

**AIPA SUBMISSION TO THE STANDING COMMITTEE ON COMMUNICATIONS,
TRANSPORT AND THE ARTS INQUIRY INTO
MANAGING FATIGUE IN TRANSPORT**

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Executive Summary

- The Australian Aviation Industry, comprising long haul, regional, overnight cargo, and short haul operations, involves round-the-clock operations
- The nature of the industry is one of shift work, back of the clock operations, irregular and unpredictable work schedules, and time zone changes
- To meet industry demands, flight crews must be able to support 24-hour-day operations that involve the traverse of multiple time zones
- These features pose known challenges to human physiology, and produce performance impairing fatigue, which has a direct impact on the productivity and safety of the industry
- Recognition and management of these physiological challenges can promote performance, productivity and safety in 24-hour operations
- Conversely, ignoring these factors can lead to reductions in human capability and to the potential for accidents and incidents that can result in tremendous societal and individual costs
- The management of fatigue in the complex and diverse aviation environment requires an integrated and multi-component approach which recognises fatigue as a singular Occupational Health and Safety issue for which the employer and employee have shared responsibility
- AIPA recommends that Australia move beyond the present flight/duty/rest regulatory schemes and toward a more operational model based on fatigue auditing
- AIPA calls for the development and implementation of fatigue management systems through well drafted legislation, the allocation of government funding, and the elevation of pilot fatigue as an issue at ICAO
- AIPA recommends the creation of an national independent body to manage fatigue under OH&S legislation, entrusted with ensuring that airlines produce a demonstrable process of risk management for fatigue

1. INTRODUCTION

1.1 What is the Australian and International Pilots Association?

AIPA is the professional association representing Qantas pilots and flight engineers, and is a leading voice on matters relating to commercial airline pilots and safety

AIPA is the collective voice of aircrew employed in high capacity operations by QANTAS. As QANTAS Airways Limited is the largest of the domestic and international airline carriers based in Australia, AIPA is therefore the largest Australian organisation representing professional aircrew. Individuals join AIPA by choice, and the organisation is run by a small group of professional staff and assisted by volunteers.

AIPA was formed in 1981 as a breakaway organisation from the Australian Federation of Airline Pilots (AFAP). Until 1995, AIPA covered only Qantas long haul air crew. To remove any confusion in the public mind, it should be noted that AIPA was not involved in the 1989 pilot dispute.

AIPA provides the flight deck perspective to the design and operation of aviation systems and incidental infrastructure. The members of AIPA are all aircrew, but with a surprising diversity of knowledge gained in previous careers, including education, engineering, finance, medicine, information technology, security and law. Some AIPA members are former test pilots, aviation accident investigators, air traffic controllers, and even an architect who worked on airport design at Heathrow. Where necessary, AIPA bolsters this internal expertise with industry specialists.

AIPA is the eighth largest of 93 aircrew organisations that form the International Federation of Airline Pilots' Associations (IFALPA). In the global context, IFALPA, which represents 120,000 pilots, functions internationally in a similar manner to that of AIPA at the Australian level, providing the flight deck perspective. IFALPA, along with IATA, are unique in that they are the only two bodies that hold permanent seats at the International Civil Aviation Organisation (ICAO) without being identified as contracting states. The ICAO function, under the United Nations Charter, is to internationally harmonise rules and procedures for the civil aviation industry.

1.2 Why is AIPA making a submission to this inquiry?

AIPA has a long history of participation in the fatigue management debate, both within Australia and overseas, and is a key stakeholder in the industry

The members of AIPA are best described as irregular shift workers, with the added complication of time zone shift. Aircrew suffer from internal disassociation of circadian rhythms, which is much more complex than simply saying a person is working when they should be sleeping. With extreme time zone displacement, rhythms and different physiological functions pursue different time courses. The varying rates of recovery in these various physiological functions, and the time allowed for that recovery, determine the crew's state of

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health, and overall level of work performance. The safety of passengers, cargo and innocent third parties is dependent upon a satisfactory safe level of work performance.

The philosophy of AIPA is that aircrew should work hardest when best able. There should be a reasonable balance of days away on task and quality days free of duty at home base (after recovery). Opportunities for quality rest, recreation and access to healthy food, are vital considerations for fatigue risk management and occupational health and safety. This is often dictated by local time (wherever/whatever that may be), even though an individual's body clock may be referenced to the other side of the world. In this respect, the facilities provided at aircrew hotel accommodation are considered a significant tool in managing fatigue. Manage the occupational health and safety of crews (OH&S), and you will also manage the safety of the travelling public, cargo and innocent third parties.

One of AIPA's daily tasks is cooperating with QANTAS to manage the rosters of aircrew, striving to make up for the deficiencies in CASA fatigue management regulations.

With regard to fatigue management, CASA does regulate the maximum allowable hours to be worked and the minimum hours of rest that must be provided. "These existing CASA regulations fall well short of what is required for fatigue management and OH&S" (CASA (1999, para3.6)). That such CASA regulations exist and that aircrew rosters have been constructed strictly in accordance with these CASA regulations, is no guarantee that any fatigue risk assessment has been performed on those rosters.

The members of AIPA fly the rosters, involving irregular shiftwork across multiple time zones, and their practical experience should be incorporated into the roster design process. Logically, that same practical experience must have a voice in the creation of CASA regulations, required for fatigue management and OH&S.

CASA is in the process of creating new maximum allowable hours of work and minimum hours of rest for Australian aircrew. The objective must be the creation of a seamless management of the fatigue risk, so that passengers and freight may with confidence travel the airline alliance system, on code-share flights and even on foreign carriers within Australia. This benefit extends to innocent third parties.

The objective of seamless safety was deemed to be outside the scope of the Productivity Commission report into *International Air Services* (Productivity Commission (1998, XXVI and 79)). AIPA believes that this House of Representatives inquiry can play a key role in the development and implementation of modern fatigue management systems.

Some difficulties in creating modern fatigue management systems arise when the constant turnover of management and policies within CASA leads to the exclusion of the voices of practical experience. Difficulties also arise when Australian industrial laws deliberately seek to exclude the voices of practical experience and when the pressures for shareholder returns exclude the voices of practical experience.

For the Airline Industry and the users of air services, the ideal outcome from this inquiry is the introduction of modern fatigue auditing systems, and the recognition and management of fatigue as a singular Occupational Health and Safety issue for which the employer and employee have shared responsibility.

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A detailed discussion of AIPA’s recommendations to resolve the problem of fatigue in aviation is provided in Section 5. However, members of this inquiry will know they have done a good job when AIPA is able to communicate to them that:

"CASA has drafted new rules that address OH&S issues by creating a seamless management of the fatigue risk, so that passengers and freight may confidently travel in the airline alliance system, on code-share flights and even on foreign carriers within Australia. This benefit extends to innocent third parties. Please pass these draft rules into law"

2. Causes of, and contributing factors to, fatigue

The nature of the aviation industry, in the form of altered and changing work schedules, time zone changes, long hours of continuous wakefulness, and sleep loss can create sleep and circadian disruptions that degrade the waking function. Consequently, the nature of the industry is a ripe environment for pilot fatigue and sleepiness while operating aircraft, degraded vigilance and decision-making and a wide range of other performance effects that can erode safety.

Transport in all its manifestations, is by its nature inherently unsafe. However society requires transport to function and so the transportation industry has evolved in a way that produces a standard of safety acceptable to the community. Worldwide, the transport industry has operated safely by utilising a combination of techniques, including educated use of technology (procedures) and legal restrictions. For most of the last 150 years of the Western World's history, the results have been an acceptable level of transport safety.

However recent developments in the liberalisation and deregulation of markets have created an environment in which the continuation of these desirable safety levels in the airline industry cannot be assumed. During the 1996 House of Representatives inquiry, *Export of Perishable Produce by Airfreight*, the Honourable Peter Morris, speaking in relation to the maritime industry, said that the "rate cutters of today become the rate setters of tomorrow". In the ensuing years, this statement has proved just as true in aviation as it was in the marine industry.

In the airline industry, we are currently being subjected, **by design**, to a concerted effort to reduce the working conditions of employees. The International Transport Federation (ITF) calls this phenomenon "the race to the bottom". While the concept of reducing staff conditions may be aligned with current political philosophies, there is no doubt that at some stage the reduction in working conditions of airline staff will impinge on the safety standards of the airline industry. The current award conditions of Australian airline workers contain vital safeguards to prevent accidents by addressing fatigue through limitations of individual's working hours and standards of accommodation for off-duty pilots. The standard of sleeping quarters however, can no longer be guaranteed because under the Workplace Relations Act 1996 ("WRA"), that item has been challenged as to its allowability under Section 89A of the WRA.

In the past, safety standards in airline operation were underpinned by four diverse, but interlocking strategies:

- (1) Government Regulations including flight time limitations
- (2) The individual airline's corporate standards and ethics. This included high aircraft maintenance and crew training standards
- (3) Pilots' and Flight Engineers' personal standards, ethics and judgements
- (4) Aircrew Associations influence, ethics and expertise.

But what of the future in our brave new deregulated airline world?

In a deregulated and privatised airline industry, carriers are accountable to shareholders who seek to maximise returns on their equity investment. To achieve this, airlines have invested

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heavily in sophisticated crew rostering computer software, which schedules crew to the maximum legal limits. As a result, dispensations made in earlier times, on the assumption of occasional use, are now an everyday part of crew's rosters. The benign hand of the human operator is now totally removed from the system replaced by "efficient" but inflexible crew optimiser software. This is occurring at the same time that Government is attempting to dilute the influences of the labour organisations.

The diminution of pilot organisation's influence has the potential to remove the **operator /union safeguards**, weakening the resolve of crewmembers to resist unreasonable and potentially unsafe management demands. Technology is also acting to alter this equation by reducing the size of standard flight deck crews from three (Captain, First Officer, and Flight Engineer) to just two pilots. This leaves the first Officer particularly vulnerable if he /she does not wish to continue an extended operation.

AIPA has a long history of involvement in the reform of flight and duty time limitations in the Australian aviation industry. In 1990, the then Civil Aviation Authority (CAA) proposed new fatigue management rules (ARP90/3) to replace the existing Australian fatigue management rules based on Civil Aviation Order 48 (CAO48).

AIPA rejected much of that 1990 ARP90/3 proposal, on the grounds that it did not adequately manage the physiological and psychological factors that contribute to fatigue. However, AIPA then set about to further research the subject of fatigue and crew rostering. This research culminated in the AIPA commissioned *Flight Crew Duty and Rest* document published in 1994 (Maher and McPhee (1994)).

The AIPA brief for the *Flight Crew Duty and Rest* report included;

- to review scientific literature related to fatigue in flight crews
- relate this evidence to provisions in proposed fatigue management systems
- consider alternative fatigue management systems

To the best of our knowledge this was the first time such a document had been prepared. It serves today as a reference text with many aviation regulators, pilot groups, airline safety departments and educational institutions.

In 1995, a collaborative memo was produced by several well known researchers with the title "Principles and Guidelines for Duty and Rest Scheduling in Commercial Aviation". This memo is sometimes cited as the NASA Principles memo. Signed by names that regularly appear in the scientific literature, and bearing the authoritative stamp of NASA, this memo has achieved some status. In essence, it repeated the same message as contained in the document.

In 1998, the Office of the Chief Scientific and Technical Advisor for Human Factors, Federal Aviation Administration, commissioned an overview of the scientific literature concerning fatigue, sleep and the circadian cycle. Note this is four years after the AIPA document. This FAA document contributes very little new knowledge, while drawing extensively from AIPA's *Flight Crew Duty and Rest* report of 1994.

Section 3 of AIPA's Flight Crew Duty and Rest document, elaborates on the causes and contributing factors to fatigue in the aviation context, though it is just as relevant for other

transport modes. This AIPA document is recommended reading, and we quote a section of that report which identifies the causes of, and contributing factors to, fatigue.

“Factors Antecedent to Fatigue

Whether or not they are conceptualised as acting via the hypothetical construct “fatigue”, there is nevertheless, wide agreement about factors acting on flight crews to affect their health and performance.

Some factors, such as long duty-hours act to deplete resources (ie. contribute to fatigue), while others, such as circadian rhythm disturbances act to impair recuperation. Some, such as sleep-loss and sleep-disruption act both as contributors to fatigue and as impediments to recuperation. Irrespective of their mode of action, those factors, usually considered include:

Task-Relation Factors

work-environment features
type/s of task

Duty-Time Factors

absolute duty-time
time-on-task
time since sleep

Circadian Factors

general circadian influences
circadian rhythm desynchronisation & dissociation
circadian rhythm resynchronisation

Sleep Factors

sleep deprivation
sleep disturbance
sleep type/quality

Social Domestic and Industrial Factors

disruption of domestic life
social asynchrony
industrial conditions

Individual Differences

intrinsic physiological features
age
training/experience

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While it is possible to list factors in a straightforward way it is not as easy to analyse them as simply as this. Many interact, forming feed-back and feed-forward relationships with one another. It can be difficult to disentangle them. We shall however consider them in a superficially orderly fashion but attempt to consider complications due to interactive processes as they are encountered.” (Maher and McPee (1994, p. 3-12)).

3. Consequences of fatigue in air, sea, road and rail transport

The most dire consequence of technical crew fatigue is obviously an accident. However, incidents, an occurrence other than an accident associated with the operation of an aircraft which affects or could affect the safety of operation, are more frequent.

Fatigue initially compromises the higher level brain process of judgement and reasoning, those functions most needed to handle the non-routine events in aviation. Equipment failures and being overloaded by too many simultaneous non-routine events will be a challenge for the fatigued individual. Similarly, fatigue may cause a loss of attention to a weather radar display in cruise resulting in turbulence and injuries/death as a commercial passenger jet penetrates storm clouds. It is too easy for fatigue related incidents to be superficially written off as crew error.

The International Civil Aviation Organisation, within ICAO Annex 13 recommends in very broad terms, how to investigate an aircraft accident. However, ICAO Annex 13 does not demonstrate how to conduct a comprehensive fatigue audit. Rather, the manner of conducting a fatigue audit (if any) is left to the discretion of accident investigators working for ICAO contracting states.

A breakdown of accidents by primary cause factors indicates that flight crew error “in one form or another is determined to be causal in just under 65% of all commercial jet transport accidents” (Lauber (1999, p.701)). Yet in a number of other primary cause factor categories, for example maintenance, recent unpublished evidence suggests that more than one half of these involve human factors. As a result, estimates of the total contribution of human error to aviation accidents can range as 80%-90%. It is only in recent years that accident investigators have attempted to perform comprehensive fatigue audits as part of accident investigation. As a result, it is suspected that fatigue as a contributing cause is understated in the statistics of both crashes, and other aviation incidents.

However, fatigue and crew overload have been cited in aviation accident investigations. This includes the 1977 collision of two Boeing 747s on the runway at Tenerife -infamous to this day, because it resulted in the greatest number of deaths in a singular aviation accident – 583 souls.

The 1993 crash of a USA registered DC8 freighter in Cuba, operating to FAA rules, may be seen as a watershed event. The National Transportation Safety Board (Attachment 3, NTSB AAR 94-04) cited this as a fatigue accident, “...*the probable causes of this accident were the impaired judgement, decision making and flying abilities of the captain and flight crew due to the effects of fatigue.*”

The 3 person non augmented crew had **been on duty for approximately 18 hours** at the time of the accident and were still scheduled to operate a return flight before standing down. The return flight was to be operated as a non-commercial ferry flight under FAA,14 CFR Part 91 rules. There are no flight or duty limits applicable to part 14 CFR 91 operations. The crew could have legally continued in excess of 24 hours continuous duty if the accident has not occurred.

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In his debrief after the accident, the F/O, when questioned about the long tour of duty, stated that “considering the legality of the trip and his knowledge of previous company actions ‘you better really be tired’ to refuse a trip” (NTSB AAR-94/04, p.14). ***This particular carrier currently operates into Australia on a scheduled basis.***

So far the FAA has failed to produce new fatigue management rules. The FAA mandate is similar to the Australian CASA mandate: regulate to ensure the safety of the travelling public. On the 4th of June 1999, the NTSB wrote an open letter to the FAA reminding them of their failure to adequately regulate for fatigue management. This open letter was most likely prompted by the crash of an American Airlines MD82 passenger jet at Little Rock, Arkansas on 2nd June, 1999. The two man crew had been on a duty through the night of 13.5 hours, but had complied with the existing FAA flight time regulations. According to the Air Line Pilots Association (ALPA), the largest American pilot association, covering 55,000 pilots,

“the problem in this country (U.S.) for computing pilot rest time is that there is no inclusion for time spent working on the ground but not flying”.

AIPA would make the additional comment, that **time since last sleep** is rarely taken into account when rostering duty periods.

The Little Rock investigation is still in progress, but initial commentary suggests fatigue is involved. The political fall-out in the USA will be interesting, but no doubt will sound very familiar to the relatives of those killed in the Monarch and Seaview Airlines accidents here in Australia.

In summary, fatigue has been identified as a probable cause of accidents in various modes of transportation. For example, in the U.S., the National Transportation Safety Board (NTSB) has cited fatigue as a probable cause in the Exxon Valdez and World Prodigy Maine accidents, and in the crash of a DC-8 aircraft in Guantanamo Bay, Cuba. In the Australian transport industry, fatigue was cited as a significant contributing factor in the Beresfield Coal Train Collision in 1997. In the coal train accident’s investigation in NSW, BASI employed the fatigue audit methods developed by Professor Drew Dawson of the Centre for Sleep Research. The accident investigation report’s recommendations were subsequently accepted by the NSW Parliament. In accident investigation methodology, AIPA believes that this was the first time that BASI had employed the fatigue audit methods developed by Dawson.

4. Initiatives in transport addressing the causes and effects of fatigue

Since 1990, AIPA has been advocating the development and implementation of modern fatigue management techniques in the aviation industry.

The International Civil Aviation Organisation, within ICAO Annex 6, recommends in very broad terms, some parameters that should be managed, with the intended outcome that fatigue does not endanger the safety of flight. These parameters include:

- Fatigue, both transient and cumulative
- Limits on flight time
- Within the duty period, limit time on the ground
- Provide adequate opportunity for recovery
- Take account of other related tasks
- Crew complement and division of tasks
- Extensions to duty periods where in-flight rest facilities are provided
- Standards of ground rest facilities
- Air Traffic densities
- Navigation and communication difficulties
- The rhythm of work/sleep cycles
- The number of landings within a duty period
- Aircraft handling and performance characteristics
- Weather

However, ICAO Annex 6 does not demonstrate how to implement a comprehensive fatigue management system. Rather, the manner of implementing a fatigue management system (if any) is left to the discretion of ICAO contracting states.

Australia is an ICAO Contracting State, and CASA is the organisation that administers Australian civil aviation activity, retaining discretion to regulate consistent with, or contrary to, any ICAO recommended practice. In a similar manner, the U.S. is a Contracting State, and civil aviation is administered by the FAA.

In 1990, the then CAA (now CASA) proposed new fatigue management rules (ARP90/3) intended to replace the existing Australian fatigue management rules based on Civil Aviation Order 48 (CAO48). AIPA rejected much of that 1990 ARP90/3 proposal, on the grounds that it did not adequately manage the physiological and psychological factors that contribute to fatigue.

In 1999, CASA is yet to replace CAO48. Contemporary occupational health and safety studies have both cast doubt on the overall acceptability of current CASA rules, and highlighted omissions of qualifying factors such as circadian rhythms and sleep deprivation (DP9904RP para 3.6 page 6 of 12).

Through the 1990s, aviation regulators in other high profile countries such as the FAA in the United States, and the Joint Aviation Authority (JAA) in Europe, have fared no better than CASA. They too have produced draft fatigue management rules that have been rejected, for

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reasons that include the failure to adequately manage the physiological and psychological factors that contribute to fatigue.

A comprehensive fatigue management system, one that adequately manages the physiological and psychological factors that contribute to fatigue, is a major challenge for those who advocate the simplistic approach. Those who believe that rosters consistent with prescriptive rules, will always be safe, demonstrate this simplistic approach. Typical resistance to change is found in the first tier of supervisory management. The introduction of a modern fatigue management system requires a change of emphasis, away from the simple counting hours worked, or counting hours absent from work. It requires the education of regulators, employers and employees. It also requires demonstration of how the accumulating knowledge of fatigue management may be given practical application. AIPA has applied itself to this task since 1990.

The 1991 AIPA rejection of ARP90/3 included an alternative fatigue management system that was considered better able to manage the physiological and psychological factors that contribute to fatigue. Matched with an enhanced fatigue audit tool of the type proposed by Professor Drew Dawson, this alternative system has the potential for development into a self-limiting fatigue risk management system. This composite system would be consistent with occupational health and safety requirements, and yet still allow efficiency and flexibility for operators in the rostering of air crew. The Flight Crew Duty and Rest document released by AIPA in 1994 included a partial review of the alternative fatigue management system proposed by AIPA.

AIPA has participated in the work of TC1/PT7, a group convened by CASA to consider the fatigue management problem and new rules to replace CAO48. To this working group, plus CASA and airline managements, AIPA has introduced the fatigue management concept being developed by Professor Drew Dawson.

In 1999, CASA produced for discussion, a proposal for introducing operator formulated flight and duty limit schemes (DP9904RP). This proposal may form the basis of a replacement for CAO48. The model fatigue management rules CASA included with DP9904RP are not original, are viewed as unwieldy, and will not be acceptable unless significantly modified. The success of this latest CASA proposal hinges on four key factors:

- Modification of the model rules
- Inclusion of an enhanced continuous fatigue audit tool of the type proposed by Professor Drew Dawson
- Compliance provisions, and
- A dispute resolution process

AIPA will complete a response to this document in early July 1999.

In 1998, AIPA produced a recommended standard for *Rest Facilities for Flight Crew In Flight*. Such in-flight rest facilities form an essential component of any comprehensive aviation fatigue management system. This standard has been adopted by IFALPA for inclusion in the Aircraft Design and Operation 2000 document, that will guide future airframe manufacture. At the request of AIRBUS and BOEING, AIPA will be making presentations to these airframe builders during 1999.

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Further initiatives in the area of pilot fatigue include the education of AIPA members. In response to QANTAS's entry into the oneworld airline alliance, AIPA co-founded the oneworld Cockpit Crew Coalition, covering all oneworld pilots. ANSETT and ANSETT pilots are involved in a similar STAR alliance. For passengers and freight forwarders, the potential is a seamless journey involving more airlines than just the airline named on the ticket cover. This closer working relationship may require alignment of disparate aviation regulations, including those that claim to manage fatigue. The Single Aviation Market (SAM) and the Trans Tasman Mutual Recognition Act (TTMRA), both involving Australia and New Zealand, provide immediate examples of regulatory disparity.

During 1999, AIPA will present to the oneworld pilot alliance a demonstration of how the accumulating knowledge of fatigue and its management may be practically applied. The work of Professor Dawson will be featured. The objective is to create a seamless management of the fatigue risk, so that passengers and freight may with confidence travel the airline alliance system, on code-share flights and even on foreign carriers within Australia. This benefit extends to innocent third parties.

AIPA is one of several organisations discussing with an Australian tertiary institution the formation of an aviation human factors and medical research foundation. It is hoped that such a body could serve industry generally on matters relating to fatigue management, and also serve as a repository for data to support longitudinal studies on matters such as the impact of irregular shiftwork across multiple time zones.

Meanwhile, the day to day task of AIPA continues. With varying degrees of success, AIPA works with QANTAS to manage the rosters of aircrew, striving to make up for the deficiencies in CASA fatigue management regulations.

5. Ways to achieve greater responsibility by individuals, companies, and governments to reduce the problems related to fatigue in transport

Promote the development and implementation of fatigue management systems through well drafted legislation, the allocation of government funding, the elevation of pilot fatigue as an issue at ICAO, and the creation of a National independent body to manage fatigue under OH&S legislation

The Civil Aviation Safety Authority requires new applicants for an Air Operators Certificate (AOC) to acknowledge that the corporate body is directly accountable for fatigue management. It delivers a clear message to everyone from the Board of Directors down, that the whole organisation is accountable for fatigue management. This requirement should also apply to existing AOC holders and retraining should occur on a regular basis.

The Civil Aviation Safety Authority must draft fatigue management regulations for aviation, so that the physiological and psychological factors that contribute to fatigue, are effectively managed. This requires allocation of specific development funds to either CASA, or some other research organisation.

To avoid more delay in this CASA project of ten years standing, drafting priority is required.

The Federal government must ensure that aviation fatigue management regulations drafted by CASA to effectively manage the physiological and psychological factors that contribute to fatigue, are actually passed into law, and audited for compliance. It should not be possible for non-compliance to be economically more advantageous than compliance.

The Australian government representatives to ICAO must promote modern aviation fatigue management systems, so that fatigue will be managed on a consistent global basis, that includes foreign air carriers within Australia, alliance partners and code-share flights.

The Australian government must ensure that international aviation treaties do not dilute Australian aviation standards, including fatigue management, to that of the lowest common foreign denominator. This situation would arise where foreign standards regulating fatigue are inferior to Australian standards. The Single Aviation Market and the Trans Tasman Mutual Recognition Act, both involving Australia and New Zealand, provide immediate examples of regulatory disparity.

The Federal government should create an independent specialist body with appropriate powers and technical expertise, to provide a formal means for resolution of intractable disagreements that will arise in the implementation of fatigue management systems (See Attachment 1).

Encourage commercial organisations such as the International Air Transport Association (IATA) to adopt modern aviation fatigue management systems, so that fatigue will be managed on a consistent global basis, that includes foreign air carriers within Australia, alliance partners and code-share flights.

Encourage investigative organisations such as the Bureau of Air Safety Investigation, to incorporate modern fatigue audit systems into the accident investigation process.

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The Australian government representatives to the International Civil Aviation Organisation should encourage the incorporation of modern fatigue audit systems into the aviation accident investigation process.

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Attachment 1

Relevance and Application of OH&S Legislation in an Industrial Dispute

Anomalies exist in the application of state-based occupational health and safety laws in aviation. These anomalies arise from what appears to be jurisdictional confusion between state-based workplace health and safety laws and the federal authority of CASA in all matters related to air safety. These anomalies arise again in relation to the particular issue of resolving disputes related to Flight Time Limitation (FTL) scheme formulation.

Under s.97 of the WRA, the Australian Industrial Relations Commission (AIRC) will take into account the provisions of any law of a State or Territory relating to the safety, health and welfare of employees in relation to their employment, when determining an industrial dispute. However, s.97 does not specifically empower the AIRC with respect to those other laws. Indeed, there is a flaw in the legislation generally. In particular, in the case of flight crews employed by Qantas, the relevant OH&S legislation has no application outside NSW. Therefore, if a dispute were to arise between Qantas and its flight crew over the safety of particular patterns of flying outside NSW (for domestic patterns) or outside Australia (for international patterns), the OH&S legislation would have no relevance whatsoever and could not be taken into account even if the AIRC exercised its discretion to hear the matter as an exceptional matter.

It is clear that, in more than one way, matters to do with occupational health and safety in aviation “fall through the crack” between CASA’s federal regulatory powers and the workplace health and safety powers of state and territory “WorkCover” authorities. It may be that CASA already possesses powers to regulate on OH&S matters in aviation, but traditionally has tended not to do so.

This is a matter which may deserve much closer examination in some forum other than the present consideration of CASA’s proposal for operator formulation of FTL rules. That it might become a significant problem in the application of CASA’s proposal, however, indicates that it may be a subject deserving closer scrutiny in the present context as well.