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By Electronic Transmission

Mr Jim Wolfe
General Manager (Air Traffic Policy)
Department of Infrastructure and Regional Development
GPO Box 594
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Email: barovnavpolicy2016@infrastructure.gov.au

Our Ref: S05-0019

Dear Jim,

Australia's Policy Approach to Baro-VNAV Implementation

This submission is tendered on behalf of the Australian Air Line Pilots' Association (AusALPA) which is comprised of the Australian and International Pilots Association and the Australian Federation of Air Pilots and represents more than 6,000 professional pilots within Australia on safety and technical matters.

AusALPA takes an active stake in the Australian aviation industry, participating in inquiries in the Australian aviation sector and contributing members to various industry forums. AusALPA is also an active member of the global pilot body, the International Federation of Air Line Pilots' Associations, which represents over 100,000 airline pilots internationally.

The Association agrees strongly with the need to meet the International Civil Aviation Organisation (ICAO) Resolution A36-23 (as superseded by A37-11) in order to reduce the risk of Controlled Flight into Terrain (CFIT) accidents. It acknowledges that the "Australian solution/rationale" (as detailed in this draft policy paper) to provide Baro-VNAV approaches is the most pragmatic one at this time by providing vertical guidance for an estimated 95% of RPT passengers. AusALPA considers this

to be an essential safety enhancement and, as such, believes that the earliest implementation is required. The two key factors that remain are the provision of the local QNH and the validation of the approaches.

It notes, however, that Resolution A37-11 states that:

- 2) implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS), including LNAV-only minima, for all instrument runway ends, either as the primary approach or as a back-up for precision approaches **by 2016** with intermediate milestones as follows: **30 per cent by 2010, 70 per cent by 2014;** and
- 3) implementation of straight-in LNAV-only procedures, as an exception to 2) above, for instrument runways at aerodromes where there is no local altimeter setting available and where there are no aircraft suitably equipped for APV operations with a maximum certificated take-off mass of 5 700 kg or more;...”

It is therefore self-evident that if the process is not accelerated, Australia will fail to meet the 2016 timeline for this Resolution.

The Association continues to support the implementation of a Satellite Based Augmentation System (SBAS), as part of an Australian Infrastructure Program, which will also provide vertical guidance for General Aviation (GA) aircraft as well as RPT aircraft and thereby meet the Resolution's intent in full. It regrets the delay in implementing the “EGNOS” solution which would appear to provide a low cost/low risk solution whilst bringing substantial economic benefits to Australia as a whole and safety enhancements to aviation in particular.

Validation of BaroVNAV Approaches

It is the Association's understanding from its participation in the ASTRA Council and its Working Groups that Airservices has already designed Baro-VNAV approaches for a substantial number of airports and this is reiterated in this paper (Attachment A - Baro-VNAV Candidate Aerodrome locations). The issue remains as how to validate Baro-VNAV approaches. It would seem that the options range from a “desktop exercise” for suitable candidate airports (those that are basically an overlay of an existing approach and where terrain/obstacles are not an issue) to those requiring the equivalent of an RNP-AR approval, including a flight check. The draft policy paper refers (sub para (c)) to streamlining the “Methodology for Validating Baro-VNAV Approaches” by CASA. The New Zealand Civil Aviation Authority (NZCAA) has already adopted a practical methodology which, if adopted by CASA, would not only result in a vast reduction in the costs of validation for the majority of approaches, but would also speed up the process.

The Association believes that methodology used by NZCAA should therefore be adopted by CASA.

Irrespective of the validation methodology selected, it is essential that the process is accelerated and does not rely on a three year validation cycle with the exposure to potential CFIT accidents, such as occurred at Lockhart River.

Provision of Local QNH

This paper explains that Baro-VNAV approaches require the provision of local QNH. It states that Airservices has already identified 109 airports where an ATIS and/or a VHF broadcast of the AWIS, including Local QNH, is provided at present. Thus it should be possible for these airports to have their Baro-VNAV approaches validated and approved in short time period, if the “NZCAA” validation process is adopted by CASA, rather than to conduct this exercise over a 3 year period.

This draft policy paper refers to the ASTRA Council deliberations on who should be responsible for the provision of VHF broadcast of Aerodrome Weather Information Service (AWIS) in future. The latest recommendation from ASTRA’s Future Airspace Requirements Working Group is that the AWIS transmissions, including the Local QNH, would become the responsibility of the aerodrome operators once the BoM’s centralised system has been implemented. If this agreed by the Council members and endorsed by the Aviation Policy Group, this policy document should be amended accordingly.

It is essential that the AWIS-VHF broadcasts continue in the future and are not adversely affected by cost considerations or by the removal of navigation aids under the BNN program. The Association notes that CASA is not intending to mandate Baro-VNAV approaches for either operators or aerodromes (where this is the primary aid) and feels that this is a serious safety omission. The safety case is amply presented in the “Background” section of this draft policy.

Funding

As always, the aviation industry is expected to pay for these safety enhancements, even though Australia relies heavily on aviation for external trade, tourism and for other economic benefits, and for internal communications; and in some cases as the only viable transport service. By not mandating the use or provision of Baro-VNAV, there may be a reluctance by some aerodromes not to implement such approaches, whilst the costs associated with these approaches, where implemented, may not be equitably distributed amongst the operators/users. Likewise, operators may not feel obliged to carry out the necessary training to enable their crews to utilise these approaches.

It is regrettable that aviation meteorological services are historically funded by the aviation industry whilst many other industries receive weather services without being specifically charged for them. This is particularly true when the provision of a meteorological product (i.e. Local QNH) is required to meet an international resolution and Australia’s obligation as an ICAO Contracting State to implement a safety measure which will enhance the safety of the public travelling by air within Australia. The Association concedes that the Meteorological Service Charge allowed under Annex 3 and the Meteorology Act 1955 (as amended) is unlikely to change in the near future.

Other Measures to Prevent Controlled Flight into Terrain (CFIT)

Airservices is working to meet the alternative requirement of ICAO Resolution A37-11 to provide “straight-in approaches” (LNAV only) for all instrument runways which have been accessed as feasible (under present criteria) and where a broadcast of Local QNH is not available. This is planned to occur over the next 3 years meaning that the resolution timeline of 2016 for 100% of such approaches (LNAV only) will not be met. Every effort should, therefore, be made to implement them as early as possible.

The Association notes that the “LNAV only” solution is intended to be an exception to providing glideslope guidance, but will be widely employed in Australia, primarily because “there is no local altimeter setting available”. It follows that it would be better to provide Local QNH broadcasts, at least for airports that have been identified as “high risk” in terms of potential CFIT accidents. It further reinforces the case for the implementation of SBAS.

Terrain Awareness Warning Systems (TAWS)

The Association supports the installation of Terrain Awareness Warning Systems in all classes of aircraft in which passengers are carried. As the paper states, however, *“a reliance on Terrain Awareness Warning Systems (TAWS) is not seen as a primary means of preventing CFIT accidents”*. The solution is to provide approaches with vertical guidance where the potential for a CFIT accident is significantly statistically reduced.

Australia’s policy should therefore be to implement both APV Baro-VNAV and SBAS approaches.

In conclusion, AusALPA would like to reinforce the following points:

1. AusALPA welcomes the Department’s draft APV Policy in principle. The Association’s main concern is that the proposed three year timeline, which in itself is dependent on the validation methodology adopted by CASA. In this regard, it would seem that the adoption of the NZCAA methodology would be both cost effective and cost beneficial whilst ensuring that safety is enhanced and not diminished by earlier validation of these approaches.
2. The provision of the VHF broadcast of AWIS and/or ATIS information is likely to be problematical unless, at a minimum, the existing aerodrome operators are required to provide the continuation of this service, once the BoM centralises its services. There should also be encouragement for other aerodromes to provide the broadcast of AWIS.
3. Both the Baro-VNAV and the LNAV programs are due to be implemented over a three year period resulting in Australia failing to meet the respective resolution timelines by over 2 years. Earlier implementation is essential to reduce the risk of CFIT accidents.

4. CASA should reconsider its position not to mandate Baro-VNAV approaches in order to ensure that such approaches are available to operators and used by them.
5. The Department should consider proposing a funding model that recognises that these are primarily safety enhancements and, as such, have a social benefit to the Australian travelling public.
6. The Association continues to support the implementation of an SBAS system, as part of an Australian Infrastructure Program, which would provide substantial economic benefits to Australia as a whole and safety enhancements to aviation in particular.

Should you wish to discuss this further, please do not hesitate to contact our office at ausalpa@aipa.org.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'D. Booth', with a stylized flourish extending to the right.

Captain David Booth
AusALPA President

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