The Senate

Rural and Regional Affairs and Transport Legislation Committee

Performance of the Australian Transport Safety Bureau, and in particular its report on the June 2017 crash of a flight conducted on behalf of Angel Flight Australia

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List of Recommendations

Recommendation 1

1.74 The committee recommends that the Civil Aviation Safety Authority amend the Civil Aviation (Commercial Service Flights – Conditions on Flight Crew Licences) Instrument 2019 to remove the provisions for additional aeroplane maintenance requirements, which are beyond those required for airworthiness in the general aviation sector.

Recommendation 2

1.78 The committee recommends that the Civil Aviation Safety Authority amend the Civil Aviation (Commercial Service Flights – Conditions on Flight Crew Licences) Instrument 2019 to clarify what constitutes the 'operating crew' for a community service flight, particularly as this relates to additional pilots and mentoring arrangements.

Chapter 1
Performance of the Australian Transport Safety Bureau

Referral of the inquiry

1.1 On 22 August 2019, the Senate Rural and Regional Affairs and Transport Legislation Committee (the committee) commenced an inquiry under Standing Order 25(2)(a) into the performance of the Australian Transport Safety Bureau (ATSB), and in particular the ATSB's report on the June 2017 crash of a flight conducted on behalf of Angel Flight Australia (Angel Flight).

1.2 The committee instigated the inquiry in light of the concerns raised by some aviation stakeholders about the findings of the ATSB in relation to the operations of Angel Flight and other community service flight (CSF) operators. In particular, the committee was conscious of stakeholder concerns about the conclusions of the ATSB which suggested that Angel Flight had substantially more accidents and fatal accidents than other private operations, including a fatal accident rate more than seven times higher per flight than other private flights. The committee was also aware of reservations held about the lack of direct engagement by the ATSB with volunteer CSF pilots, and about the statistics used by the ATSB to reach its conclusions.

1.3 This report explores the findings of the ATSB and the response of Angel Flight to the ATSB report. It also considers what legislative steps the Civil Aviation Safety Authority (CASA) has taken regarding its regulation of CSFs, aimed at improving safety for these operations.

Conduct of the inquiry

1.4 The committee advertised the inquiry on its website, calling for submissions to be lodged by 4 September 2019. Details regarding the inquiry and associated documents are available on the committee's webpage.[1]

1.5 The committee received 10 public submissions, which are listed at Appendix 1. Public submissions to the inquiry are also published on the committee webpage.

1.6 As part of the inquiry, the committee held a public hearing in Sydney on 4 September 2019. A list of the witnesses who provided evidence at the public hearing is available at Appendix 2.

[1] See https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/ATSB

Notes on references

1.7 References in this report to the Hansard for the public hearing are to the proof Hansard. Page numbers may vary between the proof and official Hansard transcripts.

Acknowledgements

1.8 The committee thanks those individuals and organisations who contributed to the inquiry by preparing written submissions and giving verbal evidence at hearings.

ATSB investigation – June 2017 fatal accident

1.9 On 28 June 2017, the pilot of a SOCATA TB-10 aircraft, registered VH-YTM, departed Murray Bridge Airport in South Australia, for the Mount Gambier Airport. The pilot was conducting a private flight on behalf of Angel Flight, and was carrying two passengers to Adelaide for the purpose of accessing specialist medical services.[2] The aircraft took off at 10.30am Central Standard Time as a private flight operating under visual flight rules (VFR). After reaching a height of 300 feet:

> …the aircraft descended and impacted terrain about 70 seconds after take-off. The pilot and both passengers were fatally injured and the aircraft was destroyed.[3]

1.10 Following an investigation into the accident, a final report was released on 13 August 2019 by the ATSB, in which it found that:

> …the pilot took off in low-level cloud without proficiency for flight in instrument meteorological conditions. Shortly after take-off, the pilot likely lost visual cues and probably became spatially disorientated, resulting in loss of control of the aircraft and collision with terrain.[4]

1.11 Prior to this accident, in 2011 another CSF being conducted on behalf of Angel Flight crashed near Nhill, Victoria, fatally injuring the pilot and one of two passengers. The other passenger later died from injuries sustained. The ATSB

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[2] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 3, https://www.atsb.gov.au/publications/investigation_reports/2017/aair/ao-2017-069/ (accessed 2 September 2019).

[3] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, Safety summary.

[4] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, Safety summary.

found that the pilot had likely encountered reduced visibility conditions, leading to disorientation and loss of control.[5]

1.12 As part of its report into the 2017 crash, the ATSB considered the safety record of CSFs more broadly, including those conducted on behalf of Angel Flight. The ATSB found that CSFs had more occurrences,[6] accidents and fatal accidents per flight than other private operations, and that the fatal accident rate was more than seven times higher than other private flights.[7] With regard to Angel Flight, Mr Greg Hood, Chief Commissioner of the ATSB, concluded that:

> By any measure, there is a different and elevated risk for community service flights operated by Angel Flight Australia compared to other private flying operations and commercial air transport.[8]

1.13 The ATSB made a number of other findings and observations, including that:

- it was 'almost certain' that the higher occurrence rate for CSFs was due to such flights being exposed to different operational risk factors when compared to other private operations. The two main risk factors were:
  - perceived or self-imposed pressure on pilots, who were taking on the responsibility to fly passengers to scheduled medical appointments; and
  - operations in unfamiliar locations, and limited familiarity with procedures in controlled airspace (associated with larger aerodromes);
- occurrences which involved pre- and in-flight planning and decision making errors were over-represented, which was a factor in the Mount Gambier and Nhill accidents, (indicating an 'elevated and different risk profile in Angel Flight organised private' CSFs);
- Angel Flight had insufficient controls in place and provided inadequate guidance to pilots with regard to additional operational risks associated with CSFs;
- Angel Flight had not properly considered the safety benefits of utilising commercial flights, when suitable flights were available, with estimations that nearly two-thirds of the private flights conducted for Angel Flight had

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[5] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 15.

[6] Occurrences are events which are not accidents, but where something occurs during the flight that is potentially unsafe.

[7] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, Safety summary.

[8] Mr Greg Hood, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 12.

a commercial regular public transport option available (which offered considerable safety benefits);
- CASA did not have a system to differentiate between CSFs and other private operations, which would allow it to properly oversight and review the safety of such flights;[9] and
- Angel Flight was not aware of all the incidents occurring to its pilots (with steps taken since to ensure all incidents are reported by pilots).[10]

1.14 The ATSB identified the above points as safety issues, but did not issue formal safety recommendations or safety advisory notices. It instead expected that all the safety issues identified by the investigation would be addressed by the relevant organisations.[11]

1.15 The ATSB noted that since its investigation, both Angel Flight and CASA had taken steps to respond to the identified safety issues. For example, CASA had implemented a new safety standard regarding the conduct of CSFs (discussed later in this report). Additionally, Angel Flight had initiated a number of safety measures, including (but not limited to):

- developing an online introductory course for pilots for community service flying;
- a mentor program requiring all pilots to fly two supervised flights, aimed at reinforcing familiarity with Angel Flight's expectations;
- a requirement for pilots to provide physical copies of their log books every 90 days; and
- engagement of a volunteer to write a safety management system.[12]

1.16 In summarising the ATSB's findings, Mr Hood observed that the safety of rural and regional residents was the driver of a number of the safety actions it was encouraging Angel Flight and CASA to undertake. The actions, described by Mr Hood as achievable, included:

> …training, education and ongoing support for pilots; the reporting and analysis of safety information about community service flights; and

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[9] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, Safety summary.

[10] Dr Stuart Godley, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, pp. 20-21.

[11] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 50.

[12] Australian Transport Safety Bureau, *Aviation safety issues and actions*, 13 August 2019, https://www.atsb.gov.au/publications/investigation_reports/2017/aair/ao-2017-069/ao-2017-069-si-02/ (accessed 27 August 2019); Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, pp. 50-54.

> considering the use of commercial airline flights, ahead of private flights, when circumstances permit. We are pleased that some safety action has already been initiated, and we would like to encourage more.[13]

1.17 Mr Hood confirmed to the committee that with regard to its processes, the ATSB takes:

> …a no-blame approach to investigations and we focus on systemic safety factors, not on the one-off actions of individuals. We seek to understand what regulatory and organisational risk controls could be put in place to reduce the chance of future incidents and accidents.[14]

Statistical analysis by the ATSB

1.18 Dr Stuart Godley, Director of Transport Safety at the ATSB, spoke to the ATSB's use of relevant statistics to reach its conclusions. Dr Godley observed that during the previous ten-year period, there were two accidents and approximately 13 000 Angel Flight operations; this was compared to the private aviation more broadly, where 'we had 72-odd fatal accidents and 3.5 million flights in that time'. This led the ATSB to conclude that Angel Flight had an elevated risk of fatal accidents, and according to Dr Godley, this was 'not due to chance alone'.[15]

1.19 The ATSB clarified that its analysis considered all accidents and incidents involving Angel Flight over the ten-year period, not just the two fatal accidents. The ATSB was therefore working with a larger dataset than the two accidents alone.[16]

1.20 The ATSB informed the committee that as part of its statistical analysis, it had considered both the prepositioning flights (without passengers) and the passenger-carrying flights for Angel Flight. This analysis found that there was four times higher risk on passenger-carrying Angel Flights, and double the risk on prepositioning flights alone. In other words, 'there is a doubling of the risk when there are passengers on board compared to when there are not passengers on board'.[17]

1.21 With regard to fatal accidents, the ATSB presented a detailed statistical analysis on Angel Flight operations which found that:

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[13] Mr Greg Hood, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 11.

[14] Mr Greg Hood, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 11.

[15] Dr Stuart Godley, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, pp. 13-14.

[16] Mr Patrick Hornby, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 16.

[17] Dr Stuart Godley, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 14.

> …the fatal accident rate was calculated to be probably higher (P=82.0%) for Angel Flight operations when taking into account non passenger carrying repositioning flights, and very likely (P=96.8%) when considering passenger carrying flights alone. It is highly likely that the Angel Flight passenger carrying fatal accident rate ranges from -0.2 fewer to 3.4 more fatal accidents per 10,000 flights compared to other private operations.[18]

1.22 In its report, the ATSB also drew attention to the fact that passenger-carrying CSFs organised by Angel Flight had an average likelihood of 35 occurrences per 10 000 flights (based on the 47 safety occurrences between 2008 and 2017). The ATSB concluded that this was 'considerably higher than other private operations with an average of seven occurrences per 10 000 flights'.[19]

Perceived pressure on pilots

1.23 In its August 2019 report, the ATSB stated that perceived pressure was identified as one of the 'biggest issues facing volunteer pilots'. This pressure was often self-induced and motivated by a desire to please passengers and complete trips. The ATSB explained that:

> The language used, including 'missions' in the context of these flights can also be interpreted that it is imperative the flight be completed. Pilots must remain aware that the volunteer flight is not an emergency. Maintaining contact with trip co-ordinators during times of delay or cancellation can help alleviate any pressure felt by the pilot in these situations.[20]

1.24 The ATSB went on to conclude that:

> Although it is almost certain that at least some pilots at least some of the time have experienced operational pressures from community service flights that were beyond what is usually experienced during other private operations, the extent of this is difficult to determine.[21]

1.25 The committee questioned the ATSB about how many pilots it had consulted, in order to reach its conclusion that there was perceived or self-imposed pressure on pilots conducting CSFs. Dr Godley confirmed that the ATSB did

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[18] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 69.

[19] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 32.

[20] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 24.

[21] Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 26. Civil Air Australia also submitted feedback from its members, that the added pressures identified with CSF flights led to more operational mistakes than with other similar flights; see *Submission 4*, p. 2.

not speak to any pilots about whether they had experienced perceived pressure, because the ATSB was 'very confident in the argument'. Mr Hood explained that the ATSB instead reviewed submissions made to CASA in relation to a proposed legislative instrument relating to CSFs, 'many of which indicated that there were pressures and challenges faced by Angel Flight pilots'.[22]

1.26 Additionally, the ATSB later confirmed to the committee that while it was aware that some pilots do cancel flights, it held no data on how many Angel Flights had been cancelled, arguing that the 'ATSB did not require the exact number of cancellations to make its findings'. The ATSB continued that:

> Knowing that some pilots do cancel flights did not affect the ATSB's finding that perceived pressure is a safety factor for some pilots and that it could be addressed through enhanced training and education.[23]

Angel Flight response to the ATSB's findings

1.27 While Angel Flight did not dispute the ATSB's findings with regard to the facts of the accident itself, Angel Flight made clear to the committee its dissatisfaction with the ATSB's findings in relation to the safety of its operations. Ms Marjorie Pagani, the Chief Executive Officer (CEO) of Angel Flight, condemned the report on the basis that :

> ...it is wrong, it's dishonest, it's misleading, it uses inventive and flawed datasets, it targets unfairly a charity and it does nothing to investigate the accident or to give any guidance or recommendations into how this sort of thing can be prevented in the future…There is nothing in the report whatsoever that assists pilots with guidance, training or future reference to prevent this happening again. It was, and it's always been, set out to be an attack on this charity.[24]

1.28 Angel Flight engaged two senior expert statisticians and an analyst, all of whom concluded that the accident rate for its operations was not significantly different from the rate of other private flying in Australia. Angel Flight suggested that the ATSB had only compared the passenger-carrying sectors of flights coordinated by the charity, and had excluded from its data:

- flights where the aircraft flew from its home base to city collection points;
- the return trips back to base; and
- the positioning flights to collect passengers from their home towns.[25]

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[22] Mr Greg Hood and Dr Stuart Godley, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 17.

[23] Australian Transport Safety Bureau, response to questions on notice, 4 September 2019 (received 18 September 2019).

[24] Ms Marjorie Pagani, Angel Flight Australia, *Proof Committee Hansard*, 4 September 2019, pp. 1, 5.

[25] Angel Flight Australia, advertisement, 'Angel Flight: Australia's largest and longest-serving charity facilitating community benefit flying', *The Australian*, 16 August 2019, p. 7.

1.29 Angel Flight submitted its own analysis of the statistics used by the ATSB, and concluded the following:

> Using ATSB's own data (Table B1 [of the report]) and assuming each Angel Flight has at least one non-passenger leg, Angel Flight's accident rate is 1.5 per 10,000 flights; the rate for other private flights is 1.53.
>
> Table B1 also shows rates per 10,000 flight hours. Including the non-passenger legs again gives accident rates of 1.17 and 1.59 per 10,000 flight hours, respectively.
>
> When the same calculations are applied to the fatal accident rates, it appears on the face of it, that Angel Flight has a higher rate than other private operations. However, because there have been only two fatal Angel Flight accidents, (over 16 years and more than 46,000 flights) the differences are not statistically significant.[26]

1.30 Angel Flight was of the view that removing 'up to two-thirds of the coordinated flights in order to make statistical conclusions is unjustifiable'.[27]

1.31 Angel Flight further commented that the ATSB had examined the number of flights by Angel Flight, rather than its total flight hours. Dr Owen Crees, Safety Manager at Angel Flight, suggested that while there were no international standards for such examination of accident rates in general aviation, the common practice was to examine flight hours.[28] The ATSB later indicated that in addition to total flights, it had also completed an analysis using flight hours, which came to 'very similar' results as when total flights were used.[29]

1.32 Ms Pagani, on behalf of Angel Flight, called for the withdrawal of the ATSB's final report, and for it to be replaced with 'a proper expert investigation into the accident'. This call was echoed by Mr Benjamin Morgan of the Aircraft Owners and Pilots Association (AOPA), who suggested that the report had driven the introduction of regulatory changes which did not address the causes of the recent Angel Flight accidents.[30]

1.33 With regard to the ATSB's suggestion that Angel Flight utilise commercial flights when suitable, Angel Flight said that it was 'inappropriate for it to

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[26] Angel Flight Australia, *Submission 8*, [p. 3].

[27] Angel Flight Australia, advertisement, 'Angel Flight: Australia's largest and longest-serving charity facilitating community benefit flying', *The Australian*, 16 August 2019, p. 7. Concerns with the ATSB's statistical analysis were also raised by a number of submitters; see for example Mr Howard Hobbs, *Submission 1*; Mr Shaun Aisen, *Submission* 2, [pp. 4; 6-8]; Mr Allen Hilton, *Submission 3*; Mr John Raby, *Submission 5*, [p. 1]; Evans Head Memorial Aerodrome Committee Inc., *Submission 10*, p. 7.

[28] Dr Owen Crees, Angel Flight Australia, *Proof Committee Hansard*, 4 September 2019, pp. 6-7.

[29] Dr Stuart Godley, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 14.

[30] Ms Marjorie Pagani, Angel Flight Australia, and Mr Benjamin Morgan, Aircraft Owners and Pilots Association, *Proof Committee Hansard*, 4 September 2019, pp. 3-4.

criticise the charity for not abandoning the model for which it was constituted'. Angel Flight continued that it only used commercial flights as a back-up, when a private pilot was unavailable or cancelled at short notice, or if the flights were between capital cities.[31]

1.34 In an advertisement in *The Australian*, published in response to the ATSB report, Angel Flight also added that the ATSB did not adequately consider the following issues with commercial flights:

- costs of flying with commercial airlines;
- infrequent and non-existent access to flights in regional areas;
- the inconvenience and difficulties faced by the elderly and families at major airports, and with the associated ground travel; and
- the fact that medical specialists and hospitals could not schedule appointments around commercial flight timetables.[32]

1.35 Angel Flight submitted that the ATSB made no safety recommendations for pilots flying light aircraft in bad weather, which was a key factor in the 2017 accident.[33] It was Angel Flight's view that the 'analysis of the accident appears to be secondary to an investigation of Angel Flight', with the ATSB report providing 'nothing of significant value' which would help to minimise the risks of a further accident.[34]

CASA administration of CSFs

1.36 Mr Hood observed that Angel Flight, CASA and the ATSB did not have 'any great knowledge of the number of safety occurrences being experienced' on Angel Flight operations. Instead, by analysing data in relation to private aviation safety occurrences, the ATSB had been able to examine the CSF sector and develop a baseline for safety, which could now be measured and improvements sought.[35]

1.37 Further to this, CASA has argued that CSFs face different operating conditions and additional safety considerations compared with other private flights. Through an independent analysis of the statistics, CASA concluded that the

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31 Australian Transport Safety Bureau, *Aviation safety issues and actions,* 13 August 2019.

32 Angel Flight Australia, advertisement, 'Angel Flight: Australia's largest and longest-serving charity facilitating community benefit flying', *The Australian*, 16 August 2019, p. 7.

33 Angel Flight Australia, advertisement, 'Angel Flight: Australia's largest and longest-serving charity facilitating community benefit flying', *The Australian*, 16 August 2019, p. 7.

34 Angel Flight Australia, *Submission 8*, [p. 6].

35 Mr Greg Hood, Australian Transport Safety Bureau, *Proof Committee Hansard*, 4 September 2019, p. 14.

fatal accident rate for CSFs, when compared with the general private flying sector, was 5.4 times higher for CSFs.[36]

1.38 Such findings formed part of the rationale for the introduction by CASA of the Civil Aviation (Community Service Flights – Conditions on Flight Crew Licences) Instrument 2019 (the CSF instrument), which was subject to a six-week consultation period and made effective from 19 March 2019.[37]

1.39 The CSF instrument implements additional rules for pilots conducting CSFs to 'ensure an appropriate level of safety for the people who use these flights'. The instrument defines CSFs as a flight:

- transporting people to a destination to receive non-emergency medical treatment or services (and back to a place from which the patient departed for a treatment destination);
- coordinated, arranged or facilitated by an organisation for charitable or community service purpose;
- where no medical treatment is provided on board, but passengers can receive medication and treatment for an unexpected medical emergency; and
- that is free of charge to the patient(s) and the person(s) providing them support.[38]

1.40 The CSF instrument also introduces a number of requirements for CSFs, in relation to pilot experience and recency of flying, the number and type of passengers allowed on board, allowable aircraft types and aircraft maintenance schedules, flight notifications, and various flight rules.[39]

1.41 Mr Graeme Crawford, Acting CEO and Director of Aviation Safety at CASA, advised that CASA saw the minimum standards introduced by the CSF instrument as 'very modest', proportionate, and as striking the right balance between the increased risks of CSF flights, and the benefits of such flights to the community. Mr Crawford continued that the CSF instrument was:

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[36] Mr Graeme Crawford, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, p. 24.

[37] Civil Aviation (Community Service Flights – Conditions on Flight Crew Licences) Instrument 2019 [F2019L00134], available at https://www.legislation.gov.au/Details/F2019L00134. This instrument was superseded by F2019C00332 (see https://www.legislation.gov.au/Details/F2019C00332). Mr Crawford of CASA confirmed that CASA can implement safety mitigations, such as the CSF instrument, prior to the ATSB finalising its investigations; see *Proof Committee Hansard*, 4 September 2019, p. 25.

[38] Civil Aviation Safety Authority, *Community Service Flights*, 29 August 2019, https://www.casa.gov.au/licences-and-certification/individual-licensing/community-service-flights (accessed 11 September 2019).

[39] Civil Aviation Safety Authority, *Community Service Flights*, 29 August 2019.

> …designed to ensure that CSF pilots have an increased level of experience and an appropriate level of currency sufficient to meet the more challenging factors inherent in conducting CSFs.[40]

1.42 Dr Jonathan Aleck, Executive Manager of Legal and Regulatory Affairs at CASA, laid out the objective of CASA's approach to this issue:

> Our objective here is not to specifically address what caused those two accidents; it's to address what kinds of things can cause incidents and accidents of this kind. We're being prospective. If we were to wait for sufficiently robust data to support an evidence based decision for every individual decision we took in this space, we would have to wait for a dozen or more accidents to occur.[41]

1.43 However, Ms Pagani of Angel Flight called for CASA to withdraw the CSF instrument and to instead engage in proper consultation with industry and advisory committees about its contents, arguing that the instrument did not address any safety issues related to most aviation accidents.[42]

CSF instrument rules

1.44 The rules introduced for pilots conducting CSF flights include (but are not limited to):

- holding a private, commercial or air transport pilot licence and class 1 or class 2 medical certificate;
- having at least 400 hours of flight time and at least 250 hours of flight time as pilot in command; and
- completion of one landing in the same aircraft class during the previous 30 days (which can take place on the day of the flight, for example on a positioning flight).[43]

1.45 Two additional rules introduced by the CSF instrument were of particular interest to the committee, regarding passenger and operating crew limits, and aircraft maintenance schedules.

Operating crew limits

1.46 The CSF instrument provides that a CSF cannot carry more than five passengers, including the patient, a passenger who accompanies the patient to provide support and assistance, and the operating crew. CASA states that to be

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[40] Mr Graeme Crawford, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, p. 24.

[41] Dr Jonathan Aleck, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, p. 29.

[42] Ms Marjorie Pagani, Angel Flight Australia, *Proof Committee Hansard*, 4 September 2019, p. 3.

[43] Civil Aviation Safety Authority, *Community Service Flights*, 29 August 2019.

part of the operating crew, 'a person must have duties assigned by the pilot in command in relation to the safety or flying of the aircraft'.[44]

1.47 Angel Flight expressed its concern that the CSF instrument prohibited mentoring pilots from accompanying less-experienced Angel Flight pilots. Ms Pagani explained that in light of the instrument's provisions, Angel Flight 'cannot honestly say' that a mentoring pilot would be considered operating crew for the aircraft.[45]

1.48 However, when questioned by the committee, Mr Crawford confirmed that CASA had no objection to another pilot being in the plane with a CSF pilot, provided it was clear who the pilot in command was. Mr Crawford concluded that 'if it is to help introduce that individual to conducting flights on behalf of Angel Flight, we are comfortable' with the presence of the additional pilot.[46]

1.49 Mr Chris Monahan, Acting Group Executive Manager of Aviation at CASA, noted that there was no aviation definition of a 'mentor'. However, Mr Monahan echoed the position put forward by Mr Crawford, saying:

> The pilot in command has the ability to designate some of his operating crew to assist them, and one of those functions could be filling the same role as that mentoring…For example, if you're flying into a more congested area you're not familiar with, taking somebody with you who is familiar with that only enhances the safety of it. We have no objection to that at all. So we believe the instrument as written gives the latitude to the pilot in command to be able to designate someone and bring them along.[47]

Aircraft maintenance

1.50 For aeroplanes operating privately and weighing below 5 700 kilograms, CASA has determined that maintenance inspections may be performed annually, irrespective of the total hours flown (normally inspections are required at 100 hours time-in-service). Data indicated to CASA that only 10 per cent of aircraft operated exclusively in private operations would exceed 100 hours time-in-service during a 12-month period.[48]

1.51 However, it was CASA's view that with regard to maintenance, the carriage of CSF passengers required a higher level of risk mitigation than carriage of

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[44] Civil Aviation Safety Authority, *Community Service Flights*, 29 August 2019.

[45] Ms Marjorie Pagani, Angel Flight Australia, *Proof Committee Hansard*, 4 September 2019, p. 8.

[46] Mr Graeme Crawford, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, pp. 25-26.

[47] Mr Chris Monahan, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, p. 26.

[48] Civil Aviation Safety Authority, response to questions on notice, 4 September 2019 (received 17 September 2019).

passengers on an ordinary private flight.[49] In light of this, the CSF instrument states that it must not be more than 100 hours or 12 months since the last periodic inspection on an aircraft being used for a CSF flight. Specifically, the CSF instrument stipulates that:

> If the CSF aeroplane is maintained to the CASA maintenance schedule in Schedule 5 to the Civil Aviation Regulations (1988) it must have undergone a periodic inspection within the previous 100 hours flight time or 12 months since the last inspection (whichever occurs first). However, if the aeroplane was issued its current certificate of airworthiness less than 12 months before the flight a CSF may be conducted in the aeroplane if it has been in service for less than 100 hours since the certificate was issued.[50]

1.52 CASA noted that the impact of the CSF instrument's maintenance requirements would vary, depending on what other operations the aircraft was used for, and how often. CASA continued that:

> If an aircraft exceeds 100 hours flight time before the annual inspection is due, and the owner wishes to continue to conduct CSF flights, the instrument would require that the annual inspection be brought forward.[51]

1.53 CASA's safety risk analysis of the maintenance requirements concluded that the 'safety benefits of these measures significantly outweigh the restrictions imposed'. CASA continued that:

> While the number of 'CSF' aircraft affected by the instrument was likely to be low, the consequence of a maintenance failure in a high use private aircraft could be significant. On this basis, and in the interest of safety, CASA formed the view that setting a baseline standard for such flights would deliver a safety benefit for CSF passengers at minimal cost. The instrument does not create a new maintenance obligation, it effectively brings forward what would otherwise be an existing maintenance obligation and expected cost.[52]

1.54 In developing the maintenance requirements, CASA also considered the approach of the Federal Aviation Administration (FAA) in the United States (US). CASA advised that the FAA issues several exemptions to charitable medical flight organisations, granting relief from the requirements of the FAA regulations that would otherwise have prevented private pilots from conducting CSFs. CASA continued that:

> In accordance with the FAA's policy, conditions are placed on the exemptions that are 'intended to raise the level of safety for these flights.'

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[49] Civil Aviation Safety Authority, response to questions on notice, 4 September 2019 (received 17 September 2019).

[50] Civil Aviation Safety Authority, *Community Service Flights*, 29 August 2019.

[51] Civil Aviation Safety Authority, response to questions on notice, 4 September 2019 (received 17 September 2019).

[52] Civil Aviation Safety Authority, response to questions on notice, 4 September 2019 (received 17 September 2019).

> One of these conditions imposes higher aircraft airworthiness requirements. CASA considered the FAA's policy for charitable flights in the development of the CSF instrument.[53]

1.55 However, additional information provided to the committee from Angel Flight West in the US, observed that for its flights:

> …there are no regulatory requirements imposed by the FAA other than the standard rules which apply to private flights in the USA. In 2012 the FAA published a set of recommendations; however, these were not enacted into law. We have chosen to adopt some of the recommendations: there are different rules for commercial operators who seek exemptions from the commercial rules, but these do not apply to us as we operate only under the private flight category.[54]

Committee views and recommendations

1.56 The committee appreciates and supports the vital work that Angel Flight does for residents of regional and remote Australia, in ensuring they have prompt access to the medical care afforded to those living in metropolitan areas. The committee also applauds those pilots who volunteer their aircraft, time and skills to Angel Flight's operations.

1.57 Nothing in this report is a criticism of ATSB's investigations into any particularly incident. The work of the ATSB in accident investigation is, by and large, considered by the committee to be world class. The committee further appreciates that both the ATSB and CASA's actions are aimed at improving safety and reducing risk. However, the committee welcomed the opportunity to question both the ATSB and CASA further, about their findings in relation to elevated levels of risk for CSFs.

Perceived pressure on pilots

1.58 The committee was disturbed to learn that the ATSB had not consulted with any Angel Flight pilots in reaching its conclusions about the pressure—perceived or otherwise—that these pilots might experience while conducting CSFs for the organisation. The committee was alarmed that the ATSB had drawn its conclusions from pilot responses to the work of another regulatory body, and extrapolated these findings to the operations of Angel Flight.

1.59 Further, the committee holds concerns that the ATSB reached its conclusions about perceived pressure without any data on the number of cancelled Angel Flight operations. It is the committee's view that the cancellation of a CSF flight by a pilot, for example due to weather conditions, speaks directly to how pilots deal with pressure.

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[53] Civil Aviation Safety Authority, response to questions on notice, 4 September 2019 (received 17 September 2019).

[54] Angel Flight West (US), additional information to the committee, 26 September 2019 (received 27 September 2019).

1.60 An example of this was provided by Dr Crees of Angel Flight, who advised the committee that he was scheduled to complete an Angel Flight operation into Adelaide on the same day of the Mount Gambier accident, but cancelled due to the weather conditions.[55]

1.61 The committee acknowledges the reasons put forward by the ATSB as to why it did not survey all Angel Flight pilots directly.[56] However, this does not explain why the ATSB did not speak with any Angel Flight pilots during its investigation. The ATSB has therefore provided no direct evidence to support its views that Angel Flight pilots are under more pressure to complete a flight than private pilots. Further, the ATSB has not provided any statistical comparisons to support its position on this issue, in a report otherwise heavily reliant on statistical analysis.

1.62 The committee encourages the ATSB to consult directly with CSF and other pilots in future (and as it progresses its investigations) rather than relying on information obtained from third parties and for other purposes.

Statistical analysis

1.63 The committee acknowledges that the ATSB's statistical analysis included an analysis of all occurrences and accidents involving Angel Flight operations, and not just the 2011 and 2017 fatal accidents. The statistics presented in the report, and during the inquiry, appear to suggest an elevated risk for both prepositioning and passenger-carrying flights, and in particular for those flights carrying passengers.

1.64 However, the committee is concerned by the certitude of some of the conclusions drawn by the ATSB, from a dataset involving two incidents separated by six years, and over a 10-year period. The committee is of the view that whilst any incident is a tragedy, there should be great caution in making statistical inferences from only two data points.

1.65 The committee's view is reinforced by some of the statistical findings of the ATSB. When considering accident rates (rather than fatal accident rates) per 10 000 flights, the data suggested it was unlikely that the Angel Flight accident rate was higher than private flights, when non-passenger positioning flights and passenger carrying flights were considered together.[57]

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[55] Dr Owen Crees, Angel Flight Australia, *Proof Committee Hansard*, 4 September 2019, p. 6.

[56] See Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 26.

[57] With a probability of 17.8 per cent; see Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 69.

1.66 Such disparate findings highlight the fact that the dataset may not be deep enough to draw robust conclusions.

Aircraft maintenance requirements

1.67 The committee questions the need for the CSF instrument to amend the maintenance requirements for aircraft used for CSF operations, particularly when maintenance concerns played no role in the 2011 and 2017 Angel Flight accidents, and likely does not play a role in reducing perceived pressure on CSF pilots.

1.68 The committee notes that the ATSB found no mechanical defects with the aircraft involved with either the 2011 or 2017 accidents. In both instances, the ATSB concluded that there was no indication of unserviceable equipment or defects at the time of the accidents.[58]

1.69 In addition, CASA confirmed that the 2011 accident may have been a result of night flying under visual flight rules, and that pressure (perceived or otherwise) on the pilot contributed to the 2017 accident.[59]

1.70 CASA's reliance on the approach of the FAA was also called into question by Angel Flight West in the US, which operates under the standard rules applying to private flights in the US. According to Angel Flight West, it adhered to those rules, with no further regulatory requirements imposed by the FAA.

1.71 The committee also anticipates that by bringing forward the maintenance schedule for aircraft used in CSFs, to within 100 flight hours and across the board for CSF aircraft, the costs for maintaining the aircraft could increase.

1.72 The committee is of the view that the existing aircraft maintenance regime is adequate to ensure the safety of passengers and Angel Flight operators. As noted by CASA, it is anticipated that the new maintenance requirements will apply to ten per cent or less of private aircraft undertaking CSFs.

1.73 In light of the above, the committee considers that the CSF instrument should be amended to remove those aeroplane maintenance requirements at section 11 of the CSF instrument, which exceed the existing maintenance requirements for airworthiness in the general aviation sector.

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[58] Australian Transport Safety Bureau, *VFR flight into dark night conditions and loss of control involving Piper PA-28-180, VH-POJ*, ATSB Transport Safety Report AO-2011-100, 3 December 2013, p. 5; Australian Transport Safety Bureau, *Collision with terrain involving SOCATA TB-10 Tobago, VH-YTM near Mount Gambier Airport, South Australia, 28 June 2017,* ATSB Transport Safety Report, AO-2017-069, 13 August 2019, p. 6.

[59] Mr Graeme Crawford, Civil Aviation Safety Authority, *Proof Committee Hansard*, 4 September 2019, p. 25.

Recommendation 1

1.74 The committee recommends that the Civil Aviation Safety Authority amend the Civil Aviation (Commercial Service Flights – Conditions on Flight Crew Licences) Instrument 2019 to remove the provisions for additional aeroplane maintenance requirements, which are beyond those required for airworthiness in the general aviation sector.

Operating crews

1.75 The committee observed some confusion during the inquiry as to whether the provisions in the CSF instrument allowed for mentoring pilots on board CSFs operated by Angel Flight, and specifically whether the definition of 'operating crew' included a mentoring pilot.

1.76 The committee welcomed CASA's clarification that it saw no issue with CSFs having an additional, assisting pilot on board, and its belief that the CSF instrument, as drafted, provided the pilot in command with the latitude to designate an additional pilot in a mentoring role.

1.77 However, the committee is of the view that the CSF instrument would benefit from amendments to make it clear that this is CASA's position on this issue, and to clarify who may be on board a CSF alongside the pilot in command. The committee therefore recommends that the CSF instrument be amended to provide clarity on what constitutes the 'operating crew' for a CSF.

Recommendation 2

1.78 The committee recommends that the Civil Aviation Safety Authority amend the Civil Aviation (Commercial Service Flights – Conditions on Flight Crew Licences) Instrument 2019 to clarify what constitutes the 'operating crew' for a community service flight, particularly as this relates to additional pilots and mentoring arrangements.

Senator Susan McDonald

Chair

Appendix 1
Submissions and additional information

Submissions

1 Mr Howard Hobbs
2 Mr Shaun Aisen
3 Mr Allen Hilton
4 Civil Air Australia
5 Mr John Raby
6 The Australian Aviation Associations' Forum
7 Mr Alexander Reith
8 Angel Flight - ATSB
9 Angel Flight - CASA
10 Evans Head Memorial Aerodrome Committee Inc.

Additional Information

1 Correspondence from Angel Flight, dated and received 29 September 2019, regarding a safety recommendation from the Australian Transport Safety Bureau.
2 Correspondence to the committee from Angel Flight West (US), dated 26 September 2019, regarding its minimum standards for operation. Received 27 September 2019.

Answer to Question on Notice

1 Questions taken on notice at a public hearing in Sydney, NSW on 4 September 2019 by the Civil Aviation Safety Authority. Answers received 17 September 2019.
2 Questions taken on notice at a public hearing in Sydney, NSW on 4 September 2019 by the Australian Transport Safety Bureau. Answers received 18 September 2019.

Appendix 2
Public hearings and witnesses

Wednesday, 4 September 2019
Portside Centre
Symantec House
Level 5, 207 Kent Street
Sydney

Angel Flight

- Ms Marjorie Pagani, Chief Executive Officer
- Dr Owen Crees, Safety Manager
- Mr Benjamin Morgan, Executive Director, Aircraft Owners and Pilots Association

Australian Transport Safety Bureau

- Mr Greg Hood, Chief Commissioner
- Mr Christopher Manning, Commissioner
- Mr Nat Nagy, Executive Director Transport Safety
- Dr Stuart Godley, Director Transport Safety
- Mr Patrick Hornby, Manager Legal and Governance

Civil Aviation Safety Authority

- Mr Graeme Crawford, Acting Chief Executive Officer and Director of Aviation Safety
- Mr Chris Monahan, Acting Group Executive Manager Aviation
- Dr Jonathan Aleck, Executive Manager Legal and Regulatory Affairs