities are applied consistently across Australia. During the 1999 audit, the ANAO identified significant non-compliance with CASA's surveillance policy and procedures as specified in the ASSP manual. This non-compliance took the form of, among other things, shortcomings in surveillance planning and meeting surveillance targets.

**7.23** Although the quantum and significance of non-compliance have lessened and the issues have changed, the ANAO still identified some significant non-compliance with aspects of CASA's surveillance policy and procedures. These include:

- one Airline Office not completing STIs since February 2000;
- some Area Offices recording as risk-based audits contact with operators when preparing STIs;
- inspectors using the incorrect audit reporting package for some LCRPT and larger charter operations; and

- some Airline Offices not entering their surveillance plans and results onto the appropriate database.

**7.24** The precise reasons for each instance of non-compliance are difficult to determine. Nevertheless, the ANAO considers that they result from a combination of factors that include:

- defects in the surveillance policies or procedures;
- staff unfamiliarity with, or reluctance to apply, the established policies and procedures; and/or
- that staff lack the appropriate skills to implement the policies and procedures.

CASA considers that non-compliance is an implementation issue rather than evidence of defects in surveillance policies or procedures.

**7.25** CASA has been aware of these instances of non-compliance for some time. CASA indicated that it now has, or will, take action to correct them. Inaction on CASA's part to correct non-compliance as it arises creates the perception that CASA tolerates non-compliance by its staff.

**7.26** The ANAO considers that where CASA detects non-compliance with its surveillance policy and/or procedures, it should take prompt action to either rectify the policy/procedures or correct the practice of CASA's inspectors (by training and, where necessary, disciplinary action). Additional resources in DCAS should help CASA to correct the non-compliance. In this way, CASA will be able to demonstrate to its staff, the aviation industry and the public that its surveillance policies and procedures are adhered to and applied consistently across CASA.

## Performance measures

### Corporate Plan

**7.27** From the beginning of 2000–01, the CASA Board began quarterly monitoring of CASA performance against its Corporate Plan. In May 2001, the Board noted that the quality of the performance information was improving but sought fewer, more meaningful measures of performance rather than those that record activity only.

**7.28** The Chair of the CASA Board submitted CASA's latest Corporate Plan, covering the period 2001–02 to 2003–04, to the Minister in late June 2001. In response, the Minister noted that the plan showed considerable improvement over previous plans, particularly in its performance indicators and its review of performance against last year's plan. However, the Minister also indicated that:

- the quality of the performance indicators used in the plan still varied significantly across the Critical Success Factors (CSFs);
- while the efficiency performance measures for some CSFs were very good, some still used only project completion dates or broad simplistic targets; and
- changes to some of the performance measures from the previous plan meant that it was not possible to track changes over time—inhibiting CASA's review of performance against previous corporate plans (as required by s.44(4)(d) of the Act).

**7.29** In addition, the Minister considered that some of the problems with the corporate plan could translate to CASA's annual report. The Minister was concerned that the type of date-based performance indicator still used in some CSFs did not produce a rigorous basis for assessing CASA's efficiency performance under the Commonwealth Authorities and Companies Act's annual reporting requirements.

**7.30** CASA indicated that the Minister's comments were being considered as part of the development of appropriate key performance indicators and CSFs for the next Corporate Plan. A draft of CASA's Corporate Plan for 2002–03 to 2004–05 reviewed by the ANAO showed little improvement from the previous one.

## Portfolio Budget Statements

**7.31** The performance indicators for the Aviation Safety Compliance output group in CASA's 2001–02 Portfolio Budget Statements have been substantially revised from those of the previous year. One of the performance indicators has been improved by comparing the number of scheduled audits achieved against the plan. However, the number of performance indicators, overall, has been reduced from nine to three.

**7.32** Although some of the indicators that were dropped measured activity rather than achievement of CASA's objectives, one—'the number of enforcement actions overturned'—was as a good measure of the effectiveness of CASA's enforcement actions. The ANAO considers that dropping this performance indicator reduces the transparency of CASA's performance and its accountability to the Parliament and that CASA should consider its reinstatement.

**7.33** The ANAO notes that the Portfolio Budget Statements 2002–03 recently released contains substantially revised performance indicators for CASA's Aviation Safety Compliance output group. For example, performance measures now concentrate on LCRPT operators and do not mention other sectors of the aviation industry.

### Annual Report

**7.34** The performance indicators used to measure CASA's performance in its Annual Report 2000–01 are the same as those reported earlier in the year in CASA's 2000–01 Portfolio Budget Statements for the Aviation Safety Compliance output group.

**7.35** However, contrary to Recommendation No.11 from the 1999 audit, annual comparative data has not been included in the performance measures reported in the CASA's latest Annual Report.

**7.36** The ANAO also notes that the number of referrals to the DPP included in the annual report is not an accurate reflection of the matters CASA expects the DPP to consider for prosecution. Included in this statistic are matters where CASA seeks independent advice from the DPP of the adequacy of the evidence supporting a CASA investigation. The ANAO considers that the latter's inclusion could give annual report readers the impression that the DPP decides not to prosecute more matters referred to them than is the case. To eliminate potential misinterpretation, the ANAO considers that CASA should report only the matters referred for prosecution.

### Conclusion

**7.37** The Board's current consideration of CASA's quarterly performance against its Corporate Plan is a useful initiative that allows the Board to better discharge its corporate governance responsibilities in a timely manner. Although there has generally been some improvement in the quality of CASA's performance measures since the 1999 audit, there is still room for significant improvement in the performance indicators reported publicly in CASA's Corporate Plan, Portfolio Budget Statements and Annual Report.

**7.38** Overall, CASA's progress in implementing Recommendation No.11 from the 1999 audit, which was about developing and publishing performance measures, has been overly protracted despite improvements made.

## Tracking recommendations

**7.39** Many reports and reviews of CASA's performance or aviation safety accidents have directed recommendations for change to CASA. CASA recognises the need to monitor or track the determination of appropriate responses to recommendations and, where applicable, their implementation, to make lasting improvements to aviation safety.

**7.40** To this end, CASA indicated to the Board in April 2001 that it was developing a Recommendations Tracking System (database) to track the progress of CASA's responses to external review recommendations. CASA is in the final stages of a historical search of all recommendations from external reviews (including reports from ATSB, coronial inquests, ANAO, the International Civil Aviation Organization and Senate Committees) directed at CASA from the time it was established in 1995, to the present. To date, CASA has identified 335 recommendations, which have been entered onto the Recommendations Tracking System.

**7.41** When implemented, the system would allow the CASA Executive to view, in real-time, the status of any recommendation directed to CASA and to identify recommendations for which CASA action is overdue. From mid-2002, CASA expects to produce summary quarterly reports on the progress of outstanding recommendations to the Board. The Deputy Director is the authorised delegate for closing off (or finalising) any recommendations on the tracking system.

**7.42** CASA is now in the process of clearing the older recommendations that have been actioned by CASA. CASA indicated that the Deputy Director has closed off the first batch of 44 recommendations. In all, CASA estimates that actions have been completed on 280 or so of the recommendations and these are just awaiting completion of the paperwork so they can be officially closed.

**7.43** Timely action to implement agreed recommendations is required to remedy the situation as soon as possible. Prompt action also demonstrates to the industry and the public the importance CASA places on improving the systems of aviation safety. CASA has recently been the subject of criticisms over the length of time it takes to implement ATSB recommendations. The Recommendations Tracking System will allow CASA to set target dates for implementing agreed recommendations and to monitor progress against those targets.

**7.44** The ANAO considers that CASA's progress in implementing Recommendation No.13 from the 1999 audit, which related to ensuring that all recommendations directed at CASA receive appropriate attention, has been protracted. After some two and half years since this recommendation was made, CASA is yet to have a fully effective method of monitoring recommendations directed towards it. This was recently demonstrated in February 2002 where there was some difference of opinion between CASA and ATSB over whether CASA has responded to all outstanding ATSB recommendations. The recently published ATSB Annual Review 2001 made CASA aware of this situation and CASA reviewed its ATSB files to ensure that CASA has responded to all ATSB recommendations.

**7.45** CASA indicated that a lack of resources has prevented it from making progress on Recommendation No.13 at the rate it would desire. Instead its resources have been strained to the utmost in dealing with the huge volume of work associated with the many inquiries and reports over the period since the 1999 audit. While the ANAO recognises CASA's situation, such recommendations are central to its improved performance and, as such, deserved some priority over a lengthy period.

## CASA Improvement Program

### Introduction

**7.46** The CASA Improvement Program is a major attempt to modernise CASA's business processes and IT support systems. The Program is expected to take another five years to complete and to cost some $63 million overall.

### Program development

**7.47** The CASA Improvement Program began in 2000. In October 2000, the CASA Executive presented to the Board the findings of a major review into CASA's business processes and IT support systems. The business processes examined included, among other things, life cycle management of AOCs and COAs, the SIS and standards development. In December 2000, the CASA Executive summarised, for the benefit of the Board, the compelling reasons for making changes. These included that:

- the current business processes are resource intensive, inefficient and ineffective, which contributes to poor information flows and loss of knowledge management opportunities;
- the business support systems (IT) were more of a liability than an asset;
- lost or delayed efficiency opportunities aggregated to the equivalent of 60 fully time staff positions; and
- the lack of sound information management and business processes contributed to inconsistency in decision-making and non-standardisation in the conduct of CASA's business.

**7.48** Following Board approval in December 2000, the planning stage of the Improvement Program (costing $2.7 million) began. This involved, among other things:

- detailed planning for an overarching business case for the Program, as well as business cases for the many projects that make up the program, timetables for each project and estimates of costs and benefits;

- reviewing and, where necessary, developing the skills of CASA staff to support the Program in areas that include marketing, education, training, human resource management and information technology; and
- selecting an external consultant (alliance partner) to support CASA in the areas of change management, program management, business process re-engineering and the implementation of IT systems.

**7.49** The detailed planning for the Program and its constituent projects was scheduled for completion in April 2002, at which time it was to be presented to the CASA Board. CASA advised that the Board has now agreed the scope and budget for the Program. A number of due diligence issues are being pursued in order for the Board to adequately consider the offer of a contract. It is expected that the implementation phase would begin after letting the contract.

## Program coordination

**7.50** In view of the considerable amount of funding involved in the CASA Improvement Program, an inter-departmental committee comprising senior representatives from CASA, DOTARS and the Department of Finance and Administration has been established to monitor its progress.

## Management of Improvement Program risks

**7.51** The ANAO appreciates that CASA and the CASA Board recognise that the implementation of the CASA Improvement Program involves significant risks. At its July 2001 meeting, the Board emphasised the difficulty of successfully implementing major IT programs, particularly if other fundamental changes were being pursued at the same time, as was the case in CASA. Other risks to the program include that:

- many of the projects that make up the program are interdependent, which means that a failure or delay in one project may have significant detrimental consequences for many others; and
- CASA staff may not have the necessary skills to manage such a large project and the changes involved.

**7.52** CASA is managing the risks of the Program by:

- engaging a project alliance partner, experienced in major changes of this kind, to work with CASA to develop project plans and coordinate their implementation;
- progressing the Program in discrete stages so that CASA knows in advance what it is signing up to (including the costs involved); and

- reporting regularly to the Board on the Program's progress, thereby ensuring that CASA has to demonstrate that the Program is well in hand.

**7.53** CASA does not have a good track record of implementing some major change programs. The Regulatory Reform Program, which began in an earlier guise in 1996, has suffered numerous significant delays. An earlier attempt to integrate CASA's IT systems that was underway during the 1999 audit, failed. In the ANAO's view, CASA and its Board should continue to monitor closely whether the CASA Improvement Program is achieving the desired results.

## Conclusion

**7.54** The ANAO considers that CASA has significantly improved its corporate governance in some areas, such as the production of corporate plans and the lines of communication throughout the Aviation Safety Compliance Division. On the other hand, more work needs to be done in other areas such as developing credible and useful performance measures and tracking recommendations made as a result of reviews of CASA operations by ATSB, parliamentary committees and others.

**7.55** Significant improvements can also be made in CASA's corporate governance by:

- the ESC better fulfilling its responsibilities through commissioning analysis of aviation safety data to assist in the targeting of CASA's resources to address emerging aviation safety risk issues and trends; and
- staff improving their adherence to CASA's surveillance policies and procedures.

**7.56** The CASA Improvement Program is a major attempt to modernise CASA's business processes and IT support systems. The ANAO appreciates that CASA and the CASA Board recognise that the implementation of the Program involves significant risks. Therefore, in the ANAO's view, CASA and its Board should continue to monitor closely whether the Program is achieving the desired results. It may therefore be necessary to supplement monitoring arrangements with appropriate reviews and evaluations.

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Canberra ACT
28 June 2002

P. J. Barrett
Auditor-General

# Appendices

## Appendix 1

# Recommendations from the 1999 audit and status of action taken

### Audit Report No.19 1999–2000 Aviation Safety Compliance

### Recommendation No.1

The ANAO recommends that, to ensure recent surveillance history is taken into account, the re-issue of an Air Operator's certificate and the variation to a Certificate of Approval should be contingent on certain key designated surveillance tasks being completed within six months prior to the re-issue of an AOC, and where possible, before variation to a Certificate of Approval.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraph 3.17).

### Recommendation No.2

The ANAO recommends that, to maximise the effectiveness of financial viability checks, CASA should:

(a) develop performance information strategies for monitoring the new financial assessment process and undertake an evaluation of those strategies in 1999–2000;

(b) review the financial performance of new passenger-carrying Air Operator's Certificates (AOC) holders after the first two years in operation by comparing actual performance with the financial forecasts and business information provided as part of the operator's initial application; and

(c) ensure that thorough consideration is given to an existing certificate holder's financial position when reissuing an AOC and, where appropriate, request further financial information and assessment.

***CASA response***: Agreed with parts (a) and (c). Agreed with qualification part (b) as it would constitute a large increase in CASA's workload.

***ANAO finding***: Recommendation adequately addressed (see paragraph 2.47).

## Recommendation No.3

The ANAO recommends that CASA, as part of its review of surveillance targets and resources:

(a) ensure that adequate surveillance is carried out and resources directed to the areas and operators representing the highest safety risk;

(b) develop strategies to ensure a more appropriate distribution of resources between surveillance activities and regulatory service work; and

(c) ensure regular analyses of the ASSP database is undertaken by the Compliance Practices and Procedures section to ensure that priorities and procedures are being observed by area and airline office managers and inspectors in relation to aviation safety surveillance.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraphs 3.31, 6.10 and 3.15 for parts (a), (b) and (c), respectively).

## Recommendation No.4

The ANAO recommends that, to ensure the effective management of the controlling and conducting office arrangement, CASA should:

(a) review and, where appropriate, amend the procedures relating to controlling and conducting offices to include details on how controlling offices should plan, monitor and evaluate the surveillance carried out by conducting offices;

(b) ensure controlling offices evaluate the results of surveillance undertaken by conducting offices to provide an overall assessment of an operator's compliance with safety regulations and to identify future surveillance requirements; and

(c) monitor and evaluate the new controlling/conducting office arrangements being trialed by airline offices.

***CASA response***: Agreed.

***ANAO finding***: Recommendation no longer relevant (see paragraph 4.29).

## Recommendation No.5

The ANAO recommends that, as part of its current review of the management reporting system, CASA examine the extent of, and mechanisms for, providing necessary feedback to area and airline offices.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraph 7.15).

## Recommendation No.6

The ANAO recommends that, to ensure the development and implementation of the systems-based approach to surveillance is properly managed, CASA should:

(a) monitor and evaluate the development and implementation of the proposed approach against agreed timeframes and performance outcomes outlined in the project plan; and

(b) ensure adequate levels of surveillance of all airline operations are properly maintained during the development, trialing and implementation of such an approach.

***CASA response***: Agreed.

***ANAO finding***: Part (a) substantially implemented (see paragraph 6.45); and part (b) addressed (see paragraph 3.20).

## Recommendation No.7

The ANAO recommends that, in order to improve the determination of priorities in the conduct of surveillance, CASA should:

(a) examine the feasibility of extending the trial of the risk assessment process to include the development of a model suitable for smaller operators;

(b) reinforce the need for the *Operator Selection Risk Assessment Form,* required by the ASSP manual, to be used in surveillance planning; and

(c) document all analytical processes in the relevant manuals and ensure staff are given appropriate training.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraph 2.38).

## Recommendation No.8

The ANAO recommends that, to ensure appropriate and timely enforcement action is initiated, CASA should:

(a) review those operators with a significant history of non-compliance and, if considered appropriate, develop enforcement strategies specific to those operators; and

(b) ensure the quality of the evidence collected would expedite enforcement action.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraph 5.59).

## Recommendation No.9

The ANAO recommends that, to ensure the requirements of Section 44(1) and (2) of the Civil Aviation Act are met and to provide information to the Parliament and appropriate guidance to the aviation industry and CASA staff, CASA should:

(a) complete the current corporate plan as a matter of urgency; and

(b) give a high priority to the development of procedures to ensure that a corporate plan is submitted to the Minister at least once a year and, preferably, before the commencement of the first financial year covered by the plan.

***CASA response***: Agreed.

***ANAO finding***: Recommendation adequately addressed (see paragraph 7.5).

## Recommendation No.10

The ANAO recommends that, to ensure the requirements of Section 9(1)(g) of the Civil Aviation Act are met, CASA should:

(a) develop and foster a strong analytical capability to undertake systematic analyses of safety information; and

(b) closely monitor progress in implementing the proposed Safety Intelligence System.

***CASA response***: Agreed.

***ANAO finding***: Recommendation partly implemented (see paragraph 2.11).

## Recommendation No.11

The ANAO recommends that CASA develop and publish a range of suitable performance measures, including annual comparative data, that would clearly indicate the results, and productivity, of its major resource areas in monitoring aviation safety.

***CASA response***: Agreed.

***ANAO finding***: Recommendation partly implemented (see paragraph 7.27).

## Recommendation No.12

The ANAO recommends that, to ensure an effective system of quality management for compliance activities, CASA should:

(a) develop clear guidelines for the conduct of peer evaluation and the manner in which the outcomes of these evaluations are to be used;

(b) develop a program of reviews by senior air safety auditors to ensure regular coverage of all areas and airline offices;

(c) analyse the outcome of senior air safety auditor reviews to identify trends in and opportunities for improvement in compliance practices and procedures; and

(d) update and reissue the Quality Manual on a regular basis.

***CASA response***: Agreed.

***ANAO finding***: Recommendation partly implemented (see paragraph 6.32).

## Recommendation No.13

The ANAO recommends that, to ensure all significant recommendations contained in reviews of CASA activities receive appropriate attention, CASA enhance procedures for:

(a) examining, implementing, and finalising all recommendations, and subject to endorsement by the Board, Director and/or Assistant Directors, the proposed responses and action plans; and

(b) provide regular reports to the Board, Director and/or Assistant Directors on progress with the implementation of recommendations.

***CASA response***: Agreed.

***ANAO finding***: Recommendation partly implemented (see paragraph 7.39).

## Appendix 2

# Audit Element List

| Audit Element List—COA | | | | |
|---|---|---|---|---|
| ASSP Ref | | | Type/Element | Suggested abbreviation for data entry only |
| Risk Based | 3 Yrly Audit | Annual Audit (Airline 6 mthly) | | |
| **Management Responsibility** | | | | |
| 661.1 | 961.1 | 861.1 | Mgt Responsibility—All Elements | Sys-Mgt Resp |
| 661.3 | 961.3 | 861.3 | Safety Policy | Sys-Safety Policy |
| 661.4 | 961.4 | 861.4 | Objectives and Safety Planning | Sys-Obj & Safety Plan |
| 661.5 | 961.5 | 861.5 | Responsibility and authority | Sys-Resp & Authority |
| 661.6 | 961.6 | 861.6 | Nominated Management Representative | Sys-Nom Mgt Resp |
| 661.7 | 961.7 | 861.7 | Internal communication/consultation | Sys-Internal Comm |
| 661.8 | 961.8 | 861.8 | Control of documents and Data | Sys-Ctrl of Documents |
| 661.9 | 961.9 | 861.9 | Control of records | Sys-Ctrl of Records |
| 661.11 | 961.11 | 861.11 | Risk management and Hazard Identification | Sys-Risk Mgt & Hazard |
| 661.12 | 961.12 | 861.12 | Emergency response planning | Sys-Emerg Response |
| 661.14 | 961.14 | 861.14 | Management Review | Sys-Mgt Review |
| **Infrastructure** | | | | |
| 662.1 | 962.1 | 862.1 | Infrastructure—All applicable elements | Sys-Infrastructure |
| 662.2 | 962.2 | 862.2 | Training—All applicable elements | Sys-Trng |
| 662.8 | 962.8 | 862.8 | Training—LAME | Sys-Trng LAME |
| 662.9 | 962.9 | 862.9 | Training—AME and Aircraft/component workshop staff | Sys-Trng AME/AM |
| 662.10 | 962.10 | 862.10 | Training—Approved Persons/Instrument of Appointment holders | Sys-Trng AP/IA |
| 662.7 | 962.7 | 862.7 | Training—DG/Hazards | Sys-Trng DG/Haz |
| 662.11 | 962.11 | 862.11 | Training—General Duties/Support Staff | Sys-Trng GD/SS |
| 662.12 | 962.12 | 862.12 | Information | Sys-Information |
| 662.13 | 962.13 | 862.13 | Facilities and Equipment | Sys-Facilities & Equip |
| **Processes** | | | | |
| 663.1 | 963.1 | 863.1 | Processes—All applicable elements | Sys-Processes |
| 663.11 | 963.11 | 863.11 | Purchasing/Subcontracting | Sys-Subcontract |
| 663.12 | 963.12 | 863.12 | Handling and Storage (including DG) | Sys-Hand & Storage |
| 663.13 | 963.13 | 863.13 | Tools and Measuring Equipment storage and calibration | Sys-Tooling and Meas |
| 663.18 | 963.18 | 863.18 | Maintenance Planning/Resource Control | Sys-Main Plng/RC |

| | | | | |
|---|---|---|---|---|
| 663.19 | 963.19 | 863.19 | Interfaces (with Maintenance Controller, other locations) | Sys-Interfaces |
| 663.20 | 963.20 | 863.20 | Aircraft Maintenance | SysA/C Maint |
| 663.21 | 963.21 | 863.21 | Component Maintenance | Sys-Comp Maint |
| 663.22 | 963.22 | 863.22 | Stores Procedures | Sys-Stores Proc |
| 663.23 | 963.23 | 863.23 | Special Processes (welding, NDE, plating/machining, surface coating, re-treading etc) | Sts-Spec Prc |
| 663.24 | 963.24 | 863.24 | Weight Control | Sys-Weight Cont |
| 663.25 | 963.25 | 863.25 | Component Manufacture | Sys-Comp Manuf |
| 663.26 | 963.26 | 863.26 | Design | Sys-Design |
| **Monitoring, Corrective & Preventive Action** | | | | |
| 664.1 | 964.1 | 864.1 | Remedial, Corrective and Investigation | Sys-Rem,Corr & Inv |
| 664.2 | 964.2 | 864.2 | Internal audit/Evaluation | Sys-Internal Audit |
| 664.4 | 964.4 | 864.4 | Control of non-conformity | Sys-Nonconformity |
| 664.5 | 964.5 | 864.5 | Incident and service difficulty reporting and investigation | Sys-Inc & Serv Difficulty |

Note: Shaded elements are not to be planned for the 2000/2001 year

| **Audit Element List—AOC** | | | | |
|---|---|---|---|---|
| **ASSP Ref** | | | Type/Element | Suggested abbreviation for data entry only |
| Risk Based | 3 Yrly Audit | Annual Audit* (Airline 6 mthly) | | |
| **Management Responsibility** | | | | |
| 661.1 | 961.1 | 861.1 | Mgt Responsibility—All Elements | Sys-Mgt Resp |
| 661.2 | 961.2 | 861.2 | Change Management | Sys-Change Mgt |
| 661.3 | 961.3 | 861.3 | Safety Policy | Sys-Safety Policy |
| 661.4 | 961.4 | 861.4 | Objectives and Safety Planning | Sys-Obj & Safety Plan |
| 661.5 | 961.5 | 861.5 | Responsibility and authority | Sys-Resp & Authority |
| 661.6 | 961.6 | 861.6 | Nominated Management Representative | Sys-Nom Mgt Resp |
| 661.7 | 961.7 | 861.7 | Internal communication/consultation | Sys-Internal Comm |
| 661.8 | 961.8 | 861.8 | Control of Documents | Sys-Ctrl of Documents |
| 661.9 | 961.9 | 861.9 | Control of records | Sys-Ctrl of Records |
| 661.10 | 961.10 | 861.10 | Review of Safety Management | Sys-Rev of Safety Mgt |
| 661.11 | 961.11 | 861.11 | Risk management and Hazard Identification | Sys-Risk Mgt & Hazard |
| 661.12 | 961.12 | 861.12 | Emergency response planning | Sys-Emerg Response |

***continued next page***

| | | | | |
|---|---|---|---|---|
| **Infrastructure** | | | | |
| 662.1 | 962.1 | 862.1 | Infrastructure—All applicable elements | Sys-Infrastructure |
| 662.2 | 962.2 | 862.2 | Training—All applicable elements | Sys-Trng |
| 662.3 | 962.3 | 862.3 | Training—Cabin | Sys-Trng Cabin |
| 662.4 | 962.4 | 862.4 | Training—Pilot | Sys-Trng Pilot |
| 662.5 | 962.5 | 862.5 | Training—LAME/Ground Handling | Sys-Trng LAME/GH |
| 662.6 | 962.6 | 862.6 | Training—Load Control (Controllers & Loaders) | Sys-Trng Load Ctrl |
| 662.7 | 962.7 | 862.7 | Training—DG | Sys-Trng DG |
| 662.12 | 962.12 | 862.12 | Information | Sys-Information |
| 662.13 | 962.13 | 862.13 | Facilities and Equipment | Sys-Facilities & Equip |
| 662.14 | 962.14 | 862.14 | Human Factors | Sys-Human Fact |
| **Processes** | | | | |
| 663.1 | 963.1 | 863.1 | Processes—All applicable elements | Sys-Processes |
| 663.2 | 963.2 | 863.2 | Line Operations | Sys-Line Ops |
| 663.3 | 963.3 | 863.3 | Performance | Sys-Performance |
| 663.4 | 963.4 | 863.4 | Load Control | Sys-Load Ctrl |
| 663.5 | 963.5 | 863.5 | Flight planning & dispatch | Sys Plt Plng/Dptch |
| 663.6 | 963.6 | 863.6 | Rostering | Sys-Rostering |
| 663.7 | 963.7 | 863.7 | Routes & ports | Sys-Routes/Ports |
| 663.8 | 963.8 | 863.8 | Ground handling | Sys-Grnd Hdlng |
| 663.9 | 963.9 | 863.9 | Maintenance | Sys-Maint |
| 663.10 | 963.10 | 863.10 | Service Development | Sys-Serv Dev |
| 663.11 | 963.11 | 863.11 | Purchasing/Subcontracting | Sys-Purch/Sub |
| 663.12 | 963.12 | 863.12 | Handling and Storage (including DG) | Sys-Hand & Stor |
| 663.13 | 963.13 | 863.13 | Measuring Equipment Calibration | Sys-Meas Equip Calib |
| 663.14 | 963.14 | 863.14 | Special Processes—DG | Sys-Proc DG |
| 663.15 | 963.15 | 863.15 | Special Processes—CS | Sys-Proc CS |
| 663.16 | 963.16 | 863.16 | Special Processes—Flying Training School | Sys-Proc FS |
| 663.17 | 963.17 | 863.17 | Maintenance Control | Sys-Maint Cont |
| **Monitoring, Corrective & Preventive Action** | | | | |
| 664.1 | 964.1 | 864.1 | Remedial, Corrective and Investigation | Sys-Rem,Corr & Inv |
| 664.2 | 964.2 | 864.2 | Internal audit/Evaluation | Sys-Internal Audit |
| 664.3 | 964.3 | 864.3 | Incident and accident reporting and investigation | Sys-Inc Record & Inv |

Note: Shaded elements are not to be planned for the 2000/2001 year

* For GA Annual and 3 yrly Audits—use ASSP 176 for AOC for 2000/01

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