INTRODUCTION

The Senate Standing Committee on Rural and Regional Affairs and Transport is undertaking an inquiry into the effectiveness of Airservices Australia's management of aircraft noise. The Committee is, therefore, inviting written submissions from the public.

The Ambidji Group Pty Ltd (Ambidji) is pleased to have the opportunity to provide input to this inquiry and presents its formal response for the Committee's consideration.

THE AMBIDJI GROUP PTY LTD

Ambidji is an internationally recognized aviation consultancy company that has provided specialist aviation advice to clients in over 44 countries around the world.

The firm's specialty lies in providing advice on air traffic control, airspace and aerodrome operations. More information on the company's capabilities and services can be found on our website located at www.ambidji.aero.

Ambidji has previously been engaged by the Village Building Company on a number of occasions to review the airspace and airport operational aspects relevant to the operation of Canberra International Airport (CIA). In that time the firm has conducted a number of wide-ranging and detailed analyses of the various planning documents issued by CIA, which has also required Ambidji to assess Airservices Australia's role in airspace management, particularly with respect to the data and assumptions being used to construct the ANEF model for CIA.

Ambidji, therefore, considers it is qualified to comment on Airservices Australia's (AsA) role in managing aircraft noise.

THE ROLE OF AIRSERVICES AUSTRALIA

AsA provides a range of roles including the provision of:

- air traffic management services;
- communications, navigation and surveillance services;
- aviation rescue and fire fighting services; and
- environmental impact management services.

Arising from the environmental impact management services, AsA's website provides a wide scope of information on aircraft noise through the Noise and Flight Path Monitoring System (NFPMS) which collects noise and flight path data including identity, flight path and altitude of aircraft taking off and landing in the vicinity of most

capital city and several other major airports.

The website also provides comprehensive quarterly reports from the NFPMS which include data on

- track density plots;
- movement statistics;
- curfew (if any) movement statistics;
- hourly movements; and
- average noise levels.

More discreet on the AsA website is an Information Sheet describing the functions of the Airport Relations Branch. It is designed to provide information for airport operators and other organizations on building matters and in particular, endorsement of Australian Noise Exposure Forecasts (ANEFs). DITRDLG has tasked AsA with endorsing ANEFs. The Information Sheet states that:

> "In deciding whether to endorse an Australian Noise Exposure Forecast (ANEF), Airservices Australia ("the endorser") must be satisfied with the following elements of the ANEF:
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> (a) that the appropriate selection of aircraft types for the airport has been used as input data;
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> (b) that the runway usage and flight path data used as an input to the model are operationally suitable for the airport;
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> (c) that the forecast numbers of aircraft movements, operating times and the aircraft types carrying out operations are not greater than the physical ultimate capacity of the existing or proposed runway/s using accepted and published methodologies;
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> (d) that the contours have been modelled correctly;
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> (e) that the proponent has demonstrated it has paid due regard to all issues raised by State and Local Government authorities in relation to the ANEF; and
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> (f) any other matter the endorser considers relevant in deciding whether to endorse the ANEF."

Despite the above claims, AsA has failed on at least one significant occasion to follow its own guidelines. This instance concerns the Canberra Airport 2009 Master Plan which was approved by the Minister on 28 August 2009, based on advice provided by DITRDLG. The ANEF used in the Master Plan was the Practical Ultimate Capacity ANEF dated 11 August 2008. The ANEF had been endorsed for

technical accuracy by AsA even though it included dubious and misleading information, which AsA either ignored or overlooked.

Despite the decision by the Federal Court of Australia in 2008 that AsA's endorsement of the ANEF for technical accuracy was valid, by accepting the Practical Ultimate Capacity ANEF AsA failed to adhere to several points related to its own criteria:

1. It failed to take into consideration new aircraft types which could be expected to generate less noise than the current types used in the model. It used aircraft that many of which will have been retired from service during the next 20 years, such as Boeing 747, Boeing 767 and Airbus A340. All are being replaced on many routes by twin-engine types which generate smaller noise footprints. Narrow-body jet aircraft such as the Boeing 737 and Airbus A320 are not programmed to be replaced as such, but manufacturers expect that new technology engines, with lower emissions and noise footprints will be incorporated on the same basic design airframe, and within the next 10 – 15 years. Use of the Boeing 787, of which forecast noise data is available, was not included in the model, yet this aircraft is intended to replace Qantas' Boeing 767 fleet.

2. Assuming the aircraft types used in the current ANEF are valid, then flight paths should not be designed on the basis of all aircraft being equipped with sophisticated Global Positioning System (GPS) and Required Navigation Performance (RNP) technology. The endorsement of the RNP tracks was provided by sources within AsA, but apparently not by the Air Traffic Control RNP Specialist. The latter has formally advised the author of this Submission on at least two occasions that there is no intention to introduce a 15º off-set approach to Canberra Airport Runway 35, which transits the so-called High Noise Corridor. Despite the marketing promotions, many of today's aircraft are not fitted with RNP, nor are the operators interested in acquiring the necessary hardware and software for certification by the Civil Aviation Safety Authority (CASA). Retrofitting is a costly task and most aircraft fitted with analogue systems are incapable of being retrofitted. AsA has failed to thoroughly consult internally about the validity of proposed flight paths, particularly in regard to the number or percentage of aircraft likely to operate in to Canberra.

3. The air traffic movement forecasts used were theoretical and had no correlation with existing operations or climatic conditions experienced. There appears to have been no peer review or expert independent analysis of the forecasts, but rather an acceptance of Canberra Airport's speculation at face value. Experience has demonstrated that single runway or dependent runway airports are generally considered to have a practical capacity of somewhere between 150,000 and 200,000 movements per annum. This range occurs because it is rare that two airports are very similar. Factors such as terrain, airfield geometry, location of terminals, predominant wind direction, distribution of arrivals and departures, mix of traffic and wake turbulence all influence the capacity of an airport. In the case of Canberra, all jet aircraft are obliged to use Runway 17 or Runway 35, whilst some non-jet airline aircraft and most other light aircraft are able to also use the crossing Runway 12/30, but not at the

same time when Runway 17/35 is in use. Analysis needs to be undertaken with an internationally accepted airport capacity modeling tool, with results openly available for proper independent scrutiny. Peer review of such forecasts, and preferably also using an airport capacity modeling tool, should be undertaken as a matter of course to ensure the probity of the basis of the submission. The Practical Ultimate Capacity ANEF was endorsed, even though it necessitated an average movement rate of 33 aircraft per hour, every hour, every day of the year. The total movements per annum, upon which the ANEF is designed (285,040), exceed the number of movements realized at Melbourne Airport in 2008/09 by some 90,000, and London Gatwick for the 12 months ended September 2009, by some 40,000 movements. Gatwick is supported by rapid exit taxiways and entry points and some 96% of its traffic is jet aircraft. Therefore the variation in approach and departure speeds is relatively constant and the delays caused by wake turbulence are minimized. Canberra Airport has a much wider mix of airline, corporate, aero-medical, freight, military, charter and private aircraft of varying degrees of weight and performance. AsA ignored its responsibility to ensure that the projected movements were realistic or could be attained under normal operating conditions experienced at Canberra.

4. The contours are based on some flight paths that are neither in use, nor proposed by the CASA or AsA. The design of the contour is based upon the use of the RNP flight path described in (2.) above. It assumes that there will be an adoption of a track already rejected by both AsA and CASA and that the vast majority of aircraft will be equipped with and pilots trained and endorsed to use such procedures. Therefore acceptance of these contours is another failure by AsA to adhere to its own requirements.

5. In this case, AsA has also chosen to ignore the convention of using an ANEF that generally coincides with the planning period, but rather an ANEF that uses data that is highly optimistic and probably unlikely to ever be realized. AsA again fails its last element by assuming that the ANEF planning period is irrelevant.

6. The ANEF for Canberra Airport is in fact three mutually exclusive ANEFs superimposed to create a much larger ANEF. Each of the three ANEFs is unrealistic in many respects and they seem to be designed specifically to maximize the area covered by the ANEF contours in the vicinity of the proposed residential development at Tralee.

AsA's website specifically advises that:

"… the ANEF system is a scientific measure of aircraft noise exposure levels around aerodromes. It is the only Government endorsed measure that is used for land use planning and can also be used to give an indication of assessing community response to aircraft noise. The ANEF system is the basis for the Australian Standard AS2001-2000."

AsA's endorsement of Canberra Airport's Practical Ultimate Capacity ANEF brings into question the legitimacy of the scientific basis of the ANEF system because the Canberra Airport is based more on fantasy than science.

Despite the overt support for the use of the ANEF system by all levels of Government, AsA and DITRDLG have supported Canberra Airport's opposition to the residential development at Tralee and requested that the Minister write to the NSW Premier to object to the project, even though the proposed development is deemed suitable under the ANEF system.

ROLE OF DITRDLG

There is a solid argument that there is a need for an independent arbiter or honest broker to ensure that noise management policy reflects community expectations. As AsA is a service provider, especially of Air Traffic Services, it already has vested interests, and is therefore not suited in this role. In particular it is considered that, with respect to AsA's responsibilities for endorsing ANEFs, elements (c), (e) and (f) above are outside AsA's area of qualification and might better reside within DITRDLG.

The appropriate authority to assess these facets is DITRDLG, however recent correspondence mentioned above indicates that it is taking sides and not acting as an independent arbiter.

CASA also has vested interests and it too is unsuitable to be an independent arbiter.

CONSULTATION

In addition to the information available through its website, AsA attends airport related community consultative committees. However, these are now convened or chaired by airport operators, rather than by AsA. Since the establishment of the Federal Airports Corporation, and more significantly since the sale of major airports, it would appear that AsA has more of an observer status rather than as a voting member.

In Sydney, the Sydney Airport Community Forum (SACF) meets quarterly, with its role as

- providing advice to the Minister for Infrastructure, Transport, Regional Development and Local Government, Sydney Airport Corporation and aviation authorities on the abatement of aircraft noise and related environmental issues at Sydney Airport, in particular it is the main body for consultation on the Long Term Operating Plan for the Airport.
- providing advice to aviation authorities to facilitate improved consultation and information flows to the community about the Airport's operations.

It should be noted however, that AsA's role is confined to that of "advisor". Its influence must therefore be limited. The Secretariat is provided by DITRDLG and a

"Summary Record" is available through the SACF website and a link from the AsA website.

Canberra Airport has established Canberra Airport Aircraft Noise Consultative Forum (CAANCF), which comprises representatives from community groups, industry and government, and apparently meets three times per year. There is no evidence of its reports being made available to the public, nor is there any advice from AsA about such proceedings.

Proceedings from other airport community forums are usually provided by the airport operator concerned, but not necessarily readily available for public scrutiny.

As a result, AsA's consultation role appears to be very limited and ineffective.

NOISE SHARING ARRANGEMENTS

So far, the concept of noise sharing has only been imposed at Sydney (Kingsford Smith) Airport. This was an element of the Long Term Operating Plan (LTOP) which was developed by the previous Government and adopted by the current Government when it came to power.

The LTOP was introduced as a result of the changed flight paths which were necessary following the commencement of operations on the parallel runway and the impact on dwellings that had not previously experienced significant amounts of aircraft noise. There does not seem to have been any previous government initiative to suggest that noise sharing has been introduced because of the expansion of residential areas under existing flight paths. Therefore, any suggestions that noise sharing would be implemented due to a new residential development appear to be misleading.

However, as part of Noise Abatement Procedures, preferred runways and flight paths are often nominated to minimize noise exposure over residential area, particularly at night. In such cases, usually when traffic density is less, aircraft may be required to be processed where possible over water or over fewer residences than during day time. These Noise Abatement procedures do not constitute noise sharing. Any suggestion by AsA otherwise is completely misleading.

SUMMARY OF CONCLUSION

AsA has failed in regard to several issues related to the management of aircraft noise.

As the endorser of ANEFs it has failed to address its own criteria in the case of Canberra Airport's current ANEF:

- It failed to ensure new types of aircraft were considered in the model;
- It failed to ensure the flight paths that were proposed were all valid;

- It failed to properly evaluate the forecasts used in the model and the realistic capacity of the airport;
- It failed to ensure that the contours correlated with the approved flight tracks;
- It failed to recognize that such an open-ended planning horizon negated the usefulness of the ANEF as a planning tool.

DITRDLG might be a better suited independent arbiter of noise management rather than AsA or CASA, both of which have vested interests as service provider or regulator.

AsA appears to have a diminished and ineffectual role in airport environment consultative committees.

The concept of noise sharing is only in place at Sydney, as distinct from Noise Abatement Procedures, which apply at most airports and feature preferred runways and/or preferred flight paths during night hours.

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