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SACF SUBMISSION ON AIRSERVICES AUSTRALIA FLIGHT PATH DESIGN PRINCIPLES

Introduction

On 11 June 2020 Airservices Australia advised the Chair of the Sydney Airport Community Forum (SACF) that its final Flight Path Design Principles were available for public comment. This is a submission from SACF in response to that invitation. It is noted that while the Flight Path Design Principles do not apply to Sydney Airport and its Associated Airspace where the flight paths are determined by the principles and modes of operation of the Long Term Operating Plan (LTOP), SACF is in a unique position to offer its extensive and long standing experience and expertise in dealing with the impacts on the community of the operations from Australia's busiest airport.

Overall SACF is disappointed with the final Flight Path Design Principles. The Draft Flight Path Design Principles (January 2020), while not perfect and less effective than LTOP, were a good and reasonably balanced starting point for a set of principles that reflected the lessons learned with regards to flight paths and the impacts of aircraft noise pollution on the community. Unfortunately, what should have been a process of refinement and enhancement from a sound base has instead resulted in the principles being simplified and diluted. This is particularly the case with regards to those principles that deal with environment, noise and community impact, to the extent that resultant final Flight Path Design Principles (June 2020) are now deficient and need to be revised for those airports that do not have the benefit of LTOP.

Comparison of the Draft and Final Principles

At Appendix A is a table that compares the original draft Flight Path Design Principles with the final Flight Path Design Principles. What is immediately apparent is that aside from the two safety principles, of the remaining 11 principles, all but two of them have been qualified that they only need to be considered in the flight path design process. The two that are not qualified with "*consider*", and would therefore be viewed as absolute, are those that "*deliver operational efficiency and predictability",* and "*facilitate access to all appropriate airspace users*". In other words, principles that if properly applied might reduce noise and other community impacts are only an afterthought to be considered once the industry's priorities are satisfied. The practical effect of this might be, for example, that a potential flight path that avoids residential areas but adds track miles would be discounted because it does not deliver the same level of efficiency to the industry and results in a tiny percentage increase in the overall amount of fuel used. Flight path designs that minimise the impact of aircraft operations on the affected community should not just be considered, they must be the priority and should only be compromised if they are unsafe or are demonstrably inefficient.

As the Sydney Airport experience has taught, aircraft noise pollution impacts are managed and minimised through noise removal, relocation, reduction, respite, avoiding reciprocity and sharing unavoidable residual noise by fairly distributing it over a wide area. These lessons learnt were to a much larger extent reflected in the Draft Flight Path Design Principles than the final Flight Path Design Principles.

The final Principles have also narrowed the application of some of the key Noise and Community principles to an extent that severely limits their effectiveness. Principle 6 of the Draft Principles for example states that "*Noise should be concentrated as much as possible over non-residential and other non-noise sensitive areas and establishments*", whereas the corresponding principle in the final Principles limits this to "*concentrating aircraft operations to avoid defined noise sensitive sites*", without any definition of what a defined noise sensitive site is. Similarly, Principle 7 of the Draft Principles states that "*where residential areas are exposed to noise it should be fairly shared...*" However, the corresponding principle in the final Principles narrows this very considerably to only sharing noise where "*high density residential areas*" are exposed. This would seem to suggest that flight paths over most of the suburbs of our cities will not be designed to share the noise because they are not "*high density*". Yet, as the Sydney experience has demonstrated, suburban areas with low ambient noise are at least as impacted by aircraft noise pollution as high rise, high density areas.

SACF does agree that removal of references to the current design standards and procedures such as continuous descent operations (CDO) etc. is appropriate as the document should outline principles not list design standards and operational procedures that are likely to change over time.

It should also be pointed out that it is inappropriate to have a disclaimer at the bottom of the Principles that Airservices does not represent that the information is free of errors, and we assume that this will be removed when the document is finally published.

The Stakeholder Engagement Process

SACF acknowledges that it has been kept informed of the Flight Path Design project and thanks Airservices for the presentation at its meeting on 21 February 2020. However, there are serious concerns over the stakeholder engagement process and the interpretation that Airservices and its consultants have given to the outcomes.

It is evident from the consultation methodology used, where the aircraft noise impacted community was lumped together with the general community, and where there was not even a workshop held in Sydney – the city with the busiest airport and largest aircraft noise impacted population, that this was a process that diluted the importance of the effects of aircraft noise on the community in flight path design. Eager and well-meaning members of a local Lions or sporting club who bear none of the impacts of aircraft noise pollution caused by flight paths, would appear to have been given equal consideration in the consultation as people whose day to day lives are directly affected by the aircraft operations that the flight paths impose. It is easy to minimise or dismiss all together the impacts of aircraft noise

pollution when you are not subject to it. Yet, this is would seem to be the process that was used along with a survey methodology that gave the impression of being designed to provide a predetermined outcome in ascertaining relative priorities.

While there was a presentation at its February meeting to SACF on the Flight Path Design Principles there is no evidence that the feedback provided has been considered. Nor was there an opportunity for SACF members to be more fulsomely engaged through the community workshops where the Principles would appear to have been debated and tested, as there was not a community workshop held in Sydney that SACF members could attend.

While the Flight Path Design Principles do not apply to Sydney Airport and its Associated Airspace, this has deprived the broader Australian community of the long-standing experience of SACF in dealing with the implications of flight paths and aircraft noise pollution from Australia's busiest airport, and the successful implementation of the Long Term Operating Plan to share the problem of aircraft noise pollution. Unfortunately, this lack of meaningful engagement is evident in the final Flight Path Design Principles that are now inconsistent with LTOP and subsequent lessons learnt in a number of key respects.

It is concerning also that despite the current consultation process, SACF was advised by Airservices in its letter dated 11 June 2020 that *"…based on stakeholder feedback, we have developed the final principles which we will apply to the design, development and implementation of new flight path and airspace changes from July 2020."* As Airservices has given until 8 July for comments on the Principles it seems clear that they are being presented to SACF, other stakeholders and the general public as a fait accompli.

The Principles Do Not Apply to Sydney

At its last meeting Airservices confirmed to SACF that the Flight Path Design Principles it has developed do not apply to Sydney (Kingsford-Smith) Airport and its Associated Airspace due to the primacy of the Long Term Operating Plan. The Draft Summary Record for SACF Meeting 02/2020 on 8 May 2020, Agenda Item 5, records that:

> *"Ms Lawton (Airservices Australia) confirmed the draft Flight Path Design Principles would not apply to the operation of the Long-Term Operating Plan for Sydney (Kingsford-Smith) Airport and its Associated Airspace (LTOP), which currently governs flight paths in the Sydney Basin. Ms Lawton noted SACF members' comments that a written acknowledgement of this would be beneficial in the next version of the draft Principles."*

However, the most recent version of the Flight Path Design Principles does not include the written acknowledgement that Ms Lawton refers to. The only mention of the primacy of LTOP in Sydney and its Associated Airspace is in the accompanying Application Notes dated 20 June 2020 which state on page 6:

> "*There may be situations where the Principles cannot be fully applied due to legislative requirements. For example, the Principles and Application Notes do not*

vary the Long Term Operating Plan (LTOP) for Sydney Airport, or legislated airport curfew acts."

The risk is that, without a clear statement, the public and airspace designers may mistakenly believe in the future that the new Principles apply everywhere, including at Sydney Airport, to the potential future detriment of LTOP, SACF and the affected Sydney community. To address this the following needs to be done:

1. The below statement is to be added (within the box outline) to the Airservices' Principles document:

   "*These Principles do not apply to Sydney Airport and Associated Airspace. The design and implementation of all flight paths and all operational procedures within 45 nautical miles of Sydney Airport must comply with the Long Term Operating Plan for Sydney Airport and Associated Airspace*."

2. The Application Notes page 12 should be updated to correctly reference the LTOP Legislative Instrument by adding as the 5th dot point in the paragraph headed "Policies, Legislation, Standards and Guidance"

   " *Airservices Act 1995- section 16(1) - Direction concerning the Sydney Airport long term operating plan - Legislative Instrument F2009B00158*". (Commonly referred to as the 1997 Ministerial Direction, Instrument M94/97, The Long-Term Operating Plan for Sydney (Kingsford Smith) Airport and Associated Airspace.)

3. The Application Notes page 12 also need to be updated to correctly reference LTOP and its Proponents Statement as a source of information by including under Sources of Information:

   "The Long-Term Operating Plan for Sydney (Kingsford Smith) Airport and Associated Airspace - Airservices Australia Taskforce Report, December 1996.

   Sydney Airport Long Term Operating Plan - Proponent's Statement - Department of Transport and Regional Development, June 1997".

   Both complete documents should also be made available for download from the Airservices Australia web site.

Copies of the relevant pages from the above documents with these amendments made are at the Appendixes.

It should also be noted that if it eventuates that application of the Principles to other flight paths directly or indirectly impact upon LTOP, Sydney Airport or its Associated Airspace, the 1997 Ministerial Direction requires that SACF must be consulted before any change is implemented.

Conclusion

The final Flight Path Design Principles provide little confidence that future flight paths across Australia will be designed in a manner that minimises the impact of aircraft operations on aircraft noise affected communities. They show a clear preference towards satisfying airport and industry objectives while only considering aspects of flight path design that provide community benefit after other priorities have been met. While the primacy of LTOP fortunately means these principles will not be applied to Sydney Airport and its Associated Airspace there is a need for this to be explicitly recognised in the Flight Path Design Principles and for reference to the Ministerial Direction and LTOP documentation in the Application Notes that accompany the Principles.

SACF is disappointed that its long-standing expertise was not better utilised by Airservices and its consultants in development of the Principles and that this is evident in the result. It is clear that the current version of the Principles should not be considered final and their implementation should be delayed until the current deficiencies are rectified. SACF members would be willing to assist in this.

Appendices:

A. Comparison of Draft Flight Path Design Principles and Final Flight Path Design Principles

B. Proposed addendum to the Flight Path Design Principles to include that the Principles do not apply to Sydney Airport.

C. Proposed addendum to the Application Notes, p12 to reference the LTOP Ministerial Direction and associated LTOP documentation.

Comparison of Airservices Version 1 and Version 2 Draft Flight Path Design Principles

Version 1 (March 2020)	Version 2 (June 2020)	Comment
Safety Principle Principle 1 - The safety of air navigation must be the most important consideration.	**Safety and Compliance Principle** Safety of air navigation must be the most important consideration.	**Unchanged – same as Old Draft Principle 1** **Note change of category title**
Safety Principle Principle 2 - Flight paths must be designed in accordance with Australian and International design standards established in International Civil Aviation Organisation (ICAO) PANS-OPS and Australian Civil Aviation Safety Regulations Part 173.	**Safety and Compliance Principle** Flight path design must comply with Australian and International design standards and cater for the range of aircraft that will operate on the flight paths.	**Replaces Old Draft Principles 2 and 13**
Environmental Principle Principle 3 - Minimise the effect on the environment through designs that effectively manage emissions, fuel consumption and greenhouse gases, limiting these wherever practicable.	**Efficiency and Environmental Principles** Design flight paths that deliver operational efficiency and predictability, and minimise the effect on the environment through reducing fuel consumption and emissions.	**Replaces Old Draft Principles 3 and 5** **Note change of category title** "Environmental Principle" has now become a combined "Efficiency and Environmental Principle"
Environmental Principle Principle 4 - To the extent practicable, protect areas of Matters of National Environmental Significance (MNES), local cultural heritage and areas of natural beauty, considering the noise, emissions and visual impacts of the change.	**Noise and Community Principle** Consider potential impacts on social, economic and cultural values of communities and locations, including Indigenous and other heritage places.	**Old Draft Principle 4 now split into two principles** **Note use of word "consider" in 7 Principles and consequent softening.**

	Efficiency and Environmental Principles Consider Matters of National Environmental Significance, other sensitive habitats, and registered heritage sites.	
Environmental Principle Principle 5 - Design flight path changes that deliver efficiency while minimising the noise effects of aircraft operations through continuous descent operations (CDO), continuous climb operations (CCO) and unrestricted flight paths.	**Efficiency and Environmental Principles** Design flight paths that deliver operational efficiency and predictability, and minimise the effect on the environment through reducing fuel consumption and emissions. See also two above.	**Replaces Old Draft Principles 3 and 5** **Operational efficiency now more prominent. Reduced fuel consumption and emissions may imply fewer track miles which may imply unwanted concentration of flights and noise.**
Noise and Community Impact Principle Principle 6 - Noise should be concentrated as much as possible over non-residential and other non-noise sensitive areas and establishments	**Noise and Community Principle** Consider concentrating aircraft operations to avoid defined noise sensitive sites.	**Replaces Old Draft Principle 6** **Consideration of concentration now potentially broadened.**
Noise and Community Impact Principle Principle 7 – Where residential areas are exposed to noise, it should be fairly shared whenever feasible and practicable	**Noise and Community Principle** Where high-density residential areas are exposed to noise, consider flight path designs that distribute aircraft operations, so that noise can be shared.	**Replaces Old Draft Principle 7** **Now referring to High Density areas only.**

Noise and Community Impact Principle Principle 8 - Noise Abatement Procedures and Fly Neighbourly Procedures should be optimised to achieve the lowest possible overall impact on the community.	**Noise and Community Principle** Where noise exposure is unavoidable, consider Noise Abatement Procedures that adjust aircraft operations to reduce noise impacts, including consideration of the time of these operations.	**Replaces Old Draft Principle 8**
Noise and Community Impact Principle Principle 9 - Aircraft operations that are conducted at night or on weekends should be treated as being more sensitive than those which occur during the daytime or on weekdays.		**Old Draft Principle 9 removed**
Noise and Community Impact Principle Principle 10 - Both current and expected future noise exposure shall be taken into account when considering flight path design changes.	**Noise and Community Principle** Consider current and expected future noise exposure when designing flight paths	**Replaces Old Draft Principle 10** **Largely unchanged.**
Noise and Community Impact Principle Principle 11 - To the extent practicable, distribute flight paths so that residential areas overflown by aircraft arriving on a particular runway do not also experience overflight by aircraft departing from the runway in the reciprocal direction		**Old Draft Principle 11 removed** **Non-reciprocal flight paths is an important respite measure and is now gone.**
Operational Principle Principle 12 - Consider the impact of flight path options on airport capacity and overall network operations.	**Operational Principle** Consider flight paths that optimise airport capacity, and meet future airport requirements. **Operational Principle**	**Replaces Old Draft Principle 12** **Optimising airport and network capacity now more prominent.**

	Consider flight paths that optimise overall network operations, including consideration of operations at adjacent airports.	**Replaces Old Draft Principle 12**
Operational Principle Principle 13 - Flight paths will accommodate differing aircraft performance as specified in ICAO PANS-OPS.		**Replaced by Safety and Compliance Principle (second dot point)**
Operational Principle Principle 14 – Design flight paths to facilitate access to all eligible airspace users.	**Operational Principle** Design flight paths to facilitate access to all appropriate airspace users.	**Replaces Old Draft Principle 14**
	Operational Principle Consider innovation and technology advancements in navigation and aircraft design	**New**

Flight Path Design Principles

airservices

Safety and compliance principles

- Safety of air navigation must be the most important consideration.
- Flight path design must comply with Australian and International design standards, and cater for the range of aircraft that will operate on the flight paths.

Noise and Community principles

- Consider concentrating aircraft operations to avoid defined noise sensitive sites.
- Consider potential impacts on social, economic and cultural values of communities and locations, including Indigenous and other heritage places.
- Where high-density residential areas are exposed to noise, consider flight path designs that distribute aircraft operations, so that noise can be shared.
- Where noise exposure is unavoidable, consider Noise Abatement Procedures that adjust aircraft operations to reduce noise impacts, including consideration of the time of these operations.
- Consider current and expected future noise exposure when designing flight paths.

Efficiency and Environmental principles

- Design flight paths that deliver operational efficiency and predictability, and minimise the effect on the environment through reducing fuel consumption and emissions.
- Consider Matters of National Environmental Significance, other sensitive habitats, and registered heritage sites.

Operational principles

- Design flight paths to facilitate access to all appropriate airspace users.
- Consider flight paths that optimise airport capacity, and meet future airport requirements.
- Consider flight paths that optimise overall network operations, including consideration of operations at adjacent airports.
- Consider innovation and technology advancements in navigation and aircraft design.

These Principles do not apply to Sydney Airport and Associated Airspace. The design and implementation of all flight paths and all operational procedures within 45 nautical miles of Sydney Airport must comply with the Long Term Operating Plan for Sydney Airport and Associated Airspace.

June 2020

Policies, Legislation, Standards and Guidance

- *Air Services Act 1995*
- *Airports (Protection of Airspace) Regulation 1996*
- *CASA Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Aviation Safety Regulations (CASR) 1998 Part 173 – Instrument flight procedure design*
- *ICAO Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*
- *ICAO Doc 9905 Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual*

Sources of Information

Our Aeronautical Information Service (AIS) provides the online material and publications that display flight paths, instrument flight procedures and aerodrome charts https://www.airservicesaustralia.com/aip/aip.asp

Exclusions

There are many other parties with a range of responsibilities for managing aviation safety within Australia, including CASA, Australian Transport Safety Bureau (ATSB), airlines and operators, pilots, airports, and aircraft manufacturers.

These parties are also responsible for elements of aviation safety, outside of Airservices obligations to the safety of aviation navigation.

Federally leased airports must manage prescribed airspace approved by Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) and this cannot be infringed upon. The prescribed airspace establishes protection from obstacles at and around airports in the interests of the safety, efficiency or regularity of existing or future air transport operations.

Airports are also responsible for other hazard management including animals and bird-life.

Airservices Act 1995- section 16(1) - Direction concerning the Sydney Airport long term operating plan - Legislative Instrument F2009B00158

Words within the red box above to be added as the 5th dot point in the paragraph headed "Policies, Legislation, Standards and Guidance".

The Long-Term Operating Plan for Sydney (Kingsford Smith) Airport and Associated Airspace - Airservices Australia Taskforce Report December 1996

Sydney Airport Long Term Operating Plan - Proponent's Statement - Department of Transport and Regional Development June 1997

Words within the red box above to be added to the end of the paragraph headed "Sources of Information".