Advancing the interests of our members and the profession

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By Email

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Dear Jason,

AIPA SUBMISSION ON PROPOSED CAO 48.1 INSTRUMENT 2019

The Australian and International Pilots' Association (AIPA) is the largest Association of professional airline pilots in Australia. We represent nearly all Qantas pilots and a significant percentage of pilots flying for the Qantas subsidiaries (including Jetstar Airways Pty Ltd). AIPA represents around 2,400 professional airline transport category flight crew and we are a key member of the International Federation of Airline Pilot Associations (IFALPA) which represents over 100,000 pilots in 100 countries.

Our membership places a very strong expectation of rational, risk and evidence-based safety behaviour on our government agencies and processes and we regard our participation in the work of the Australia's safety-related agencies as essential to ensuring that our policy makers get the best of independent safety and technical advice.

AIPA welcomes the opportunity to continue our involvement with CASA in trying to develop and implement an appropriate range of fatigue risk management options for the Australian aviation industry that places primacy on science over the commercial self-interest of operators.

GENERAL COMMENTS

The Hijacking of CASA's Commitment to Modernising Australia's fatigue rules

Following the making of CAO 48.1 Instrument 2013, Australia's professional pilots strove to have the Instrument disallowed in the Senate. Our drive for disallowance was not to stop change but rather to ensure that the proposed changes went to the required extent to achieve the best outcome in a system that has historically been "set and forget". CASA at that time was adamant that the 2013 Instrument was soundly based and that it would be implemented by 2016. The political ascendancy of the RAAA and their

subsequent influence within the CASA Board and with the Minister derailed that timetable and, despite the best efforts of CASA middle management, will probably continue to do so for the foreseeable future.

Ironically, we noted some three years ago that we were particularly frustrated by what appears to be a further watering-down of a scheme that we believe did not go far enough in the first place. Furthermore, we noted that there was no obvious motivation for the changes proposed in January 2016, some three months before the rules were to come into force, other than what appeared to be CASA timidity in the face of self-interested commercial and political pressure.

The AIPA and AFAP representatives in the CAO 48.1 TWGs have observed at first-hand how the development process is being used opportunistically to once again water down the provisions of the 2013 Instrument, this time even further than proposed in 2016. While the recommendations of the Independent Review of Aviation Fatigue Rules provided the impetus for the TWG effort, the reality is that very few of those recommendations justify the reductions in constraints which we now see in the draft instrument, for the most part championed by the RAAA and with the partisan support of the other operators.

The Independent Review

Excluding the excision of Part 137 aerial application operations, only three of the 24 recommendations could reasonably be considered to be catalysts for technical prescriptive changes. The TWGs and the current proposal represent prescriptive changes well beyond the simplistic recommendation of the Independent Review.

The Independent Review was quite specific in recommending only two technical rather than procedural prescriptive changes: Recommendation 3 on the infamous "averaging" of FTLs; and Recommendation 12 on FDP extensions. The absence of other recommendations must be taken as demonstrable support for the general structure and provisions of the prescriptive rules – it most certainly is not a mandate for widespread dilution of safety-based provisions as has occurred in some areas.

AIPA considers Recommendation 3 and the attendant rationale to be the epitome of the failure of the Independent Review to provide real evidence of a considered scientific examination of the technical design and outcomes of the 2013 Instrument. In essence, the complexities and interdependencies of a prescriptive legislative scheme for fatigue risk management were largely reduced to "averaging" other jurisdictions attempts at resolving the same problem for two pilot acclimatised FTLs, while studiously ignoring all other mitigations and defences contained within those schemes. Most importantly, this almost risible outcome totally ignored the politics, the compromises and the self-interest that pervaded each of the selected jurisdiction's legislative process, despite the available evidence in the public domain.

Given the flaws long-identified in the SIEs, most of which were specifically remedied by CASA in designing the 2013 Instrument, those clearly discredited SIEs should never have been allowed to distort jurisdictional comparisons as is evident from the Independent Review's report. Similarly, the FDP limits quoted for FAR 117 do not represent equivalent outcomes to be compared with other schemes – the flight time limits mean that many FDP limits are practically unattainable in typical public transport situations. Merely quoting EASA limits also hides the practical constraints attendant upon the management of extensions, night duties, disruptive schedules and the requirement for each operator's fatigue management arrangements to be specifically approved by the relevant authority.

The TWG Process

The CAO 48.1 TWG was always going to be the most contentious of all of the TWGs. The TWG process relies almost entirely on achieving a level of consensus among participants. Nothing exposes the philosophical dichotomy between operators and flight crew more than the management of fatigue risk. While some senior managers within CASA have difficulty regardless of their statutory role in recognising the differences between economic, industrial and genuine safety perspectives, operators rarely see past productivity considerations or their natural suspicion of the flight crew view of fatigue as a workplace health and safety issue.

Despite the best efforts of the CASA middle managers involved in the TWG, for whom AIPA has only praise and sympathy given the politics of this issue, the voices in the room can never properly represent the different perspectives. While there can and have been many pragmatic compromises, silence in some circumstances can be mistaken for consensus rather than a desire to step past a roadblock to further the agenda on other issues.

Importantly, the TWG outcome cannot be a simple vote by headcount where the competing interests are not equally represented. AIPA believes that this fundamental problem is highlighted by the commonly reported phrase "the TWG reached general consensus with dissenting views" – this tautological construct often described the situation where 10 operator representatives agreed on something that the two pilot representatives implacably opposed.

Notwithstanding those characteristics, AIPA believes that the TWGs are a useful process and serve a practical purpose that is capable of surviving beyond the immediate rule-making process.

One of the seminal but unfortunate outcomes of this TWG process as the "back to the past" agenda revealed itself has been to emphasise the fundamental flaw in regulatory design: building the 2013 Instrument on the skeleton of the SIEs and enshrining the wilful ignorance of the effects of WOCL infringement in favour of preserving unrestricted early starts.

Starting in the Wrong Place

The SIEs were developed in the shadow of the politico-economic environment that prevailed during the 1989 Pilots Dispute and microeconomic reform was the order of the day in the "new" CAA. While modelled on the UKCAA's CAP 371, which was developed and maintained by an active, research funding regulator, the Australian regulators changed a number of fundamental features of that publication in designing the SIEs.

In stark contrast to the UKCAA, the then-CAA had absolutely no scientific basis to change the selection of start times, the separation of single sectors to allow the control of excessive two-pilot flight times or the FDP limits. Despite accepting industry advice that repetitive night operations required further constraint, repetitive early starts to allow unlimited post-curfew starts went unregulated and without the controls outlined in CAP 371. All relevant SIE limits were structured around a penalty-free 0500 sign-on as being normal.

The 2013 Instrument, despite its many regulatory improvements, was still designed around maintaining that fundamental, WOCL-encroaching flaw. In particular, the prime recuperative mechanism of a local night's rest is not legally constructed to include an eight hour sleep opportunity and, more critically, can end during rather than after the WOCL. Given that most operators roster for compliance as distinct from managing

fatigue risk, those two characteristics nullify the local night concept as a sleep recovery mechanism. The proposed 2019 Instrument maintains the same structural flaws.

The Mandate for Change

AIPA recognises that CASA has produced the draft 2019 Instrument in good faith as a consequence of the TWG process. While that process has involved more unwinding than tightening of constraints, well beyond those recommended by the Independent Review, further consideration must be given to constraining the effects of repetitive use of FTLs that are primarily single day designs. While the TWG demonstrated the complexity of regulating for all scenarios, AIPA is concerned that relegating the issue to future guidance material similar to CAAP 48-01 will not prove to be effective or sufficient.

Separately, one of the few good things that the SIEs introduced was duty time factoring for simulator training and training flights (excluding line training and line checks) in Parts II and III. Unfortunately, that was removed from the 2013 Instrument without satisfactory explanation. Subsequent amendments to the 2013 Instrument specifically exclude any application to training conducted in 'flight simulation training device', the Part 61 catch-all definition that bundles flight simulators with all manner of synthetic training devices. We believe that training and checking in a flight simulator is a special case that should not be excluded.

AIPA believes that the SIE duty time factoring was an appropriate response to the fatigue-inducing consequences of those much higher intensity events compared to normal aircraft operations.

AIPA is aware of a number of operators who "game" the system by treating simulator training and checking as simple ground duties, particularly where overseas simulators are utilised, for which there are no constraints on positioning time, conducting checks immediately after positioning or on minimum rest before commencing a flight duty after trans-meridian positioning. Traditionally, such simulator checks are not considered a flight safety issue per se, but this should not be allowed to obscure what clearly can generate fatigue-related risks that must be managed.

AIPA notes that the proposed 2019 Instrument has a nexus between synthetic training device time and sector count, but the Instrument is silent on how that sector count is to be applied. We believe that the fatigue risk management framework would be immeasurably strengthened if the Instrument was to require all simulator training and checking was to be rostered in all respects as if it was an FDP and if the original duty time factoring provision was effectively reinstated.

Rostering Complexities

Many of the changes proposed at the TWG and some of those that CASA has adopted are characterised by operators' desires to simplify the rostering task by removing as many variables as possible. They are cost saving measures rather than safety-based changes.

AIPA supports simplification of the rules where it can be shown that there is no safety impact. However, the available science shows that fatigue risk management is a multi-variate problem with significant interdependencies, not all of which are fully understood. Although we have no interest in unnecessary complexity, previous simplistic systems have provided evidence of many undesirable outcomes, whether through poor rulemaking or poor application. Even well-developed prescriptive schemes provide inadequate protection in certain circumstances, a point reinforced by John McCormick (then DAS/CEO) in regard to the 2013 Instrument but apparently lost on some operators since.

On the other hand, operators proposing to remove certain existing provisions need to be very clear whether their objections are based on actual rostering complexity or just on what they see as unnecessary productivity constraints. Appendix 1 in its original form was intended to ameliorate complexity – CASA basically undid that simple solution by widening its application to overlap with Appendices 2 and 3. Otherwise, complexity can be handled by properly written and tested rostering software. In the case of unnecessary productivity constraints, the FRMS option provides the pathway to a controlled and measured assessment to reducing such constraints while providing appropriate evidence for future change.

Most critically, conservatism in fatigue risk management is a sensible and rational outcome, whereas random exploration of fatigue risk boundaries is not. CASA and the aviation safety legislation it produces exist entirely because history has shown that aviation economics rarely result in rational outcomes.

Disruptive schedule management

Arguably, this is one of the topics that terrify operators the most. While specifically addressed later, we raise it here as a follow-on to the preceding complexity argument. It differs to the extent that some of our proposals will introduce complexity and undoubted disruption to the *status quo*. However, the inevitable resistance from operators to those proposals highlights some general issues that must be considered.

The statement on page 10 of the SPC that:

> Some (TWG) members expressed concern that current rosters could not be achieved with the proposed rules and that the rules might drive schedule optimisers to generate alternating early/late patterns which are acknowledged as generating fatigue reports

quite starkly highlights two issues: first, the extent to which rosters have been built to the extremities of existing prescriptive limits; and second, the often unchecked output of computerised roster optimisers designed as mathematical rather than human problem-solvers.

Existing rosters

Rosters built under existing rules are constructed under FTL schemes that are almost universally acknowledged to be lacking in appropriate science and often inducing unnecessary fatigue risk. Unfortunately, the organisational culture within the organisation most loudly demanding retention of the *status quo* is such that there is little data on the extent of that risk. Once again, AIPA must reiterate that an absence of accidents or serious incidents is not evidence of an absence of inadequately mitigated risk. The recent ATSB report confirms that the risks are real and CASA is duty bound to act to produce the best rather than the most convenient FTL scheme.

Optimisers

Human resource management skills are rarely prerequisites for the systems analysts and designers who write rostering software. AIPA is concerned to hear so many well-sourced stories about the bizarre outcomes produced by rostering optimisers, some of which have been trapped by vigilant supervisors but many more that have been accepted as reasonable by other managers lacking the necessary fatigue risk management knowledge and skills or irrationally believing that the software would not produce a fatiguing outcome. Most occur through inadequate scrutiny of the purported 'optimised' solution.

AIPA is most concerned that these behaviours demonstrate that safety through fatigue risk management is far from the highest priority among industry participants. CASA needs to be very careful that its chosen regulatory approach, whether in standards development, implementation or enforcement does not contribute to unnecessary and inadequately mitigated fatigue risk or an otherwise avoidable accident or serious incident.

Compliance and enforcement

Historically, CASA has been a most reluctant regulator of fatigue management issues. The recent Hayne Royal Commission has amply demonstrated the extent to which organisations are emboldened to pursue their commercial objectives above all else when faced with insipid and timid regulators. Similarly inappropriate cultural outcomes have been present in Australian aviation for decades and for the same reasons: either "we won't get caught", "complaints are never followed up" or "we are too big to fail".

AIPA suggests that there should be clear public advice on how CASA intends to ensure continuing compliance with relevant prescriptive or FRMS requirements and whether those requirements will be treated in the same way from an enforcement perspective. Of equal importance, will all operators be treated in the same way, regardless of size and complexity of operations?

SPECIFIC COMMENTS ON CD 1811OS

Maximum flight duty periods

> **CASA Action 3-1:** CASA will amend the prescriptive flight duty period limits in Appendices 2 and 3 in accordance with Table 1 and provide a single flight time limit for each Appendix in accordance with Table 2.

FDP limits for one and two sector days

AIPA strongly recommends that CASA specifically acknowledge that the maximum FDP limits quoted for single sectors in the proposed Table 2.1 in Appendices 2 and 3 are predominantly an artifice for construction of the FDP table and are not sufficient mitigators for two FCM long range operations.

AIPA rejects the proposed duty limits as suitable for single sector operations under any circumstances. Given pilot feedback from the European experience, we are not convinced that the proposed limits are more sustainable for two sector operations, particularly where the sector lengths are overly disparate.

The rationale offered on page 3 of the SPC is both erroneous and fallacious. The proposed maximum FDP limits increase by 1.5 hours at 0500, not one hour as stated, and "the improving opportunity to achieve sleep prior to the duty" completely ignores the fact that the start time is within the WOCL, with a wake-up time even more so. In our view, there is no sustainable justification to vary the 2013 Instrument limit of 11 hours for start times in the 0500-0559 window, other than to reduce it.

There is no point in making a distinction between 2300-2359 and 000-0459, given that the proposed FDPs are identical.

FDP limits for more than two sector days

The proposed Table 2.1 in Appendices 2 and 3 reflect two significant RAAA-driven changes that AIPA rejects as not scientifically-based and not reflective of best practise elsewhere: first, treating FDPs of one, two and three sectors as creating equal risk; and

second, not distinguishing the differences in fatigue generation between duty and flight time.

Although flight time limits are specifically addressed in the next consultation section, AIPA urges CASA not to be misled into regulating FDPs predominantly on a 'time at work' basis rather than giving appropriate recognition to the 'type of work' as another important variable. The real irony for the RAAA approach is that every best-practice FTL scheme uses sector count as a basis for fatigue risk mitigation by reducing available duty time, based on the notion that each additional take-off, approach and landing accelerates fatigue generation beyond that otherwise due to merely being at work.

Sector Count as a Risk Mitigator

CASA has made a serious error in adopting the unsupported proposition that FDPs of one, two and three sectors are of equal fatigue risk. Arguably, it began that error chain when it adopted a single limit for one and two sectors in first developing the SIEs, which other jurisdictions subsequently but not necessarily independently adopted.

The proposal to begin the FDP reductions after three sectors is unacceptable.

CAP 371, upon which the SIEs were based, reduced the permissible FDP by 45 minutes uniformly from that for a single sector. The panel of scientists contracted by EASA unequivocally stated in the Moebius Report that the maximum FDP should be reduced by 30 minutes per sector for every sector after the first. AIPA is unaware of any scientific advice that challenges those views.

AIPA's recommendation of 30 minute reductions per sector was **not** based on treating one, two and three sector duty allocations as of equal fatigue risk. Our preferred starting point for the reductions is after the first sector, but with suitable protections for two crew long range operations as originally envisaged in CAP 371, we would accept the reductions beginning after the second sector.

The suggested linearity of FDP reductions was only ever a compromise that was entirely dependent upon the starting point. In reality, we expect the fatigue generation of multiple sectors to increase much more as the sector count grows. As proposed, the permissible FDPs for six and seven sector days are too long, even under ideal conditions.

While we expect high sector counts to be less frequent, like EASA we believe that such operations should be subject to greater scrutiny. Subject to advice on how many operations would be affected, AIPA suggests that CASA should consider whether seven or more sectors per day might only be permitted under an FRMS.

Does this proposal achieve the intended Action 3-1?

X some change/s required (please specify below)

Are there additional factors that CASA should consider in implementing this change?

1. Retain the Maximum FDPs for 1-2 sectors

2. Commence the 30 minutes FDP reductions for every sector after two

3. Consider limiting more than six sector days to FRMS operations only

Flight time limits

> **CASA Action 3-1:** CASA will amend the prescriptive flight duty period limits in Appendices 2 and 3 in accordance with Table 1 and provide a single flight time limit for each Appendix in accordance with Table 2.

As noted earlier, AIPA considers Recommendation 3 and the attendant rationale to be the epitome of the failure of the Independent Review to provide real evidence of a considered scientific examination of the technical design and outcomes of the 2013 Instrument. Nonetheless, nothing in the Review report recommends reverting to single flight time limits or abandoning flight time as a fatigue management parameter.

Flight Time as a Fatigue Generator

In the TWG, the RAAA, opportunistically supported by the operator representatives, argued to remove flight time controls as a risk mitigator on the specious basis that time awake and time at work were the only necessary controls. Parallels were drawn with the rail and road transport industries despite the Independent Review specifically rejecting the validity of such comparisons.

AIPA suggests that even the road safety legislation recognises that the mental and physical demands of heavy vehicle driving are sufficiently greater than generally experienced by the general population and consequently imposes drive time limitations on commercial drivers. Despite the operator complacency encouraged by our generally benign domestic weather and increasing aircraft automation, the ubiquitous international interest in managing fatigue risk in aviation suggest to us that few other responsible aviation industry participants consider flying aircraft generally, or in difficult and stressful circumstances in particular, to be no more fatigue inducing than another day in the office.

Single Flight Time Limits

The FAA imposes flight time limits of 9 hours between the hours of 0500 - 1959 or 8 hours otherwise, based on cited research. Often overlooked by casual readers, the UKCAA's CAP 371 had extensive provisions that specifically limited sector length within its broader duty time limits. The UKCAA approach was to consider a sector scheduled for more than seven hours as a multi-sector flight equivalent to two, three or four sectors with the relevant FDP reductions. This approach has the advantage of restricting various sector combinations designed to otherwise "optimise" the available FDPs. While the EU chose not to impose daily flight time limits, they also ignored their own scientific advice to provide tighter limits on duty time.

The real irony in the RAAA TWG position is that every FTL scheme uses sector count as a basis for fatigue risk mitigation by reducing available duty time, based on the notion that each additional take-off, approach and landing accelerates fatigue generation beyond that otherwise due to being at work. The real issue is whether FDP limits are sufficient mitigators without additional flight time limits where in-flight rest is not available.

AIPA rejects the simplistic view that FDP limits alone are sufficient. Even the highly regarded UKCAA included a specific section in CAP 371 that provided additional limits for "Two Flight Crew Long Range Operations"

At the same time, the SIEs showed quite clearly that single flight time limits are a nonsense. Obviously, there are many multi-sector days where the FDP is less than the maximum permitted flight time – a logical *non sequitur* when the flight time activities for each successive sector are universally acknowledged as fatigue-inducing. Moreover, there was no scientific basis for the SIEs allowing two-crew single sector flights of 10.5 hours provided that no more than seven hours of the flight were conducted in darkness.

EASA specifically requires that pre- and post-flight duty times are to be specified and, as was the case with the UKCAA, ensures that they are realistic. CASA, on the other hand, has never been an active fatigue risk management regulator and the SIEs were regularly "gamed" by operators using unrealistic sign-on/turnaround/sign-off periods to maximise available flight time, aided and abetted by compliant, helpful and greedy pilots. The inclusion of flight time limits as a fatigue controlling variable in the design of the 2013 Instrument effectively constrained participants to more effectively managing risk and AIPA is disappointed that CASA has so easily abandoned their own best practice with these proposed changes.

Two crew single sector limits

A two crew single sector universal limit of 10.5 hours flight time, regardless of start time, is both excessive and reckless. Very few of the proponents of these changes have ever flown and even fewer have experienced these sorts of sectors, particularly given the security-based limitations on trying to gain some physical relief from the strains of prolonged operations in confined spaces.

AIPA considers the proposal to remove flight time limitations altogether as well as the proposed single sector limit unacceptable.

Our preference is for the flight time limits to be reinstated with the same relativities and the same upper limit of 10 hours as for the original 2013 Instrument. Given the science in general, as well as the emphasis on ensuring that FRMS is scalable and practical, CASA must stand firm on providing flight time limits for the same reasons originally espoused and defended.

In any event, CASA should adopt the more active stance of the UKCAA and EASA, by requiring operators to demonstrate by way of a Precision Timing Schedule that the pre-flight, turnaround and post-flight times specified in their exposition are appropriate to each particular operation or are sufficiently conservative so as to be applied more generally.

Does this proposal achieve the intended Action 3-1?

X no (please specify below)

Are there additional factors that CASA should consider in implementing this change?

1. Retain maximum flight time limits for all sector and start time combinations
2. Retain the flight time vs FDP relativities from the 2013 Instrument
3. Require operators to specify demonstrated pre-flight, turnaround and post-flight times in their exposition

Augmented crew limits

The statement at the bottom of page 7 of the SPC that FDPs in excess of 18 hours require specific risk mitigation within a CASA approved FRMS will be addressed later as a separate topic under Ultra-long Range (ULR) operations. Despite acknowledging what must be done, AIPA considers that CASA is being derelict by not specifying how, when and where within the FRMS that the essential 'specific risk mitigation' must appear.

CASA Action 25-5: CASA will review augmented crew flight duty limits and seek Technical Working Group feedback. Following feedback, amendments to the augmented crew limits may be proposed.

Sleep Pressure

There is ample scientific evidence going back to the 1990s that recognises that, in the absence of drugs, people do not sleep when there is no biological readiness for sleep. While the SPC suggests that FCMs can plan their sleep pre-flight, that approach is problematic. It is not clear which FCMs CASA suggests should sign-on sufficiently fatigued to be able to sleep immediately after top of climb, even if that compromises their usefulness in the event of an earlier emergency or the Captain's discretion to operationally determine the allocation of in-flight rest.

In any event, the original 2013 Instrument tables reflected that start time was an important factor for all FCMs that could not be offset by the presence of an in-flight rest option. No valid scientific argument has been proposed by either the operators or CASA to abandon CASA's earlier approach to this issue.

Other Regulators

The FAA retained start time as a controlling variable for augmented FDPs, despite EASA earlier opting for a single limit. It should be noted that the EASA approach has been strongly criticised by European pilots yet it is more conservative in part than the CASA proposal. AIPA does not accept the EASA explanation that in-flight sleep attained during the WOCL would be more recuperative than otherwise, thus offsetting the other effects of FDPs that encroach the WOCL. Only one of two or two of four FCMs could benefit from that particular period of in-flight rest and then only if it was uninterrupted and aligned with their current state of acclimatisation. Of course, depending upon the operator's choice of crew composition, that benefit would not generally extend to both landing FCMs (as is the problem in Australia).

Quality of in-flight rest

CASA needs to get serious about setting and maintaining standards for crew rest facilities, rather than allowing operators to self-regulate according to their "business needs". There are plenty of real world examples of sub-standard facilities, some of which are due to inadequate design and many due to inadequate control of the surrounding cabin environment. Importantly, the external environment effects such as airflow noise and turbulence can also prevent the FCM from gaining all of the benefits of in-flight rest.

Increasing unacclimatised FCM duty limits

AIPA does not support treating acclimatised and non-acclimatised augmented crews equally. We are unaware of any evidence that in-flight rest is sufficiently beneficial in all of its various guises to offset the risks associated with FCMs in an unknown state of acclimatisation and to magically transform them into acclimatised FCMs, at least for the duration of that particular flight, as if they had otherwise satisfied the requirements of Section 7 of the Instrument. It is particularly noteworthy that the TNO report which underpins most augmented crew regulations is very clear in distinguishing the reduced extensions available to unacclimatised FCMs. That same report is also very clear that it excludes consideration of ULR operations

We consider the unsupported proposal to abandon the principle underlying Table 5.2 to be unacceptable.

Class 3 rest facilities

AIPA maintains that both the 2013 and 2019 Instruments overstate the benefit of so-called Class 3 facilities. While "fit for purpose" could be a powerful regulatory principle, it could also be a conveniently vague excuse to allow completely inadequate facilities. Nothing highlights that credibility risk more than the risible CASA suggestion that "restorative rest" can be achieved in a cockpit environment.

The accepted principle for augmentation is that of an extension of the baseline FDP as a consequence of presumed but achievable rest in a facility that is truly 'fit for purpose' in gaining sleep. While it may be convenient to compare permissible FDPs with those published by EASA, it should be noted that EASA goes substantially beyond the CASA Class 3 definition to also require the seat to be "separated from passengers by at least a curtain to provide darkness and some sound mitigation, and is not adjacent to any seat occupied by passengers". In any event, we reject the notion that current offerings that supposedly meet CASA's Class 3 requirements provide any restorative rest at all, instead merely pausing rather than preventing the onset of fatigue.

Notwithstanding the justifiable misalignment of the 1100-1559 WOCL encroachment division with the other Table 2.1 baseline divisions, the other proposed divisions should match the baseline divisions that they extend.

The proposed FDP limits represent Class 3 extensions over the baseline one and two sector unaugmented limits in some cases of two and three hours for +1 and +2 FCMs respectively. The original TNO report recommended that those extensions would only be the order of 45 and 75 minutes respectively, a substantial difference from the proposed extensions for which no scientific evidence has been presented to justify CASA's position.

AIPA considers the proposed benefits for Class 3 rest facilities to be significantly overstated and therefore unacceptable due to the risk of unmitigated fatigue.

Does this proposal achieve the intended Action 25-5?

X no (please specify below)

Are there additional factors that CASA should consider in implementing this change?

1. Retain start time as a controlling variable as per the 2013 Instrument
2. Retain Table 5.1 from the 2013 Instrument
3. Establish and maintain proper crew rest standards rather than rely solely on the brief definitions in the Instruments

Disruptive schedule management

Although Actions 25-6 and 25-11 are presented sequentially, the key to the first action is properly defining and then taking into account the second. For simplicity, we will discuss Action 25-11 first.

CASA Action 25-11: Window of circadian low definition

CASA will consider whether there is benefit in explicitly defining a window of circadian low and seek Technical Working Group feedback.

Some Technical Working Group members suggested a definition of 0200-0600. There was no consensus on the need for a definition, the associated time period or the additional mitigations that should be associated with the definition.

Defining the WOCL

AIPA has long asserted the position that the correct WOCL definition is essential to any fatigue risk management scheme, whether prescriptive or systematic. CASA originally sought to define the WOCL as 0300-0500 in order to pretend to respect the science while doing everything to protect the unlimited 0500 starts permitted under the SIEs. Although mentioned in CAAP 48-01, the WOCL was not acknowledged at all in the 2013 Instrument. We have no doubt that the exclusion was solely because a properly defined WOCL was the antithesis of the preserved remnants of the SIEs intended to maximise operations from curfew constrained airports.

Despite a brief hiccup, ICAO has confirmed its definition of the WOCL as 0200-0600. Both EASA and the FAA agree.

In our very strong view, CASA has no defensible alternative to adopting the internationally accepted definition of the WOCL and assiduously dealing with the structural deficiencies in the Instruments that the concept reveals as inappropriately regulated.

CASA Action 25-6: Review consecutive early starts

CASA will develop additional mitigations to deal with consecutive early starts using the approach in CAO 48.0 as a starting point and seek Technical Working Group feedback. Following feedback, amendments to the rules may be proposed.

While Actions 25-6 relates specifically to consecutive early starts, it more properly must relate to WOCL-encroaching duties such as those commonly referred to as early starts, late finishes and late night operations. However, while CASA has attempted to achieve that broader objective, the end result is an unacceptable increase in disruptive schedules.

Late Night Operations (LNO)

The LNO provisions in the SIEs were modelled on the CAP 371 Late Finishes/Early Starts restrictions. The SIE outcome was a fairly gross simplification of a very sophisticated scheme to combat cumulative fatigue that was based on the proposition that:

> …not more than **3 consecutive duties** that occur in any part of the period **0100 to 0659 hours local time** can be undertaken, nor may there be more than 4 such duties in any 7 consecutive days. Any run of consecutive duties (Late Finishes or Nights or Early Starts) can only be broken by a period of not less than 34 consecutive hours free from such duties. This 34 consecutive hours may include a duty that is not an Early, Late or Night duty. [emphasis added]

The FAA has also adopted three consecutive FDPs that infringe on the WOCL as its basic limit. Both agencies permitted more than three consecutive FDPs with either increased rest requirements or significant reductions in available duty time, or both.

The SIE LNO provisions do not adequately mitigate cumulative fatigue, even when the 40 hour duty limit is applicable. For an average four sector night freight operation, the LNO limits over four consecutive nights represents a reduction of 20 hours from the seven day duty time limit and restrict other assignments. The 2013 Instrument removed the need for that particular limit because the relevant night FDP limits only permitted 36 hours of duty in the same circumstances.

However, the proposed 2019 Instrument undoes that good work by inappropriate changes that remove the four duty LNO limit while increasing the FDP limits. Allowing additional duties where they were previously prohibited makes the proposed FDP reductions for the additional duties completely irrelevant.

AIPA considers the removal of the LNO provisions as proposed to be unacceptable. The definition remains relevant and the restrictions should be no less restrictive than those introduced in the SIEs. Our strong preference is that the CAP 371 model should be revisited as part of a holistic consideration of disruptive schedules.

Defining "Local Night"

The original CAO 48.1 included the concept of protecting a core group of hours at night of 2200-0600 generally and at least once in seven days specifically. Disrupting that rest period invoked a range of additional rest requirements. CAP 371 included a definition of 'local night' as a period of eight hours falling between 2200 and 0800 hours local time.

Unfortunately, neither of those essentially similar concepts suited the narrative for the development of the SIEs to include penalty-free 0500 start times. The SIEs used the term 'local night' without defining it, but it was used contextually as "starting no later than 2200 local, and finishing not earlier than 0500". Disregarding for the moment that starting a duty at 0600 will more often than not involve waking during the WOCL, the removal of that extra hour under the SIEs guaranteed that to be the case.

The 2013 Instrument imported those reduced hours, the consequences of which AIPA highlighted in our Disallowance Brief to the Senate. We also noted at the time that both the FAA and EASA provide for 6:00 a.m. as the earliest end of 'night' in these circumstances and EASA provides further limits for 'early starts' in the period between 5:00 and 6:00 a.m. Since then, the FAA introduced FAR 117 which now uses the term "physiological night's rest" to mean **ten** hours of rest that encompasses the hours of 0100 and **0700**. Presumably, it is not a coincidence that those core hours at the very least provide one hour buffers on the WOCL whilst also providing an eight hour sleep opportunity – glaring deficiencies in the CASA proposals.

AIPA considers it incomprehensible that CASA proposes to perpetuate the 2013 Instrument definitional error by retaining it in the 2019 Instrument while in the full knowledge that the concept of a local night's sleep is a core recuperative and adaptive concept relying on uninterrupted sleep through the WOCL. It is an absolute travesty to continue the myth that ending a 'local night' with a 0500 sign-on does not diminish its presumed recuperative benefits.

AIPA considers that the more traditional Australian local night start time is preferable to the potential FAA worst case start time. We therefore strongly recommend that the following definition is adopted:

> **local night** means a period of 10 consecutive hours which includes the hours between 2200 and 0659 local time at the location where the FCM is acclimatised

Late Finishes

'Late finishes' would become those flights that end after 2200 and before 2330, the main consequence of which would be that any 'local night' rest requirement could not be satisfied

Early Starts

'Early Starts' would be defines as those FDPs that bridge the gap between LNOs and the earliest end of a 'local night'/end of WOCL plus one hour:

> **early start duty** means an operation where an FDP has a start time between the hours of 0500 and 0659 local time at the location where the FCM is acclimatised.

While FDP limits are reduced for start times that involve the WOCL being encroached, those reductions are based on single duty rostering to mitigate transient fatigue and are insufficient to cater for cumulative fatigue due to repetitive duties such as consecutive early starts. Additional mitigators are required.

The FAA approach is straightforward: in the absence of mid-duty rest facilities, no FCM may accept more than three consecutive FDPs that infringe on the WOCL. On the other hand, the UKCAA set a similar basic rule of no more than three consecutive FDPs and no more than four such duties in any seven consecutive days, but then allowed for up to five consecutive early starts with a further reduction in FDP limits and increased rest before and after the block of duties.

The CAP 371 approach of slowing down the accumulation of fatigue by requiring more rest before and after the premeditated sequence of shorter FDPs seems preferable to delaying the reductions until nearing the end of the sequence, as proposed. As we noted above for LNOs, AIPA's strong preference is that the CAP 371 model should be revisited as part of a holistic consideration of disruptive schedules rather than trying to reinvent the wheel.

Transitions

AIPA does not agree that transitional arrangements involving either the start or end of disruptive duties can be left to Guidance Material and the best efforts of operators. The evidence already available shows that proper fatigue management is a distant second to operators' commercial imperatives and that CASA has been either oblivious to or has condoned the outcomes. Nothing has been presented publicly thus far that evens suggests a miraculous shift in operators' attitude from compliance to managing real risk or that CASA might actually regulate some of those behaviours.

We therefore recommend a return to the CAP 371 approach, where the overall management of disruptive schedules (including transitions) includes legislated additional rest before and after the disruptive sequences. The definition of 'local night' is critical to the arrangements in order to gain recuperative sleep.

The UKCAA provided a range of options that were clearly matched to common UK scheduling patterns – there is no apparent reason why a similar range of options could not be determined for Australian operations, noting that FRMS always remains as an alternative approach if the legislated options don't work for certain operators.

Does this proposal achieve the intended Actions 25-6 and 25-11?

X no (for Action 25-6)

X yes (for Action 25-11)

Are there additional factors that CASA should consider in implementing this change?

1. Retain LNO definition and restrictions, ensuring that the restrictions are no less restrictive than those introduced in the SIEs.
2. Properly define 'local night' so that it actually provides a physiological night's rest – it must not end before 0659
3. Define 'late finishes' to capture that part of a local night that precedes a LNO
4. Define "early start" to capture that part of a local night that succeeds a LNO
5. Adapt the CAP 371 model to provide holistic management of disruptive schedules/WOCL infringements
6. Define the WOCL as 0200-0600 as proposed

Standby

CASA Action 25-13: Standby

CASA will review the management of standby under CAO 48.1 and seek Technical Working Group feedback on any proposed changes to the rules.

AIPA has previously registered our deep concerns about the preservation of the old SIE Standby provisions in the 2013 Instrument. Adopting the FAA FAR 117 'short call reserve' provisions satisfies the concerns that we previously raised.

Does this proposal achieve the intended Action 25-13?

X yes

Are there additional factors that CASA should consider in implementing this change?

No – AIPA considers this approach to be appropriate for Appendices 2 and 3

Reassignment

CASA Action 12-1:

CASA will replace the 4 hour limit in subclause 7.1 of Appendix 2 with a requirement for explicit acknowledgement that flight crew are sufficiently rested before re-assigning a longer flight duty period.

AIPA accepts that reassignment is a fact of operational life and FCMs should ensure that their preparation for an FDP is adequate to cater for unforeseen operational requirements, up to but not exceeding the maximum permissible FDP (including extensions) appropriate to the originally schedules start time.

The original notes in the 2013 Instrument relating to Clause 13 *Limit on late night operations* need to be reinstated for reassigned FDPs.

Extensions

In the context of extensions that convert a FDP into a LNO, AIPA remains unconvinced that using an extension justifies an exemption from the LNO limits as Clause 13 of Appendix 2 and Clause 11 of Appendix 3 of the 2013 Instrument first allowed. This is particularly the case given that, unlike other regulators, CASA places no limits on the use of extensions and previously has demonstrated no interest in monitoring them. In our view, if a duty falls within the definition of LNO, it is irrelevant how that duty eventuated.

Separately, AIPA recommends a note be added at the end of paragraph 7.3 cross-referencing the records requirements of subparagraph 14.6(d) of the Instrument.

Does this proposal achieve the intended Action 12-1?

X yes

Are there additional factors that CASA should consider in implementing this change?

1. Clause 7 includes extensions as well as reassignment. The reinstatement of LNOs as part of a holistic approach to disruptive schedules requires review of the old Clause 13 exemption that protected extensions from becoming LNOs

Fatigue risk management systems

Change management

CASA Action 5-1:

CASA will incorporate an FRMS change management process based on the draft Part 119 of CASR significant change process.

While the proposed changes are largely uncontroversial machinery changes designed to reduce the level of prescription, AIPA considers that subparagraph 7.1(c) is a poor substitute for the duty imposed on the AOC holder by paragraph 7.6 of Appendix 7 to the 2013 Instrument.

As a consequence of the Independent Review being 'sold a pup' on the so-called excessive prescription and legalese in Appendix 7, CASA has retreated even further from adequately legislating on FRMS. Unlike the broader circumstances of Part 119, the direct workplace health and personal safety as well as the public safety consequences of flight crew fatigue means that FRMS cannot be solely an opaque regulator-operator deal done behind closed doors – clearly, the 'FRMS change management' process should not be either. Accordingly, while noting the agreed need for FRMS scalability, AIPA considers that change management must mandatorily require a recommendation from the FSAG (or equivalent arrangement).

Does this proposal achieve the intended Action 5-1?

X some change/s required

Are there additional factors that CASA should consider in implementing this change?

1. The FRMS change management process must mandatorily require a recommendation from the FSAG

Tone and Language

CASA Action 6-1:

CASA will improve the distinction between legal requirements, guidance material and acceptable means of compliance in CAO 48.1 and supporting guidance material.

While AIPA agreed with the original recommendation in principle, we didn't think that there was much wrong in the first place. Expressing concern that prescriptive regulations are too prescriptive seems a little precious, given the intended relationship between prescriptive rules and FRMS.

However, there is a big difference between the language and actually modifying the Appendix to remove procedural requirements. As a small example, AIPA would normally expect the training programs called for in paragraph 6.2(a) to be presented as initial and recurrent packages, suitably encapsulated by the adverb 'regularly'. Does CASA actually intend that a one-off training package will achieve the original aim?

Does this proposal achieve the intended Action 6-1?

X yes

Aerial Application

CASA Action 8-1:

CASA intends to incorporate the intent of CASA EX92/16 – Exemption CAO 48.1 Instrument 2013 – aerial application operations (in aeroplanes) into an amended CAO 48.1.

AIPA agreed, perhaps mistakenly, with the original recommendation – we were agnostic about how fatigue in aerial application was managed given the historical regulatory approach to the AAAA's management of that industry sector. In any event, despite the fact that the Independent Review could not reasonably be characterised as being expert in legal and regulatory frameworks, CASA nonetheless agreed to treat one operational part of the CASRs differently from all of the others. The proposed Clause 11 gives effect to that decision.

In hindsight, however, the question arises as to the overarching regulatory philosophy that permits a particular industry sector to be exempted from what is essentially an omnibus rule for fatigue risk management across the whole industry. Similarly, what distinguishes Part 137 from the other operational parts, such that it should contain its own fatigue risk management arrangements?

Does this proposal achieve the intended Action 8-1?

X yes

Shared responsibility

CASA Action 9-1:

CASA will update the CAO to reflect the dual responsibility provisions in the consultation draft of Part 91 of CASR.

AIPA did not agree with the original recommendation. We said:

> AIPA does not accept the Review team's interpretation of this issue. We consider these provisions to cater for exceptional circumstances rather than the normal working arrangements and we further believe that these provisions relate to the shared responsibility between operators and pilots to manage fatigue. Nothing in the CAAP requires the operator to do anything other than assess the hazard inherent in any abnormal circumstances reported to them by the pilot. The consideration of locational issues and private flying form part of most operators' contractual requirements for their pilots and dealing with such issues is normal good management practice.
>
> None of the provisions "hold operators accountable for crew lifestyle factors and circumstances outside of their control and on which they are unable to collect or monitor any data" – AIPA considers this to be an unfortunate exaggeration.
>
> **AIPA also believes that the Review team is either naïve or disingenuous in regard to their emphasis on the pilot fitness requirement: first, it de-emphasises the shared responsibility model; and second, it ignores the real world commercial pressures that are placed on pilot by operators to work when their fitness is already in doubt or is likely to become so.** [emphasis added]

First, we need to point out that references to "the dual responsibility for both operators and crew members" entirely miss the point – the responsibility is tripartite, but the leg missing most often in AIPA's experience is CASA. There is no dispute that the pilot is responsible to take all reasonable steps to manage fitness to operate, but they cannot be held responsible for patterns of flying that induce unreasonable levels of fatigue. Importantly, CASA cannot continue to turn a blind eye to organisational cultures where an operator does not fairly treat a pilot who takes their responsibility seriously and refuses to operate when fatigued. Any shared responsibility will continue to be unbalanced whilst ever we have a regulator that is incapable or unwilling to actively regulate.

Compliance is a cost to an operator – if there is no danger of getting caught being "flexible" or just plain ignoring the rules, why would you expect high levels of compliance? Compounding that issue is the absence of any public CASA statement about how the regulator will treat failures by operators to comply with the limits within their FRMS.

Second, despite ICAO advocating having pilot representatives as part of the decision process in FRMS development and implementation, CASA steadfastly refuses to ensure that any pilot participation in general and in FSAG in particular is at arms-length from management. ICAO's clearly established intention was that pilot representatives meant pilot associations where they exist, rather than individual pilots. CASA's failure to ensure that there is a seat at the FRMS decision-making table for all of the responsible parties highlights the hypocrisy of CASA's position on shared responsibility for fatigue risk management.

Third, not only does CASA require a single point of contact for FRMS standards and implementation, it also requires a single point of contact to provide binding interpretations and precedents for prescriptive standards and implementation. AIPA is aware of many disputed interpretations and applications of the SIEs and other exemptions where unrepresented pilots have nowhere to go to gain certainty – local office inspectors often cling to personal views that are far from consistent across CASA.

Does this proposal achieve the intended Action 9-1?

X some change/s required

Are there additional factors that CASA should consider in implementing this change?

1. Shared responsibility is tripartite – CASA, operators and pilots
2. Genuine fatigue risk management requires participation by pilots who are independent of operational management
3. Pilot representatives means pilot associations where they exist, rather than individual pilots
4. CASA require a single point of contact for prescriptive standards and implementation as well as for FRMS

Off-duty periods

AIPA acknowledges that this item is included in the SPC for completeness rather than for consultation. However, our proposed changes to the definition of a local night have consequential effects as well as highlighting an anomaly in the cumulative fatigue recovery provisions.

CASA Action 25-14:

CASA will seek feedback from Technical Working Group members regarding difficulty managing off-duty periods. Any proposed changes will be subject to further consultation.

Reduction in off-duty rest

This provision exists solely because Rex insisted during the development of the 2013 Instrument that it could not sustain some of its regional schedules without reduced rest. It is a pity that CASA, which does not have a mandate to foster the financial viability of the industry, could not have had the courage of the FAA, which does have such a mandate, who rejected the option to provide for reduced rest in FAR 117:

> In view of the comments, the FAA has decided to remove the provisions that would permit a reduction in rest. As one of the stated goals of this rulemaking was to ensure that flightcrew members had an eight hour sleep opportunity, the FAA has reconsidered incorporating criteria in the regulations to permit a reduction in this sleep opportunity. While it is reasonable to anticipate that unforeseen circumstances may warrant a limited extension of an FDP, particularly for situations that arise after takeoff, the flightcrew members at this point have already had the benefit of an eight hour rest opportunity. The FDPs limits implemented by this rule were derived under the premise that flightcrew members were reporting for duty with a full rest. **Permitting reduced rest undercuts that premise.** This rule includes provisions for extensions of FDPs and flight time, as necessary to accommodate the situations that

> cannot be planned. **Otherwise, certificate holders should not be scheduling FDPs to the point that a rest period needs to be reduced**. [emphasis added]

AIPA maintains that clause 10.3 should be deleted. We do not believe that the science supports reduced rest periods. There is abundant research to suggest that the 'sleep opportunity' required, even if achievable, is unlikely for the reasons set out above to become restorative sleep of any reasonable magnitude, particularly if the reduced rest period is followed by an early sign-on. The 2013 change by CASA to this provision, repeated in the proposed 2019 Instrument, that removed further reductions in an FDP following reduced rest and thus permitted a normal maximum FDP, flies in the face of both science and operational experience.

Neither the UKCAA previously nor EASA now permit reduced rest outside FRMS controls – both set 10 hours with an eight hour sleep opportunity as the acceptable minimum requirement. The UKCAA provision stipulated 10 hours "at accommodation".

We also believe that reducing rest due to operational delays or merely to retain schedule integrity is unsustainable.

Off-duty periods for cumulative fatigue recovery

The proposed 2019 Instrument perpetuates a problem that was created in the SIEs and uncritically adopted in the 2013 Instrument. AIPA contends that the problem was an unintended consequence of the drafting of the SIEs in 1990.

CAP 371, upon which the SIEs were modelled, explicitly defines "days off":

> '**Days Off**' Periods available for leisure and relaxation free from all duties. A single day off shall include 2 local nights. Consecutive days off shall include a further local night for each additional consecutive day off. A rest period may be included as part of a day off.

The SIEs instead speak of "time free of duty" (TFOD) in order to allow a weekly seven day (any 36 hours) or eight night option, the latter of which approximated the CAP 371 'day off' – distinguished only by finishing at 0500 rather than the earliest finish of 0600 for a CAP 371 local night. Where CAP 371 provided for a minimum of seven days off in any consecutive four weeks ("7 in 28"), and an average of at least eight days off in each consecutive four week period, averaged over three such periods ("24 in 84"), the SIEs merely provided for the same number of "days free of duty" rather than the UKCAA's "days off".

Operators immediately applied (and most likely still do) a literal interpretation that counted "days free of duty" from midnight to midnight in accordance with the ordinary definition of a day. Thus, one highly fatiguing scenario, signing off one night at 2330 and signing on the next night at 0001 would technically create a "day free of duty" between those two duties, to be counted against the 28 and 84 day totals.

The 2019 Instrument at 13A.1 and throughout the Appendices provides for "7 in 28" and "24 in 84" days "off duty". In the absence of further definitions, those days would strictly be midnight to midnight. AIPA is most concerned that, although unlikely, if each of those days were taken separately, then there would be essentially no recuperative rest achieved as intended.

AIPA strongly recommends that CASA specifically define a day off-duty for these cumulative fatigue recovery provisions to mean a period encompassing two consecutive local nights.

Does this proposal achieve the intended Action 25-14?

X some change/s required

Are there additional factors that CASA should consider in implementing this change?

1. The minimum rest period must not be less than 10 hours, including an 8 hour sleep opportunity
2. A "day off-duty" for the cumulative fatigue recovery provisions should be defined to mean a period encompassing two consecutive local nights.

Consolidation and transitional provisions

CASA Action 18-1:

CASA will update the website <https://www.casa.gov.au> to clearly explain which rules and guidance apply. The legislative changes from this review will be incorporated into a single instrument.

AIPA supports the production of a 2019 Instrument to consolidate the proposed rules. However, we have proposed some significant changes that are essential to properly achieve the fatigue risk management aims of the whole project. We believe that our proposals are rational and acknowledge that there are operational and business consequences in some cases.

Does this proposal achieve the intended Action 18-1?

X yes

Other changes

Flight time limits

AIPA does not agree that the removal of flight time limits is justified – the RAAA argument is specious and the operator support was opportunistic.

Extension reports

The note to paragraph 14.6(d) implies that a reassigned FDP is not limited in the normal way. Instead of "unless the reassignment results in an FDP or flight time that exceeds the relevant limit", the note should read "unless a permissible extension of the reassigned FDP results in an FDP or flight time that exceeds the relevant limit".

Each provision of an Appendix that authorises extensions to FDPs should include a note cross-referring to the reporting requirements.

Flying training flight time limits

The proposed sub-clause 2.6 of Appendix 1, sub-clause 1.1A of Appendix 5 and sub-clause 2.3 of Appendix 5A mean something quite different from the limit in sub-clause 2.2 of Appendix 6. Our representatives at the TWG cannot recall such a distinction being

made or any suggestion that CASA would allow other non-recreational flying after 7 hours of flight training.

AIPA understands that the core argument is that the intensity of flying training, regardless of its purpose or operational classification, was sufficiently fatiguing that it would be prudent to limit the relevant flight time to seven hours total in an FDP. It makes no sense to us that a pilot under Appendix 1 could proceed to conduct passenger-carrying air transport operations after seven hours of training flight time. This is either an unintended outcome or indefensible policy.

Limits on cumulative flight time

Sub-clauses 5.3 and 5.5 of Appendix 5A are problematic. The effect of achieving adequate rest is not to reset the limit to zero, as the sub-clauses state, but rather to reset the clock, the measure period, to zero.

Do the minor changes introduce unintended consequences?

X yes

Comments?

1. Unfortunately, the SPC and other notes do not make CASA's intentions clear in every case.
2. Reassigned FDPs cannot exceed existing limits simply as a result of how a particular FDP is allocated
3. The flight time limit for flight training is supposed to be exclusive and certainly not a precursor to other flight time
4. Cumulative flight time limits remain fixed while the measurement window can be reset

Policy questions

TWG issue 19 – Days off when transitioning appendices

The cumulative fatigue recovery off-duty periods for operations under appendices 4B, 5 and 5A are less restrictive than other appendices. The fatigue risk management justification for the treatment of each of these quite different industry roles rests entirely with CASA, appropriately advised by the relevant industry sector stakeholders, including pilots and their representatives.

While the presumptive workload in each case is not at all clear to AIPA, the appropriate level of conservatism and sound fatigue science applied by CASA should mean that completion of the off-duty periods for cumulative fatigue specified under those Appendices returns the pilot to a nominally fully rested state. The cumulative fatigue recovery requirements for the intended future operation should not have to be met at all – they are predicated on the fatigue that accumulates from ongoing operations in that category and no other. In our view, using them as entry criteria is a misapplication – they are essentially exit criteria to reset the fatigue risk baseline to ALARP.

Prima facie, it seems to us that the underlying presumption is that these operations are almost entirely free of cumulative fatigue, a suggestion that has prompted considerable cynicism within our membership. Perhaps the policy design question should be whether

at the completion of these so-called cumulative fatigue recovery requirements a pilot could commence a full roster of Appendix 2 operations?

Comments?

1. Cumulative fatigue recovery is a function of current activities.
2. Meeting the cumulative fatigue recovery requirements should return the pilot to a nominally fully rested state.
3. Using the cumulative fatigue recovery requirements from a class of operations as an entry requirement is a misapplication of the policy design
4. Some of the cumulative fatigue recovery requirements appear grossly inadequate

Alternative approach to transitioning appendices

Interestingly, this is a different question from the preceding question. If our suggestion above cannot be met for a general transition, then the suggested alternative for a single FDP is quite appropriate and AIPA would support it.

The question not asked is how many "single FDPs" can a pilot undertake without reasonably being considered to be working under a different Appendix without meeting all of its requirements.

Would this approach resolve issues related to transitioning between appendices for a single flight duty period?

X yes

Comments?

1. The combination of adequate rest and reduced FDPs is appropriate.
2. Limits need to be placed on the use of this transition so as not to undermine the policy determinations for the more demanding Appendix

TWG issue 22 – Split duty restrictions for charter

Operational experience with the split duty provisions indicates that the defined minimum rest/sleep opportunity have widely varying effectiveness depending on where the split duty falls within the pilots normal sleep cycle. Perhaps more than the dubious assumptions about the early use of onboard crew rest facilities, the presumption of some sort of universal recuperative value of split duty rest/sleep is deeply flawed. AIPA very much doubts the facilities on offer for split duties can be shown to be more effective as FDP extenders than the onboard crew rest facilities assessed in the TNO report. That report suggests that 75% of the sleep opportunity and somewhere between 25-50% of the resting opportunity might have been more defensible credits.

Member experience is that split duties can be overly fatiguing due to their extended duration and limited mitigation of fatigue onset. Limiting the second part of the FDP to six hours seems to be quite prudent, particular as the fixed extensions form increasing proportions of the available FDP at other than the ideal time of day. Having no deeper explanation than "a TWG member" identified it a problematic and no basis for rejecting

the use of an FRMS, AIPA is not inclined to support a change to the six hour prescriptive limit.

Comments?

1. The restriction may be a problem for some high-end charter businesses.
2. Physiologically, limiting the remaining FDP to six hours seems prudent.
3. There should be no change without a safety case applicable to all industry sectors rather than a specialist sector.

TWG issue 26 – Flight crew working on casual day impacts future roster

A TWG member identified a concern with the cumulative off-duty requirements in Appendix 2 clauses 10.5 and 10.6. That concern was that when a pilot accepts a duty on a "rostered casual day" they may be inadvertently impacting future cumulative off-duty requirements that will prevent them fulfilling the remainder of the roster.

AIPA completely rejects this operator-specific issue as relevant to the drafting of the 2019 Instrument. The operator is responsible for managing the allocation of its resources – if the operator offers a pilot an additional task, the operator should already have ensured the necessary compliance requirements have been met for the pilot to operate that FDP, including whether those "casual" days have to be protected for future compliance.

The same TWG member suggested that accepting duty on a "casual" day should be counted as an off-duty period, as if it were recreational flying. AIPA can only express our disappointment that, even at airline level, the distinction between public transport operations and recreational flying has apparently been lost and that callouts and open time flying have miraculously become fatigue free.

Comments?

1. The "problems" are Flight Operations management problems – they are not fatigue rules problems.
2. There should be no confusion about the distinction between recreational and professional commercial operations.

General response

Are the proposed changes to the fatigue rules appropriate?

Very few of the changes proposed in the Consultation Draft have been motivated by a desire to improve fatigue risk outcomes. Most have been the result of operators seeking to protect margins on schedules predicated on the belief that the old rules haven't resulted in accidents so they must be safe. The few changes introduced to improve areas not previously treated have been less successful than they reasonably could be or have had perverse results.

AIPA has provided extensive commentary above on the appropriateness of the changes. There are undoubtedly other areas where our members' experience is limited that also suffer from sub-optimal outcomes. We must make it very clear that our criticism is not entirely focused on the CASA team attempting to navigate this particular swamp – much of it is directed at a largely political process that gives far more weight to industry economics than to managing fatigue risk.

Australia's pilots have 'skin in the game' insomuch as we rely on financially sound businesses to maintain and grow employment. However, determining the boundaries of acceptable fatigue risk requires a measured incremental approach where all stakeholders have a common purpose and equal voice. We are not there yet.

Can the fatigue rules be complied with by industry without undue burden?

AIPA believes that this is very much the wrong question. It clearly indicates that the fatigue risk outcome will be determined by industry (contextually the operators) feedback on the profit impact of the rule changes. Any change other than loosening the existing constraints will be resisted – that is the rational response of a profit-motivated business and CASA would be extremely naïve to expect otherwise.

The proper test is whether the cost associated with gaining better fatigue risk outcomes is reasonable. The test of reasonableness is a test best conducted independently on properly measured economic data, not on the clamour of those people and organisations who are willing to take the risks to protect their current business plans.

Are the proposed changes to the fatigue rules appropriate and can they be complied with by industry without undue burden?

X some change/s required (please specify below)

Comments?

1. Many of the proposed changes are not appropriate and require further work.
2. The industry has far too much self-interest to determine the reasonableness of the final changes.

Specific Rostering Issues

Quite clearly, changes intended to address a proper local night's rest, consecutive early starts, fatiguing transitions and disruptive schedules, no reduced rest, reduced credits for Class 3 rest facilities, rostering simulator sessions as if they were FDPs, etc. all have crewing implications. Existing schedules will require different solutions.

These outcomes need to be modelled, but CASA needs to be very careful about how they view the outcomes. The UNSW and now the ATSB have provided evidence of a problem that the operators, particularly those in the RAAA, continue to deny exists. CASA cannot continue to allow the deniers to control the agenda for fatigue risk management reform.

Comments?

1. There will be rostering issues that arise from both the current proposals and our recommended changes. That inevitability should not prevent the changes necessary to improve our fatigue risk management practices.

Outstanding significant aviation safety risks

AIPA continues to be most concerned about CASA's approach to Ultra Long Range (ULR) operations. While we have progressed from straight refusal to acknowledge ULR through to acknowledgement but refusal to regulate ULR, simply stating at the bottom of page 7 of the SPC that FDPs in excess of 18 hours (by definition ULR) require specific risk mitigation within a CASA approved FRMS is far from a satisfactory regulatory

response. Importantly, in the context of the proposed 2019 Instrument, the internationally accepted definition of ULR includes flight times greater than 16 hours.

CASA, Qantas and AIPA were all participants in the Flight Safety Foundation (FSF) workshops of the early 2000's that generated guidelines for the conduct of ULR operations. In addition to the fundamental requirement that such operations may only be conducted under an FRMS, the published FSF guidelines also identified a number of additional considerations in what was termed "Operational Best Practices". These include the following;

- flight crew complement and qualifications,
- education,
- delays and disruption,
- standby or reserve duties,
- the in-flight environment including rest facilities, lavatory access and the flight deck environment,
- rostering practices for the flight duty and also pre and post flight rest requirements, and
- go/no-go guidance.

CASA already actively condones Australian airlines conducting ULR flights with no approved FRMS and no additional consideration of the above elements. Notwithstanding the apparent hypocrisy of CASA's actions, the situation is exacerbated by the complete lack of Australian guidance on the specific risk mitigation strategies required within the CASA approved FRMS.

AIPA accepts that the fatigue risks of ULR are not an appropriate topic for prescriptive fatigue rules. However, the CAO 48.1 Instruments include in Appendix 7 the only legislative provisions that prescribe what constitutes an FRMS and the functions it performs. In short, the Instruments 'cover the field' of both recognised forms of fatigue risk management regulation, very clearly including ULR.

Other than some notion that having no rules will somehow hide CASA's complicity in allowing ULR operations to be conducted prescriptively as if they are no different from much shorter long range operations, there is no sound basis for CASA to continue to avoid the issue. The ULR policy is clearly and publicly stated – it just has been deliberately starved by CASA of any legislative or risk-based significance.

To the best of our knowledge, no other significant aviation regulator ignores the special considerations for ULR. Australia is the only country that conducts ULR that refuses to regulate it. The evidence is also very clear that the current Australian ULR operator has not mirrored international best practice and will not do so unless and until forced to do so by CASA. AIPA considers the current situation to be indefensible.

AIPA strongly recommends that the legislative prescription of the form and function of what constitutes an approved FRMS, whether it remains in Appendix 7 or a separate Instrument, must include a separate section outlining the specific risk mitigation required for ULR operations that includes the "Operational Best Practices" published by the FSF.

Are there any significant aviation safety risks which have not been addressed in the draft CAO 48.1 Instrument 2019?

X yes

Comments?

1. CASA must specifically regulate for ULR operations.
2. The legislative prescription of FRMS must include a separate section outlining the specific risk mitigation required for ULR operations.

Priorities

AIPA's main priority is to ensure that a science-based prescriptive ruleset that addresses all identified fatigue risks is put in place as soon as possible and is regulated actively and consistently by CASA. That prescriptive ruleset then must form the foundation for operations conducted under approved FRMS.

AIPA is concerned that, in asking for a simple three priority statement from respondents, CASA will act only upon the most commonly identified issues as a means to meet a development deadline rather than to properly resolve all reasonable issues.

Importantly, there are too many areas across the seven Appendices and the Instrument in general for us to pick out only three issues. For example, in augmented crew operations, our highest priority is for the proper regulation of ULR, but that should not mean that the travesty of Class 3 extensions covering up poor business decisions or removing start times or removing duty limit distinctions from acclimatised and unacclimatised FCMs are unimportant. In unaugmented operations, it would be inappropriate to favour early starts separately from the management of all aspects of disruptive scheduling or worse still to not prioritise the appropriate definition of the WOCL given that it is key to all of the broader fatigue risk management provisions.

When you reflect on the feedback you have provided throughout this consultation, what are the three matters you consider most important?

1. A science-based prescriptive ruleset that addresses all identified fatigue risks must be put in place as soon as possible and must be regulated actively and consistently by CASA. That prescriptive ruleset then must form the foundation for operations conducted under approved FRMS.

CONCLUDING REMARKS

Pilots are the last line of defence for the travelling public who unknowingly accept a level of risk imposed upon them by an apparently subservient regulator facilitating the profit motives of operators, large and small. The derailing of the implementation of the 2013 Instrument by the RAAA and the commercial interests of the Australian aviation industry has been a particularly disappointing and frustrating exercise. By and large, AIPA does not consider that the public interest has been best served.

While AIPA most certainly does not want to delay implementation of a proper fatigue risk management system any further, there remain fundamental errors that must be corrected if the science is not to be compromised completely. It is also clear to us that the next TWG in a couple of weeks' time will be ill-placed to resolve any broader consultation issues, let alone those we have raised herein.

We fully understand the political pressure applied to CASA by the Board, the industry and by Government, but we urge you to resist taking the path of least resistance either as a result of that pressure or simply to meet an inappropriate deadline. Importantly, AIPA is

not expecting the perfect solution, just a safe, rational and science-based starting point from which to begin further evaluations using FRMS principles.

Yours sincerely,

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