Commodore A.R. (Drew) McKinnie, RANR
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SUBMISSION TO THE AVIATION SAFETY REGULATION REVIEW PANEL

Introduction

My name is Andrew Robert McKinnie, preferred first name Drew.

I am a glider pilot and member of the Canberra Gliding Club, based at Bunyan NSW, north of Cooma. I am an active member of the Gliding Federation of Australia (GFA), a Level 3 Gliding Instructor actively supporting GFA operational safety as Regional Manager Operations NSW, responsible for oversight and management of NSW Gliding Operations.

I am also an active General Aviation (GA) pilot with a Private Pilot License (Aeroplane), and have been a Recreational Aviation Australia pilot.

I am a part owner and operator of a single seater sailplane (high performance glider) VH-GVN and a single engined light aircraft VH-FXR. I am also a qualified Glider Towing Pilot and fly a gliding club towplane VH-MLS.

I have been involved in gliding since 30 May 1971, when I was a junior member of Woomera Gliding Club in SA. I have been a member of Canberra Gliding Club since 1984 and an instructor since 1986. I was Chief Flying Instructor of that club from 1999 to late 2012.

In 2013 I became GFA Regional Technical Officer (Operations) for NSW, now titled Regional Manager Operations NSW. In this role I am responsible to the GFA Chairman of the Operations Panel and support the GFA Executive Manager Operations and President of the NSW Gliding Association. Those management roles include oversight of training, operations and safety standards; operations safety audits; development, training and qualification of gliding instructors; ratification of Chief Flying Instructors and competition safety officers; accident and incident investigation; and liaison with other GFA and CASA officers on safety and operations issues. I therefore form part of the regional GFA organisation that self-administers Australian gliding and assists CASA in its governing safety role.

I am also a Commodore in the RAN Reserve, a Technical Member of the RAN Seaworthiness Board, providing independent advice to Chief of Navy (as the Australian Defence Force Maritime Seaworthiness Authority) on the seaworthiness of ships and maritime mission systems, plus the integrity of the management systems that are intended to ensure safety, operational effectiveness and environmental compliance. This includes assessing safety issues, hazards, risks and seaworthiness management systems.

In my previous RAN full time service up to 2009, I was a senior engineer officer, and conducted many technical and safety investigations and risk assessments. In 2000, I was the inaugural Director General Navy Certification and Safety, setting up RAN safety management systems including safety cases, hazard and incident reporting systems, certification and acceptance regimes. I have formally trained in Ship Safety Management and incident investigation protocols through Det Norske Veritas (DNV), Lloyds Register and University of NSW. Having completed formal training in Risk Management processes and practices, I am familiar with the practices of AS/NZS 31000 Risk Management.

I am aware of many aspects of human error in safety management, including human and organizational factors, plus analysis of active errors, latent conditions and failed defences. I am well read in airmanship and psychology of aviation training. I have applied this knowledge and skill to improving gliding instructor training, safety management in gliding operations and training, club safety management systems, plus accident and incident investigations and responses.

IMPROVEMENT OF AVIATION REGULATORY REFORM

CASA-GFA and the Part 149 Approved Organisational Model

As a GA pilot and aircraft owner-operator I am familiar with CASA's roles in aviation regulation, including airworthiness, operations, training, licensing, aerodromes and safety management, and its collateral relationships with Australian Transport Safety Bureau (ATSB) and AirServices Australia (AsA) for safety investigations, search and rescue, air traffic management and flight services.

As a soaring pilot, instructor, glider owner-operator, towplane pilot, NSWGA and GFA officer, I am familiar with the GFA's obligations and services provision as a Self-Administering Sport Aviation Organization, in support of CASA's safety governance roles. I am involved in many areas of GFA regulation and service delivery in accordance with the CASA-GFA Deed of Agreement.

I strongly support the principles underpinning the proposed Part 149 Approved Organisational Model, and NPRM Part 149 processes, as a means of continuing and improving the CASA-GFA cooperative partnership.

I am strongly opposed to arguments from some aviation commentators to centralise sporting aviation self-administering organizations or subsume those functions solely within CASA, as this would subtract from safety management, increase the regulatory burden upon CASA, and dilute the application of gliding specialist expertise, skill and knowledge to safe operations, airworthiness and training. Safe gliding operations require the application of specialist training, education, skills and knowledge, beyond that developed through powered flying operations. Other arms of recreational and sporting aviation similarly require specialist skills, knowledge and training.

I invite the review panel to consider the advantages of the Australian CASA-GFA cooperative partnership and self-administering sport aviation organization model, with national and regional organizations supporting club-based performance outcomes, compared to those applying in the UK (CAA-BGA), EU (EASA), US (FAA-SSA) and elsewhere, where the centralized regulatory burden is greater and gliding safety management more complex (and possibly less effective and responsive).

The GFA submission to this panel describes very well the functions and safety outcomes GFA provides on behalf of CASA; I support that submission. I also affirm the strains described in that submission, which have been evident when CASA officials have acted in a prescriptive, interventionist, non-cooperative manner in their dealings with GFA; this behaviour runs the risk of subtracting from safety outcomes. That said, I am aware of the scrutiny that also applies to CASA in its overarching regulatory role, and welcome collaborative, constructive approaches to improved risk-based assurance and tailored safety management regimes in aviation.

Rules-based versus Principles-based Regulation, Risk Management and Safety Outcomes Focus

The bulk of Australian gliding activity takes place outside controlled airspace, in Class G airspace, often at non-towered aerodromes. Many gliding operations are conducted at gliding-only sites with airstrips and landing areas, owned or leased by clubs. Others at regional non-towered aerodromes are often mixed with GA and other sporting aviation activities.

In the latter environment, I have observed a tendency for some CASA officials and aerodrome inspectors to operate beyond their *aerodrome technical* remit and provide erroneous aircraft operations advice and pronouncements to council officers and aerodrome users, resulting in friction and confusion. This tendency is fed by a *literal, prescriptive* approach, with misinterpretation of a labyrinth of *complex legislation, regulations, orders, rules, guidance and advisory publications* and poor awareness of actual operational requirements and practices. Sometimes, CASA officials cite requirements that might apply to towered, controlled airspace and controlled aerodromes and apply them erroneously to non-towered and uncontrolled aerodromes, airstrips and landing areas.

The need for rules and regulations, plus effective governance is undisputed. GFA wishes to support CASA in providing effective governance, in a cooperative framework, in conjunction with other aviation bodies.

Inflexible and dogmatic *rules based* thinking, can and does subtract from safety when it is applied without consideration of *operational and safety outcomes* required and *residual risks that apply in the actual aviation environment after risk mitigation measures are applied.*

My observation over many years is that some CASA officials are poorly versed in risk management principles, management and processes (e.g. ISO/AS/NZS 31000 *Risk management principles and guidance* and HBK-158 *Risk based assurance*), have a poor safety outcomes focus, fail to understand risk mitigations and controls, and are excessively fixated upon intricate rules-based compliance management. Risk aversion is sometimes seen, or a failure to appreciate the new risks or hazard exposures arising from decisions on risk mitigation measures.

Improved safety outcomes and safety assurance should therefore be facilitated by improved education and training in risk management and risk-based assurance within CASA and all sporting aviation organizations. That education should also extend to better knowledge of the exemptions applying to various types of sporting aviation, and the limits of mandatory application of Civil Aviation Regulations.[1]

This should be supported by regulatory reform that simplifies the excessively complex morass of aviation regulation and guidance documentation, and links to a simpler framework of risk controls. (Existing documents might meet the needs of regulators and their legal staff, but they do not meet the needs of many aviation users and operators.)

Application of Transport Safety Investigation Act 2003 or Similar Protections to Non-ATSB Officers performing Aviation Accident Investigations

Effective performance of accident investigations is essential to the understanding of causes, latent conditions and failed defences, as well as to achievement of improved safety outcomes. For the purposes of improving aviation safety and instilling a "just safety culture" in aviation organizations, it is vital that participation in investigations be as unimpeded as possible. This is particularly important for accidents resulting in serious or fatal injuries.

ATSB has a role in conducting accident investigations for many GA and RPT accidents and incidents in Australia. ATSB has the ability to request specialist assistance from CASA officials.

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[1] Gliding in Australia is subject to the Civil Aviation Act 1988, Civil Aviation Regulations 1988 and Civil Aviation Safety Regulations 1998. Certain exemptions from the provisions of these Regulations have been granted to members of the GFA by way of Civil Aviation Orders 95.4 and 95.4.1. Where exemptions exist, the practices adopted by GFA are outlined in the GFA Operational Regulations approved by Civil Aviation Safety Authority (CASA).
This manual is in three parts,

1. The GFA Operational Regulations;
2. The Manual of Standard Procedures, Part 2, Operations, a document approved by the GFA Board specifying the normal operational procedures of the Federation and comprising a distillation of many years of operating experience; and
3. A copy of Civil Aviation Orders (CAO) 95.4 and 95.4.1, the Order under which GFA exercises specified exemptions from the Civil Aviation Regulations (CARs).

In the case of gliding accidents in Australia, including fatal accidents, ATSB often declines to perform the accident investigation, and "requests" or transfers responsibility for such investigations to GFA. GFA members are then selected to perform those investigations, assisting the State or Territory Police and Coroners in their inquiries.

In April 2013 I was selected to perform an investigation into a fatal mid-air collision at Carrick NSW, near Goulburn, between a landing sailplane and a training glider launching behind a winch. I undertook that investigation after telephone advice from the then GFA Chairman of the Operations Panel, that "ATSB had declined to conduct an investigation and requested GFA lead in assisting NSW Police and Coroner." At that time, I was therefore performing this function *in lieu* of ATSB, but as if I were an ATSB officer or delegate.

I understand that ATSB has the power to use CASA officers as *delegated officers* or *special investigators* to perform certain investigations. The Transport Safety Investigation Act 2003[2], Part 7, para 63B subsection (4), sub-paras (c) and (d) apply to Commonwealth employee delegates (such as CASA) and special investigators respectively, and subsection (5) then states that a power that is exercised by a person under a delegation under subsection (4) is taken, for the purposes of this Act, to have been exercised by the ATSB. Subsection 63E spells out provisions for *special investigators.*

Those persons then have protection under subsection 64 Immunity, where "A person is not subject to any liability, action, claim or demand for anything done or omitted to be done in good faith in connection with the exercise of powers under this Act." Under subsection 65 ATSB also has the power to provide certification of involvement in investigations.

The investigation was conducted with excellent cooperation with NSW police based at Goulburn and the NSW Police Air Wing. The investigation was also conducted with knowledge that I was subject to the NSW Coroners Act, and that whilst I could make conclusions and recommendations related to aviation safety[3], it is the Coroner's role to make findings as to causal issues and liabilities. My accident investigation report was provided to NSW Police and the NSW State Coroner, with a copy to ATSB.

It is important to note the differing focus of investigating authorities; Police focus is on criminality, public safety and support to the Coroner; Coronial focus is on findings of cause of death and potential negligence or liability including contributing operational and organizational issues. The GFA specialist role here is to support Police and Coroner in their investigations, plus provide specialist sporting aviation expertise, advice on operational and airworthiness aspects, training and qualification aspects, gliding human

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[2] http://www.comlaw.gov.au/Details/C2013C00020/Html/Text#_Toc345407251

[3] The report cited "The sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability" and invoked as a reference Annex 13 to the Convention on International Civil Aviation, Section 3.1

factors, safety management processes, oversight and controls, active errors, latent conditions, failed defences, plus intended GFA remedial actions.

The NSW Coroner has not yet made any findings in relation to this accident. Subsequent to submitting my GFA Field investigation Report, I have been approached by lawyers for one of the involved parties seeking further information *outside any Coroner's hearings*. (That party had already received a copy of my GFA Field Investigation Report from the office of the NSW Coroner.) On receiving legal advice I have declined that request. One of the key reasons is that whilst I am still subject to the confidentiality provisions of the NSW Coroners Act, I have *no protections* whatsoever that would normally apply to ATSB investigators or ATSB approved delegates or special investigators, under the Transport Safety Investigation Act 2003.

I have not received any formal communication from ATSB that I was acting on their behalf, nor acting as a delegated officer or specialist investigator, nor performing an equivalent function to ATSB officers, with ATSB having declined to investigate the accident and passed responsibility to GFA.

It was also foreseeable that any additional communications with that involved party might affect their decisions regarding potential liability of other parties. I wished to maintain my independence and objectivity as an accident investigator.

I submit that it is imperative that across all arms of aviation activity in Australia, all accident investigators should be afforded legal protections as would normally apply to ATSB investigators, or to CASA staff given ATSB delegations for particular investigations.

One option might be to require ATSB officers to formalise the appointment of non-ATSB accident investigators as delegated officers or specialist investigators, covered by the TSI Act 2003, where they decline such investigations and pass responsibility to GFA or other sporting aviation bodies. I believe this is appropriate and consistent with the Deed of Agreement mechanisms employed by CASA to define the scope of functions performed by self-administering sport aviation bodies including GFA, which include (amongst many others) these compliance and standards functions:

- examine the results of incident and accident investigations to ensure that standards have been complied with;
- on behalf of CASA, investigate alleged breaches of CAR, CASR and the GFA Operational Regulations by pilots of sailplanes, powered sailplanes, and power assisted sailplanes;
- monitor the airworthiness standards and procedures of member clubs and rectify any deficiencies detected to ensure compliance with the standards specified in the GFA Manual of Standard Procedures and in accordance with the general requirements specified in CASR Parts 21, 22 and CAR Part 39;
- provide quarterly statistical reporting in relation to the numbers of GFA members, aircraft, accidents, incidents, defects and fatalities; and

- examine the results of incident and accident investigations to ensure that standards are appropriate.

Another (more complex) option might be development of separate legislation, regulatory mechanisms or instruments to recognize and protect accident investigation officers of other non-ATSB organizations including GFA.

The status quo is not a viable option, as the lack of protection and potential legal exposure of non-ATSB aircraft accident investigators may in fact work against future willing support of accident investigations and analysis of safety issues, including remedial actions in operations, training, airworthiness, airfield management, safety management and organizational and human factors. Improved legal protections must be invoked as part of regulatory reform to enable impartial, objective and effective accident investigations and remedial responses by sporting aviation bodies. GFA is seeking to improve Safety Management Systems and safety culture, and this in turn requires open and impartial examination of accidents and incidents to derive lessons learned.

Closing Comments

The above comments are intended to assist the Aviation Safety Regulatory Review Panel investigate:

- the structures, effectiveness and processes of agencies involved in gliding and aviation safety;
- the relationship and interaction of those agencies with each other
- the outcomes and direction of the regulatory reform process being undertaken by the Civil Aviation Safety Authority;
- the suitability of Australia's gliding and aviation safety related regulations when benchmarked against comparable overseas jurisdictions; and
- other safety related matters, including accident investigations.

I support the proposed Part 149 Approved Organisation Model and CASA-GFA collaboration as an appropriate means of fostering the CASA-GFA cooperative partnership and achievement of better safety outcomes.

I affirm that strains in the CASA-GFA relationship have occurred when CASA officials have acted in a prescriptive, interventionist, non-cooperative manner in their dealings with GFA; this behaviour runs the risk of subtracting from safety outcomes.

Collaborative, constructive approaches to improved risk-based assurance and tailored safety management regimes are far preferred; this requires a culture of mutual respect to operate.

I support the GFA submission to this Aviation Safety Regulatory Review Panel. My submission is as an individual, who happens to be a GFA member and active in GFA safety regulatory processes.

At some regional locations, incorrect advice or pronouncements by junior CASA officials and aerodrome inspectors has resulted in friction and confusion with shire councils and aerodrome users. A literal, prescriptive approach, with misinterpretation of a labyrinth of complex legislation, regulations, orders, rules, guidance and advisory publications, plus poor awareness of actual operational requirements and practices, exacerbates friction and has the potential to impede achievement of safety outcomes.

Many aircraft, glider and aerodrome operators find aviation regulatory documentation to be excessively complex and difficult to navigate.

Awareness of risk management principles, risk management frameworks and processes, along with guidance on application of risk-based assurance systems, should be improved by a structured training and education campaign in CASA and other sporting aviation bodies.

Simplistic application of worst-case risk-consequence thinking leads to risk aversion; an improved focus on residual risk post-mitigation and principles-based risk management and assurance is recommended. This should underpin the overall risk and safety outcomes focus, plus all collaborative efforts towards simplification and tailoring of regulations and safety management systems.

GFA officers, and those from other sporting aviation bodies performing accident investigation functions in circumstances where ATSB declines to investigate, need improved legal protection such as that afforded by the Transport Safety Investigation Act 2003. Existing legislation includes provisions for ATSB commissioners to appoint delegated officers or special investigators. Such appointed non-ATSB officers have immunity from external action or claims with regard to their investigative functions. Current de-facto, informal processes of devolved investigative responsibility serve to deny legal protections to non-ATSB, GFA investigators and supporting GFA members. This could in turn dissuade participation in such accident investigation functions, increase risk of legal exposure with respect to Coronial processes and subsequent liability claims, and work against an open safety culture for serious accident and incident response.

I would welcome the opportunity for further dialogue and to expand upon these comments, if it will assist the Review Panel in their deliberations.

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A.R. (Drew) McKinnie
29 January 2014

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