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By Email

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Dear David,

AUSALPA SUBMISSION TO AIRSERVICES: LOWERING CLASS E ON THE EAST COAST

The Australian Airline Pilots' Association (AusALPA) is the Member Association for Australia and a key member of the International Federation of Airline Pilot Associations (IFALPA) which represents over 100,000 pilots in 100 countries. We represent more than 7,500 professional pilots within Australia on safety and technical matters. 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.

AusALPA welcomes the opportunity to contribute feedback on the proposal to lower the base of Class E airspace to 1,500ft AGL in medium and high density enroute airspace between Cairns and Melbourne in December 2021.

In view of the significant negative feedback on almost all aspects of the proposal, we have extended the distribution of this letter for the information of the Office of Airspace Regulation at CASA, the head of the Domestic Aviation & Reform area of DITRDC as well as for the Senate Rural and Regional Affairs and Transport Committee, given its relevance to both the GA and Future of Australian Aviation Inquiries.

AusALPA does not believe that the proposal has been properly or adequately researched, risk-assessed, costed or properly consulted. We strongly believe that it is not safe for the proposal to proceed and it should be withdrawn.

Transparency of risk identification and feedback processes

AusALPA is concerned that Airservices is exacerbating rather than repairing the perception that Airservices is rushing ahead with significant airspace changes based on an internal agenda rather than openly and transparently adopting an incremental

approach that is informed by the operational experience of the airspaces users, both in identifying potential hazards and post implementation.

In reviewing Airservices design and implementation safety case documents supplied to us under FOI provisions, we were disappointed to find significant parts of risk management discussions with industry representatives and others were redacted, far beyond anything vaguely associated with protection of personal privacy. The level of redaction indicates that the default Airservices position in regard to public exposure of the design and implementation safety cases for airspace changes is one of secrecy rather than the provision of transparent primacy to aviation safety.

AusALPA also notes that the consultation process for this latest proposal has bypassed ASTRA, the primary consultative body for these sorts of proposed changes. That decision is incomprehensible, especially given the level of industry representation and commitment to ASTRA, as well as the quality of advice demonstrably available.

Furthermore, the window for public consultation for such a far-reaching and significant change is inappropriately short, particularly at a time when many affected industry people are displaced from their primary occupations and desperately trying to survive. Coupling the short comment period with the very fact that Airservices intends to submit an ACP within 7 days of comment closure inexorably leads to the conclusion that Airservices has no intention or capacity to change the proposal to reflect industry feedback.

A number of our members have commented negatively on the attitude of Airservices representatives at the webinar intended to explain the proposed changes. They expressed to us the view that the process was box-ticking a consultation process for changes that, regardless of industry feedback, would be in place by December this year.

AusALPA considers the whole approach to this critical consultation to be arrogant, unsustainable and incompatible with appropriate aviation service provider governance.

We also note that, unlike many other agencies within the Transport and Infrastructure portfolio, Airservices does not publish stakeholder commentary or submissions. We view such public exposure of feedback by other agencies as a very positive feature of improving those agencies' contribution to the Open Government initiatives of the Commonwealth government and we strongly recommend that Airservices reviews its somewhat recalcitrant view towards public scrutiny of its safety-related decision making.

THE PROPOSAL

As noted above, AusALPA considers the current proposal to be unsound for many reasons, including the manner in which is it being proposed.

While the headline benefit is providing ATC directed separation between IFR aircraft operations in a greatly expanded airspace volume, neither the current level of risk in self-separation nor the adequacy of the supporting infrastructure to support the proposal is examined. Importantly, no attempt has been made to quantify the costs to other airspace users or the consequential risks in changing the existing system in the context of the presumed benefits.

We will examine the suggested benefits as published in the so-called Fact Sheet. To be very clear, we consider most of those headings to be inaccurate, if not misleading.

“ADS-B and radar surveillance assets”

Much is made of maximising existing surveillance capabilities. However, the capacity to properly support the proposal is unknown and Airservices has heretofore been unable or unwilling to provide factual information to repeated industry requests.

As far as we are aware, the radar (both primary and secondary) and ADS-B infrastructure has been largely static for some time and there is no transparency of the lateral or vertical extent of any unused capacity.

On the other hand, the ADS-B coverage published as at May 2020 indicates that there may be gaps in coverage of the proposed new Class E airspace even at 5000ft. As we understand it, it is most unlikely that terrestrial ADS-B stations can provide coverage down to 1500ft AGL for that airspace.

Of equal importance to low level Class E is the communications infrastructure – there can be no control without continuous communications capability.

Until such time as there is complete surveillance and communications coverage of all of the proposed new Class E airspace volume, the risk modelling (if it even exists) will be compromised, the efficiency of operations generally will be inhibited and the degree of actual enhancement of IFR services at low level will be questionable at best.

“International consistency”

The proposal makes two claims:

> Delivery of the AMP will ensure closer alignment to the International Civil Aviation Organisation (ICAO) system and proven United States practice of airspace management

Australian airspace accords with the ICAO classifications set out in Section 2.6 *Classification of airspaces* of Annex 11. Importantly, Section 2.4 *Determination of the need for air traffic services* merely identifies considerations rather than prescriptions, a process with which the determination of Australian airspace classification is already entirely consistent. Nothing in this proposal changes our alignment with ICAO.

Aligning Australia’s airspace system with the FAA system requires replication of the US CNS capability and of the related procedures. AusALPA has no evidence that such a replication has been achieved in Australia or of which elements of the FAA system are confirmed as capable of excision, or selective application, without systemic consequences. More importantly, there is no evidence that the government has accepted the level of collision risk associated with the FAA system when key CNS elements are not provided.

AusALPA doubts that the two claims have any relevance to the majority of Australian airspace users – they are political and promotional claims rather than safety or efficiency claims.

“Reducing complexity for pilots and controllers”

While this may represent a desirable outcome if actually deliverable, AusALPA is concerned about the extent that Airservices managers actually understand complexity in aircraft operations. As we have noted previously, complexity can be added to a crew’s workload by airspace design if the design causes traffic or flightpath management issues to overlap with high intensity cockpit procedures, unnecessary or inadequate communications, time compression or uncertainty. Complexity can be also be added by design assumptions in equipage, particularly when legacy aircraft

configurations are inadequately considered and the airspace becomes a barrier rather than a pathway. This can have negative consequences on safety and efficiency.

Introducing widespread Class E as a form of controlled airspace for IFR aircraft has no effect on the collision risk of IFR aircraft with VFR aircraft if they are invisible to the ATC system, i.e., if their ADS-B and/or transponder is off or unserviceable and/or they do not communicate appropriately. Unfortunately, the transponder issue is not easily detected outside the coverage of primary radar.

As it transpires, there are inconsistent pockets of Class E down to 700ft AGL and 1200ft AGL already, but we are unaware of any post-implementation feedback from operators or controllers as to whether those particular designs add or reduce complexity. Such feedback would seem to us to be pivotal to industry understanding of any relevant design issues before embarking on such an extensive expansion of low level Class E. Given that this current consultation is meant to inform the development of an ACP safety case, AusALPA is perplexed that such feedback is absent from the information packs informing industry of the proposal. We question if this absence of PIR information of existing low level Class E is an indication that such work has not been contemplated or conducted.

A key but unexplained issue will be the efficiency with which airways clearances can be delivered to ensure access of IFR aircraft to Class E airspace. The proximity of the lower level of controlled airspace to the aerodrome field height compresses the space and time in which clearances can be obtained. A controlled airspace lower level of 1500ft AGL is clearly insufficient to safely commence a passenger transport flight "awaiting clearance", particularly if the presence of low level Class E effectively increases the VFR traffic density immediately below Class E.

"Enabling enhanced surveillance service."

We presume that this claimed benefit relates to the visibility in Class E of CASA 316/98 compliant VFR aircraft within range of an SSR or an ADS-B equipped aircraft. However, the Airservices information pack does not make this clear. In any event, there can be no enhanced surveillance where the aircraft is out of range or the relevant equipment is turned off or is unserviceable. Additionally, AusALPA is concerned that the prevalence of non-compliant VFR operations may rise if pilots feel disadvantaged by the lowering of Class E to 1500ft AGL or simply because compliance is impractical or unsafe.

"Class E does not restrict access for VFR aircraft"

This Fact Sheet heading is completely misleading. In reality, any aircraft in the existing Australian fleet that does not meet specific equipment requirements is excluded from Class E airspace. AusALPA understands that a significant number of aircraft currently flying may be severely affected.

We are concerned that, if this proposal is implemented, the remaining Class G airspace within which those aircraft can legally fly is extremely constrained and often impractical. The risks to the VFR GA community, particularly in marginal weather, will be significantly exacerbated and do not appear to have been considered. We believe that the proposal may well result in increased numbers of non-compliant operations, particularly in the absence of any plan to provide some form of cost-sharing between stakeholders.

AusALPA has seen no evidence of the identification or planned mitigation of a project-induced 'civil disobedience' risk – it must be considered.

For those operators that choose to abide by the requirements associated with the change, many will be directly impacted with significant extra costs for equipment and modifications, compounded by lost revenue earning opportunities as existing training activities may longer be permitted. The change in airspace classification will also change the VMC requirements (Class E has more restrictive requirements than much of Class G), materially reducing the number of flying opportunities and days available to VFR pilots.

"Controlled airspace containment and separation for IFR flights"

AusALPA recognises the potential benefits of capturing more of IFR climb and descent segments in controlled airspace and of ATC provided separation services. Interleaving layers of uncontrolled VFR traffic as inherent in the design of Class E specifically maintains an undesirably higher risk than our preferred Class C or D.

Airspace architecture other than Class C or D that utilises a relatively low level base ensures that instrument approach go-arounds/missed approaches at uncontrolled aerodromes remain problematic. CTAF traffic management is unchanged, but unless clearance to re-enter Class E climbing through 1500ft AGL on the missed approach has been issued prior to the commencement of the approach, safety is compromised. A number of coincident arrivals requiring instrument approaches make the separation task very complex, since traffic in the holding pattern will be in enroute controlled airspace and the aircraft making the missed approach will need to be positively separated to climb through the holding traffic's altitude and to join the end of the queue.

AusALPA has seen no evidence of the identification or planned mitigation of this design risk and complexity. We remind Airservices that the original design for the Class E steps over Ayers Rock aerodrome was altered from an initial proposal that had a lowest level below the LSALT to one above the LSALT for these exact reasons. It is very disappointing that lessons from that consultation appear to not have been learnt.

"Fosters equitable access for airspace users"

This Fact Sheet heading is as misleading as the "no restriction" discussion above.

However, the broader issue of equitable access is worthy of comment.

As a general statement, AusALPA supports equitable access to airspace for VFR users, but not as an absolute right and never when such access increases risk to air transport operations.

The AMP is already replete with examples where Airservices appears to be treating "equitable access" as their prime directive, most obviously when downgrading classes of airspace from Class C to E. Controlled airspace access requires much greater effort by Airservices to resolve equity of access issues and using slabs of Class E to remove controllers from the loop for VFR traffic is not the only option. AusALPA believes that the provision of clearances for VFR aircraft through Class C or D is a much better solution to access issues than merely providing access through the same airspace, no clearance required, when it is altered to Class E.

This current proposal is problematic for its own reasons and, rather than enhancing equity of access, we believe that it will do the opposite for many VFR and IFR airspace users. As stated earlier, many IFR aircraft will experience ground delays seeking clearances to enter Class E prior to takeoff, whilst many current VFR users of this airspace will be faced with either avoiding the airspace or effectively paying to use it.

AusALPA does not believe that an equitable solution has been found and that the VFR community may well have been disenfranchised by collateral requirements.

"Caters for current and future needs of airspace users"

Despite the hyperbole, it is unclear how widespread low level Class E can cater for the current and future needs of the aviation industry, such as the GA training sector or the emerging use of larger RPAS that may require operating altitudes above 1500ft AGL or in any other alternative versions of low level Class E.

Flying training areas with Danger Area/Class G characteristics serve an essential purpose and are largely incompatible with controlled airspace. AusALPA has no evidence that this issue has been considered and what accommodation has been resolved.

While most RPAS operations are conducted below 400ft AGL, some such as aerial surveys and mapping will require higher altitudes. While there are existing provisions for RPAS operations in controlled airspace, they focus almost entirely on Class C and D airspace volumes. While it is entirely likely that any RPAS operations in Class E would be subject to specific approval, it remains unclear to us whether such operations would be treated as if they were VFR or IFR, including climb and descent, and how IFR separation might be achieved given the current communications infrastructure and capability. Certainly, see-and-avoid cannot be relied upon to solve the risks.

Given that there is a ministerial expectation that RPAS operations be considered in airspace access matters, AusALPA encourages Airservices to make public their considerations in ensuring that this factor has been considered with this proposal.

"Improved use and value of existing investments (e.g. ADS-B, ACAS)"

It is unclear from the Fact Sheet heading exactly whose investment Airservices is suggesting will be improved.

For an aircraft operator, ADS-B and ACAS fitment maximise their value in all classes of airspace, particularly as the fitment of ADS-B IN grows. If the intention is to improve the use and value of Airservices' investment, it should never be attained by imposing costs and operational impositions on operators. In either case, such a collateral benefit could never justify a reclassification of airspace.

"Facilitates Continuous Descent Operations"

In our submission of 24 May 2019 to the AMP Tranche 3 consultation, AusALPA addressed Continuous Descent Operations (CDO) in the context of airspace containment. We noted, *inter alia*:

> …ICAO Doc 9931 Continuous Descent Operations provides extensive guidance on CDO, particularly in regard to stakeholder issues and the interface with ATS. While it is written primarily in the context of operations within controlled airspace, the principles apply equally to operations that transition to operations OCTA.
>
> One of the important aspects underpinning safe CDO is the concept of providing flight crew with the time and mental space to manage the aircraft flight path and energy state. Avoiding disruptions is a high priority, as is the need for unambiguous ATC communications. AusALPA members are particularly concerned about the operational and safety consequences of exiting controlled airspace at very low levels while executing CDO, simply due to the need to identify traffic OCTA and to self-separate coincident with the aircraft positioning and energy management requirements to commence an IFP.

> It appears to us that Airservices is either ignoring or unaware of the operational consequences of designing airspace that results in low level exits coincident with high flight crew workloads and potentially high collision risks. Clearly, those consequences are unacceptable.

Suggesting that the proposed lowering of Class E to 1500ft AGL facilitates CDO is more hubris than good design. To illustrate the point, we need to examine how the US NAS deals with protecting instrument approaches and departures, the Class E containment of which consequently supports CDO.

The NAS deals with Class E containment in a number of ways. Enroute Class E in places similar to much of the rest of Australia has a lower level of 14500ft AMSL but defaults to a lower level of 1200ft AGL for the significant areas of higher traffic density. Where required, Class E transition areas are designed to protect aircraft on approach or departure and have a lower level of 700ft AGL, often with runway-aligned extensions. The final variant, usually in place to protect precision approaches, is known as Surface Class E airspace and extends all the way down to the aerodrome surface level.

In stark contrast to this latest Australian proposal, the US NAS Class E design is aerodrome-centric DAP containment rather than a generic "one size fits all" enroute design. In marginal visibility and ceiling, the US design effectively removes VFR aircraft from the equation as only a few hundred feet of altitude are available for non-equipped aircraft to transit. In such circumstances, CDO is well supported in all circumstances.

The containment design features of the US NAS model are absent from the Australian proposal. AusALPA's comments quoted above were made in the context of choosing lower levels of controlled airspace in the low to mid thousands of feet – they are even more critical when faced with exiting controlled airspace at circuit heights with unalerted 'see and avoid' with non-equipped aircraft as the order of the day. That does not facilitate CDO as we and ICAO envisage it.

In any event, we must remain mindful that Class E is a hybrid of controlled and non-controlled airspace. On this basis, there can only ever be a limited scope of IFP containment in Class E because there is effectively no protection of IFR flights in IFPs when VFR are free to egress the same airspace. That risk is heightened when non-compliant VFR aircraft are forced to transit aerodrome at or below circuit level, especially in marginal weather.

Human Factors considerations

AusALPA is concerned that, apart from the more obvious human factors issues facing IFR crews subject to the vagaries of these airspace designs, Airservices is also ignoring the impact of the proposal on other airspace users who justifiably may feel disenfranchised by the likely outcomes.

It seems quite 'tone deaf' to include in the GA Industry Presentation Pack under the heading of "*Foster Aviation, Enhance Service, Improve Safety*" the following statement:

> COVID-19 has changed the industry. We need to embrace this new landscape, while enhancing safety as minimal cost.

Clearly, with the majority of our members still stood down and with many seeking alternative employment, we are acutely aware that the pandemic has decimated Australia's aviation industry. Notwithstanding the issues facing our international operations, the GA sector faces perhaps the bleakest future. Economically, there is little if any capacity to invest in aircraft, equipment or people. The remaining resilience

among those who remain tied to GA will be sorely tested by Airservices "embracing" the present landscape by potentially locking many GA users out of the lower level airspace in the "J-curve".

Conclusions

AusALPA does not support the proposal to lower the base of Class E airspace to 1,500ft AGL in medium and high density enroute airspace between Cairns and Melbourne in December 2021 and believes that a significant rethink is required. The proposal should be withdrawn.

The Design and Implementation Safety Cases for this proposal (and all elements of the AMP) should be made public and redacted only to the minimum extent required to protect individual (but not corporate) privacy.

Many, if not most, of the touted benefits of this proposal are more hubris than of substance. In some cases, the likely outcomes are the opposite of what is suggested.

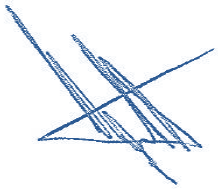
The proposal continues what seems to be a myopic rush to install Class E as the default Australian airspace but without the subtleties and operational maturity of the US NAS system upon which it is based.

AusALPA has seen nothing in the way of post implementation reviews (with particular emphasis on the flight operations aspects) of the existing pockets of Class E with lowest levels of 700ft and 1200ft AGL. The current proposal should not be implemented in the absence of such reviews, given the significant consequences of the proposed changes.

We consider 1500ft AGL to be an inappropriate choice for the lowest level of the proposed Class E airspace.

Our previous comments about the management and direction of Airservices airspace projects remain apposite.

Yours sincerely,



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