Committee Secretary
Senate Standing Committees on Rural and Regional Affairs and Transport
PO Box 6100
Parliament House
CANBERRA ACT 2600

Via email: rrat.sen@aph.gov.au

Dear Committee Secretary

Airservices Australia Submission to Impact and Mitigation of Aircraft Noise Inquiry

Please find attached appendices to Airservices Submission to Impact and Mitigation of Aircraft Noise Inquiry.

- Appendix A – Airport Case Studies Examples
- Appendix B – Timeline of Noise Management in Australia
- Appendix C – International Benchmarking
- Appendix D – Flight Path Design Principles
- Appendix E – Environmental Management of Changes to Aircraft Operations – National Operating Standard
- Appendix F – Community Engagement Standard for Flight Path and Airspace Change Proposals
- Appendix G – Community Engagement Framework
- Appendix H – Noise Complaints and Information Service Managing Aircraft Noise Complaints and Enquiries Procedure
- Appendix I - Environmental and Sustainability Strategy 2021-2026

These documents are referenced within Airservices Submission, however, they have been attached to this letter to assist the Secretariat in managing the publication of documents.

Yours sincerely

Russell McArthur
Senior Policy Advisor, Government Relations

10 April 2024

Airservices Australia Submission Impact and Mitigation of Aircraft Noise Inquiry – April 2024

APPENDICES

Appendix A – Airport Case Studies Examples

Sydney Kingsford Smith Airport (KSA)

Kingsford Smith Airport (KSA) was established on a bull paddock by aviator Nigel Love in 1919, the first flight took place in 1920. The Commonwealth Government acquired the site in 1923 until it was privatised in 2002.

In 1989 the Australian Government made the decision to develop the third runway at KSA. In 1991 the second Sydney Airport at Badgerys Creek was put on hold. The Third runway opened in 1994.

In 1995, the Senate Select Committee on Aircraft Noise in Sydney conducted their inquiry, in the same year the *Sydney Airport Curfew Act 1995* and the *Sydney Airport Demand Management Act 1995* were introduced. The capacity of KSA prior to the construction of the third runway was 268,000 movements per year in calendar year 2023 KSA handled 324,007 movements.

Following the opening of the new runway in 1994, Sydney received 43,035 complaints in 1995 compared to 12,977 complaints in 1994. In calendar year 2023 Sydney received 4,229 complaints from 736 complainants.

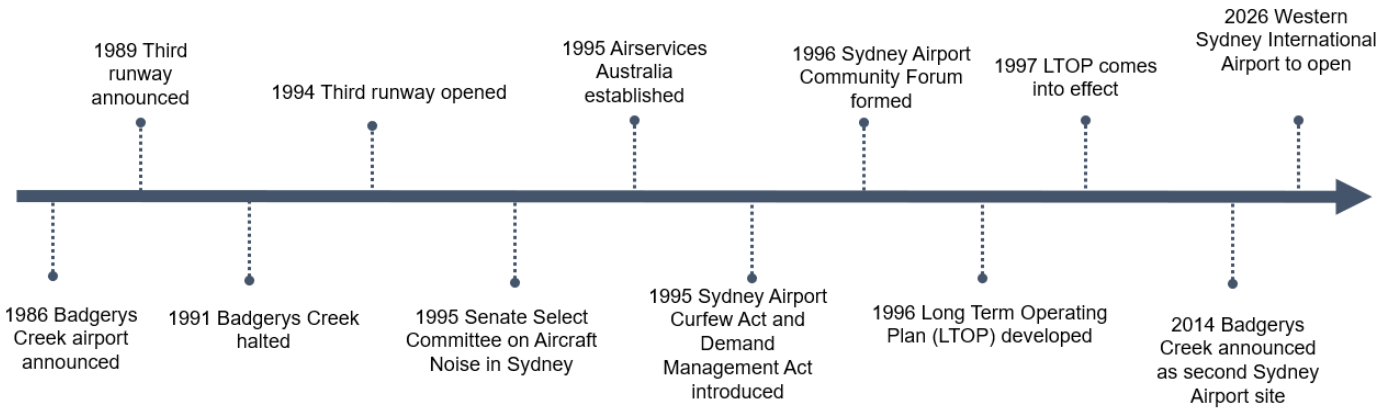
Top complainant issues in Sydney in 2023 were:

2023 - Top 5 Issues Sydney

Issue	Classification	Complainants
Standard Flight Path Movements	Departures north from the main runway (34L)	163
Standard Flight Path Movements	Arrivals onto the third runway from the north (16L)	99
Standard Flight Path Movements	Departures from the third runway north (34R)	98
Standard Flight Path Movements	Arrivals from the north onto the main runway (16R)	79
Unusual Movements	Weather Diversions	70

In 1994 when the third runway opened the population of Sydney was 3.7 million. The current population of Sydney is 5.1 million.

Sydney Airport Third Runway



In 1997 the Long Term Operating Plan for Sydney (Kingsford Smith) Airport and associated airspace was introduced.

In 2012 the joint study on aviation capacity in the Sydney region was completed. In 2014 the Australian Government announced Badgerys Creek as the site for Sydney's second airport. Western Sydney International Airport is to open in 2026.

The Long Term Operating Plan has provided a level of consistency in operations for Sydney residents during the past 27 years. As the airport capacity increases the opportunities for noise sharing are reducing and this will pose challenges in reducing the impacts of aircraft noise, particularly with Western Sydney opening in 2026. The Long Term Operating Plan is governed by the Sydney Airport Community Forum the membership includes Federal Members of Parliament, State Members of Parliament and local councils in areas which surround the airport, there are also four community representatives, the two major airlines (Qantas Airways and Virgin Australia) the Board of Airline Representatives Australia and Sydney Airport.

There is also a technical committee the Long Term Operating Plan Implementation and Monitoring Committee chaired by Airservices Australia with two community representatives, two airline representatives, a Sydney Airport representative and a representative of the Department of Infrastructure, Transport, Regional Development, Communications and the Arts whose Terms of Reference are:

- Monitor the distribution of noise, flight paths and runway movements which arise out of the Implementation of the Long Term Operating Plan.
- Provide reports on the results of the monitoring to the Sydney Airport Community Forum (SACF) and the broader community on a regular basis.
- Comment on potential changes to operational procedures under the Plan which will improve the aircraft noise environment in the Sydney area.
- Oversight the conduct of specific studies relating to aspects of the Plan.

Other challenges as governments around the country seek to manage housing crisis is Sydney like most major cities around Australia has undergone urban densification close to transport routes to manage housing shortfalls. The suburb of Green Square for example now has 35,549 residents with a population density of 12,505 per square kilometre. This poses challenges in balancing the growing population in major cities and proximity to infrastructure such as KSA.

Under the Flight Path Design Principles Airservices to distribute operations where possible so that noise can be shared, however, high density urban infill poses airspace protection challenges in designing flight paths. This highlights the critical role of State Governments, Local Councils, airports, Airservices and the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts working together on these matters particularly for land use planning and ensuring that new dwellings are built to appropriate standards to minimise the impact of aircraft noise in close proximity to airports. The principles of the National Airport Safeguarding Framework are important to balance the demands for new dwellings against increases in demand for aviation capacity.

Melbourne Airport

Melbourne Airport opened on 1 July 1970 as a greenfields airport on 5,300 hectares of land in rural Tullamarine. In 1970 the population of Melbourne was 2.3 million, in 2023 the population of Melbourne was 5.2 million.

The ultimate plan to have four runways at Melbourne Airport has been included in airport planning since the mid 1990's. The airport was owned by the Australian Government until its privatisation on 30 June 1997.

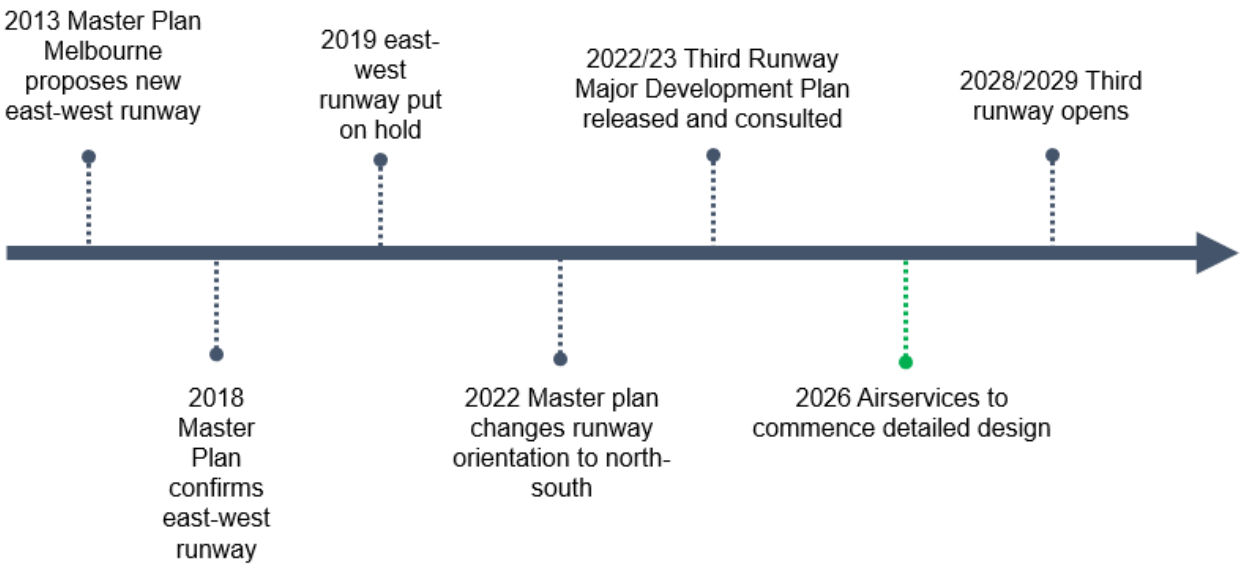
Unlike KSA, Melbourne Airport had initial protections from housing being located close to the airport as it was located on a rural site with limited housing in close proximity. However, like Sydney, Melbourne has continued to grow in population and has sought to identify land for new housing developments with more affordable housing. This has resulted in a number of residential developments were introduced close to Melbourne Airport in the 1980's -1990's, these included Sunshine, Taylors Lakes, Caroline Springs, Greenvale and Cairnlea. This residential encroachment then poses challenges like in Sydney but with lower density population close to Melbourne Airport

The 2013 Master Plan included a proposed new east-west runway. In 2022 the runway direction was changed to north-south. Melbourne Airport had 235,933 movements in 2023 and 436 complaints from 260 complainants.
Top complainant issues in Melbourne in 2023 were:

2023 - Top 5 Issues Melbourne

Issue	Classification	Complainants
Standard Flight Path Movements	Arrivals from the east	54
Standard Flight Path Movements	Arrivals from the south	51
Standard Flight Path Movements	Departures to the south	29
Runway Works	Arrivals from the east	26
Standard Flight Path Movements	Multiple Runway Directions	20

Melbourne Airport Third Runway Timeline



The timeline for the third runway highlights the challenges for Airservices in the long lead time between determination of the final concept and endorsement of the Major Development Plan prior to Airservices commencing detailed design. As highlighted above the continued need for new housing developments will likely result in additional urban encroachment prior to the runway opening and poses challenges in design flight paths to minimise noise impacts on the community.

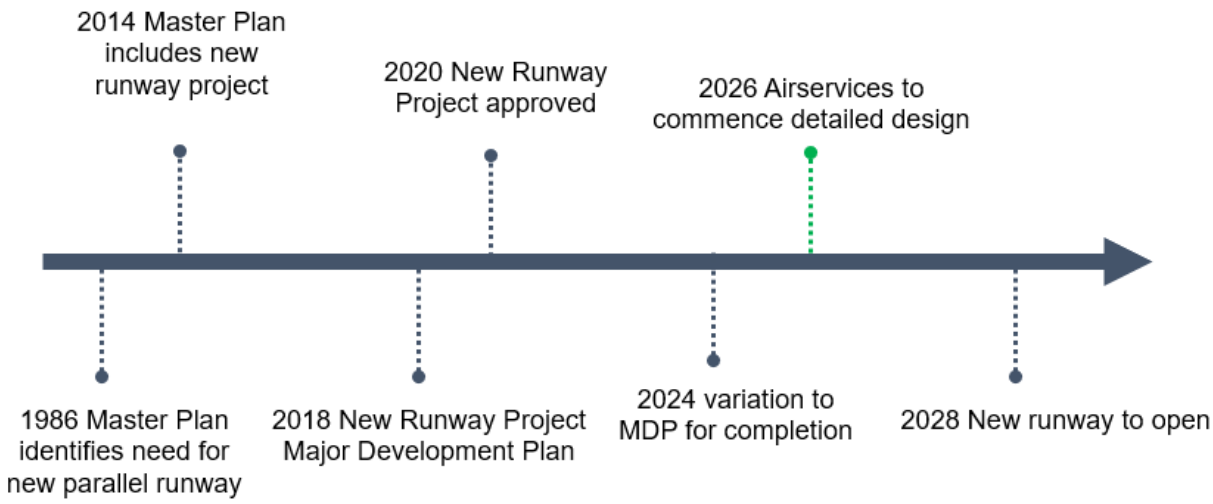
Perth Airport

In 1938 South Guildford was selected as the site of Perth Airport. In 1943 the first runway was built for Royal Australian Air Force fighter aircraft.

In 1973 the need for a second parallel runway at Perth Airport was first identified. In 1980 the Australian Government announced a new international terminal would be built, it opened in 1986.

Also, in 1986 the parallel runway was first proposed in an airport Master Plan. In 1997 Perth Airport was privatised to the Westralia Airports Corporation under a 50-year lease (with 49-year extension option).

Perth Airport New Parallel Runway timeline



The long lead time in the development of the new parallel runway similar to other airports highlights the challenge in ensuring appropriate land use protection, zoning and the partnership that is required between State Governments, Local Councils, airports, Airservices and the Department of Infrastructure, Transport. In particular land use planning in close proximity to the airport and ensuring that new dwellings are built to appropriate standards to minimise the impact of aircraft noise.

In 2011 the Hon Judi Moylan MP introduced a Bill to amend the *Air Services Act 1995*, which required Airservices Australia to consult with and cooperate with government, and communities when modifying or creating flight paths. The Bill also proposed the introduction of community advocates for the duration of a consultation process when new flight path changes to airspace are being implemented.

This followed the 2010 Senate Inquiry into the effectiveness of Airservices management of aircraft noise.

The Aviation White Paper proposed the establishment of Community Aviation Consultation Groups which would assist in performing part of this function for new flight path design. The Aircraft Noise Ombudsman was also established to oversight Airservices and conduct independent reviews of management of aircraft noise related activities including complaints handling, community consultation processes related to aircraft noise, and the presentation and distribution of aircraft noise related information.

For Airservices, there has been significant community engagement improvements since the 2010 inquiry, which includes the Flight Path Design Principles (the Principles) (**Appendix C**) which were adopted on the 1st of October 2020. The Principles provide the basis for designing and developing flight paths to manage the impacts of aviation activities requiring a balance of ensuring safety, operational efficiency, protecting the environment and minimising the effects of aviation noise on the community, wherever practicable.

Airservices has also modified the Environmental Management of Changes to Aircraft Operations National Operating Standard (NOS) (**Appendix D**) was revised to take into account the differences in background noise levels between urban and rural areas for noticeability of aircraft noise. The NOS also included consideration of "newly overflown" communities and different weightings for daytime noise (6am-11pm) versus night-time noise (11pm-6am). The NOS considers fuel burn, CO_2 and other emissions in consideration of new flight paths.

Airservices has also adopted a new Community Engagement Standard (**Appendix E**). The Standard is part of the ongoing evolution of our flight path and airspace change community engagement practices, which commenced with our Community Engagement Framework in August 2021.

In 2023 Perth received 687 complaints from 291 complainants. Top complainant issues in Perth were:

2023 - Top 5 Issues Perth

Issue	Classification	Complainants
Standard Flight Path Movements	Arrivals from the south-west (06)	80
Standard Flight Path Movements	Departures to the south (21)	52
Standard Flight Path Movements	Arrivals from the south (03)	23
Standard Flight Path Movements	Departures to the north (03)	22
Night Movements	Arrivals from the south-west (06)	21

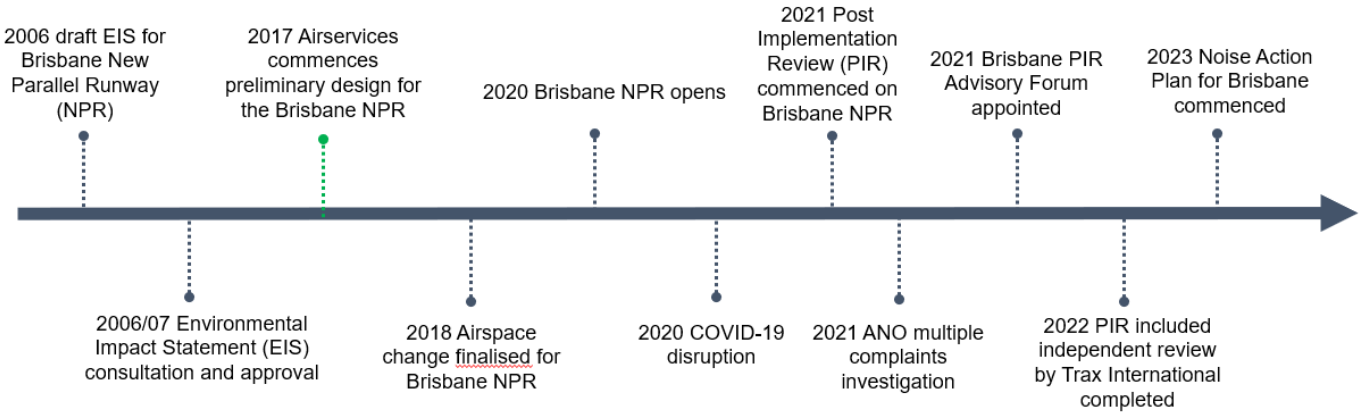
Brisbane Airport

In 1925, 36 hectares of agricultural land at Eagle Farm was acquired as the site for Brisbane's first airport. Operations ceased between the 1930s and 1947.

In 1971, a recommendation was made to construct a new airport at Cribb Island. In 1987 the new Brisbane Airport runway and tower was commissioned. The last departure from the old airport occurred in 1988.

In 1997 Brisbane Airport Corporation purchased Brisbane Airport from the Australian Government on a 50-year lease (with a 49-year extension option).

Brisbane Airport New Parallel Runway timeline



In 2006 a draft Environmental Impact Statement (EIS) for the new runway was issued. In 2006/07 EIS was consulted and approved. In 2017 Airservices commenced a preliminary design for the Brisbane New Parallel Runway. In December 2018 the design for Brisbane NPR was finalised.

The long lead time (11 years) between the approval of the EIS and the commencement of preliminary design like other airports highlights the challenge in ensuring appropriate land use protection, zoning and the partnership that is required between State Governments, Local Councils, airports, Airservices and the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts working together on these matters. In particular land use planning in close proximity to the airport and ensuring that new dwellings are built to appropriate standards to minimise the impact of aircraft noise.

Similar to Sydney, Brisbane has looked at urban infill to meet the growing housing demands for the city. In 2006 Brisbane's population was 1.6 million, in 2023 Brisbane's population was 2.5 million. This large rate of growth has required increased dwellings. Areas to the east of the city such as Hamilton where the first dwellings became available in Hamilton Reach in 2012, under the NPR alignment, show the changes in demographics and challenges in flight path design. The Northshore Hamilton Project was announced in 2008, after the EIS had been approved for the Brisbane NPR.

This growing housing demand means that the ability to share noise within Brisbane to provide relief for those communities under the runway alignment becomes critical with every increasing density in these areas of demand close to the Brisbane CBD.

Similar to Sydney there has been a spike in noise complaints since the opening of the new runway.

In 2019 there were 581 complaints from 304 complainants, in 2020 there were 4,002 complaints from 1,142 complainants. In 2023 there were 11,290 complaints from 1,741 complainants.

2023 - Top 5 Issues Brisbane

Issue	Classification	Complainants
Standard Night time Movements	Legacy runway departures over the city (19L)	338
Standard Day time Movements	NPR departures over the city (19R)	268
Standard Day time Movements	Legacy runway departures over the city(19L)	229
Standard Day time Movements	NPR arrivals over the city (01L)	205
Standard Day time Movements	Legacy runway arrivals over the city (01R)	143

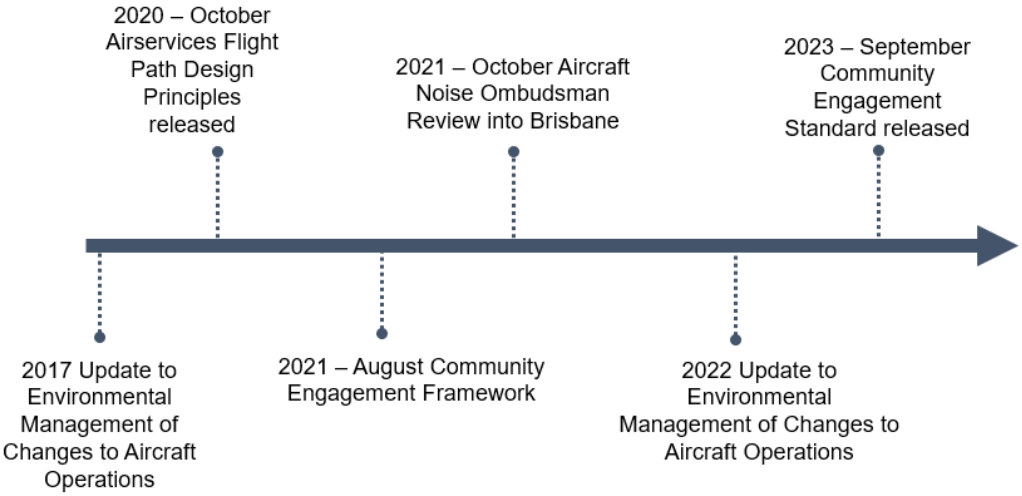
Airservices commenced the Post Implementation Review of the NPR in 2021. In the same year the Aircraft Noise Ombudsman following multiple complaints launched a multiple complaints investigation in the Brisbane NPR. The ANO made four recommendations:

1. Airservices Post Implementation Review of the Brisbane flight paths includes a community engagement process that provides reasonable opportunities for community contributions and community suggested alternatives.
2. Airservices review the effect of its managerial separation of flight path design, environmental assessment and community engagement and implement a management structure that includes these functions under the same manager or demonstrate how effective community engagement is incorporated into the flight path change process under the current structure.
3. Airservices update its Third Party Framework to ensure that Airservices' obligations regarding community engagement are properly acquitted when it enters into cooperative arrangements for community engagement with third parties.
4. Airservices update its policies to ensure that if metrics for the assessment of significance have changed since initial EIS assessment and approval, the originally approved designs and data should be used to produce the relevant applicable metrics, retrospectively. If the original approved data does not support production of the additional metric, for comparison against the final flight path designs, the comparative assessment should clearly explain the reasons for the alternate assessment method selected.

Airservices accepted all the recommendations and noted the PIR commenced with Terms of Reference released for public comment. Lessons learned from previous PIRs were taken into consideration. Airservices also engaged with the Brisbane PIR Advisory Forum (BAPAF) throughout the PIR process.

Since that time Airservices has also evolved community engagement, flight path design and environmental assessment as indicated in the timeline below.

Airservices changes to Community Engagement and Flight Path Design



In 2022 we engaged Trax International as an independent specialist advisor reporting to the Chief Executive Officer to review and make improvement recommendations across all aspects of the airspace design and Post Implementation Review. Following consultation, review, and recommendations from Trax International Airservices completed the Brisbane PIR adopting all recommendations from Trax International in the final PIR.

Following the PIR we developed and commenced consultation and implementation of the Noise Action Plan for Brisbane which comprised four packages of work:

1. Package One – strong, transparent and representative governance.
2. Package Two – Maximise flights over the water.
3. Package Three – Reduce the frequency and concentration of flights over communities.
4. Package Four – Optimise the performance of the wider Brisbane airspace system.

We have taken the learnings of Brisbane and are looking at the inclusion of external independent assurance review in other projects to ensure that we take on board best practice, but also have validation by a third party of our designs.

Rockhampton Airport

In 1929, the lease to a former racecourse, Connor Park, was acquired by a number of aspiring aviators, and they set about making it suitable for aircraft. The Rockhampton Aero Club was formed on the 9th of February 1930, and announced that flying training would commence at the location. The Rockhampton Aero Club continues to operate today, providing flying training and air charter.

The Commonwealth took over control of the airport, and the Royal Australian Air Force moved in. An Aeradio station was established to enable air ground communication, a facility that survived as a Flight Service Unit until 1992.

In 2008, Rockhampton Airport completed an $8.4 million terminal redevelopment. In February 2022, Bonza announced that the airport would become one of its 17 destinations with the airline planning to fly to the Sunshine Coast, Melbourne, Cairns, and Townsville from Rockhampton.

Rockhampton Airport has experienced a rise in passenger numbers, recording 582,034 passengers through the terminal over the past 12-months. With a population of approximately 84,000 people, the passenger numbers significantly outnumber the population and demonstrate the popularity of servicing new destinations.

The Rockhampton Region (LGA) attracting the largest number of visitors in the Central Queensland region for the year ending March 2023.

Our Noise Complaints and Information Service has not received any complaints related to the operations at Rockhampton Airport for 2023. Rockhampton Airport for the period 2018-2023 recorded 5 complaints from 4 complainants

2023 - Top 4 Issues
Rockhampton

Issue	Classification	Complainants
Military	Defence Exercise	1
General Aviation Traffic	Outside of Controlled airspace	1
Sport Aviation	Unmanned Aerial Vehicle	1
Standard Flight Path Movement		1

Parafield Airport

In 1927, the Commonwealth government purchased 318 acres (129 ha) of land at Parafield from a family owned farming company. The new airport was expanded in 1942, with the boundary extending west to the Gawler railway line. Parafield was Adelaide's only civil airport until Adelaide Airport was opened in February 1955 and is currently used for small aircraft, pilot training and recreational aviation.

Flight training services are particularly critical due to qualified commercial pilot labour shortages, exacerbated by COVID-19 as pilots brought forward retirement plans. Australia will need an additional 11,000 pilots by 2038, with specialised aviation labour shortages likely to be further increased due to high international demand for Australian trained pilots

Australia's flight schools provide a small but crucial part of Australia's international student market, with 34% of Australia's aviation students not having Australian citizenship in 2020[1]. Training schools such as Flight Training Adelaide train pilots from international airlines such as Cathay Pacific, China Airlines, Indigo and Japan Airlines, as well as training domestic pilots for Cobham.

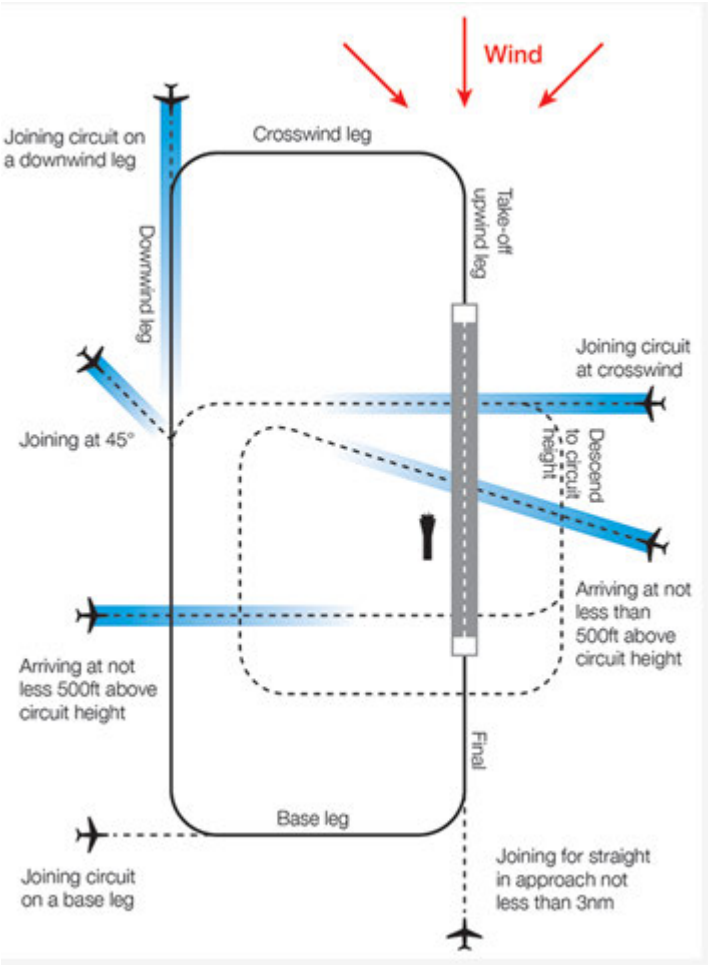
In 2019 there were 322 complaints from 120 complainants, in 2020 there were 517 complaints from 106 complainants. In 2023 there were 1,000 complaints from 57 complainants.

2023 - Top 5 Issues Parafield

Issue	Classification	Complainants
Training	Circuit Training - Fixed Wing	49
General Aviation Traffic	Standard Operation/VFR Route	4
Training	Circuit Training - Fixed Wing and Helicopter	3
General Aviation Traffic	Airwork	1
Night Movements	Emergency Services	1

Mawson Lakes development started in 1998 in close proximity to the Parafield Airport. This residential encroachment then poses challenges in balancing growth in airport operations while reducing the impact on the community. Parafield Airport also due to the nature of the operations being a flight training school has less flexibility in their circuit operations to ensure that student pilots are familiar with their environment to maintain safety. An image of a training circuit is provided below.

[1] PowerPoint Presentation (airports.asn.au)

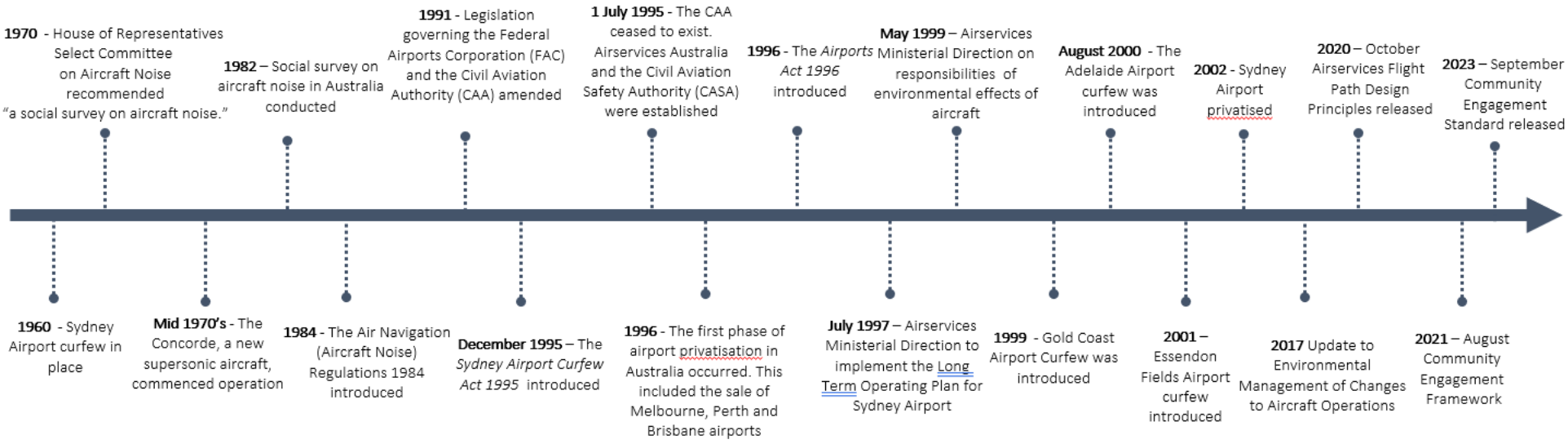


A training circuit consists of five legs – take-off, crosswind, downwind, base and final approach to the runway. Aircraft take off into the wind, climb to 500 feet and then turn onto the crosswind leg. They continue to ascend to 1,000 feet and turn onto the downwind leg. Having turned onto the base leg the descent commences. After turning onto the final leg and lining up with the runway the aircraft will touch down and take off again.

It is critically important from a safety perspective to maintain a fixed circuit route for trainee pilots.

Appendix B – Timeline of Noise Management in Australia

Historic Timeline



Appendix C – International Benchmarking

Aircraft noise management is a critical aspect of airport and airspace operations, affecting communities living in the vicinity of airports and under flight paths. Globally, Air Navigation Service Providers (ANSPs) are often tasked with responsibilities linked to the management of aircraft noise, alongside their core role of ensuring safe and efficient air traffic management.

This section compares the aircraft noise management responsibilities of Airservices Australia with equivalent State ANSPs and also examines the treatment of broader aircraft noise management strategies and associated practices across equivalent States and the responsibilities for the provision of State-level flight path design guidance.

Table 1 sets out the States and respective ANSPs that are considered in the benchmarking exercise.

Table 1: Aircraft noise management benchmarking: equivalent States and ANSPs

State	ANSP
Australia	Airservices Australia (Airservices)
United Kingdom	NATS (En route) plc (NATS)
Republic of Ireland	AirNav Ireland
United States of America	Federal Aviation Administration (FAA)
Canada	NAV Canada

Airservices has a responsibility under the *Air Services Act 1995* to provide air navigation service provision which ensures safety, regularity or efficiency of air navigation in Australian administered airspace. Airservices can provide this service within and outside Australian jurisdiction under a contract arrangement for other jurisdictions.

As highlighted in the introduction the Act also notes that Ministers may give written directions to Airservices relating to the performance of its functions or the exercise of its powers.

Airservices has established an integrated approach to fulfilling its aircraft noise management responsibilities in line with the Airservices Act, Ministerial Directions and Statement of Expectations. The approach includes four important strands of activity that work together to mitigate noise impacts proactively and transparently, these are:

- The implementation and maintenance of Noise Abatement Procedures
- The development and implementation of noise-related operational measures in collaboration with airports, airlines and other aviation stakeholders
- The delivery of ongoing community engagement and consultation programmes

- The provision of detailed and targeted noise and flight path information to the public through the operation of a Noise Complaints and Information Service

In addition, Airservices established an Aircraft Noise Ombudsman (ANO) in 2010 following a proposal outlined by the Australian government in the 2009 Aviation White Paper. The ANO was established to conduct independent reviews of Airservices and how it manages aircraft noise-related activities, such as the handling of complaints / enquiries, community consultation processes, and the presentation and distribution of aircraft noise-related information.

Table 3 summarises Airservices' aircraft noise management responsibilities in a comparable format that can be used to benchmark its obligations in the context of corresponding ANSPs in the equivalent States.

Table 2: Summary of Airservices' aircraft noise management responsibilities in a comparable format

Responsibility for	Description of the ANSP's responsibilities in Australia
Noise Abatement Procedures	Yes | Airservices carries a statutory responsibility to develop and implement effective noise abatement procedures.
Noise Related Operational Measures	Yes | Airservices carries a statutory responsibility to minimise the impact of aircraft operations on the environment and effected communities where practical.
Community Engagement and Consultation	Yes | Airservices carries a statutory responsibility to Consult with stakeholders in relation to the environmental aspects of air traffic management.
Noise Complaints & Information Services	Yes | Airservices is responsible for providing an appropriately resourced noise complaints and information service.
Responding to Independent Assurance Reviews	Yes | Airservices is responsible for responding to independent reviews conducted by the Aircraft Noise Ombudsman into its noise-related activities.

Aircraft noise management responsibilities of corresponding ANSPs in equivalent States

The United Kingdom (UK)

The UK Government provides Air Navigation Guidance to the Civil Aviation Authority (CAA), NATS (the UK's State ANSP) and the wider aviation industry (airports and airlines) regarding the environmental objectives and priorities when carrying out air navigation functions, airspace changes and aircraft noise management activities.

The guidance describes altitude-based priorities which should be taken into account by the CAA, NATS and Airports when considering the potential environmental impacts of airspace. The environmental priority in the airspace below 4,000 ft is to limit and where possible reduce the total adverse effects of aircraft noise on people. The priority is the same in the airspace between 4,000 ft and 7,000 ft unless this would disproportionately increase CO_2 emissions. In the airspace above 7,000 ft the environmental priority is to reduce CO_2 emissions and the

minimizing of noise is no longer the priority. Where practicable, it is desirable that routes below 7,000 ft should also seek to avoid flying over Areas of Outstanding Natural Beauty (AONBs) and National Parks.

It is generally the view of the UK Government that consultation with stakeholders on the ground will usually only be necessary for operations in the controlled airspace below an altitude of 7,000 ft. Operations at or above 7,000 ft will usually not have a noticeable impact so consultation with stakeholders on the ground is unlikely to be necessary.

Table 4 summarises how aircraft noise management responsibilities are allocated across the main organisations covered by the Air Navigation Guidance.

Table 3: Allocation of aircraft noise management responsibilities based on UK Government Guidance

Organisation	Summary of aircraft noise-related responsibilities
UK Government Department for Transport (DfT)	The DfT is the lead government department for civil aviation and sets the UK's overall policy on aviation. The Secretary of State for Transport sets out the CAA's air navigation functions via Ministerial Directions and provides detailed guidance on its environmental objectives in relation to these functions, including the management of aircraft noise. The DfT is also responsible for setting specific noise abatement objectives for three UK airports, Heathrow, Gatwick and Stansted, that are designated for the purposes of noise regulation. The DfT consults with the public periodically (every c. 3 – 5 years) on proposals for noise objectives, restrictions and controls at these airports.
UK Civil Aviation Authority (CAA)	The CAA acts as the UK's independent airspace and safety regulator responsible for the planning and regulation of airspace. It sets the UK's airspace change process, including how aircraft noise and other environmental impacts are to be taken into account.
NATS (En route) plc	NATS is the UK's licensed enroute ANSP. It is responsible for ensuring the safety and efficiency of the UK's controlled airspace. NATS also carries out airport approach services at a number of UK airports. NATS is responsible for maintaining and upgrading flight paths above 7,000 ft where consultation with stakeholders on the impacts of aircraft noise is not usually required. NATS employs several key strategies to reduce the impact of aircraft noise on communities, including: Development of noise reduction technologies and procedures, including Continuous Descent Approaches. Collaboration with airports when required to design noise preferential routes. Engagement with communities through consultation processes when required.

Commercial Air Transport Airports	Commercial air transport airports are responsible for providing air navigation services in the airspace closest to the airport and for their standard instrument departure and arrival routes. In this context the airports are responsible for maintaining and upgrading flight paths between the ground and 7,000 ft (above mean sea level) where the environmental priority to limit and where possible reduce the impacts of aircraft noise and consultation with stakeholders is a legal requirement. The airports are responsible for ensuring compliance by the airlines with any noise abatement procedures, as well as for active engagement with their local communities and for ensuring that they mitigate noise disturbance as much as is practicable, for example, through noise penalty schemes. The airports are also primarily responsible for responding to noise enquiries and complaints from community stakeholders.
DEFRA Airport Noise Action Plans	The UK Government Department for Environment, Food and Rural Affairs (DEFRA) requires airports to develop and implement Noise Action Plans (NAPs) to mitigate and manage the impact of aircraft noise on surrounding communities. The NAPs typically include noise mapping and monitoring information, the identification of noise hotspots where communities may be disproportionately affected, stakeholder engagement programmes regarding noise mitigation measures and compliance with regulatory standards.
Airline Operators	Airline operators are responsible for considering the environmental performance of aircraft when deciding their fleet mix, setting certain operating procedures for their pilots to follow when taking-off and arriving e.g. ascent profile, and for ensuring that their pilots follow the relevant noise abatement procedures set by the airports.
Local Government Authorities	Local government authorities set local planning policies and ensure that noise impacts are properly considered during the planning process and that unacceptable adverse impacts are avoided. Local authorities may require conditions through planning agreements to set noise controls and operating restrictions. Local authorities in the UK are also responsible for land-use planning near airports and that developments meet certain standards of noise insulation where appropriate.

In addition to the arrangements summarised in table 4, the UK Government established the Independent Commission on Civil Aviation Noise (ICCAN) in 2018 as an independent body to address concerns regarding aircraft noise and its impact on communities around airports. In this capacity ICCAN conducted independent research to better understand the effects of aircraft noise, collaborated with industry on potential mitigations, engaged with communities to involve them in the decision-making process and offered policy advice to government. ICCAN was dissolved in 2021.

The aircraft noise management responsibilities that fall to NATS as the UK's State ANSP are narrower and significantly less prescriptive and substantive than those of Airservices. In particular, under the UK arrangements, the responsibilities held by Airservices for implementing noise abatement procedures, consulting with community stakeholders about the impacts of noise and managing noise complaints and information all fall to the airports (rather than the ANSP).

Table 5 summarises NATS' aircraft noise management responsibilities in a comparable format to table 3 to benchmark its obligations in the context of corresponding ANSPs in the equivalent States.

Table 4: Summary of NATS' aircraft noise management responsibilities in a comparable format

Responsibility for	Description of ANSP responsibilities in the UK
Noise Abatement Procedures	Limited | NATS is responsible for supporting the development of noise abatement procedures (where requested) but the airports are ultimately responsible for the local implementation and maintenance of the procedures in compliance with UK CAA regulations.
Noise Related Operational Measures	Limited | NATS is responsible for supporting the development of noise related operational measures (where requested), but the airports are ultimately responsible for delivering the measures in line with their DEFRA approved Noise Action Plans.
Community Engagement and Consultation	Limited | NATS is responsible for engagement and consultation with communities about noise impacts only where changes proposed by the ANSP above 7,000 ft have the potential to alter the distribution of noise below 7,000 ft.
Noise Complaints & Information Services	No | NATS is not responsible for providing a noise complaints and information service. The CAA directs that this responsibility falls to the airports under the UK arrangements.
Responding to Independent Assurance Reviews	No | NATS is not responsible for responding to independent reviews into the impacts of aircraft noise since ICCAN was dissolved in 2021.

<u>The United States of America (US)</u>

The Federal Aviation Administration (FAA) is responsible for regulating and overseeing all aspects of civil aviation in the US, including Air Traffic Control operations. In this capacity, the FAA operates as a State ANSP managing the safe and efficient movement of air traffic and providing radar facilities, communication networks, and air traffic control tower operations; And as a regulator, performing safety oversight activities and certifying airports, air traffic controllers and pilots.

The FAA is responsible for managing aviation environmental issues, including aircraft noise and emissions, at a national and regional level and has developed comprehensive policies and procedures aimed at mitigating environmental impacts, including:

- Setting noise standards for aircraft.

- Setting standards for noise abatement procedures.
- Funding airport Noise Compatibility Planning and Mitigation Projects through the Airport Improvement Program.
- Facilitating community involvement through public hearings and workshops on noise management issues.

The FAA is responsible for setting national standards for aircraft noise and emissions, but it is the responsibility of the airports to develop and implement measures and procedures in line with the standards. In this capacity, the FAA takes responsibility for monitoring compliance, for example requiring airports to monitor noise levels and report on the effectiveness of noise abatement procedures. The FAA also sets noise certification standards for civil aircraft, ensuring that new aircraft meet specific noise level requirements. This also involves certifying engine modifications and other noise-reducing technologies.

Operational matters, such as the decisions about flight times, number of operations, and aircraft type are the responsibility of the airports. However, it is the responsibility of the FAA to approve any airport-imposed noise abatement procedures, including curfews or restrictions on certain types of aircraft, to ensure they do not unjustly discriminate against any user of the National Airspace System and do not adversely affect safety.

The FAA takes national responsibility for community engagement and outreach activities, coordinating the formation of community roundtables and advisory committees that include representatives from the ANSP, airports, airlines, and local communities. These forums typically work together to address ongoing noise concerns at particular airports and consider potential solutions.

Under Part 150 of the Federal Aviation Regulations, airports can submit Noise Compatibility Planning programs to the FAA for review and approval. These programs often arise from the ongoing community engagement and outreach activities coordinated by the FAA but are the responsibility of the individual airports to develop and implement. The development of the programs involves public input, allowing community members to contribute to the conversation on how airports plan to mitigate noise impacts.

When airports propose noise abatement procedures in line with a Compatibility Program or pursue other voluntary noise related measures such as changes to flight paths, the FAA often facilitates or requires public hearings and workshops. These events serve to inform the community about proposed changes and gather feedback.

From a flight path design perspective, the FAA is responsible for developing and approving specific flight procedures designed to minimize noise impact, such as optimized flight paths, altitude restrictions, and speed adjustments during take-off and landing phases. For example, the FAA promotes the use of Continuous Descent Approaches, which involve aircraft descending in a continuous, smooth glide path, reducing engine power and noise compared to traditional step-down approaches.

The FAA does not directly handle noise complaints from the public about specific incidents. The primary responsibility for managing noise enquiries and complaints sits with the airports. However, the FAA plays a central role in overseeing the broader regulatory framework within which noise enquiries and complaints are managed. Table 6 summarizes the FAA's responsibilities associated with noise enquiries and complaints.

Table 5: Summary of FAA's responsibilities associated with noise enquiries and complaints

Responsibilities	Description
Establishing Regulatory Frameworks	The FAA sets regulations and policies related to aircraft noise standards. This framework is intended to indirectly influence how noise complaints are addressed by requiring airports to adopt measures that minimize noise impacts on communities.
Oversight of Airport Noise Compatibility Programs	Under Part 150 of the Federal Aviation Regulations, the FAA oversees the development and implementation of Airport Noise Compatibility Planning. While the FAA approves and largely funds these plans, which include measures for addressing community noise concerns, the responsibility for managing noise complaints falls to individual airports, which are encouraged (but not compelled) to implement FAA-approved noise compatibility programs.
Guidance and Support to Airports	The FAA provides guidance and support to airports in establishing noise management systems, including the handling of noise complaints. This may involve offering best practices for noise complaint management systems, community engagement, and public information campaigns.
Community Engagement and Public Information	Through its website and public outreach efforts, the FAA offers resources and information on aircraft noise, including how members of the public can submit noise complaints, directing individuals to contact their local airport noise office or use specific noise complaint hotlines established by airports.
Monitoring and Research	While not directly handling individual noise complaints, the FAA monitors trends in noise impacts and evaluates the effectiveness of noise abatement measures. This can involve researching new technologies and procedures that could potentially better manage the impact of aircraft noise.
Encouraging Local Resolution	The FAA encourages resolution of noise issues at the local level, where airports can directly engage with their communities. This approach allows for more tailored responses to the specific concerns and conditions of each community.

Table 7 summarises the FAA's aircraft noise management responsibilities in a comparable format to table 3 to benchmark its obligations in the context of corresponding ANSPs.

Table 6: Summary of the FAA's aircraft noise management responsibilities in a comparable format

Responsibility for	Description of ANSP responsibilities in the United States
Noise Abatement Procedures	Yes | as identified above, the FAA carries important responsibilities for the development, approval, funding and oversight of noise abatement procedures, but the airports are ultimately responsible for implementing and maintaining the procedures at a local level.
Noise Related Operational Measures	Limited | The FAA is responsible for supporting the development of noise related operational measures (where requested), but the airports are ultimately responsible for delivering the measures in line with their Noise Compatibility Planning programs.
Community Engagement and Consultation	Yes | As identified above, the FAA participates in community consultation and engagement at a national and regional level as part of its broader responsibilities, particularly in areas related to airport development projects, noise abatement programs and environmental assessments.
Noise Complaints & Information Services	Limited | Although the airports are primarily responsible for dealing with aircraft noise enquiries and complaints at the local level, the FAA provides oversight, guidance and support to airports regarding noise complaints.
Responding to Independent Assurance Reviews	Limited | The FAA has established a Regional and National Noise Ombudsman to provide assistance when any questions or complaints are not adequately addressed by the Airports.

Canada

NAV Canada is a private, non-profit corporation that owns and operates Canada's civil air navigation system and is responsible for all aspects of air traffic management across Canadian airspace including the planning and implementation of airspace changes. In this capacity Nav Canada operates as the State ANSP for Canada, working to manage aircraft noise in collaboration with Transport Canada (a Canadian Government Department that is also responsible for aviation regulation) and the Canadian airports.

The Civil Air Navigation Services Commercialization Act 1996 (CANSCA), which governs NAV Canada's operations sets out the legislative framework for the provision of air navigation services in Canada. The Act was designed to transition Canada's air navigation services from a government-operated system to a privately run, not-for-profit organization. While the Act outlines Nav Canada's responsibilities for providing air navigation services, including safety, efficiency, and the financial aspects of its operations, it does not specifically detail the ANSPs responsibilities concerning aircraft noise management.

In 2015, NAV Canada created the Canadian Airspace Change Communications and Consultation Protocol (the Canadian Protocol). This is voluntary protocol for the Canadian aviation industry that outlines the ANSPs responsibilities and commitment to transparent, effective engagement with communities that are potentially affected by aircraft noise.

The Canadian Protocol outlines a structured and collaborative approach for engaging with communities and stakeholders about current operations and proposed changes to airspace, as well as establishing responsibilities for various noise management practices.

Table 8 summarises the key elements of the Canadian Protocol, specifically in relation to noise management responsibilities:

Table 7: Key elements of the Canadian Protocol in relation to noise management

Key responsibilities	Description
Noise Abatement Procedures and other Noise-Related Operational Measures	Transport Canada, NAV Canada and Airports – In Canada, the responsibility for noise abatement procedures and other noise-related operational measures involves a collaborative effort between several entities. Transport Canada sets the regulatory framework for aviation noise in the country, including the establishment of noise abatement procedures and standards. NAV Canada works within the regulatory framework to implement noise abatement procedures, and the airports are responsible for implementing and operationalizing the noise abatement procedures working closely with the ANSP, airlines and regulator.
Community Engagement	NAV Canada - NAV Canada is primarily responsible for leading the community engagement process when it is the proponent of airspace changes. This includes informing communities about proposed changes, conducting consultations, and gathering feedback, etc.
Noise Complaints Handling	Airport Authorities - Individual airports in Canada are the single point of contact for handling noise enquiries and complaints from the community. They manage local noise complaint and information services, track and analyse noise complaints, and work on addressing community concerns.

Table 9 summarises Nav Canada's aircraft noise management responsibilities in a comparable format to table 3 to benchmark its obligations in the context of corresponding ANSPs in the equivalent States.

Table 8: Summary of Nav Canada's aircraft noise management responsibilities in a comparable format

Responsibility for	Description of ANSP responsibilities in Canada
Noise Abatement Procedures	Limited | Nav Canada is responsible for participating in a collaborative framework, alongside Transport Canada and the airports to develop and implement noise abatement procedures. The airports are ultimately responsible for the implementation of the procedures, working closely with the ANSP, airlines and regulator.

Noise Related Operational Measures	Limited | Nav Canada is responsible for participating in a collaborative framework, alongside Transport Canada and the airports to develop and implement noise-related operational measures. The airports are ultimately responsible for the implementation of the measures, working closely with the ANSP, airlines and regulator.
Community Engagement and Consultation	Yes | Even though CANSCA does not explicitly place responsibility for community engagement and consultation on NAV Canada, the regulatory expectations of Transport Canada, as well as Nav Canada's development of the Canadian Protocol, places primary responsibility on NAV Canada for leading community engagement processes when it is the proponent of airspace changes.
Noise Complaints & Information Services	No | Individual airports are the single point of contact for handling noise complaints from the community. They manage local noise complaint and information services, track and analyse noise complaints, and work on addressing community concerns. Nav Canada may be involved in addressing some complaints if they relate to air traffic management, such as flight paths or altitudes over residential areas, but primary responsibility resides with the airports.
Responding to Independent Assurance Reviews	No | Nav Canada is not responsible for responding to independent reviews into the impacts of aircraft noise.

<u>Republic of Ireland (an example European Union State)</u>

AirNav Ireland is a commercial semi-State organization responsible for providing air traffic management and related services within the Irish controlled airspace. While its primary focus is on the safe and expeditious management of air traffic, AirNav Ireland also plays a role in implementing operational procedures that can influence aircraft noise management, such as flight path adjustments and managing the times that aircraft can operate to help mitigate noise at certain hours.

Ireland is a member of the European Union (EU) and like all other EU States is subject to EU Regulation 598 regarding the management of aircraft noise at major airports. European and Irish aircraft noise legislation seeks to ensure that the sustainable development of air transport should be balanced with the introduction of measures aimed at reducing the noise impact from aircraft to maintain or increase the quality of life of neighbouring citizens. EU 598 aims to ensure a standardized approach to addressing noise issues, including the assessment of noise impacts and the implementation of noise-reducing measures.

In Ireland regulation covers air traffic operations and infrastructure developments at Dublin Airport (including the introduction of the second runway). For this reason, the local authority (Fingal County Council) established an Airport Noise Competent Authority as a separate and independent directorate.

The European Union Aviation Safety Agency (EASA) also influences noise management in Ireland (and all other EU States) through its regulations on aircraft noise standards. Aircraft

operating in Ireland must comply with EASA's noise certification standards, contributing to the overall noise management framework.

Airport authorities in Ireland, such as those managing operations at Dublin, Cork, and Shannon airports, also have direct responsibilities for noise management linked to their respective operations. The airports are responsible for implementing noise abatement procedures, monitoring and measuring noise levels, handling noise complaints from the public, and engaging in community consultation. They work within the frameworks set by the Irish Aviation Authority (the regulator) and the EU, applying specific noise mitigation strategies tailored to their local environments and community needs.

Table 10 summarises the allocation of responsibilities for key elements of aircraft noise management in Ireland across the main organizations involved.

Table 9: Summary of the allocation of aircraft noise management responsibilities in Ireland

Element	Allocation of responsibilities
Noise Abatement Procedures and other Noise-Related Measures	AirNav Ireland implements operational procedures that can have implications for noise management, such as the design of flight paths and the timing of flights, to mitigate noise impacts on populated areas. The Aircraft Noise Competent Authority (ANCA) is tasked with ensuring that noise abatement measures are effectively implemented at Dublin Airport specifically (in compliance with EU Reg 598 and that noise impacts on communities are assessed and managed. Ireland's major airports (Dublin, Cork and Shannon) play a direct role in implementing noise abatement procedures and other noise-related operational measures. This includes operational measures such as the management of ground noise, implementation of noise preferential runways, and timing restrictions to reduce noise during sensitive hours. EASA - While not a national body, influences noise abatement procedures in Ireland (as an EU State) through its regulations on aircraft operations and noise standards. Aircraft operating within Ireland must comply with EASA's noise certification standards, which indirectly support noise abatement efforts by ensuring newer aircraft meet stricter noise criteria.
Community Engagement	The airports are primarily responsible for conducting community engagement and consultations related to airport operations, development projects, and the development, implementation and maintenance of Noise Abatement Procedures and related measures. The Aircraft Noise Competent Authority (ANCA) is tasked with overseeing the management of aircraft noise, particularly at Dublin Airport, in compliance with EU Regulation 598/2014. Part of ANCA's mandate includes consulting with communities affected by aircraft noise, assessing noise impacts, and considering public feedback in the development of noise action plans and regulations.

	AirNav Ireland's primary focus is on the safe and expeditious management of air traffic in Ireland, but it may also engage in consultations or provide information regarding changes in flight paths and air traffic management procedures. However, the AirNav's role in direct community engagement consultation is more limited compared to airport authorities and ANCA.
Noise Complaints Handling	The airports in Ireland are directly responsible for handling noise complaints related to their operations. The airports typically have dedicated channels for lodging complaints, such as hotlines, online forms, and dedicated email addresses. They are tasked with monitoring noise, investigating complaints, and communicating with affected residents. AirNav Ireland – The handling of noise complaints from the public falls outside the ANSPs direct responsibilities.

Table 11 summarises AirNav Ireland's aircraft noise management responsibilities in a comparable format to table 3 to benchmark its obligations in the context of corresponding ANSPs in the equivalent States.

Table 10: Summary of AirNav Ireland's aircraft noise management responsibilities in a comparable format

Responsibility for	Description of ANSP responsibilities in Ireland
Noise Abatement Procedures	Limited | AirNav Ireland is responsible for supporting the development, implementation and operation of noise abatement procedures, but the Irish Airports are ultimately responsible for the provision of these procedures and compliance with the relevant standards set in State and European legislation.
Noise Related Operational Measures	Limited | AirNav Ireland is responsible for supporting the development, implementation and operation of noise-related operational measures, but the Irish Airports are ultimately responsible for the provision of these procedures and compliance with the relevant standards set in State and European legislation.
Community Engagement and Consultation	No | Airports are primarily responsible for conducting community engagement and consultations related to airport operations and aircraft noise management.
Noise Complaints & Information Services	No | The airports in Ireland are directly responsible for handling noise enquiries and complaints related to their operations and the management of aircraft noise. The direct handling of noise complaints from the public falls outside the ANSP's responsibilities.
Responding to Independent Assurance Reviews	Limited | AirNav Ireland may be responsible for responding to independent reviews in relation to the outputs of the Airport Noise Competent Authority (ANCA) for Dublin Airport under EU Reg. 598.

Comparison of ANSP responsibilities for aircraft noise management

Table 12 compares and contrasts the respective ANSP responsibilities to benchmark Airservices obligations in the context of the corresponding organizations in equivalent States.

Table 11: Comparison on ANSP responsibilities for aircraft noise management

ANSP responsibility for	Airservices	UK	US	Canada	Ireland (EU)
Noise Abatement Procedures	YES	LIMITED	YES	LIMITED	LIMITED
Noise Related Operational Measures	YES	LIMITED	LIMITED	LIMITED	LIMITED
Community Engagement and Consultation	YES	LIMITED	YES	YES	NO
Noise Complaints & Information Services	YES	NO	LIMITED	NO	NO
Responding to Independent Assurance Reviews	YES	NO	LIMITED	NO	LIMITED

Overview of the wider aircraft noise management strategies and practices

Aviation stakeholders can employ a variety of broader noise management strategies, arrangements and practices to mitigate the impacts on local communities. Although there are many areas of overlap, these broader measures often reach beyond the direct responsibilities of the ANSPs. Collaboration across multiple entities is often essential for such strategies and their associated arrangements and practices to be successful. Table 13 provides a high-level overview of some of these broader noise management strategies and the associated arrangements and practices typically employed by aviation stakeholders to manage the impacts of aircraft noise.

Table 12:

Strategy	Arrangements and Practices
Land Use Planning and Management	Noise Zoning: Implement zoning laws around airports to restrict noise-sensitive developments, such as residential areas, schools, and hospitals. Sound Insulation: Offer sound insulation programs for buildings within high-noise zones to mitigate the impact of aircraft noise.
Operational Restrictions	Curfews: Implement curfews to limit or ban flights during late night and early morning hours, reducing noise exposure during sensitive times.

	Quota Counts: Establish a quota system that limits the number of flights during certain periods, especially nighttime, based on their noise levels. Preferential Runway Use: Designate specific runways for use at certain times of day to minimize noise impact on populated areas.
Aircraft Operations	Continuous Descent Approaches (CDA): Encourage pilots to use CDA, which involve aircraft maintaining a continuous, smooth descent, minimizing noise compared to traditional step-down approaches. Fixed Noise Abatement Departure Profiles: Implement departure procedures that reduce engine thrust and noise after take-off. Ground Operations Noise Management: Reduce noise from ground operations by using electric ground service equipment and restricting engine testing times and locations.
Technology and Fleet Management	Promotion of Quieter Aircraft: Encourage airlines to use newer, quieter aircraft through incentives like reduced landing fees. Retrofitting Aircraft: Support initiatives for airlines to retrofit older aircraft with noise-reducing technologies.
Community Engagement & Communication	Noise Complaints Hotlines: Offer hotlines or online platforms for residents to report noise concerns, helping airports identify problem areas and times. Community Consultation: Engage with local communities through consultation and forums to discuss noise issues, mitigation strategies, and upcoming projects. Public Information Campaigns: Provide information on noise management practices, flight paths, and changes to operations to keep the public informed.
Compensation and Mitigation Programs	Property Purchase: Offer to purchase properties most affected by noise, providing owners with the option to relocate. Compensation Schemes: Develop compensation schemes for communities severely impacted by aircraft noise, which might include financial compensation for noise insulation.
Monitoring and Management	Noise Monitoring Systems: Install noise monitoring terminals around the airport to continuously measure noise levels, ensuring compliance with noise regulations. Noise Mapping and Modelling: Use noise mapping and modelling to understand noise contours and the effectiveness of noise abatement strategies.

Benchmarking Output: Comparison of indicative responsibilities for wider noise management practices in other countries

The table below shows a high-level comparison of indicative responsibilities (Green = ANSP primary responsibility / Amber = limited responsibility)

Strategy	Practice	Australia	UK	US	Canada	Ireland
Land Use Planning and Management	Noise Zoning	Local Gov.	Local Gov.	Local Gov.	Government	Local Gov. / DFT
	Sound Insulation	Airports	Airports	Airports / FAA	Airports / Gov.	Airports / DfT
Operational Restrictions	Curfews	Gov. & Airports	CAA / Airports	Airports / FAA	Airports / Gov.	Airports / IAA / DfT
	Quota Counts	Airports	CAA / Airports	Airports / FAA	Airports / Gov.	Airports / IAA / DfT
	Preferential Runway Use	Airports	Airports	Airports	Airports	Airports / IAA / DfT
Aircraft Operations	Continuous Descent Approaches (CDA)	Airservices	Airlines / ATC (NATS Limited)	FAA / Airlines	Airlines / NAV Canada	Airports / Airlines / IAA
	Fixed Noise Abatement Departure Profiles	Airservices	Airlines / ATC (NATS Limited)	FAA / Airlines	Airlines / NAV Canada	Airports / Airlines / IAA
	Ground Noise Management	Airports	Airports	Airlines / Airports	Airports	Airlines / Airports
Technology and Fleet Management	Quieter Fleet Initiatives	Airports	Airlines / Airports	Airlines / Airports	Airlines / Airports	Airlines / Airports
	Retrofitting Aircraft	Airlines	Airlines	Airlines	Airlines	Airlines
Community Engagement & Communication	Noise Complaints Hotlines	Airservices	Airports	Airports / FAA	Airports / NAV Canada	Airports
	Community Consultation	Airservices	Airports / NATS (Limited)	FAA / Airports	NAV Canada	Airports
	Public Information Campaigns	Airservices	Airports / CAA	FAA / Airports	NAV Canada	DfT
Compensation and Mitigation Programs	Property Purchase	Airports	Airports	Airports	Airports	Airports
	Compensation Schemes	Airports	Airports	Airports	Airports	Airports / DfT
Monitoring and Management	Noise Monitoring Systems	Airservices	Airports	FAA / Airports	Airports	Airports
	Noise Mapping and Modelling	Airservices	Airports / CAA	FAA / Airports	Airports	Airports

Overview of Flight Path Design Guidance

Flight path design guidance is crucial for the safe and efficient management of airspace, affecting everything from noise management to fuel efficiency and emissions reduction. The provision of flight path design guidance involves complex regulatory frameworks and collaborative processes, varying by country due to different airspace characteristics, regulatory environments, and operational requirements.

In general flight path guidance includes the design principles, standards, and procedures for airspace management and navigation, as well as other wider guidance for activities such as community consultation.

The table below provides a high-level overview of how flight path design guidance is provided in Australia, the US, the UK, Canada, and Ireland:

Country	Overview of Flight Path Design Guidance
Australia	Regulatory Body: CASA and Airservices Approach: Airservices Australia, in collaboration with CASA, is generally responsible for the design and management of flight paths in Australia. Guidance for flight path design incorporates safety, environmental considerations (including noise abatement), and efficiency. Australia follows the International Civil Aviation Organization (ICAO) standards, integrating advanced navigation technologies like Performance-Based Navigation (PBN) to optimize flight paths. Flight path design guidance documents: • Manual of Standards – Part 173 – Air Traffic Services Planning: Issued by the Civil Aviation Safety Authority (CASA), this document outlines standards for the design, development, and implementation of instrument flight procedure design in Australia. • Aeronautical Information Publication (AIP): Provided by Airservices, the AIP includes information and procedures for all aspects of air navigation, including flight path design principles.
United Kingdom	Regulatory Body: The CAA Approach: The UK's CAA oversees flight path design, focusing on safety, environmental impact reduction, and adherence to ICAO standards. The UK has been proactive in adopting PBN, which allows for more precise flight paths and has the potential to reduce noise for ground communities. Community consultation is a significant part of the flight path design and implementation process, particularly under the airspace modernization strategy being pursued by the UK. Flight path design guidance documents: • CAP 1616 – Airspace Design: Guidance on the Regulatory Process for Changing Airspace Design Including Community Engagement Requirements: Published by the Civil Aviation Authority (CAA), CAP 1616 outlines the process for airspace change proposals in the UK, including flight path design and community consultation processes. • CAP 698 – CAA JAR-FCL Examinations – Aeroplane Performance Manual: Although more focused on aircraft performance, this document provides insights into considerations relevant to flight path design.
United State of America	Regulatory Body: The FAA Approach: The FAA provides comprehensive guidance on flight path design, emphasizing the Next Generation Air Transportation System (NextGen) for modernizing air traffic management. This includes the use of satellite-based navigation and PBN, aiming to enhance safety, reduce environmental impact, and improve efficiency. The

	FAA's approach also involves extensive community engagement processes for the implementation of new flight paths, particularly in noise-sensitive areas. Flight path design guidance documents: • FAA Advisory Circulars (ACs): The Federal Aviation Administration (FAA) publishes a series of Advisory Circulars relevant to flight path design, including AC 90-100A (U.S. Terminal and En Route Area Navigation (RNAV) Operations) and AC 150/5300-13 (Airport Design), among others. • FAA Order 8260.3B (United States Standard for Terminal Instrument Procedures (TERPS)): This order provides the standards for designing terminal instrument flight procedures.
Canada	Regulatory Body: NAV Canada, with oversight from Transport Canada. Approach: NAV Canada is responsible for air navigation services and the design of flight paths across Canada. The organization utilizes PBN and other advanced navigation techniques to ensure efficient and safe flight paths while considering environmental impacts, including noise. NAV Canada engages with stakeholders, including the aviation community and the public, in the development and modification of flight paths. Flight path design guidance documents: • Aeronautical Information Manual (AIM): NAV Canada's AIM provides comprehensive information on Canada's air navigation services, including flight path design principles and procedures. • TP 308 – Criteria for the Development of Instrument Procedures: Issued by Transport Canada, TP 308 provides guidance for the development of instrument flight procedures, including flight path design.
Ireland	Regulatory Body: The IAA Approach: The IAA manages flight path design in Ireland, with a focus on safety, efficiency, and minimizing environmental impacts. Ireland adheres to ICAO standards and has been incorporating PBN into its airspace management practices. Community engagement is also part of the process, especially for changes that could affect noise exposure in residential areas. Flight path design guidance documents: • Aeronautical Notice (P) – Procedure Design: Issued by the Irish Aviation Authority (IAA), this document provides guidance on the design of instrument flight procedures in accordance with ICAO standards. • IAA Aeronautical Information Publication (AIP): Similar to other countries, Ireland's AIP includes vital information for the aviation industry, covering aspects of flight path design and air navigation.

Appendix D – Flight Path Design Principles

FLIGHT PATH DESIGN PRINCIPLES

Version 1

Effective Date: 01 October 2020

CONTENTS

1. DEVELOPMENT OF THE PRINCIPLES

We have developed the Flight Path Design Principles (Principles) to provide a basis for designing and developing the flight paths that we will implement and operate.

They are the result of national consultation with community, industry and government stakeholders, and are consistent with international global practices.

2. PURPOSE

We need to cater for the changing nature of aircraft operations, air traffic growth, airport expansion and advances in aviation technology, while keeping aviation safety as our first priority.

We need to manage the impacts of aviation activities and this requires a careful balance of ensuring safety, operational efficiency, protecting the environment and minimising the effects of aviation noise on the community, wherever practicable.

The Principles guide Airservices design, development and decision-making regarding flight paths and their implementation.

In this document we provide an overview of each Principle, including their context within flight path changes, how we consider, apply and monitor them, and the overarching governance that applies. We have included additional sources of information, and noted cases where the Principle may not apply.

3. FLIGHT PATHS

The term 'flight path' is used to refer to the mapped three-dimensional corridor within which aircraft flying under the Instrument Flight Rules (IFR)[1] are expected to operate most of the time. Flight paths can be a number of kilometres wide, rather than the single lines depicted on flight charts (maps). Aircraft may fly differently within these corridors for a range of reasons, including aircraft performance (including type, speed and weight), and navigation systems. Aircraft may deviate from flight paths for a range of reasons, including weather and operational requirements. In controlled airspace[2], this will be at the approval of air traffic control (ATC).

Instrument Flight Rules (IFR)[3], are rules which allow properly equipped aircraft to be flown in all weather conditions, by reference to aircraft instruments.

General aviation operators, including helicopters, commonly fly Visual Flight Rules (VFR)[4] where the pilot uses visual references to the ground or water rather than flying on a set flight path designed by Airservices.

Similarly, how a flight training circuit is flown and its location is not determined by Airservices. Rather it must be conducted in accordance with Civil Aviation Safety Authority (CASA) rules.

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[1] Instrument flight procedure design and IFR are procedures and rules which enable aircraft to operate in all weather conditions, including when navigation by visual references is not possible

[2] Controlled airspace in Australia is actively monitored and managed by ATC. To operate in controlled airspace, an airspace user must first receive a clearance from ATC. ATC gives priority to emergency operations.

[3] Instrument flight procedure design and IFR are procedures and rules for how aircraft are to be operated when visual reference cannot be used for navigation by pilots.

4 Visual Flight Rules (VFR) are procedures and rules for how aircraft are to be operated when the pilot uses visual references such as to the ground or water to fly

4. APPLICATION OF THE PRINCIPLES

4.1. Why does Airservices make changes to flight paths?

We may make changes to flight paths for a variety of reasons including:

- Safety and/or efficiency enhancements to respond to current or forecast increases in volume or changes to aircraft operations at a location
- Safety and/or efficiency improvements based on feedback from ATC, airlines and/or pilots
- Directives from the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) and or Civil Aviation Safety Authority (CASA)
- Community-suggested safe and feasible noise improvements
- Recommendations from CASA airspace reviews
- Recommendations from CASA compliance audits and re-validation of flight procedures
- Technological advancements in aircraft navigation or aircraft performance
- Airport infrastructure changes resulting in new or changing flight paths.

4.2. Flight Path Change Process

We undertake a multi-step flight path change process, dependent on the scale and breadth of the change. A number of screening and assessment steps are involved to progress a flight path change proposal to implementation. These ensure that the flight paths are safe, operationally feasible, and meet our environmental responsibilities. The changes involve a range of stakeholder engagement activities and all feedback is considered before we progress to final flight path design development.

Airservices Community Engagement Framework (CEF) has been developed to provide a rigorous process for delivery of community engagement activity for flight path and associated airspace changes, and should be read in conjunction with this document.

4.3. Overall Considerations

- The Principles supersede the guiding principles in *Airservices Commitment to Aircraft Noise Management* (2013) and any earlier documents.
- Once ensuring safety and compliance, we will consider all other Principles holistically and will not look at any one Principle in isolation.
- The Principles apply to future changes and will not be applied retrospectively to flight paths that are currently implemented nor to projects that have commenced at the time of publication.
- The Principles only apply to flight paths designed by Airservices. Other organisations, certified by CASA, are able to design flight paths within Australia and they are not obligated to apply the Principles.
- There may be situations where the Principles cannot be applied due to legislative requirements.
    - The Principles do not vary the Long Term Operating Plan (LTOP) for Sydney (Kingsford Smith) Airport and associated airspace[5, 6] and in applying the Principles all LTOP requirements will be maintained.

5 Air Services Act 1995 - subsection 16(1) - Direction concerning the Sydney Airport long term operating plan, https://www.legislation.gov.au/Details/F2009B00158

6 Sydney Airport Community Forum, The Long Term Operating Plan (LTOP) https://sacf.infrastructure.gov.au/ltop

- The Principles do not vary legislated airport curfew acts[7].

- There are a number of constraints and considerations that mean that the Principles may not be able to apply to all flight path changes. For example, flight path design can be constrained by the location of an airport and the runway/s orientation, the local weather and meteorological conditions, the natural and/or urban terrain, aircraft performance and/or navigation capability, or the existing air traffic network and airspace architecture.
- There may be situations were application of one Principle impacts on the application of another Principle. For example avoiding overflight of noise sensitive sites, may result in reduced efficiency, and therefore impact on the environment through increased fuel burn and emissions.
- Aircraft noise is an inevitable by-product of aircraft operations and it is not possible to guarantee any suburb, group or individual exemption from aircraft noise exposure.

4.4. Weighting of Principles

- Safety is our most important consideration and all flight path changes must be compliant.
- The Safety and Compliance Principles must always apply.
- The remaining Principles are not weighted.
- All other Principles are considered equally in the flight path change process, noting that all Principles may not apply to every flight path change.
- The order in which Principles appear or use of the word ‘consider’ does not reflect importance or weighting.

5. REPORTING

We commit to transparency and accountability by reporting on how the Principles have been considered and applied, and if they have not been applied, the reasons for this.

For each new flight path or airspace change we will report on how the Principles have been considered and applied, and if they have not been applied, the reasons for this. The format of this report may vary based on the scale and breadth of the change.

Reports will be made available through the relevant project page on Engage Airservices at the commencement of our engagement.

7 Department of Infrastructure, Transport, Regional Development and Communications, https://www.infrastructure.gov.au/aviation/environmental/curfews/index.aspx

6. FLIGHT PATH DESIGN PRINCIPLES

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

Consider Matters of National Environmental Significance, other sensitive habitats, and registered heritage sites.

Design flight paths that deliver operational efficiency and predictability, and minimise the effect on the environment through reducing fuel consumption and emissions.

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.

7. SAFETY AND COMPLIANCE PRINCIPLES

Safety of air navigation must be the most important consideration.

Overview

The *Air Services Act 1995* requires that Airservices, "*In exercising its powers and performing its functions, must regard the safety of air navigation as the most important consideration*".

When considering flight path design, safety is assured through:

- separation of aircraft from each other according to flight rules and the type of air traffic service provided
- clearance between aircraft and terrain and/or man-made obstacles
- segregation of aircraft operations
- the ability of aircraft to operate safely within their performance envelope
- minimising operational complexity.

The safety of air navigation ensures the safety and protection of aircraft passengers and communities under the flight paths.

It is important to note that, to ensure safety or due to operational requirements, aircraft may be cleared by air traffic control (ATC) to operate on routes other than the published flight path.

Application

We assure the design is safe through:

- meeting Civil Aviation Safety Authority (CASA) criteria for flight path design, and airspace separation and containment
- meeting International Civil Aviation Organization (ICAO) criteria adopted by CASA for application in Australia
- quality assurance processes documented in accordance with *Civil Aviation Safety Regulations 1998 Part 173 – Instrument Flight Procedure Design*
- applying design validation methods including:
    - airline simulator testing and validation to ensure the fly-ability of the procedures, as appropriate
    - ATC simulator testing and validation to ensure that ATC workload is achievable
    - flight validation of instrument flight procedures.

Monitoring

We monitor the safety performance of air navigation through our Safety Management System (SMS). CASA monitors Airservices performance and conducts regulatory audits of our air navigation service delivery, flight path design management, and our SMS.

We monitor airport and other developments which may impact on the published flight paths, and ensure these are managed to protect the safety of aircraft on those flight paths.

We conduct periodic maintenance reviews of instrument flight procedures every three years, which includes flight re-validation.

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.

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.

Overview

In designing flight paths, we must comply with the Civil Aviation Safety Authority (CASA) regulations and standards, and International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPs), Manuals and documentation.

ICAO is a United Nations specialised agency, established by Member States in 1944 to manage the administration and governance of International Civil Aviation. Australia is a Member State of ICAO and supports the global priorities, strategic objectives and development of international standards for the aviation industry.

ICAO produces SARPs which are intended to achieve a measure of international uniformity, however they do not preclude the development of national standards which may be more stringent.

CASA have mandated that flight path design in Australia must comply with the ICAO SARPs for instrument flight procedure[8] design.

In accordance with *CASR Part 173,* CASA has certified Airservices as an organisation permitted to design approach and departure procedures for aircraft operating under Instrument Flight Rules (IFR)[1]. The certification process requires that Airservices appoint a Chief Designer to manage flight path design and a team of qualified designers.

We give authority for aircraft in controlled airspace[9] to fly instrument flight procedures, while CASA approves the design of airspace and high altitude flight paths (routes).

Application

We must ensure that the instrument flight procedures are designed in accordance with any applicable standards set out or referred to in *ICAO Doc 8168 PANS-OPS, ICAO Doc 9905 RNP AR* and any applicable standards set out in the *CASA Manual of Standards (MOS) Part 173.*

We design flight paths that are suitable for the range of aircraft that are capable of operating at an airport or aerodrome, dependent on the length and width of the runway. Aircraft performance differences influence the range of flight path designs.

In designing flight paths, we will consider elements including terrain and obstacle clearance, meteorological conditions, aircraft performance, climb gradients, descent profiles, speeds, rate of turn, angle of bank (turning movement) and the airspace available to safely contain the procedure.

Monitoring

Prior to publication, we ensure that flight path designs are compliant through independent verification of the design by a second qualified designer. Then CASA conducts flight validations to ensure procedures are safe and flyable and that they meet applicable design standards.

We conduct regular maintenance reviews of published instrument flight procedures to ensure ongoing obstacle protection and compliance with any changes to the standards.

CASA conducts routine compliance audits on Part 173 providers, including Airservices, to ensure compliance with regulations and standards.

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8 Instrument flight procedure design and IFR are procedures and rules for how aircraft are to be operated when visual reference cannot be used for navigation by pilots.

9 Controlled airspace in Australia is actively monitored and managed by air traffic control (ATC). To operate in controlled airspace, an airspace user must first receive a clearance from ATC. ATC gives priority to emergency operations.

CASA is responsible for the review of rule sets in Australia, and it convenes Aviation Safety Advisory Panels (ASAPs) to consider rule changes and conducts consultation with Airservices, aviation industry and the public, through Notice of Proposed Rule Making (NPRM).

ICAO convenes the Instrument Flight Procedures Panel (IFPP) to regularly review design standards and practices. The IFPP is composed of experts involved in the design of instrument flight procedures or the operational use of these procedures and associated requirements with background in both conventional and performance based navigation (PBN). CASA is the Australian member of the IFPP and our Chief Designer is an advisor to CASA for this purpose.

Policies, Legislation, Standards and Guidance

- *CASA Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Aviation Safety Regulations 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*
- *ICAO Doc 9906 Quality Assurance Manual for Flight Procedure Design*

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 other organisations in Australia certified by CASA to design instrument flight procedures. These organisations are required to consult with Airservices ATC for flight paths that will operate in controlled airspace, however we are not required to verify these designs. They are subject to CASA's standard flight validation processes.

We provide the publication services for flight paths and charts, and these organisations must comply with these publication processes, including the requirement to provide a completed environmental assessment.

Department of Defence (Defence) design instrument flight procedures for operations by military aircraft at military controlled airports. Defence is not subject to certification by CASA. Their designs are approved and validated by Defence, and their instrument flight procedures are published in Defence documentation. We are not required to verify these designs.

8. NOISE AND COMMUNITY PRINCIPLES

Consider concentrating aircraft operations to avoid defined noise sensitive sites.

Overview

Under the *Air Services Act 1995,* Airservices has an obligation to provide environmentally responsible services by minimising the environmental impact of aircraft operations, including the impact of aircraft noise.

We consider noise sensitive sites (also referred to as noise sensitive receivers) when designing proposed flight path changes.

Noise sensitive sites[10] can include:

- residential buildings
- schools and places of education including pre-schools and child care centres
- hospitals, aged care facilities and other health-related facilities
- places of worship
- places of temporary residence including hotels and motels
- public recreational buildings.

We recognise that the sensitivity of noise sensitive sites to aircraft noise may vary due to the time of day, and the type of activity undertaken at that site and any existing management or mitigation measures in place.

It may be impractical to completely avoid noise sensitive sites, especially if sites are already in proximity to airports, or if flight paths are constrained by terrain, obstacles or other airspace restrictions.

Application

We consider the impact of aircraft operations on noise sensitive sites up to approximately 60 kilometres (35 nautical miles) from a runway.

In our consideration we recognise that rural and urban communities may be impacted by aircraft operations differently.

We design flight paths to avoid noise sensitive sites wherever practicable, to reduce aircraft noise impacts. Where these impacts cannot be avoided we engage with communities in accordance with our procedures and guidelines.

Monitoring

We monitor and report on aircraft utilisation of runways and flight paths through the use of specialised aircraft noise monitoring equipment, databases and information systems contained in our Noise and Flight Path Monitoring System (NFPMS).

[10] Australian Standard AS2021:2015 (Acoustics - Aircraft noise intrusion - Building siting and construction)

Policies, Legislation, Standards and Guidance

- *Air Services Act 1995*
- *Australian Standard AS2021:2015 (Acoustics - Aircraft noise intrusion - Building siting and construction)*

Sources of Information

Information from Airservices NFPMS is available on our website through WebTrak https://www.airservicesaustralia.com/aircraftnoise/webtrak/

Exclusions

State, Territory and Local Governments are responsible for land use planning around airports through zoning, subdivision control, and comprehensive planning actions.

The National Airports Safeguarding Framework (2018) is a national land-use planning framework that aims to improve community amenity by minimising aircraft noise-sensitive developments near airports and improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

In Australia there are no regulations which specify a maximum, allowed level of aircraft noise. Airservices does not have any powers of enforcement to cease an aircraft from operating due to its noise impacts.

Consider potential impacts on social, economic and cultural values of communities and locations, including Indigenous and other heritage places.

Overview

Aircraft operations play a vital role in Australia's economy, and support the development of social and cultural activities by connecting people, tourism and regions.

We consider the impact of aircraft operations on communities and locations up to approximately 60 kilometres (35 nautical miles) from a runway.

In our consideration we recognise that rural and urban communities may be impacted by aircraft operations differently.

In accordance with the definitions in the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, we give consideration of people and communities; heritage values, and their social, economic and cultural aspects when conducting flight path design.

Cultural values in this context are those which are defined in Local and State Government documentation, including planning, zoning and strategic vision statements.

Locations documented as having social, economic or cultural importance, or locations of national environmental significance are listed in the following sources:

- Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool
- State and Territory Heritage Registers
- State Aboriginal and Torres Strait Islander Cultural Heritage Registers
- Local Government urban and community planning documents.

It may be impractical to avoid areas of social, economic or cultural value, especially if sites are in proximity to airport operations, or flight paths are constrained by terrain, obstacles or other airspace.

Application

We conduct research to identify social, economic and culturally important values and sites to ensure that these are considered from the beginning of the flight path change process. Wherever practicable, flight paths are designed to minimise the impact of the change.

We may also rely on research conducted by third parties that has been approved by relevant State and/or Federal Government.

We undertake an environmental assessment screening process for all changes to aircraft operations to identify changes that require a more comprehensive Environmental Impact Assessment (EIA).

Monitoring

The DAWE has a range of enforcement mechanisms for managing suspected or identified instances of non-compliance and for reviewing the compliance of referred projects.

Policies, Legislation, Standards and Guidance

- *Environment Protection and Biodiversity Conservation Act 1999*

Sources of Information

Referrals under the *EPBC Act* are published on the DAWE *EPBC Act* Notices database.

Exclusions

In Australia there are no regulations which specify a maximum, allowed level of aircraft noise. Airservices does not have any powers of enforcement to cease an aircraft from operating due to its noise impacts.

Where high-density residential areas are exposed to noise, consider flight path designs that distribute aircraft operations, so that noise can be shared.

Overview

Under the *Air Services Act 1995,* Airservices has an obligation to provide environmentally responsible services by minimising the environmental impact of aircraft operations, including the impact of aircraft noise.

Flight path designs can be used to distribute aircraft operations and noise across multiple areas. Distribution does not mean there will be an equal number of aircraft over each area, rather that areas may be provided periods of respite from aircraft noise, within the constraints of a range of considerations including, traffic demand and weather.

Distribution may be achieved by:

- introducing multiple Standard Instrument Departures (SIDs) or Standard Instrument Arrivals (STARs), for example separating jet and non-jet SIDs/STARs
- designing separate approach/arrival procedures for varying aircraft navigation technology, for example providing standard and 'Smart Tracking'[11] approaches
- using Noise Abatement Procedures (NAPs) to indicate preferred flight track and/or runway modes of operation that aim to reduce noise impacts for communities.

However, air traffic control (ATC) may clear aircraft to operate on a route other than the published flight path, to ensure safety or due to operational requirements.

Application

We engage with stakeholders, including community, aircraft operators, airlines, and the airport operator to develop flight paths which consider varying aircraft performance and navigation technology, and apply NAPs to minimise the effect of aircraft operations on the environment, including aircraft noise.

We use national population data, and State and Local Government land-use planning and zoning information, to identify residential areas.

We use the term 'high density' to refer to any 'built up areas', including cities, towns, villages and suburbs.

Monitoring

We monitor and report on aircraft utilisation of runways and flight paths through the use of specialised aircraft noise monitoring equipment, databases and information systems contained in our Noise and Flight Path Monitoring System (NFPMS).

11 'Smart Tracking' also known as Required Navigation Performance Authorization Required (RNP AR) procedures are flight paths with strict navigation performance requirements that rely on satellite based navigation and are only available to Civil Aviation Safety Authority (CASA) approved aircraft and pilots

Policies, Legislation, Standards and Guidance

- *Air Services Act 1995*
- *Civil Air Navigation Services Organization (CANSO) and Airports Council International (ACI) Managing the Impacts of Aviation Noise (2015)*
- *International Civil Aviation Organization (ICAO) Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*

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

Information from Airservices NFPMS is available on our website through WebTrak
https://www.airservicesaustralia.com/aircraftnoise/webtrak/

Exclusions

The number, type, destination and origin of aircraft planned to operate on each flight path is determined by a range of factors including, airport and airline agreements, airline and operator flight scheduling, and fleet mix.

State, Territory and Local Governments are responsible for land use planning around airports through zoning, subdivision control, and comprehensive planning actions.

The National Airports Safeguarding Framework (2018) is a national land-use planning framework that aims to improve community amenity by minimising aircraft noise-sensitive developments near airports and improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

In Australia there are no regulations which specify a maximum, allowed level of aircraft noise. Airservices does not have any powers of enforcement to cease an aircraft from operating due to its noise impacts.

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.

Overview

Under the *Air Services Act 1995,* Airservices has an obligation to provide environmentally responsible services by minimising the environmental impact of aircraft operations, including the impact of aircraft noise.

Noise Abatement Procedures (NAPs) are designed to minimise the impact of aircraft noise on the community by reducing noise at the airport during ground operations and noise generated during the arrival and departure phases of flight.

NAPs can include:

- preferred flight track and/or runway modes of operation
- Noise Abatement Departure Procedures (NADP) such as directing aircraft to depart over water at night
- approach procedures such as Continuous Descent Operations[12] (CDO) and low power, low drag techniques
- modified flight path angles to adjust climb gradients
- restrictions on engine run-ups (a type of engine check) and/or ground equipment use.

Communities near airports may be sensitive to operations at different times of the day and night. To minimise the noise impacts on these communities NAPs may also include requirements regarding time of operations, including nominating the preferred runway use.

In all cases, safety considerations take priority over NAPs.

The appropriateness of NAPs depends on a range of factors including:

- the physical lay-out of the airport and its surroundings
- airport and airspace capacity, particularly during high demand periods.

It may be impractical to use NAPs if they generate delay and congestion, that can contribute directly to noise and emission impacts. Appropriate consideration of all potential environmental impacts is required in developing and reviewing NAPs.

Application

Airservices is responsible for the development and review of NAPs in consultation with stakeholders, including aircraft operators, airlines, the airport operator and community.

NAPs are implemented by air traffic control (ATC) or other responsible parties (for example airports or airport owners e.g. Councils), and may be varied by ATC or pilots, subject to weather conditions and operational requirements.

12 CDO is an aircraft operating technique, enabled by airspace and instrument procedure design, which allows arriving aircraft to descend continuously using minimum engine thrust and low drag settings.

Monitoring

We monitor and report on aircraft utilisation of runways and flight paths through the use of specialised aircraft noise monitoring equipment, databases and information systems contained in our Noise and Flight Path Monitoring System (NFPMS).

NAPs reporting may include information on preferred runway use and use of 'Smart Tracking'[13] approaches.

We conduct reviews on the use and effectiveness of NAPs.

Policies, Legislation, Standards and Guidance

- *Air Services Act 1995*
- *Civil Air Navigation Services Organization (CANSO) and Airports Council International (ACI) Managing the Impacts of Aviation Noise (2015)*
- *ICAO Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*
- *International Civil Aviation Organization (ICAO) Doc 9829 Guidance on the Balanced Approach to Aircraft Noise Management*

Sources of Information

Our Aeronautical Information Service (AIS) provides the online material and publications that include NAPs https://www.airservicesaustralia.com/aip/aip.asp

Information from Airservices NFPMS is available on our website through WebTrak https://www.airservicesaustralia.com/aircraftnoise/webtrak/

Exclusions

Aircraft operators are responsible for *Fly Neighbourly Agreements*, which are a voluntary agreement negotiated between aircraft operators and communities or authorities that have an interest in reducing the disturbance caused by aircraft within a particular area.

Curfews at federally leased airports are imposed by Federal legislation and regulated by DITRDC (through the *Airports Act 1996*).

Operators of non-federally leased airports, including private airports, may limit operations during certain hours through different means. This could be through setting operating hours or through State legislation or Local Government approvals.

In Australia there are no regulations which specify a maximum, allowed level of aircraft noise. Airservices does not have any powers of enforcement to cease an aircraft from operating due to its noise impacts.

[13] 'Smart Tracking' also known as RNP AR procedures are flight paths with strict navigation performance requirements that rely on satellite based navigation and are only available to Civil Aviation Safety Authority (CASA) approved aircraft and pilots

Consider current and expected future noise exposure when designing flight paths.

Overview

Airservices considers the noise impacts of proposed flight path changes against current aircraft noise exposure. Current noise exposure is determined by considering the current aircraft operations in the area, including the type, frequency, altitude and noise levels of these operations.

When designing new flight paths, we review the flight path designs within approximately 60km of the aerodrome against current populations, future development of residential areas, and other noise sensitive sites.

Long term forecasts of future aircraft noise levels around airports are presented in Australian Noise Exposure Forecast (ANEF) charts. ANEFs are mandatory for all federally-leased airports as part of their Master Plans under the *Airports Act 1996*. ANEFs may also be required by State or Local Governments for non-federally leased airports. ANEFs are technically endorsed by Airservices to ensure their accuracy and are primarily used for land use zoning purposes by State, Territory and Local Governments.

Application

We use data sourced from our Noise and Flight Path Monitoring System (NFPMS) and our air traffic control (ATC) system to determine current exposure to aircraft noise.

Noise levels and sound exposure are assessed using a suite of metrics, which have been informed by best practice in other noise-generating industries, for example LA_{max}[14] and 'Number Above'[15], noise metrics. We also conduct estimates of the population potentially affected by changes in aircraft noise levels.

We assess the expected future noise exposure, using forecast growth in aircraft movements, and information gained through industry intelligence.

We use State and Local Government land-use planning and zoning to identify current and future land uses, and together with current aircraft operations data, design flight paths to minimise community noise exposure, where practicable.

We undertake an environmental assessment screening process for all changes to aircraft operations to identify changes that require a more comprehensive Environmental Impact Assessment (EIA).

Monitoring

We monitor and report on aircraft utilisation of runways and flight paths through the use of specialised aircraft noise monitoring equipment, databases and information systems contained in our NFPMS.

Permanent and temporary noise monitoring can be undertaken for a range of reasons including to:

- determine the contribution of aircraft noise to the overall noise that a community is exposed to
- provide information to the community about aircraft noise and operations
- help local authorities make informed land planning decisions (though decisions can only be refined through the use of monitoring data, not completely overturned)

[14] LA_{max} is the maximum sound level that an A-weighted sound pressure level reaches during a period of measurement.

[15] 'Number above' noise metrics describe the number of aircraft noise events above a certain noise level, e.g. 70 decibels (dB(A)). These are expressed as N70-x, where x is the number of noise events (e.g. 1, 5, 10, 20 or 50) above that noise level. These metrics are usually displayed as contours, with grading from high numbers of noise events to low numbers of noise events.

- inform estimates of the impact of changes in ATC procedures – including changes designed to reduce noise impacts of aircraft
- validate noise modelling.

We conduct Post-Implementation Reviews (PIRs) for all flight path changes where community engagement is undertaken to ensure the assessment of predicted noise exposure was accurate and that the assumptions and methodologies used continue to be correct and 'fit for purpose'.

Policies, Legislation, Standards and Guidance

- *Air Navigation (Aircraft Noise) Regulations 2018*
- *Airports Act 1996*
- *Australian Standard AS2021:2015 (Acoustics - Aircraft noise intrusion - Building siting and construction)*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Transport Noise Management Code of Practice Volume 1 – Road Traffic Noise (2013) (Qld)*

Sources of Information

Information from Airservices NFPMS is available on our website through WebTrak https://www.airservicesaustralia.com/aircraftnoise/webtrak/

ANEFs are published in federally-leased airport Master Plans and are available on airport websites.

Exclusions

Noise monitoring is not undertaken to determine compliance with aircraft noise regulations as there are no regulations which specify a maximum, allowed level of aircraft noise. Airservices does not have any powers of enforcement to cease an aircraft from operating due to its noise impacts.

State, Territory and Local Governments are responsible for land use planning around airports through zoning, subdivision control, and comprehensive planning actions.

The National Airports Safeguarding Framework (2018) is a national land-use planning framework that aims to improve community amenity by minimising aircraft noise-sensitive developments near airports and improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

9. EFFICIENCY AND ENVIRONMENTAL PRINCIPLES

Consider Matters of National Environmental Significance, other sensitive habitats, and registered heritage sites.

Overview

Under the *Air Services Act 1995,* Airservices has an obligation to provide environmentally responsible services by minimising the environmental impact of aircraft operations. Airservices must comply with the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

The *EPBC Act* is the Australian Government's central piece of environmental legislation. In conjunction with States and Territories, it provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the *EPBC Act* as Matters of National Environmental Significance (MNES). There are nine MNES:

- world heritage properties
- national heritage places
- wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed)
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development.

Other sensitive areas which are likely to contain important habitat for consideration by the *EPBC Act* listed threatened biota (the plant and animal life of a particular region or period) and migratory species or state-listed threatened biota, include:

- nationally important wetlands
- State Forests
- National Parks
- other Conservation Reserves listed under State legislation.

The *EPBC Act* applies to any group or individual whose actions may have a significant impact on the environment.

Under Section 28 of the *EPBC Act*, approval is required for an action taken by Airservices anywhere in the world that is assessed as *likely* to have a significant impact on the environment.

'Significant impact' has particular meaning within the *EPBC Act*, and is an impact which is "important, notable, or of consequence, having regard to its context or intensity". Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.

Application

We undertake an environmental assessment screening process for all changes to aircraft operations to identify changes that require a more comprehensive Environmental Impact Assessment (EIA).

Specifically to flight path changes, the EIA process will determine whether it is *likely* to have a *'significant impact'* on MNES, other sensitive habitats and registered heritage sites. The EIA assesses flight path changes across four categories: aircraft noise, fuel burn and emissions, biodiversity and other *EPBC Act* matters (such as potentially affected noise sensitive sites and communities).

Wherever practicable, we seek to avoid changes that would be *likely* to have a 'significant impact' to the environment, as defined under the *EPBC Act*.

Where avoidance of potentially significant impact is not practicable, we are required to refer the change to the Commonwealth Minster for the Environment for advice, and to consider the advice before making a decision. The advice may require formal assessment under the *EPBC Act*, or it may include a range of conditions to apply to the proposal.

We can also use Environmental Impact Statements (EIS) for airport developments, which are legislated under State assessment and approval processes, as the basis from which to seek advice from the Minister. This can also occur through bilateral agreements between State and Federal Governments.

Monitoring

Airservices conforms to the *ISO 14001:2015 Environmental Management Systems* to monitor and report on aircraft activities as directed by the Minister.

Under the *EPBC Act* the Department of Agriculture, Water and the Environment (DAWE) has a range of enforcement mechanisms for managing suspected or identified instances of non-compliance and for reviewing the compliance of referred projects.

Policies, Legislation, Standards and Guidance

- *Air Services Act 1995*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *ISO 14001:2015 Environmental Management Systems*

Sources of Information

MNES appear on the *EPBC Act lists*. These lists are maintained and updated by the DAWE. Referrals under the *EPBC Act* are published on the DAWE *EPBC Act* Notices database.

Exclusions

Actions on Commonwealth land in Australian Government leased airports are subject to the *Airports Act 1996* and are the responsibility of airports. The *Airports Act* requires airports to prepare Master Plans, Major Development Plans (MDPs) and Airport Environmental Strategies.

Under the *EPBC Act*, the Minister has authority over the nine defined MNES but does not have the power to regulate impacts on matters such as air quality, noise, odour, general amenity or animals that are not listed as threatened or endangered under the *EPBC Act*.

These environmental matters are the responsibility of the relevant State Government to consider during any state assessment and approval process within State land.

Design flight paths that deliver operational efficiency and predictability, and minimise the effect on the environment through reducing fuel consumption and emissions.

Overview

Airservices plays an important role in facilitating and supporting improvements in aviation efficiency.

We work with regulatory authorities, airports, operators, and other air navigation services providers to improve Air Traffic Management (ATM), reduce fuel burn and emissions to collectively minimise the impact on the environment and community.

International Civil Aviation Organization (ICAO) encourages the use of performance based navigation (PBN), which uses the navigation capabilities of modern aircraft to enable more efficient airspace management solutions compared with conventional navigation.

Our flight path and airspace design methods rely on PBN to create flight paths that maintain reliable all-weather operations even at challenging airports, while reducing congestion, helping conserve fuel, protecting the environment, and reducing the impact of aircraft noise.

Application

To facilitate operational efficiency, flight path design initiatives may include:

- arrivals with Continuous Descent Operations[16] (CDO) which prevent aircraft having to use additional power to 'level out', reducing fuel burn and emissions
- departures with Continuous Climb Operations[17] (CCO) which enable aircraft to reach their optimum flight level without interruption, reducing fuel burn and emissions, as a large proportion of fuel burn occurs during the climb phase
- arrivals and departures with laterally predictable flight paths, speed restrictions and vertical separation requirements which allow aircraft operators, airlines, and pilots to configure aircraft flight management systems for departures and arrivals in advance, reducing fuel burn and emissions
- 'Smart Tracking'[18] approaches with curved flight paths, reducing aircraft flight time and track miles
- more direct flight paths for busier routes, resulting in greater net reductions in fuel and emissions
- 'race track' route systems between cities to improve safety and efficiency of the air route network.

Monitoring

We use an aviation environmental analysis tool with fuel burn and emissions modelling capability, to improve decision-making and help identify future emission reduction measures.

We work with airlines to identify the most effective way to remove constraints that cause unnecessary fuel burn and minimise aviation emissions.

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[16] CDO is an aircraft operating technique, enabled by airspace and instrument procedure design, which allows arriving aircraft to descend continuously using minimum engine thrust and low drag settings.

[17] CCO is an aircraft operating techniques, enabled by airspace and instrument procedure design, which allows departing aircraft to climb continuously using optimum climb engine thrust and climb speeds until reaching cruising level.

[18] 'Smart Tracking' also known as RNP AR procedures are flight paths with strict navigation performance requirements that rely on satellite based navigation and are only available to Civil Aviation Safety Authority (CASA) approved aircraft and pilots

Policies, Legislation, Standards and Guidance

- *Australia's Air Traffic Management Plan 2017*
- *ICAO Destination Green (2013)*
- *ICAO Doc 9750 ICAO Global Air Navigation Plan 2016-2030*
- *Managing the Carbon Footprint of Australian Aviation (2017)*

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 responsibility for efficiency and emissions actions within Australia, including airlines and aircraft operators, airports, and aircraft manufacturers.

Airlines are responsible for fleet upgrades and operational procedures to minimise fuel use, including reduction in weight of cabin items and reduction of engine ground running time.

It is an aircraft operator/owners responsibility to ensure their aircraft meets emissions regulations under *ICAO Annex 16: Environmental Protection, Volume II – Aircraft Engine Emissions* and the *Air Navigation (Aircraft Engine Emissions) Regulations 1995.*

We implement a range of ATM measures, which fall outside the design of flight paths, to improve fuel efficiency such as flexible flight tracks, improved air traffic control (ATC) sequencing and management of aircraft on the ground.

10. OPERATIONAL PRINCIPLES

Design flight paths to facilitate access to all appropriate airspace users.

Overview

Airservices designs air routes, flight paths and airspace in accordance with the *Airspace Act 2007* and *Airspace Regulations 2007,* taking into account the need for protection of the aviation environment, efficient and equitable use of airspace, and national security.

To ensure equitable access to the airspace, flight paths and airspace design must accommodate the range of airspace users, which can include both flying and non-flying activities:

- flying operations can include scheduled flight operations, military, emergency, freight, charter, helicopter, drones, and general and recreational aviation flights
- non-flying activities can include weapons firing, explosive demolition, and protection of areas of national security.

An appropriate airspace user, or 'eligible airspace user' as defined by the Civil Aviation Safety Authority (CASA), is an operator or organisation that can operate within the designated airspace, obtaining permission from the airspace controlling authority (e.g. Airservices for controlled airspace).

In designing flight paths, we balance the requirement between the cost to operators and the volume of controlled airspace needed to contain certain operations, with the need to maintain other users access to airspace.

Flight paths can be designed to specifically accommodate particular aircraft operations, using the latest technology where available. They can also be designed to avoid restricted and danger areas, both flying and non-flying.

The airspace controlling authority is determined by the CASA Office of Airspace Regulation (OAR), which manages the regulation of the airspace in Australia and designates different types of airspace, that are defined by a lateral and vertical limits, including:

- Controlled airspace[19]
- Uncontrolled airspace[20]
- Prohibited, Restricted or Danger areas.[21]

[19] Controlled airspace in Australia is actively monitored and managed by air traffic control (ATC). To operate in controlled airspace, an airspace user must first receive a clearance from ATC. ATC gives priority to emergency operations.

[20] Operations in uncontrolled airspace do not require a clearance from ATC. The majority of light aircraft and helicopters operate outside or underneath controlled airspace.

[21] A Prohibited Area (PA) is designated for reasons of military necessity to prohibit the flight of aircraft over the area. A Restricted Area (RA) is where aircraft movements are reduced to those with certain specified permissions. Examples of a RA include airspace around weapons firing, military flying, communication facilities emitting high-intensity radiated fields, explosive ordnance demolition, aerobatic displays and air shows, and police activities.

A Danger Area (DA) is designated where an activity within or over the area is a potential danger to aircraft flying over the area. Examples include flying training, gliding competitions, parachuting activities, mine blasting, high velocity plume rise (gas or exhaust) and small arms firing.

Application

We must ensure that flight paths for Instrument Flight Rules (IFR)[22] operations subject to ATC are located in controlled airspace, taking into account applicable navigation tolerances and required safety buffers. In some cases this may require a change in the lateral and/or vertical limits of the controlled airspace.

Changes to controlled airspace require approval from CASA OAR, however in some cases, additional airspace is not available as it is administered by another airspace authority, such as Defence.

We consult with aviation industry stakeholders to ensure any changes we make to the controlled airspace meets their needs and is equitable.

Monitoring

CASA works closely with Airservices to ensure that the needs of all airspace users are properly considered, the provision of Air Traffic Management (ATM) services is coordinated, and the administration of Australia's airspace is both safe and efficient.

CASA OAR conducts aeronautical studies and airspace reviews to ensure airspace is safe and appropriate for those who use it and to determine when airspace may require amending, for example due to a significant increase in traffic volume.

Policies, Legislation, Standards and Guidance

- *Airspace Act 2007*
- *Airspace Regulations 2007*
- *CASA Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Aviation Safety Regulations 1998 Part 173 – Instrument flight procedure design*

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

Airspace regulation, including the airspace change process and airspace reviews, is available on the CASA website.

Exclusions

CASA has sole responsibility for the regulation of the design of all Australian-administered airspace. Airservices is not able to impose changes upon airspace that is administered by other authorities, for example Defence.

[21] Instrument flight procedure design and IFR are procedures and rules for how aircraft are to be operated when visual reference cannot be used for navigation by pilots.

Consider flight paths that optimise airport capacity, and meet future airport requirements.

Overview

We play an important role in facilitating and supporting aviation efficiency by working in collaboration with regulatory authorities, airports and aircraft operators and other air navigation services providers.

At major airports, capacity enhancement seeks to improve the efficiency and use of existing infrastructure, in consultation with the airport users and community, to increase runway capacity to address the challenge of airport congestion and delay.

It also includes design and development of airspace management solutions for new infrastructure, including new or extended runways, and in some cases, new airports.

We consider airport passenger growth forecasts and future airport developments, for example new runways, in the development of flight paths to ensure they meet future demand.

Application

To optimise airport capacity and meet future airport requirements, flight path design initiatives may include:

- defined, predictable and repeatable flight paths which facilitate use of an Air Traffic Flow Management (ATFM) system for managing airport capacity
- Standard Instrument Departures (SIDs) that allow aircraft to turn as soon as possible after departure, allowing the next departing aircraft to be given 'take-off' clearance sooner
- Standard Instrument Arrivals (STARs) with set speeds at certain waypoints, leading to uniform spacing of aircraft on arrival flight paths
- separated SID and STAR procedures, allowing air traffic control (ATC) to efficiently direct aircraft to depart, while maintaining a safe distance from arrivals
- separate jet and non-jet SIDs, to allow slower non-jet aircraft to depart on separate flight paths and faster following jet aircraft to depart with reduced or no delay
- vertically-guided stabilised approaches[23] to reduce the frequency of missed approaches and therefore delays for departing and/or arriving aircraft.

Monitoring

We use an ATFM system to identify and manage demand and capacity imbalances. We provide access to this system for aircraft operators, airports and aviation groups to assist in a collaborative approach to managing airport congestion and delays.

Policies, Legislation, Standards and Guidance

- *Civil Aviation Safety Authority (CASA) Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Aviation Safety Regulations 1998 Part 173 – Instrument flight procedure design*

[23] Vertically-guided approaches use satellite or other navigation technology to alert a pilot or aircraft about any lateral or vertical changes from the planned flight path. This makes it more likely an approach to land will be flown in a stabilised manner.

- *ICAO Doc 9426 Air Traffic Services Planning Manual*
- *International Civil Aviation Organization (ICAO) Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*

Sources of Information

Our monthly Air Traffic Management (ATM) network performance reports, including reports at major airports, are available at https://www.airservicesaustralia.com/publications/reports-and-statistics/atm-network-performance/

Passenger growth forecasts are published in Airport Master Plans and available on airport websites.

Exclusions

There are many other parties with responsibility for airport capacity within Australia, including airports, airlines and aircraft operators.

Airports are responsible for on ground changes to enhance airport capacity such as additional runways, lengthening or widening of existing runways, construction of taxiways that allow for faster entry and exit to the runway and upgrades to airport terminal capacity.

Aircraft operators are responsible for ensuring their aircraft vacate the runway following landing using the fastest possible method.

The number and type of aircraft which operate on each flight path is determined by the flight scheduling and fleet mix of airlines and aircraft operators, and airport gate scheduling.

Consider flight paths that optimise overall network operations, including consideration of operations at adjacent airports.

Overview

We are responsible for managing the overall efficiency of air traffic network operations within Australia.

Growth in air traffic impacts the effectiveness and efficiency of existing services, air routes and flight paths, while increased demand at major airports influences the overall performance of the air traffic network.

We play an important role in facilitating and supporting improvements in network efficiency by working in collaboration with regulatory authorities, airports, operators and other air navigation services providers to improve the processes and practices of air traffic control (ATC), airport operators and airlines.

We also consider the effect of operations on neighbouring airports, particularly where airports are located in close proximity, and seek to optimise overall network operations.

Application

To ensure predictability of aircraft movements, optimise aircraft sequencing, and enhance overall network operations, flight path design initiatives may include:

- different flight paths to each runway end to allow for seasonal weather variations
- 'race track' route systems between cities to reduce route congestion
- where there is an unavoidable intersection of routes, placing the intersection where there is already a large altitude difference between the routes, to ensure a smoother flow of aircraft operations
- placing holding patterns on arrival routes to facilitate Air Traffic Flow Management (ATFM) and reduce overall delay
- defined, predictable and repeatable flight paths which facilitate use of an ATFM system for managing airport capacity
- providing multiple entry and exit points for routes so that it is easier for ATC to manage aircraft at busy times
- prioritising the location of busy routes when designing an overall route structure.

Monitoring

We use an ATFM system to identify and manage demand and capacity imbalances. We provide access to this system for aircraft operators, airports and aviation groups to assist in a collaborative approach to managing overall air traffic network operations.

Policies, Legislation, Standards and Guidance

- *Civil Aviation Safety Authority (CASA) Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Aviation Safety Regulations 1998 Part 173 – Instrument flight procedure design*
- *ICAO Doc 9426 Air Traffic Services Planning Manual*
- *International Civil Aviation Organization (ICAO) Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*

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

Our monthly Air Traffic Management (ATM) network performance reports are available at
https://www.airservicesaustralia.com/publications/reports-and-statistics/atm-network-performance/

Exclusions

There are many other parties with responsibility for airport capacity within Australia, including airports, airlines and aircraft operators, which can impact on overall network operations.

The number and type of aircraft which operate on each flight path is determined by airlines, airport and operator flight scheduling and fleet mix.

We undertake a range of ATM measures, which fall outside the design of flight paths, such as flexible flight tracks, improved ATC sequencing and management of disruptions caused by weather.

Consider innovation and technology advancements in navigation and aircraft design.

Overview

The aviation industry is constantly changing and evolving as existing aviation technology is refined and new technologies emerge.

We have a responsibility to support the emergence of new aviation technology by providing flight paths for enhanced navigation and aircraft design. This may include changes to existing aircraft such as the use of satellite based navigation systems, or catering to new aircraft types such as unmanned aircraft systems, hybrid and electric aeroplanes.

Importantly, advances in navigation performance have enabled changes in airspace design, separation standards, route spacing, airport access, instrument flight procedure design and Air Traffic Management (ATM).

These changes form a significant part of the overall modernisation of Australia's airspace and deliver improvements in safety and operational efficiency.

Application

We work in collaboration with the Australian Government, Civil Aviation Safety Authority (CASA), airports and aircraft operators to enable the implementation of new technology.

Flight path designs to enable modern aircraft navigation technology may include:

- barometric vertical navigation[24] (BARO-VNAV) approaches enabling guided descent to landing without the need for on-ground navigation facilities
- 'Smart Tracking'[25] approaches with curved flight paths to fly with greater accuracy than approaches using conventional navigation means
- Vertically and horizontally guided approaches utilising enhanced satellite navigation, such as Ground Based Augmentation system (GBAS) [26] and Satellite Based Augmentation System (SBAS) [27].

Our flight path designs also consider the opportunities and requirements of emerging technologies such as Unmanned Aerial Vehicles, commercial drones, aerial taxis and space vehicles.

Monitoring

We conduct regular maintenance reviews of published instrument flight procedures to ensure ongoing obstacle protection and compliance with any changes to the standards.

CASA conducts routine compliance audits on Part 173 providers, including Airservices, to ensure compliance with regulations and standards.

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[24] Vertically-guided approaches use satellite or other navigation technology to alert a pilot or aircraft about any lateral or vertical changes from the planned flight path. This makes it more likely an approach to land will be flown in a stabilised manner.

[25] 'Smart Tracking' also known as RNP AR procedures are flight paths with strict navigation performance requirements that rely on satellite based navigation and are only available to CASA approved aircraft and pilots.

[26] GBAS, known Honeywell SmartPath in Australia, is a satellite-based precision landing system that uses Global Positioning System (GPS) signals to provide aircraft with very precise positioning guidance during the final stages of an approach.

[27] SBAS is a navigation system that uses both space-based and ground-based infrastructure to improve the accuracy of Global Navigation Satellite System (GNSS) signals, such as GPS. GBAS and SBAS are technologies that utilise differing methods to improve the accuracy and integrity of Global Navigation Satellite System (GNSS) – derived positions. This enables aircraft to conduct high-precision vertically and horizontally guided approaches to landing in all weather conditions.

Policies, Legislation, Standards and Guidance

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

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 responsibility for aviation innovation and technology advancements within Australia, including CASA, aircraft manufacturers, airlines and operators.

Aircraft manufacturers are responsible for designing aircraft with improved navigation technologies or the development of new types of aircraft.

Airlines are responsible for fleet upgrades, adoption of new navigation technology and training of operators to use this technology.

CASA regulates new aircraft types, for example drones, and the use of new technology on aircraft within Australia.

11. ABBREVIATIONS

Abbreviation	Name
AIS	Aeronautical Information Service
ANEF	Australian Noise Exposure Forecast
ASAP	Aviation Safety Advisory Panel
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATSB	Australian Transport Safety Bureau
BARO-VNAV	Barometric vertical navigation
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations
CCO	Continuous Climb Operations
CDO	Continuous Descent Operations
Cth	Commonwealth of Australia
DAWE	Department of Agriculture, Water and the Environment
Defence	Department of Defence
DITRDC	Department of Infrastructure, Transport, Regional Development and Communications
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
GBAS	Ground Based Augmentation System
GNSS	Global Navigation Satellite System
ICAO	International Civil Aviation Organization
IFPP	Instrument Flight Procedures Panel
IFR	Instrument Flight Rules
MDP	Major Development Plan
MNES	Matters of National Environmental Significance
MOS	Manual of Standards
NADP	Noise Abatement Departure Procedure
NAP	Noise Abatement Procedure
NFPMS	Noise and Flight Path Monitoring System
NPRM	Notice of Proposed Rule Making
OAR	Office of Airspace Regulation
PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
PBN	Performance Based Navigation
PIR	Post-Implementation Review
Qld	Queensland
RNP AR	Required Navigation Performance Authorization Required
SARPs	Standards and Recommended Practices
SBAS	Satellite Based Augmentation System
SID	Standard Instrument Departure

Abbreviation	Name
SMS	Safety Management System
STAR	Standard Instrument Arrival

12. REFERENCES

- *Air Navigation (Aircraft Engine Emissions) Regulations 1995 (Cth)*
- *Air Navigation (Aircraft Noise) Regulations 2018*
- *Air Services Act 1995 (Cth)*
- *Airports (Protection of Airspace) Regulation 1996 (Cth)*
- *Airports Act 1996 (Cth)*
- *Airservices Commitment to Aircraft Noise Management (2013), Airservices Australia*
- *Airspace Act 2007 (Cth)*
- *Airspace Regulations 2007 (Cth)*
- *Australia's Air Traffic Management Plan 2017 (Cth)*
- *Australian Standard AS2021:2015 (Acoustics - Aircraft noise intrusion - Building siting and construction)*
- *CASA Manual of Standards Part 173 – Standards Applicable to Instrument Flight Procedures Design (2016)*
- *Civil Air Navigation Services Organization and Airports Council International Managing the Impacts of Aviation Noise(2015)*
- *Civil Aviation Safety Regulations 1998 Part 173 – Instrument flight procedure design*
- *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*
- *ICAO Annex 16: Environmental Protection, Volume II – Aircraft Engine Emissions*
- *ICAO Destination Green (2013)*
- *ICAO Doc 8168 Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*
- *ICAO Doc 9426 Air Traffic Services Planning Manual*
- *ICAO Doc 9750 ICAO Global Air Navigation Plan 2016-2030*
- *ICAO Doc 9829 Guidance on the Balanced Approach to Aircraft Noise Management*
- *ICAO Doc 9905 Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual*
- *ICAO Doc 9906 Quality Assurance Manual for Flight Procedure Design*
- *ISO 14001:2015 Environmental Management Systems*
- *Transport Noise Management Code of Practice Volume 1 – Road Traffic Noise (2013) (Qld)*
- *Managing the Carbon Footprint of Australian Aviation (2017), Department of Infrastructure and Regional Development (Cth)*
- *National Airports Safeguarding Framework (2018), Department of Infrastructure, Transport, Regional Development and Communications (Cth)*

Appendix E – Environmental Management of Changes to Aircraft Operations – National Operating Standard

Environmental Management of Changes to Aircraft Operations

National Operating Standard

AA-NOS-ENV-2.100

Version 18

Effective 01 July 2022

Prepared:	Ritesh Rajput – Senior EMS Specialist
Endorsed:	Environment & Sustainability - Scott Tonkin
Approved:	Chief Safety & Risk Officer - Glen Lang

Change summary

Version	Date	Change description	Amended by
18	01 July 2022	Changes to existing processes for the management of ATM changes	George Sanderson, Ritesh Rajput

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Table of contents

1 Purpose

The purpose of this Standard is to prescribe the requirements for environmental impact assessment (EIA), community sensitivity analysis (CSA) and community engagement that must be met, prior to implementing changes to aircraft operations.

These activities shall be collectively referred to as environmental change management within this document.

2 Scope

This Standard applies to all proposed changes to air traffic management practices (proposals) that may involve a change to aircraft operations.

Proposals include, but are not limited to, the following:

- new, or amendment to an existing, instrument flight procedure;
- new, or amendment to an existing, air route;
- re-classification of airspace;
- change to noise abatement procedures or preferred runways;
- a change that allows use of a flight path/airspace by a different type or quantity of aircraft;

Note: A tactical decision of an air traffic controller to alter the track of an individual aircraft does not constitute a proposal.

Note: Changes involving the administration or facilitation of emergency operations (aerial firefighting, police, Border Force, military or other covert ops) are not required to be screened as they are considered inherently tactical.

2.1 Out of Scope

This Standard does not necessarily apply to other business revenue (OBR) work undertaken by Airservices. For OBR work, an approach shall be determined by the Chief Service Delivery Officer, to assess the potential application of the *Environmental Protection and Biodiversity Conservation Act 1999*, and the potential environmental impact of the work.

Refer to Appendix A for applicable changes and Appendix C for further information regarding OBR work.

3 Objectives of environmental change management

Recognising that safety is our most important consideration, the main objectives of environmental change management for aircraft operations are to:

1. meet our legislative obligations to:
    a. avoid ‘significant’ environmental impacts resulting from any Airservices action, and ensure appropriate regulatory consideration and impact assessment, as required under the *Environmental Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

   b. ensure air traffic management practices are conducted in a manner that protects the environment, as far as is practicable, as required under the *Airservices Act 1995;*
   c. meet applicable Ministerial Directions relating to aircraft noise management;
2. minimise our business risks by maintaining effective community engagement and sound corporate citizenship in aircraft noise management;
3. provide a standardised and rigorous approach to assessing the impacts of changes to aircraft operations, as a demonstration of organisational due diligence in environmental management (in compliance with the requirements of our Environmental Management System (EMS) - as described in AA-NOS-ENV-0001);
4. assist in achieving organisational environmental, sustainability and community management commitments (as described in our Environmental Policy C-POL0030); and
5. assist in achieving efficiency outcomes for our customers, through improved flight paths and associated reductions in fuel costs and emissions.

4 Principles and mandatory requirements

4.1 Change process collaboration

Environmental change management is a collaborative process involving impact assessment (environmental, social and reputational); risk assessment and management; and community engagement.

These management elements shall be conducted collaboratively and concurrently by relevant parties throughout the change lifecycle, such that flight paths are designed and implemented in a manner that minimises environmental and community impacts to the greatest extent practicable.

4.2 Change governance

A formal standing change governance panel shall be established with representation by accountable managers from all business units with accountability for elements of the end-to-end airspace/aircraft operations change management. This change governance panel shall oversee the entire change pipeline from initial proposals to post implementation reviews, and authorise progress at key decision points established in this Standard. Decisions of the governance panel shall have minutes and attached to the CIRRIS change record as evidence.

The roles and responsibilities of the governance panel[1] shall be published as a functional group procedure or a Terms of Reference, which defines membership, decision making and delegations.

[1] The governance panel is currently implemented as the 'Airspace Governance Panel' described in ATS-PROC-0147.

4.3 Requirements for all proposals

All proposed changes to our air traffic management practices that may affect aircraft operations shall:

1. be undertaken in accordance with this Standard and subordinate procedures, while being commensurate and scalable to the complexity of the change;
2. be assessed for environmental and community impacts prior to implementation
3. be designed to avoid environmental and community impacts to the greatest extent practicable (whilst prioritising operational safety);
4. involve community engagement prior to the final decision, where potential community or environmental impacts are identified;
5. be reassessed[2] and reengaged with the community prior to implementation, if the proposal has already been impact assessed in accordance with this Standard and:
    a. has subsequently been substantially modified or;
    b. over 24 months has elapsed since the original assessment and engagement.
6. undertake a gap analysis for the assessments which were previously endorsed through a formal Environmental Impact Statement (EIS) or Major Development Plan (MDP) process to ensure assessment metrics used in the originally endorsed EIS/MDP adequately addresses the current environmental impact standard and industry practice, and to determine whether additional advice is required from the Environment Minister regarding whether the proposal presents the potential for 'significant impact' under the EPBC Act. Refer to Guide ENV-GUIDE-0028 *Environmental Impact Assessment of Changes to Aircraft Operations* for more details about the content and process of 'gap analysis'.
7. seek to achieve an outcome that balances the needs of the environment, community and aviation industry stakeholders, in accordance with Airservices Flight Path Design Principles (FPDP).

Note: For third party assessments, Flight Path Design team (FPD) shall review and lodge Environmental Change Screenings in CIRRIS. Safety & Environmental Assessments team will undertake endorsements, and Community Engagement team will ensure if communities have been appropriately engaged.

4.4 Third party framework

Airservices Third Party Framework (TPF) procedure (C-PROC0429: Third Party Proposed Change Management Procedure) shall be applied to all proposals led by a third party (an Airport for example) where Airservices is in a supporting or joint development/delivery role. The TPF clearly defines Airservices airspace and flight path change obligations and the requirements identified through this Standard.

A Third Party Change Management Plan (TPCMP) is required to be completed as part of the TPF. This plan identifies roles and responsibilities against these obligations and requirements, and confirms input, review, approval and assurance requirements for

[2] 'Re-assessment' is scalable depending on the extent of the given variation to the change, and may only consist of validation of original inputs and assumptions.

both parties. The TPCMP shall be completed prior to any Airservices activity commencing on the proposed change.

4.5 Information systems

The Corporate Integrated Reporting and Risk Information System (CIRRIS) Management of Change (MOC) module must be used to record case workflows and due diligence activities associated with a change proposal.

The Environment & Sustainability Principal Advisor is accountable for ensuring that CIRRIS accurately codifies the screening and assessment criteria and logic described at Appendix A of this Standard.

If CIRRIS functionality is unavailable, the Accountable CSDO Manager shall ensure that change proposals are documented in a manner that conforms to the criteria and process steps outlined in this Standard.

The end to end CIRRIS processes can be completed by Flight Path Design (FPD) on the basis they provide evidence that the decision has been supported by the change governance panel or other relevant risk delegate/s.

4.6 Proposals with potential 'significant impact'

Wherever practicable, Airservices shall seek to avoid changes with the potential to result in 'significant impact' to the environment, as defined under the EPBC Act.

Where avoidance of potentially significant impact is not practicable (e.g. due to a clear safety imperative), the proponent of the change shall seek advice from the Commonwealth Environment Portfolio Minister (the Environment Minister), in accordance with Sections 28 and 160 of the EPBC Act, prior to implementing the change. Refer to Section 6.4 for further information regarding advice and assessment requirements under the EPBC Act.

4.7 Development of procedures

Airservices business groups with accountabilities for planning and implementing changes to aircraft operations shall develop procedures and other supporting documents that describe:

a. the internal business processes required to enact the requirements of this Standard (including interactions with other business groups and external stakeholders);

b. the relevant methodologies for undertaking environmental impact assessments, community sensitivity analyses and community engagement (as required by this Standard), and how they will collaboratively inform flight path design;

c. the Flight Path Design Principles (FPDP) applicable to the design of all new and amended flight path changes to ensure balanced consideration of customer, community, environment and operational requirements, having first given regard to safety

d. Any additional standards, principles and templates applicable to the development of products or processes defined in this Standard, such as Flight Path Design Principle Report (FPDPR).

5 Accountabilities

5.1 Overall change implementation

The following abbreviations for accountable personnel are used throughout this standard:

- Chief Executive Officer (CEO)
- Chief Service Delivery Officer (CSDO)
- Chief Customer Experience and Strategy Officer (CCXSO)
- Chief Safety & Risk Officer (CSRO).

The CSDO group holds ultimate accountability for ensuring that no change proposal is implemented without completion of the appropriate environmental change management requirements, in accordance with this Standard.

In practice this means:

- managing the change process to ensure that all assessment and management elements are completed and approved by relevant managers;
- accepting or rejecting risk assessments produced during the environmental change management process (in accordance with Risk Management Standard (AA-NOS-RISK-0001), Environmental Risk Management Procedure (ENV-PROC-0004) and Airspace Change Process (ATS-PROC-0147).
- approving implementation of the change once all environmental change management requirements (as described in this Standard and any change specific plans) have been met.

The Accountable CSDO Manager is the point of accountability for the overall success of a change. The Accountable CSDO Manager is either:

- the Head accountable for the operations to which the change pertains; or
- the Chief Service Delivery Officer (if the proposed change represents a risk in the 'High' risk class (in accordance with AA-NOS-RISK-0001) as indicated by the environmental or community sensitivity analysis and/or the airport risk rating3).

Environmental change management shall be integrated with the overall change governance framework. Accountable managers from all business groups involved in the change process must be informed of potential environmental and community risks and benefits from a proposed change at relevant decision points throughout the change lifecycle[4]; including the design and initial proposal stage. See Airspace Change Process (ATS-PROC-0147).

The CEO holds the ultimate approval authority for change implementation. The change governance panel must ensure that the CEO is kept informed of the change program and of any high risk changes prior to implementation.

[3] To enable this, CSDO group shall maintain a risk in CIRRIS which describes ongoing environmental risks associated with noise management at specific Airports, in addition to assessing the risk of the particular change.

[4] ATS-PROC-0147 establishes the Airspace Governance Panel (AGP) which meets the intention of this requirement.

6 Environmental change management elements

There are six key elements to environmental change management for aircraft operations. These are as follows[5]:

1. Initial design review (including Preliminary Noticeability and Sensitivity Assessment (PNSA))
2. Community Sensitivity Analysis (CSA) and community engagement
3. Environmental Change Screening (ECS)
4. Environmental Impact Assessment (EIA)
5. Advice and assessment under the EPBC Act (where required)
6. Risk Assessment and Management

These elements are further discussed in the following sections.

6.1 Initial Design Review

6.1.1 Purpose and context

The change proponent articulates a need for change which is developed into an initial design by FPD. An initial design review provides an opportunity to undertake an early assessment of potential aircraft noise issues.

The key product of this phase is the Preliminary Noticeability and Sensitivity Assessment (PNSA) which may inform:

- a design amendment;
- any potential community engagement strategy; or
- a decision to terminate the proposal early.

The initial design stage is overseen by the change governance panel.

Table 1 Outcomes and requirements for initial design review

Outcome:
1. Changes with apparent community risk are identified at the initial design stage and can inform a decision to modify the design.
Requirements: 1.1. A change record is created for the proposal using the CIRRIS Management of Change module. 1.2. Initial design review is conducted to support early assessment of potential environmental issues. 1.3. The change governance panel will consider changes and determine if they are approved for screening and requires a PNSA.

[5] After Environmental Change Screening is conducted, these elements may be undertaken concurrently (informing each other) and not necessarily carried out in the order listed herein.

1.4. Findings from the PNSA shall be submitted to the airspace change governance panel for a decision.

Outcome:

2. A decision is made regarding whether the change can proceed to Environmental Change Screening.

Requirement:

2.1. Business group procedures shall define when a PNSA is required and the approved format

2.2. A PNSA shall:

(a) Inform iteration of flight path design, the EIA and CSA;

(b) analyse potential impact on all potentially affected communities and noise sensitive receivers, referring to both qualitative and quantitative values;

(c) include explicit commentary on social impact, taking into account existing risk information, particular community history, context and sensitivities;

(d) be commensurate with the size of the change and the sensitivity of the social environment;

(e) incorporate the most up to date information on the communities affected.

2.3. Findings from the PNSA shall be submitted to the airspace change governance panel for a decision to proceed to ECS, iterate the design or terminate the proposal. PNSA shall be attached to the CIRRIS change record.

2.4. Decisions of the airspace change governance panel shall be documented and attached to the CIRRIS record as evidence.

2.5. Any proposed changes originating from outside the Accountable CSDO Manager's team must be approved by the Accountable CSDO Manager.

2.6. The PNSA informs a decision to conduct an early community engagement activity.

2.7. All PNSA shall:

(a) be prepared by appropriately qualified and experienced staff[6]

(b) be based on accepted industry practices and social impact analysis methodologies

6.2 Environmental Change Screening

6.2.1 Purpose and context

Environmental Change Screening (ECS) enables early identification of change proposals that are highly unlikely to result in any environmental or community impact and can therefore be progressed without further detailed assessments (unless the proposal relates to a 'high' risk airport – see Table 2 below).

[6] PNSAs may be undertaken by parties outside of Airservices, however they are still subject to the Change Implementation requirements of this NOS and Airservices Airspace Change Process (ATS-PROC-0147).

ECS enables an initial assessment of potential impacts at a high level, using defined criteria (included in Appendix A).

6.2.2 Outcomes and Requirements

Table 2 prescribes the outcomes that must be achieved through ECS, as well as the associated requirements for achieving the outcomes.

Table 2 Outcomes and requirements for Environmental Change Screening (ECS)

Outcome: 3. Changes are screened to identify those that require further environmental assessment/management
Requirements: 3.1. Environmental Change Screening (ECS) shall be undertaken using the CIRRIS Management of Change module (which incorporates the Environmental Screening Criteria, Appendix A) to create a unique record in CIRRIS for the change – 'The Environmental Change Record (ECR)'.
Outcome: 4. A decision is made regarding whether the change can proceed to implementation, or if further environmental assessment/management is required.
Requirement: 4.1. The result of all ECS shall be reviewed and accepted by the change governance panel. 4.2. Evidence that the change governance panel has accepted the screening outcome shall be attached to the ECR. 4.3. The outcome of the ECS assessment shall also be recorded in the Change Request Centre (CRC) system (at the appropriate time) 4.4. Any change at an airport in the 'High' risk class (as defined in RSK-494 in CIRRIS) shall be discussed at the change governance panel irrespective of the screening result to determine if the change requires a Community Sensitivity Analysis (CSA). 4.5. Proposals may screen out for environmental assessment/management, but still be determined as requiring community engagement due to the noticeability of the change or sensitivity of the community. The change governance panel will consider this requirement at the time of change screening review. **Note**: The change governance panel may, at any time, require a change to undergo further environmental change management regardless of the result of the Change Screening.

6.3 Environmental Impact Assessment (EIA)

6.3.1 Purpose and context

The purpose of the Environmental Impact Assessment (EIA) is to ensure that:

- potential environmental impacts are appropriately identified and assessed (including those considered potentially 'significant' under the EPBC Act);

- information regarding potential impacts is prepared to support the CSA process and effective community engagement efforts;
- flight path designs are informed by environmental considerations, and minimise the effect of aircraft operations on the environment (including communities) to the greatest extent practicable;
- due diligence is conducted for potential impact on threatened species on whether the flight path change proposal is a threatening process.
- An EIA is required where triggered through the ECS (as per application of the ECS criteria in Appendix B).

6.3.2 Outcomes and Requirements

Table 3 prescribes the outcomes that must be achieved through the EIA, as well as the associated requirements for achieving the outcomes.

Table 3 Outcomes and requirements for Environmental Impact Assessment

Outcome: 5. All potential environmental impacts arising from the proposed change are appropriately identified and assessed.
Requirements: 5.1. An EIA shall be undertaken by appropriately qualified and experienced staff[7] 5.2. The EIA shall be based on accepted industry practices and environmental assessment methodologies; 5.3. The EIA shall include an assessment of: a) impacts[8] to applicable environment values, as described under the EPBC Act (including noise, communities[9], air quality and impacts to biodiversity values); b) potentially significant impact (as defined under the EPBC Act); c) benefits of the change (including fuel and aircraft emissions reductions where applicable); d) environmental impacts of future associated with the proposed change e) potential community noticeability of the proposed change; 5.4. The EIA shall have a level of rigor and detail that is informed by: a) findings of the Community Sensitivity Analysis (CSA) (refer to Section 6.4); b) the particular identified environmental values, sensitivities and communities potentially affected by the proposed change[10]

[7] EIAs may be undertaken by parties outside of Airservices, however they are still subject to the Change Implementation requirements (including Accountable CSDO Manager endorsement/approval) described in Section 7

[8] In Accordance with the Australian Government Significant Impact Guidelines 1.2 (EPBC Act), Impact assessment shall include 'consideration of whether the proposed change 'has a real chance or possibility of affecting the health, safety, welfare or quality of life of members of a community though factors such as noise'

[9] Potentially affected noise sensitive receivers and communities will be identified in the EIA, however more detailed assessment of associated impacts to these elements will be analysed in the CSA and Community engagement stages

[10] In addition to assessing potential impacts on residential communities, particular attention shall be given to assessing potential impacts on newly overflown rural-residential communities

c) the Environmental Risk Assessment.

5.5. Findings of the EIA shall be:

a) objective and take into account both quantitative and qualitative information (where relevant) in deriving conclusions regarding environmental impact;

b) clearly documented in a report that includes all information and assumptions that form the basis of the environmental assessment and conclusions.

5.6. The EIA shall include clear conclusions regarding the potential for environmental impact on key values described in the EPBC Act (particularly noise impacts). Conclusions shall be supported by cited literature where relevant;

5.7. The EIA report shall be attached to the ECR in the CIRRIS MOC module.

5.8. The EIA shall include an environmental risk assessment for the change (Refer to section 6.5 for relevant risk assessment requirements)

5.9. The level of detail and criteria required for the EIA shall be captured within the applicable procedure.

Outcome:

6. The EIA identifies the potential for the change to result in 'significant impact' under the EPBC Act

Requirement:

6.1. The potential for 'significant impact' under the EPBC Act shall be identified through:

a) application of the criteria for seeking advice under the EPBC Act (and associated methodology) included in Appendix B;

b) any other relevant findings of the EIA or CSA processes.

6.2. The EIA shall include recommendations to address identified potential significant impacts (i.e. seek advice from the Environment Minister, or redesign the proposed change).

Refer to section 6.4 for further details regarding the outcomes and requirements for changes with potential significant impact.

Outcome:

7. Environmental Impact Assessment supports effective community engagement and flight path design

7.1. Effective procedural mechanisms shall be established to ensure that the EIA outcomes inform effective community engagement and flight path design throughout the change lifecycle.

6.4 Advice and assessment under the EPBC Act

6.4.1 Purpose and context

The purpose of this stage is to seek advice (usually through a 'referral', but may be through alternative means) from the Environment Minister regarding whether a Proposal presents the potential for 'significant impact' under the EPBC Act.

A request for advice may result in the requirement for formal assessment under the EPBC Act (e.g. through an Environmental Impact Statement (EIS) process) if directed by the Minister.

6.4.2 Outcomes and requirements

Table 4 prescribes the outcomes that must be achieved through seeking advice and assessment under the EPBC Act, as well as the associated requirements for achieving the outcomes.

Table 4 Outcomes and requirements for EPBC Act Advice and Assessment

Outcome: 8. Advice is sought from the Federal Environment Minister (e.g. an EPBC Act referral) regarding significant impact, where required.
Requirements: 8.1. Requests for advice under the EPBC act shall be sought where: a) application of the criteria for seeking advice under the EPBC Act (Appendix B), or other findings of the EIA, have identified potential significant impact; and/or b) qualitative information (as identified through the CSA) suggests the possibility for heightened community sensitivities that could be considered potentially 'significant' under the EPBC Act; c) potential significant impact has been identified (as per 'a' and 'b' above) and the Accountable CSDO Manager has decided to proceed with the Proposal as planned (rather than redesign to avoid the impact). 8.2. Prior to formally seeking advice, a 'pre referral' meeting shall be held with the Department of Environment to discuss the proposed change and seek feedback regarding the required manner for seeking advice (e.g. through a 'referral' or by alternative means); 8.3. Any requests for advice shall be prepared by suitably qualified and/or experienced environmental practitioner/s. 8.4. Any correspondence seeking the Minister's advice as per Section 160 or Section 28 of the EPBC Act shall be signed by the proponent of the change. **NOTE**: The Accountable CSDO Manager may decide to seek advice from the Minister, regardless of impact assessment findings, as a precautionary approach in certain circumstances (e.g. if there is a high degree of reputational risk associated with a given change). **NOTE**: Where previous advice has been received from the Department for potential impacts from a given change, and variation in scope of the change would not increase the potential noise impact for which the advice was originally sought, no further advice from the Department is required. However, advice is still required if trigger criteria are reached for other sensitive receivers, which were not the subject of the previous advice.
Outcome: 9. Advice received from the Environment Minister is appropriately considered and actions documented.

Requirement:

9.1. In accordance with Section 160 of the EPBC Act, once advice is received from the Environment Minister:

a) the Environment Minister's advice shall be considered by the CEO; and

b) the action taken (e.g. in relation to implementation of the proposal) shall be recorded, and if the Minister's advice was not given effect, the reasons why shall be documented and forwarded to the Environment Minister by the CEO.

9.2. The Environmental Change Risk shall be updated following conclusion of any requests for advice (Refer to section 6.5 for relevant risk management requirements)

Outcome:

10. Formal assessment under the EPBC Act is undertaken (if required following a request for advice).

10.1. If required, formal assessment under the EPBC Act shall be:

a) undertaken in accordance with advice received from the Department of Environment; and relevant timeframes and provisions of the EPBC Act.

b) supported by advice and documentation (e.g. an Environmental Impact Statement - EIS) prepared by suitably qualified environmental professionals.

10.2. Approval commitments or conditions set by the Minister, shall be recorded in the CIRRIS Permit/Licence Management module.

10.3. A formal response to the Environment Minister's advice shall be provided in writing at the completion of the required actions, including evidence of the action if required by the advice.

6.5 Community Sensitivity Analysis (CSA) and community engagement

6.5.1 Purpose and context

The purpose of Community Sensitivity Analysis (CSA) and community engagement is to ensure that:

- potential community impacts are appropriately analysed to inform design/change proposals, and development of the Community Engagement Plan (CEP) (which describes the requirements for either informing and/or seeking feedback from the community, and provides a record of all engagement delivered)
- communities are adequately informed and engaged regarding change proposals that may affect them, and given appropriate opportunities to provide feedback;
- implemented flight path designs are informed by the outcomes of the CSA, and community engagement, and minimise the effect of aircraft operations on communities to the greatest extent practicable

A formal CSA report shall be completed where a change proposal is identified through the PNSA as having a high potential (level 3) for community impact. Where the PNSA identifies the change proposal as having a moderate potential or lower (level 1 and 2)

for community impact, the CSA will be completed in summary as part of the CEP development.

Where required, the formal CSA report shall be developed prior to the commencement of the EIA, drafts of which shall inform the development of the EIA. A CEP shall not be approved until both the EIA and CSA are complete, including receipt of Environment Minister's advice if the proposed change is subject to referral.

A Flight Path Design Principles Report (FPDPR) shall be prepared for all change proposals which undergo an EIA or community engagement campaign. The FPDPR will be released publicly at the commencement of the community engagement campaign.

6.5.2 Outcomes and requirements

Table 5 prescribes the outcomes that must be achieved through CSA and community engagement, as well as the associated requirements for achieving the outcomes.

Table 5 Outcomes and requirements for CSA and community engagement

Outcome: 11. Potential community impacts are identified and assessed for a given change.
Requirements: 11.1. A Community Sensitivity Analysis (CSA) shall be undertaken to: a) inform any flight path design/change development and the EIA; b) analyse all potentially affected communities and noise sensitive receivers, referring to both qualitative and quantitative values; c) include explicit commentary on potential sensitivities; d) be commensurate with the size of the change and the sensitivity of the social environment; e) incorporate the most up to date information on the communities affected. 11.2. All CSAs shall: a) be prepared by appropriately qualified and experienced staff[11]; b) be based on accepted industry practices; c) include recommendations to address potential impacts if identified (e.g. more targeted analysis under the EIA assessment), targeted engagement requirements or redesign the proposed change)[12].
Outcome: 12. Community stakeholders are appropriately informed and engaged regarding potential changes which may affect them.

[11] CSAs may be undertaken by parties outside of Airservices, however they are still subject to the Change Implementation requirements (including Accountable CCXSO Manager endorsement/approval) described in Section 7).

[12] The intent is not that a full significant impact assessment (for the purposes of the EPBC Act) is undertaken at this early stage of change planning. Moreover, recommendations shall be made where qualitative information suggests the possibility for heightened community or socio-political sensitivities which could warrant a request for advice under the EPBC Act.

Requirements:

12.1. A Community Engagement Plan (CEP) shall be prepared that, as a minimum:

a) reflects the findings of the CSA and the EIA, and any other considerations (e.g. reputational and other business risks) relating to impacts to the community;

b) reflects any recommendations regarding potential significant impact (under the EPBC Act) as identified through the CSA or EIA processes, or Environment Minister advice;

c) includes a community engagement strategy that is reflective of the complexity of the proposed change, the noticeability of the change and the level of community sensitivity;

d) provides justification for the change, explicitly describing potential impacts (both positive and negative), and on what basis the proposal is optimal compared to viable alternatives, and any efforts made to minimise impacts on communities.

12.2. The CEP shall provide quantitative flight path information including:

a) specific proposed flight paths (mapped);

b) heights and distances of proposed flight paths from communities (including visual impacts);

c) likely noise levels at relevant community locations;

d) emissions associated with the proposal.

12.3. A Flight Path Design Principles Report (FPDPR) shall be produced which describes how the proposed change gives effect to Airservices' published Flight Path Design Principles. The FPDPR shall be approved by the accountable CCXSO manager prior to release.

12.4. The CEP shall describe all community engagement to be undertaken for the change (including content and format of information to be provided and estimated dates and timeframes[13]);

12.5. The CEP shall be reviewed and approved by the accountable CCXSO manager prior to its implementation (including all supporting artefacts).

12.6. A CEP addendum[14] shall be prepared where:

a) additional activities are identified as necessary once the CEP is approved and engagement activities are underway, or

b) where the community engagement activity enters a different stage of activity.

12.7. Community engagement (as described in the CEP, and any CEP addendum) shall be delivered in a manner that:

a) is targeted to all areas potentially affected by the change;

b) is tailored to the particular audience and forum (considering the social, economic and cultural context) to ensure genuine engagement, accessibility of information and effective consultation, where appropriate;

[13] Note that community engagement can be undertaken in a staged approach, with different versions of the CEP prepared and implemented as change planning progresses.

[14] A CEP Addendum is prepared in recognition of the flexible and iterative nature of community engagement activities.

c) provides sufficient notice and mechanisms to ensure relevant communities have the means and time to provide feedback

d) provides the opportunity for the community to influence the change decision.

12.8. A Community Engagement Report (CER) shall:

a) be prepared on completion of the community engagement activities;

b) describe the effectiveness and outcomes of the engagement activities;

12.9. include data and metrics on the community engagement mechanisms used and the community interaction and feedback, where applicable, and record the decisions made that have considered these mechanisms. The Environmental Change Risk is updated following completion of the CSA and CEP stages (Refer to Section 6.5 for specific requirements).

Outcome:

13. Final flight path designs reflect community feedback and minimise community impacts to the greatest extent practicable.

13.1. Effective procedural mechanisms shall be established to ensure that flight paths are designed collaboratively within Airservices, considering the results of CSA and community consultation as it progresses.

6.6 Risk assessment and management

6.6.1 Purpose and context

The purpose of risk assessment and management is to ensure:

- appropriate manager oversight and accountability for reviewing key outcomes of flight path change stages and for approving overall change implementation;
- alignment with our risk appetite for environmental management and compliance with associated standards and procedures (including the Risk Management Standard (AA-NOS-RISK-0001) and Environmental Risk Management Procedure (ENV-PROC-0004)).

6.6.2 Outcomes and requirements

Table 6 prescribes the outcomes that must be achieved through risk assessment and management, as well as the associated requirements for achieving the outcomes.

Table 6 Outcomes and requirements for Change Risk Management

Outcomes

14. Changes are risk assessed and reviewed/accepted by the appropriate risk delegate at appropriate stages throughout the change lifecycle.

14.1. All changes that require an EIA and/or CSA shall have a risk assessment undertaken that meets the requirements of AA-NOS-RISK-0001 and considers potential environmental and social[15] consequences of the change.

[15] Social consequences are recorded as reputational in CIRRIS to align with the organisational risk standard (AA-NOS-RISK-0001).

14.2. Environmental risk shall be accepted by the CSRO.

14.3. Reputational (community) risk shall be accepted by the CCXSO.

14.4. Financial (including legal compliance) risk attributable to environmental aspects of ATM change shall be accepted by the relevant Chief for the group proposing the change.

14.5. The risk assessment shall:

a) be recorded in CIRRIS[16] and linked to the ECR in the MOC module;

b) be given a 'High' risk rating (requiring review/acceptance by the Chief Customer Experience Officer where the change occurs at an airport considered 'high' risk (according to the aggregated enterprise Noise (airports) Risk);

c) be updated with relevant consequence information as necessary[17] following completion of each of the CSA, EIA, CEP and CER elements (associated final reports shall be attached to the change record in the MOC Module);

d) have a final risk rating that reflects the highest consequence class of the various change elements (i.e. environmental, social/reputational);

e) be periodically reviewed by the accountable manager as required (e.g. prior to delivery of key activities, such as community consultation);

f) be approved by the accountable CCXSO manager prior to change implementation.

7 Change Implementation

For any given change, the accountable CSDO manager shall consider all information and recommendations provided through the EIA, CSA, CEP, CER and final risk assessment (and any other relevant sources), and make an informed decision regarding whether it can be implemented as designed.

A proposed change shall not be implemented prior to the accountable CSDO manager verifying in CIRRIS that:

- all requirements of the EIA, CSA, CEP and CER have been met (including conclusion of any EPBC Act advice and assessment requirements, and implementation of the CEP as planned);
- all final and approved EIA, CSA, CEP and CER reports (and supporting artefacts) are captured in the CIRRIS MOC module;
- the final environmental change risk (which includes up to date environmental and social consequence information) has been accepted by the appropriate risk delegate with evidence recorded in CIRRIS.

[16] A Unique stand-alone CIRRIS risk for each individual change is not necessarily required provided a risk assessment and review is undertaken in accordance with this standard and documented in some form in the CIRRIS risk module (for example, in an electronic file saved within a generic/parent ANS Environmental Change Risk record).

[17] Inclusion of environmental and social (or reputational) consequences in the one risk assessment, enables consideration of these factors in concert to derive a single overall risk for the change. The risk is considered transitional and shall be closed following change implementation and completion of a PIR.

8 Post implementation reviews

8.1 Purpose and context

All changes involving implementation of a CEP shall be subject to a Post Implementation Review (PIR).

The level of detail and criteria required for the PIR shall be captured within the applicable procedure.

The PIR will:

a. verify assumptions made about potential environmental and community impacts and risks, and the effectiveness of the change implementation;

b. inform future changes and improve the overall change management process;

c. update ongoing operational environmental and reputational risks, as required.

8.2 Outcomes and requirements

Table 7 prescribes the key outcomes that must be achieved through the PIR process, as well as the associated requirements for achieving the outcomes.

Table 7 Outcomes and requirements for Post Implementation Reviews

Outcomes
15. The organisation can continuously improve and demonstrate that benefits have been realised and risks have been managed.
15.1. All changes involving implementation of a CEP shall be subject to some form of PIR; 15.2. The scope, scale and approach for the PIR shall be determined by the governance panel on a case by case basis (through consideration of a range of factors including the magnitude of the change, environmental and community impacts, or associated reputational issues); 15.3. The minimum acceptable form of a PIR is a review of ongoing environmental risks associated with the flight path operation (any findings that may influence the management of RSK-494 should be recorded in CIRRIS); 15.4. A more detailed PIR (if required) should also[18]: a. draw conclusions regarding whether the actual change outcomes aligned with the EIA, CSA and CEP; b. highlight any ongoing actions required; c. identify any benefits resulting from the change or required improvements to processes and associated documentation; d. identify any opportunities for noise improvements with regards to actual operating data and community feedback/complaints.

[18] These requirements can be incorporated into any other applicable CSDO change process reviews as required, rather than developing a stand-alone EIA and/or CEP PIR

15.5. Where a CIRRIS action has been raised to conduct a detailed PIR, the CIRRIS change record can be closed prior to completion of the PIR.

9 Skills, qualifications and awareness

Managers accountable for requirements described in this Standard shall:

- ensure that all staff involved in environmental management of proposed changes have the necessary skills and/or qualifications and/or access to mentoring and coaching from appropriately experienced personnel to effectively perform their role;
- implement training and/or education and/or coaching programs to build required capabilities and experience, as required.

10 Assurance assessments

Managers accountable for requirements described in this Standard shall conduct periodic assurance assessments to confirm that associated requirements and obligations are being met.

Additionally, the CSRO Group shall conduct targeted assurance assessments of key elements of the change management process on a periodic basis.

On occasion relevant regulatory and/or oversight bodies may conduct assurance assessments on our application of this Standard.

11 Documentation and recording

All artefacts required to acquit the requirements of this Standard (including EIAs, CSAs, risk assessments CEPs and CERs) shall:

1. be maintained on record in accordance with Airservices Records Management Standard (AA-NOS-GOV-0004);
2. be attached in CIRRIS (in the relevant Management of Change record);
3. have key actions recorded in CIRRIS.

12 Definitions

Within this document, the following definitions apply:

Term	Definition
Accountable CSDO Manager	The clear point of accountability for the overall success of a change. The Accountable CSDO Manager is either: • the Head accountable for the operations to which the change pertains; or • the Chief Service Delivery Officer (if the proposed change represents a 'High' class risk).
CSDO	Chief Service Delivery Officer Group
ATM	Air Traffic Management
ATC	Air Traffic Control
ATS	Air Traffic Service
CASA	Civil Aviation Safety Authority
Aircraft Emissions	Emissions to air of chemicals and other substances as a result of the combustion of fuel to power aircraft. Aircraft emissions typically include greenhouse gases (predominantly CO_2), as well as nitrogen oxides (NOx), water vapour and particulates (soot and sulphate particles), sulphur oxides, carbon, incompletely burned hydrocarbons, tetra-ethyl-lead (piston aircraft only), and radicals such as hydroxyl, depending on the type of aircraft in use.
CEP	Community Engagement Plan – a document that sets our requirements and commitments for informing and seeking feedback from the community regarding change proposals. Its preparation is informed by the findings of the CSA and EIA.
CER	Community Engagement Report – a document that provides an evidence based summary of the activities and outcomes of the CEP and describes the effectiveness of the community engagement, including a final reputational risk assessment of the change proposal prior to final decision.
CIRRIS	Corporate Integrated Reporting and Risk Information System which enables employees to record, report and search issues, occurrences, obligations and risks on one common and integrated platform. Three CIRRIS modules are specified for use in this Standard: 1. Management of Change (MOC) 2. Risk 3. Permit/licence Management
Change Proponent	The Airservices employee who is entering the change proposal into CIRRIS
CRC	Change Request Centre. A corporate system to manage changes to documentation and procedures, including CSDO flight path changes

Term	Definition
EIA	Environmental Impact Assessment. A documented assessment of potential impacts to environmental values (listed under the EPBC Act) arising from a proposed change. The EIA informs the CSA and flight path design, and preparation/delivery of the CEP.
EMS	Environmental Management System – A structured framework of elements (including policy, processes, and practices) that enables an organisation to manage its environmental aspects and impacts. Airservices EMS is aligned with the international environmental management standard ISO14001:2015.
Environment Minister	Australian Federal Government Minister responsible for administering the EPBC Act
Environmental Change Record	A record of the proposed change created in the CIRRIS Management of Change (MOC) module through the Environmental Change Screening stage of the environmental change management process. The Environmental Change Record is updated throughout the change lifecycle.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* – Australian Commonwealth legislation that provides a framework to manage significant impact to matters of national environmental significance, or arising from actions undertaken on Commonwealth land, or actions undertaken by a Commonwealth body.
EPBC Referral	A mechanism for requesting advice from the Australian Minister for the Environment as to whether a Proposal may have significant impact on the environment (under the EPBC Act), and whether it requires formal assessment under that Act.
MNES (or NES)	Matter of National Environmental Significance – An environmental value, defined and protected under the EPBC Act, considered to have national environmental significance.
Noise Sensitive Receivers	Noise sensitive uses are places where sensitivities to the effects of noise are likely to be experienced including residential buildings, education establishments, offices, hospitals, aged care facilities, churches, religious activities, theatres, cinemas, recording studios, court houses, libraries and galleries as specified as 'noise sensitive developments' in Australian Standard AS2021:2015 (Acoustics – Aircraft noise intrusion – Building siting and construction)
NOS	National Operating Standard. An Airservices governance document that sets mandatory organisational requirements for key business processes and actions.
Ongoing Airport Noise Management Risk Assessment	An assessment, recorded in CIRRIS, which considers the baseline risk (including social, environmental and reputational consequences) associated with aircraft noise management at a particular airport.

Term	Definition
Proposal	A proposal is any proposed change in Airservices' air traffic management practices that may affect aircraft operations. This includes, but is not be limited to: • A new, or amendment to an existing, instrument approach • A new, or amendment to an existing, flight path or air route • Re-classification of airspace • Change to preferred runways • Change in time of day of operation (e.g. amendments to tower hours of operations – as the time of day that a tower operates may alter the flight path used by aircraft) • A change that allows use of a flight path/airspace by a different type or number of aircraft **Note:** A tactical decision of an air traffic controller to alter the track of an individual aircraft does not constitute a proposal.
Significant Environmental Impact	A proposal determined to have significant impact in accordance with the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.
Threatening Process	The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the identification and listing of key threatening processes
CSA	Community Sensitivity Analysis – A documented assessment of potential social impacts to communities arising from a proposed change. The CSA both considers the results, and informs the preparation, of the EIA and flight path design, and is considered in preparing the CEP.

13 References / related documents

Title	Number
Environment Policy	C-POL0030
Risk Management Standard	AA-NOS-RISK-0001
Environment Risk Management Procedure	ENV-PROC-0004
Environmental Management System Objectives and Requirements	AA-NOS-ENV-0001
Airspace Change Process	ATS-PROC-0147
National ATS Administration Manual (MAAN)	ATS-MAN-0013
Community Engagement – Changes to Aircraft Operations	ENV-PROC-0011
Environmental Impact Assessment of Changes to Aircraft Operations	ENV-GUIDE-0028
Environmental Assessment of Change and Regulatory Compliance Procedure	C-PROC0313
Environment Risk Assessment Template	C-TEMP0290

Title	Number
Preliminary Noticeability and Sensitivity Analysis Template	
Community Sensitivity Analysis Template	
Community Engagement Plan Template	
Community Engagement Report Template	
Community Engagement Framework	
Flight Path Design Principles	
Flight Path Design Principles report template	

External Documents

- SEWPaC 2010, 'Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies' Significant impact guideline 1.2, Environment Protection and Biodiversity Conservation Act 1999.
- AS2021-2000: Acoustics – Aircraft noise intrusion – Building siting and Construction, Standards Australia International Ltd, Sydney, NSW 2000.
- Former Commonwealth Department of Transport and Regional Services (DOTARS), Discussion Paper 'Expanding ways to describe and assess aircraft noise' (March 2000).
- Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Queensland Department of Transport and Main Roads, 2013.

Appendix A Environmental Screening Criteria

Context

The Environmental Change Screening of proposed changes to aircraft operations is undertaken to identify those proposals that do not require further Environmental Impact Assessment (EIA) or community engagement (including preparation of a Community Engagement Plan (CEP)). In keeping with our risk appetite in the environmental sphere, the criteria aim to ensure that only those proposed changes with very low risk (e.g. change occurs at high altitude or wholly over water and distant from residential areas) are not subject to detailed environmental assessment.

The criteria (shown in Table 1) were developed by acoustics engineers and aviation environmental scientists. They were peer reviewed and refined by industry experts and specialist consultants in 2018 and have been enacted for over a decade. Application of the criteria over an extended timeframe, as well as scrutiny by external stakeholders (including the Aircraft Noise Ombudsman), has validated and verified their appropriateness for driving the required level of environmental assessment for proposed changes to aircraft operations.

Explanatory notes

1. *What is "new"?*

   A new flight path or other aircraft operation is one that is not currently being used. In cases where a practice has emerged and it is sought to formalise it, these must still follow the requirements of this Standard.

   Where a route has become inactive due to industry decisions, but is still published and available for use, this is not considered "new". Changes to a published but 'inactive' route must still meet the screening criteria and consideration of application of the criteria to determine any unforeseen impacts due to the 'inactive' nature of the route.

2. *What is the baseline measurement for calculating an increase in numbers?*

   For the purpose of criterion C4, baseline measurements shall be derived from periods of normal aviation activity. Where traffic numbers are reduced due to abnormal events affecting the industry (slowdowns related to extraordinary social, economic or security-related events), baseline traffic measurements shall refer to data for the period immediately preceding the event.

   Notwithstanding, baseline traffic numbers shall not include periods more than 24 months old[7], regardless of whether a route received greater utilisation before that period. Data which is more than two years old may not reflect the current community experience or expectations of aircraft noise.

   The applicable standard is a representative "**busy week**" – 90th percentile, including a summer and winter scenario.

3. Changes involving the administration or facilitation of emergency operations (Bushfire attack operations, Police Airwing, Coastwatch, other covert ops) are not required to be screened as they are considered inherently tactical.

[7] Exceptions may be where due to external influences operating conditions over the preceding 24 months have been abnormally affected

Application of the Criteria

Table 1: Aircraft operations change – environmental screening criteria[8].

Stage	Action	Criteria	Result
A	1) Change to aircraft operations	A change that is entirely: • Above 20,000 ft, or • Over water and greater than 5 NM from land, or • Over non-residential areas[9] and above 2,000 ft, •	**True to any** – No EIA or notification to Community Engagement required **False or unknown to all** – Proceed to Stage B
		A change at a remote aerodrome[10] where • the number of IFR movements is 2 or less per day, or • there are no scheduled flights.	
		A change related to: • Raising the MSA within 25NM of an aerodrome OR • Raising a grid or route LSALT (anywhere) [11] OR • Adding a height requirement on a SID or STAR to keep aircraft arriving/departing above the base of CTA.	
B	1) Duration of change	The change is temporary (less than 30 days duration)	**True** - Notification to Community Engagement required but no EIA **False or unknown** – Proceed to Stage C
C	1) New aircraft operations	The change introduces an entirely new[12] flight path or area[13]	**True or unknown to any** – EIA and notification to Community Engagement required
	2) Lateral change	The change is a lateral change:	

[8] All vertical measurements are in feet Above Ground Level (AGL).

[9] For the purposes of environmental screening, residential areas are identified through analysis of aerial photographs and/or satellite imagery for residences or communities underneath or close to the flightpath. All dwellings must be considered, but not commercial / farming buildings.

[10] Remote aerodromes are generally found in localities that are classified as Remote or Very Remote using the Accessibility /Remoteness Index of Australia (ARIA).

[11] Minimum safe altitudes (MSA), lowest safe altitudes (LSALT) and height requirements for CTA containment provide guidance to operators as to the lowest altitude they can safely conduct IFR operations at, as dictated by terrain or CASA, but does not require an operator to *operate at* that level.

[12] A regularly used tactically operated flight path is not considered new aircraft operations.

[13] "Area" means any aircraft operating area, such as a parachute drop zone / area, airwork (e.g. survey, crop spraying).

Stage	Action	Criteria	Result
		(a) At a controlled aerodrome: below 3,000 ft (b) At any location: • >100m below 1,000 ft • > 200m at 1,000 ft to below 2,000 ft • > 300m at 2,000 ft to below 3,000 ft • > 600m at 3,000 ft to below 6,000 ft • > 2,000m at 6,000 - 20,000 ft	**False to all** – No EIA or notification to Community Engagement required
	3) Decrease in altitude	The change results in a decrease of operating altitude of more than 10%	
	4) Increase in movements	The change directly results in an increase in the number of aircraft movements on an existing flight path or in an area, by more than 20%	
	5) Change in hours of operation	The change directly allows a departure or arrival time between the hours of 10pm – 7am local	
	6) Change of aircraft type	The change directly allows a different type or category of aircraft to use an existing flight path or area	
	7) Increase in distance	The change results in a greater than 20% increase in flight path distance (within a 20NM radius from the Aerodrome Reference Point)	

Note: If uncertain of any criteria, responses should be recorded as 'unknown', or the Safety & Environmental Assessments Team can be contacted for advice.

Appendix B Criteria for seeking advice under the EPBC Act

Context

The following criteria have been developed by Airservices to provide a quantitative mechanism for determining proposed changes to aircraft operations with the potential to result in 'significant impact' to the environment (as defined under the EPBC Act). All proposed changes that meet the criteria shall be avoided wherever practicable through flight path redesign. Where it is not reasonably practicable for a change to be redesigned to avoid the potential environmental impact (for example, due to a clear safety imperative) Airservices shall seek advice from the Commonwealth Environment Minister prior to implementing the change (in accordance with Sections 28 and 160 of the EPBC Act).

Where the criteria is not met for a given change, Airservices may still decide to seek advice from the Environment Minister for potential significant impact (for example, if Community Sensitivity Analysis indicates a heightened risk of community or socio-political sensitivities to a change).

Application of the criteria

The criteria and application methodology are organised in four parts, as follows:

1. Aircraft noise
2. Fuel burn and emissions
3. Biodiversity
4. Other EPBC Act matters

1. Aircraft Noise Assessment

1.1 Potential significance assessment

Tables 1 - 2 below provide criteria to determine whether advice must be sought (under the EPBC Act) regarding potentially significant aircraft noise impacts arising from proposed changes to our air traffic management practices. The methodology for applying the criteria is described following Table 2.

Table 1: Noise thresholds for seeking advice under the EPBC Act – total number of aircraft noise events.

Noise Metric	Total number[14] of aircraft noise events
N70 (24 hr)	≥ 5
N60 (24 hr)	≥ 10
N60 (11pm – 6am[15])	≥ 2

[14] The number and time pattern of operations is to be based on a 'busy day' for both the existing conditions and conditions associated with the proposed change (the 90th percentile of movements is used to define a 'busy day').

[15] The usage of the hourly ranges for 'day' (6:00am to 11:00pm) and 'night' (11:00pm to 6:00am) is as per the definition of night (11:00pm to 6:00am) used at Australian curfew airports (see Commonwealth Sydney Airport Curfew Act 1995). This definition is applied consistently for all Airservices environmental assessments, whether or not a curfew is in place at the specific airport

Table 2: Noise thresholds for seeking advice under the EPBC Act – increase in flight numbers.

Noise Metric	% change from existing situation
N60, N70 (24 hr)	> 20%
N60, N70 (11pm – 6am)	> 2 flights or > 20% (whichever is larger)

Steps in applying noise criteria:

- **Step A** **Determine aircraft noise levels[16] associated with the proposed change. This may include the following metrics (as required):**
  - **L_{Amax} for selected representative aircraft types,**
  - **Number above metrics (Nxx).**
- **Step B** **Identify a sample of applicable Noise Sensitive Receivers (NSRs)[17] using online mapping tools.**
- **Step C** **Categorise areas impacted by the change as either 'rural' or 'urban' based on state, territory or local government land use zoning definitions**
- **Step D** **Compare expected number of aircraft noise events arising from the change with the thresholds described in Table 1 and Table 2, over.**

► Outcome:

- **If applicable thresholds from BOTH Tables 1 and 2 are exceeded for any populations in the area of the proposed change, then advice must be sought from the Commonwealth Environment Minister regarding the potential for the change to cause 'significant impact' [note: (2) Fuel Burn and Emissions, and (3) Biodiversity assessments are also required to support the request for advice]**
- **If applicable thresholds are not exceeded, then proceed to (2) Fuel Burn and Emissions, then (3) Biodiversity assessment sections.**

1.2 Consideration of aircraft 'noise noticeability' and 'newly overflown' NSRs

Determining whether a given NSR (or community) will experience 'noticeable' aircraft noise, or will be 'newly overflown', allows us to carry out qualitative consideration of the potential effects of flight path changes, and determine how best to manage them (including community engagement or flight path redesign).

1.2.1 Noise noticeability

Aircraft noise noticeability shall be determined in one of the following two ways, depending on whether noise modelling is conducted as part of an EIA:

a) EIA with noise modelling:
- 50 dB(A) single event noise contours (LAmax) are modelled for urban areas; and 42dB(A) contours are modelled for rural areas,

[16] Noise levels may be calculated using a noise model such as INM or AEDT, or using look-up tables in AS 2021:2015 or other applicable calculations

[17] Noise Sensitive Receivers include residences; hotels, motels and other places of temporary residence; schools and other places of education; pre-schools and child care centres; hospitals, aged care facilities and other health-related facilities; places of worship

		• Any overflights of NSRs within the above contours are considered to be 'noticeable'.
b)	EIA without noise modelling:	• An area is identified 10km either side of the nominal flight path for urban areas (representative of 50dB(A) noise levels), and 20 km[18] either side of the nominal flight path for rural areas (representative of 42dB(A) noise levels), up to a maximum distance of 35 nautical miles (nm) from the relevant runway threshold, • Any overflights of NSRs within the above areas are considered to be 'noticeable'.

Note – where part of an existing procedure remains unchanged under the proposed change, that part of the design is excluded from noticeability modelling or the other noticeability identification process described above.

1.2.2 Determining newly overflown NSRs

A NSR is considered to be "newly overflown" if:

- The proposed change has been identified as 'noticeable', AND
- The NSR currently experiences negligible existing aircraft noise – i.e. less than one overflight per day, during the daytime (i.e. 6:00 am – 11:00pm) by an equivalent aircraft movement to what is subject to assessment.

1.2.3 Outcomes of noise noticeability and newly overflown assessment

All proposed changes that are identified by the AEA team as being 'noticeable' or 'newly overflown', must be communicated to the CE team to assist with effective, targeted community engagement efforts.

This determination does not affect the outcomes of the 'potential environmental significance' assessment (described in Section 1.1 above), which shall be undertaken in all cases (where the environmental change screening has determined an EIA is required).

2. Fuel Burn and Emissions Assessment

Table 4 provides criteria to determine whether to seek advice under the EPBC Act regarding potentially significant environmental impacts associated with increases in aircraft fuel burn and emissions, as a result of proposed changes to our air traffic management practices.

[18] Based on a B737 on departure, as per modelled noise levels in AS2021:2015, it has been identified that generally at 2,500m from the centre line of the track (sideline), noise levels will be approximately 60dB(A). This is the maximum sideline distance at which 60dB(A) noise levels would be experienced. Based on geometric spreading of noise, it was calculated that noise levels would be 50dB(A) at around 7,900m sideline and would be 42dB(A) at around 20,000m sideline. The units of 42dB(A) for rural areas and 50dB(A) for urban areas have been selected as representative of noticeability of noise, with consideration of state and territory EPA guidelines. See GHD literature review for additional information. Furthermore, departure noise levels were utilised as overall these are higher than for aircraft on arrival. As such, distances of 10km for urban and 20km for rural have been used as a conservative measure for noticeability and to account for any potential variations in aircraft levels

Table 4: Fuel burn and emissions criteria for seeking advice under the EPBC Act

Assessment element	Criteria
1. Airport and flight characteristics	
Airport size and category	A large airport that has both a staffed Air Traffic Control tower and runways equal to or wider than Category 4C[19]
Airport movements	≥ 100 Regular Public Transport (RPT[20]) movements per day ≥ 200 movements per day at a training airport
Change in distance flown	≥ 20% increase in flight path (within a 20NM radius from the Aerodrome Reference Point or ARP) [16]
2. Fuel burn and emissions characteristics	
Increase in fuel burn, CO_2 and other CO_2-e emissions below 10,000 ft (compared to the existing situation)*	≥ 20%
Increase in fuel burn, NOx, SOx and Particulate Matter (PM) below 3,000 ft (compared to the existing situation)*	≥ 20%

* Using AEDT modelling

Steps in applying fuel burn and emissions criteria:

- **Step A** **Determine the airport and flight characteristics and compare with associated criteria in Table 4.**

  [If all '(1) Airport and flight characteristics' criteria have been met, then proceed to steps B and C to assess '(2) Fuel burn and emissions characteristics'. If these criteria are not ALL met, then no further fuel burn or emissions analysis is required (proceed to Biodiversity assessment)]
- **Step B** **Using AEDT modelling, calculate any increase in fuel burn, CO_2 and other CO_2-e emissions below 10,000 ft altitude. Compare with Table 4 criteria.**
- **Step C** **Using AEDT modelling, calculate any increase in NOx, SOx and particulate matter (PM) emissions below 3,000 ft altitude. Compare with Table 4 criteria.**

► Outcome:

- **If the criteria in Steps B or C are met , then advice must be sought from the Commonwealth Environment Minister regarding the potential for the change to cause 'significant impact'.**
- **If criteria are not triggered for steps B or C, then no further fuel burn and emissions analysis is required (proceed to Biodiversity assessment).**

[19] Runway Code number 4 with Code letter of C, D, E or F. Table 6.2-1 minimum runway width. CASA Manual of Standards Part 139—Aerodromes. https://www.legislation.gov.au/Details/F2012C00095

[20] Civil Aviation Safety Regulations 1998 (CASR). Part 121 - Commercial air transport operations (aeroplanes). "Fitted with more than 9 passenger seats in its approved configuration." https://www.casa.gov.au/standard-page/casr-part-121-commercial-air-transport-operations-aeroplanes

[16] The change in distance flown should consider all changes being undertaken by the proposal (so, if multiple procedures, 20% of all distances, but if a single procedure, 20% of that procedure).

3. Biodiversity Assessment

Where the proposed number of aircraft movements associated with ≥ 60 dB(A) noise events is less than 10 per day, no further analysis is required. Where Biodiversity Sensitive Receivers[21] (BSRs) have been identified in the area of the proposed change, then this information should still be presented in the EIA report for information purposes.

Where the proposed number of movements associated with ≥ 60 dB(A) noise events is 10 or more per day, Table 5 provides criteria for determining whether advice shall be sought under the EPBC Act for potentially significant impacts on BSRs, as a result of a proposed change to aircraft overflights.

Table 5: Assessment of Potentially Significant Impacts on Biodiversity Sensitive Receivers (BSRs), as a result of proposed change to aircraft overflights.

Trigger Criteria
Increase of >20% in number of aircraft movements above 60 dB(A).
Increase of >20% in number of aircraft movements above 70 dB(A).
Substantial increase in area of BSR in local area* exposed to noise ≥ 60 dB(A).

* The 'local area' is considered to be a 10km zone either side of the nominal track of the proposed flight path/s.

Steps in assessing biodiversity criteria:

- **Step A** **Identify and classify BSRs including:**
  - Type and status of BSRs in the area where the change has been determined as noticeable, utilising the Commonwealth Matters of National Environmental Significance (MNES) search tool (and other information sources as appropriate); and
  - Noise exposure (in dB(A)) of BSRs overflown by the proposed change.
- **Step B** **Determine extent of potential impacts of proposed change to aircraft overflights, including:**
  - Potential noise level exposure in dB(A) for areas potentially overflown by the proposed change; and
  - Approximate proportion of BSR habitat overflown by proposed flight path change (with reference to the local extent of the type of BSR potentially affected), where available.

► **Outcome:**

- **If applicable criteria for any BSR are exceeded (as per the criteria in Table 5), then advice must be sought from the Commonwealth Environment Minister regarding the potential for the change to cause 'significant impact'.**

[21] BSRs include: 1) Matters of National Environmental Significance (MNES) listed under the EPBC Act (including World Heritage Properties, Wetlands of International Importance, Commonwealth Marine Environment, the Great Barrier Reef Marine Park, National Heritage Places), and 2) Other sensitive areas which are likely to contain important habitat for EPBC Act listed threatened biota and migratory species or state-listed threatened biota (including nationally important wetlands, State forests, National Parks, other Conservation Reserves listed under State legislation).

4. Other EPBC Act Matters

No specific criteria are provided in relation to other categories of potential impacts identified in the EPBC Act definition of the 'environment' (which includes, for example, consideration of potential impacts on heritage values, amenity, people, disadvantaged groups, and the economic or cultural aspects of a place or person).

This does not reflect their relative importance as an assessment issue. However, it is reasonable to assume that the other noise criteria described in the previous sections will serve as a proxy for identifying potentially significant impacts on these matters (e.g. noise impact is considered a reasonable proxy for potential impacts on sensitive communities, including cultural values, amenity and heritage places).

Further details on the methodology for undertaking the assessment of these social and other impacts is provided in the EIA template (Environment Risk Assessment Template C-TEMP0290).

Explanatory notes

1. Our criteria for determining when to seek advice from the Commonwealth Environment Minister regarding potential 'significant impact' under the EPBC Act establish a range of threshold levels for key noise metrics, below which aircraft noise arising from a proposed change is considered highly unlikely to represent 'significant impact', as defined under the EPBC Act.
2. Where assessments indicate that a proposed change may result in metrics exceeding these thresholds, and the change is planned to proceed in its current form, advice shall be sought from the Commonwealth Environment Minister (in accordance with S160 the EPBC Act) regarding whether it constitutes significant impact.
3. The criteria were developed giving consideration to international aircraft noise assessment metrics and methodologies, Australian regulatory requirements for noise management, and associated approaches of another Air Navigation Service Providers. Of particular relevance in developing the criteria were AS2021:2015 (Acoustics – Aircraft noise intrusion – Building siting and construction), the National Safeguarding Airports Guidelines (NASAG), and the (then) Commonwealth Department of Transport and Regional Services (DOTARS) discussion paper entitled 'Expanding ways to describe and assess aircraft noise' (March 2000).
4. The rationale behind the criteria and associated assessment methodologies is as follows:

    a. Aircraft Noise

    L_{Amax}

    This is a fundamental unit of noise level from an aircraft noise event, and represents the highest noise level reached during the event, measured in A-weighted decibels - written dB(A) - and using "Slow" speed on a sound level meter. In interpreting L_{Amax} noise levels, the following relationships are useful.

    - A noise is potentially noticeable if its L_{Amax} level exceeds the background noise level by more than 5 dB(A);
    - 70dB (A) is considered to be the external sound level below which no difficulty with reliable communication from radio, television or conversational speech is expected in a typical room with windows open;

- 60 dB(A) equates to the indoor design guide level of 50 dB(A) specified in AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction for sleeping areas (with windows open)

Based on published literature[22] a change in the A-weighted noise level is perceived by the human ear as follows:

- Changes of up to 3dB(A) – not likely to be perceptible.
- Changes between 3dB(A) and 5dB(A) – may be perceptible.
- Changes between 5dB(A) and 10dB(A) – likely to be perceptible.

'Number Above' metrics

'Number Above' metrics (also known as 'N Contours') are an aircraft noise characterisation mechanism used to map noise 'zones' around an aerodrome. They show the number of noise events per day (or other time period) with L_{Amax} levels above a specified value. For example, N70 contours would show the number of aircraft noise events per day with L_{Amax} greater than 70dB(A). N70 and N60 are particularly useful as they express the number of noise events per day that may potentially affect listening activities or sleep respectively, as described above. Use of these metrics was first documented in the discussion paper 'Expanding ways to describe and assess aircraft noise' produced by the (then) Commonwealth Department of Transport and Regional Services in March 2000.

These metrics are also useful in assessing the impact of a change in noise exposure, which may involve a change in the number of events exceeding a given noise level. The magnitude of the change can be expressed as the percentage change in N60, N70 or another relevant noise value. For further information refer to: https://infrastructure.gov.au/aviation/environmental/transparent_noise/expanding/4.aspx)

Noticeability

The noticeability of a noise depends fundamentally on the relationship between the highest noise level achieved (L_{Amax}) and the existing background noise level. The Noticeability methodology was developed with consideration of thresholds from Australian state and territory regulations for industrial noise. Noise noticeability is intended to identify NSRs which may notice changes in noise levels and therefore should be considered for community engagement (even if not considered 'potentially significant under the EPBC Act). Where required population and dwelling counts may be included as part of the noticeability assessment for the purposes of community engagement.

b. Fuel Burn and Emissions

i. Following a process outlined in ICAO 2011[23], which provides information on common thrust settings and estimates of time-in-mode, and FAA 2000[24], using a

[22] For example, Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Queensland Department of Transport and Main Roads 2013.

[23] ICAO (2011): Airport Air Quality Manual. Doc 9889, First Edition 2011

[24] FAA (2000). Consideration of Air Quality Impacts by Airplane Operations at or Above 3000 feet AGL. Federal Aviation Administration, FAA-AEE-00-01 DTS-34, September 2000.

height-weighting factor for various stages of flight, it is estimated that the taxiing of aircraft can account for as much as 90% of ground level emissions (i.e.. the landing and take-off (LTO) cycle accounts for about 10% of aircraft emissions during an entire flight). Further, FAA 2000 demonstrates that emissions from aircraft at 3,000 ft have an impact on ground level pollutant concentrations two orders of magnitude lower than emissions at 100 ft.

ii. Aircraft emissions in the LTO cycle below 3,000ft (apart from taxiing emissions) may have an impact on human health, as per ICAO: https://www.icao.int/environmental-protection/Pages/local-air-quality.aspx

iii. At the time of writing, the Australian Government did not have a policy regarding increases in aviation CO_2 emission that could be used for guidance in establishing criteria for potential significance. Therefore a nominal figure of a 20% increase has been used (per proposed change).

c. Biodiversity

i. A recent review of 20 years of international research documenting the effects of anthropogenic noise on wildlife[25], including aircraft noise, has found the following:

- The range of noise levels reported to induce annoyance in humans and responses in terrestrial wildlife are similar, ie. 40-100 dB(A).
- Noise sensitivity varies greatly and there is large variability in responses to noise between species and individuals and at different locations.
- Some species are more susceptible to disturbance from noise than others because of auditory capabilities, social structure, life history patterns or habitat.
- While some species may develop a tolerance when overflights are frequent or regular, others do not.
- Physiological and fitness effects in wildlife have been documented at noise exposure levels from 52 dBA for certain species (in particular songbirds).

ii. The noise level threshold of 60 dBA adopted for the criteria represents a reasonably conservative noise threshold based on the findings of the published literature (i.e. this threshold captures 60% of studies that have shown adverse responses in terrestrial wildlife, including impacts on physiology and fitness) and given the large variability in responses between species and individuals and at different locations.

iii. Biodiversity Sensitive Receivers (BSRs), are areas protected under the EPBC Act or other areas that are likely to contain important habitat and are used as a proxy for EPBC Act listed threatened biota and migratory species and state-listed threatened biota.

iv. BSRs should be located and classified over at least a 10km buffer around the proposed flight path/s to enable a comparison of the area of BSR affected by a change in noise with the extent of BSR in the locality.

[25] Shannon, G., McKenna, M.F., Angeloni, L. M., Crooks, K. R., Fistrup, K. M., Brown, E., Warner, K. A., Nelson, M. D., White, C., Briggs, J., McFarland, S., and Wittemyer, G. (2016). A synthesis of two decades of research documenting the effects of noise on wildlife. *Biological Reviews* **91**: 982-1005.

v. The 10km buffer area in (iv) is consistent with the definition of 'locality' for EPBC Act Protected Matter Searches.

5. Impact Assessment Methodology

The EMS has included criteria for determining significant impact under the EPBC Act, since 2013 to the present, over which time the associated metrics and methodologies have been validated through:

a. discussion of changes being implemented at Community Aviation Consultation Group (CACG) meetings at airports around Australia;

b. ongoing analysis of aviation noise complaint data, and associated flight path changes, from the Noise Complaints Information Service (NCIS);

c. consultation with stakeholders (including the Aircraft Noise Ombudsman and the Commonwealth Department of Infrastructure and Regional Development and Cities) regarding noise complaints and noise impact assessments;

d. a referral to the Commonwealth Department of Environment and Energy, under the EPBC Act, for the Gold Coast Airport Instrument Landing System (ILS) Project (which included discussion of the criteria and associated methodology to assess potential significance of aviation noise impacts).

Over 200 airspace changes have been assessed for potential aviation noise impacts and implemented by us since 2013, without later being found to represent 'significant impact' under the EPBC Act. Given this result, and the significant traffic growth experienced in Australia since 2013, our assessment methodologies (and the criteria) can be seen to be appropriate and relatively conservative.

6. Continuous Improvement of the Criteria

As part of our continuous improvement efforts (and in response to feedback from the Aircraft Noise Ombudsman), the significance criteria were reviewed and updated in 2018, with the assistance of an external specialist consultant. As a result, a number of revisions were made to the criteria in 2019: to more comprehensively address environmental values under the EPBC Act; formally introduce concepts of 'noise noticeability'; and to improve the clarity of the environmental assessment methodology. This process also involved consultation with the Commonwealth Department of Environment and Energy (DoEE), and the Department of Infrastructure, Regional Development and Cities (DIRDC), regarding the appropriateness and rigour of the criteria, and its overall environmental impact assessment process (for changes to air traffic management practices).

Definitions

- ‘Existing flight’ refers to any flight path that is either formalised or regularly used.
  - Formalised flight paths could include:
    - Noise Abatement Procedures (NAPs), or flight paths prescribed in Letters of Agreement (LoAs) with locals operators.
    - Instrument Flight Procedures (IFPs), such as Standard Instrument Departures (SIDs), Standard Approach Routes (STARs), and other approach procedures published in the Aeronautical Information Publications (AIP) Departure and Approach Procedures (DAP) plates.
    - Regional Routes and Domestic Routes published in the Designated Airspace Handbook (DAH).
  - Non-formalised paths could include a regularly used vectoring path or track shortening. Regular usage is subjective to each individual airport and can include seasonal variations. For example a path that is only used during certain meteorological conditions, but is used consistently in those situations, would be considered an existing track.
- Commonwealth Matters of National Environmental Significance (MNES) sites: sites that represent Matters of National Environmental Significance – as listed in the EPBC Protected Matters Search Tool.
- Names and definitions for ‘rural’ and ‘urban’ will differ between councils and districts throughout Australia, but there are generally similar zones corresponding to these. Where there is doubt, advice should be sought from the local planning body.
- The usage of the terms ‘day’ (6:00am to 11:00pm) and ‘night’ (11:00pm to 6:00am) is as per the definition of night (11:00pm to 6:00am) used at Australian curfew airports (see Commonwealth Sydney Airport Curfew Act 1995). We apply this definition consistently for all environmental assessments, whether or not a curfew is in place at the specific airport

Appendix C Other Business Revenue – explanatory notes

Other Business Revenue (OBR), otherwise referred to as ‘Unregulated Revenue’ or Non-Airways Revenue, relates to the provision of goods or services other than those which are provided by us as part of the regulated service that is subject to the Long Term Pricing Agreement (LTPA) with customers. For the avoidance of any doubt, OBR is a term applied to account for those Airservices activities not funded through Airways Revenue.

OBR includes (but is not limited to):

- provision of charting services and other publications
- maintenance or provision of navaids under contract
- provision of air traffic services under contract (eg. for Solomon Islands and Nauru)
- delivery of training, and
- funds received for official development assistance (aid) activities.
- For further information on OBR, refer to C-PROC0194

Appendix F – Community Engagement Standard for Flight Path and Airspace Change Proposals

Community Engagement Standard for Flight Path and Airspace Change Proposals

Version 1.0

13 September 2023

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Contents

Figures and tables

We acknowledge and embrace a culture that celebrates diversity, inclusion, and equality for all. In making this statement we acknowledge Aboriginal and Torres Strait Islander peoples as the Traditional Owners and Custodians of the country on which we operate, now called Australia.

Executive Summary

About Airservices Australia

Airservices Australia is the nation's air traffic management and aviation rescue fire fighting service provider, operating at 29 of Australia's major airports and managing 11 per cent of the world's airspace, including the upper airspace for Nauru and the Solomon Islands.

We connect people with their world safely through our world-class services – linking family and friends, generating economic activity, creating jobs, and facilitating trade and tourism.

As our skies get busier and more complex, we will ensure we make aviation safer, more efficient and cleaner, while seeking to minimise the impact of aircraft operations on communities and the environment.

Airservices has a number of obligations when planning and implementing flight path and airspace changes. These are defined in legislation through the *Air Services Act 1995*, the *Environment Protection and Biodiversity Conservation Act 1999* and associated Ministerial directives.

These obligations require Airservices Australia to:

- minimise the impact of aircraft operations on communities
- undertake effective community engagement
- inform the community of the development and implementation of significant changes to air navigation.

We seek to fulfill these obligations through our Flight Path and Airspace Change Program and in particular our community engagement activity.

Community Engagement Standard

This *Community Engagement Standard* has been developed to provide a clearly defined process for engaging with the public on flight path and airspace changes of various scope, scale and complexity. It will establish a benchmark against which to measure our performance.

The Standard is part of the ongoing evolution of our flight path and airspace change community engagement practices, which commenced with the release of our *Flight Path Design Principles* in October 2020 and our *Community Engagement Framework* in August 2021. The Standard has been shaped by recent Aircraft Noise Ombudsman (ANO) findings, learnings from our engagement experience, feedback received from the communities we have engaged, and an independent review to identify best-practice standards for community engagement.

The Standard has also been informed by guidance from the International Association for Public Participation (IAP2), which defines through a Spectrum the various levels of engagement that might be applied, depending on the nature and scale of the decision being made, and the level of influence the community can have on this decision.

In this *Community Engagement Standard* we are proposing an approach that:

1. categorises change proposals into three levels to define the scope and scale of engagement required
2. includes 10 principles that will guide engagement activity
3. involves five steps that each flight path and/or airspace change would be taken through, to provide a consistent, repeatable, effective engagement experience
4. facilitates the iterative development of flight path and airspace changes in consultation with the community.

A key element of this Standard is to engage early with communities and stakeholders. In addition, larger change proposals will directly involve the community in the development of viable design options, which will then be shortlisted and refined into a preferred option. It aims to achieve transparent decision-making and to provide adequate time for community and stakeholder inputs to these decisions.

The Standard exemplifies our community engagement obligations to "minimise the impact of aircraft operation on communities; undertake effective community engagement; and inform the community and industry of the development and implementation of significant changes to air navigation".

Engaging on this Standard

Airservices sought community and industry feedback on this draft Standard between February and June 2023 to ensure it best serves these key stakeholders, thereby building stronger and more trusting relationships.

Feedback on the Standard will continue to be invited as change programs are implemented, to provide the opportunity for ongoing refinement and continuous improvement.

For the purpose of the *Community Engagement Standard*, community/communities refers to populations or people who may be affected by or interested in a change.

Stakeholder/stakeholders refers to aviation industry and government bodies with an interest in the change.

Airservices places equal importance on feedback received from both communities and stakeholders.

airservices

Community Engagement Standard OVERVIEW

The Standard applies to all change proposals with the potential to affect community stakeholders

Benefits of effective community engagement delivered in line with the Standard:

Improve Decision Making | Engaging early leads to better outcomes as communities are able to provide important knowledge and insight to the proponent before any major decisions have been made.

Increase community satisfaction | A community that feels empowered by being well informed and given opportunities to contribute will be more satisfied than one with no opportunity to take part.

Greater acceptance of final outcomes | Proponents that base their final proposal in part on a robust community engagement process are more likely to gain the support from a wide array of stakeholders.

Help build community networks | Effective community engagement can help build informed and interested networks of stakeholders who can be re-engaged for different proposals.

Build Trust | A well-informed and actively engaged community is more likely to trust the process.

Community engagement activities delivered in line with the Standard should be proportionate to the impacts of the proposal, the number of alternative options and the range of stakeholders affected.

The Standard organises types of change proposals into three levels, based on their size and impact

Level 1 | New flight paths/airspace to support airport expansion	**Level 2** | New or changed flight paths in existing airspace	**Level 3** | Operational changes in existing airspace
The largest, most complex changes involving a suite of new flight paths and changes airspace operation, resulting in: • a broad range of potentially significant impacts over a wide area • many alternative flight path design options available • a very large and varied mix of affected stakeholders	Large-scale flight path and/or airspace changes to introduce new features to an existing airspace system, resulting in: • noticeable or significant impacts within specific geographical areas • a shortlist of alternative flight path options available • a large but distinct sub-set of affected stakeholders	Smaller, more specific changes to amend aspects of an existing airspace system or operational procedures, resulting in: • a narrower set of specific impacts • few (if any) alternative options other than no change • a limited number of affected stakeholders in specific areas

The Standard is underpinned by 10 engagement principles that guide how the process is delivered.

Transparent	Information on the proposal and decisions should be shared openly
Meaningful	Community feedback must be considered and responded to
Scalable	The engagement approach should be proportionate to the size and impact
Outcomes-focused	Engagement should focus on supporting decision-making and enhancing the final outcomes
Options-based	Stakeholders should be presented with options where possible, highlighting key choices
Inclusive, accessible, responsive	Engagement should incorporate a broad mix of impacts and stakeholders
Balanced	Trade-offs between impacts affecting different stakeholder groups should be evaluated
Clear and concise	Engagement information should be presented in a simple format, using plain language and no jargon
Tailored	Engagement methods should be adapted to meet stakeholders' needs
Considered	Adequate time should be dedicated for the community to consider the proposal and provide feedback

Community Engagement Standard STEPS

The Standard is based on a general process for delivering engagement that can be tailored to the scale of the change

The *Community Engagement Standard* is based on a general process for delivering engagement that can be tailored to the scale of the change proposal. The general process is organised into five steps, with several consistent engagement activities to be delivered in each step.

LEVEL 1 PROPOSALS	LEVEL 2 PROPOSALS	LEVEL 3 PROPOSALS
Step 1: Engagement Planning		
• Engagement with stakeholders that are representative of the wider community to support understanding of affected stakeholders and local area. • Publish engagement plan. • Baseline awareness survey.	• Engagement with stakeholder representatives that are representative of the wider community to support understanding of affected stakeholders and local area. • Publish engagement plan • Baseline awareness survey.	• Desktop analysis of affected stakeholders and local area. • Publish engagement plan.
Step 2: Develop and Assess Options		
• Seek feedback on options development methodology and assessment criteria. • Engage stakeholders in the iterative development of design options. • Publish preferred and shortlisted design options. • 12 week engagement. • Community awareness survey.	• Seek feedback on options development methodology and assessment criteria. • Publish preferred and shortlisted design options. • 6 week engagement. • Community awareness survey.	• Publish options development methodology and assessment criteria. • Publish proposed design. • 2-4 week online information campaign (feedback may be sought if there are specific elements where this can be considered).
Step 3: Engage		
• Publish proposed design and environmental assessment. • 12 week engagement. • Community awareness survey.	• Publish proposed design and environmental assessment. • 6 week engagement. • Community awareness survey.	• Second round of engagement not generally necessary. • If needed, follow approach in Step 2.
Step 4: Update and Submit		
• Publish engagement report. • Re-engagement with affected stakeholders if the final design creates new impacts that were not identified previously.	• Publish engagement report. • Re-engagement with affected stakeholders if the final design creates new impacts that were not identified previously.	• Publish engagement report. • Re-engagement with affected stakeholders if the final design creates new impacts that were not identified previously.
Step 5: Implement and Review		
• Inform all affected stakeholders of implementation timing. • Engage stakeholders in the Post Implementation Review.	• Inform all affected stakeholders of implementation timing. • Engage stakeholders in the Post Implementation Review.	• Inform all affected stakeholders of implementation timing. • Desktop Post Implementation Review.

1. Introduction

1. This document describes the Airservices Australia (Airservices) *Community Engagement Standard* (the Standard) that will be applied to all flight path and airspace change proposals with the potential to noticeably affect community stakeholders.

1.1. Purpose

2. The purpose of this document is to:

   a) set out the overarching requirements that community engagement should meet

   b) explain the core principles that guide how engagement activities should be delivered to meet the overarching requirements and the intended outcomes and benefits

   c) organise the engagement steps into a general process, ensuring the approach followed is broadly consistent across all flight path or airspace proposals, while specific engagement activities remain proportionate to the size and nature of different changes

   d) describe the criteria that should be used to track the performance of engagement activities delivered at each step of the process

   e) summarise how existing guidance, best-practice approaches and lessons drawn from recent community engagement activities in Australia and internationally has informed the Standard [presented as an annex in a separate report].

1.2. Application of the Standard

3. The Standard will apply to all flight path and airspace change proposals delivered by Airservices with the potential to noticeably affect community stakeholders. All proposals that could result in a change to a flight path's lateral track over the ground or the vertical profile that determines the altitude of overflying aircraft will be subject to the Standard.

4. The Standard will also apply to the community engagement led by third-party airport operators and their consultants working on flight path and airspace change proposals that support Major Development Plans (MDPs) for additional runway capacity. In this context, the Standard will be incorporated into Airservices' established third-party procedures. Airport operators may also apply the Standard to community engagement conducted when changes to the schedule, hours of operation or the introduction of new carriers and aircraft types may lead to a material change in the impacts of overflight (for example, through an increase in the number of night flights).

5. Other aviation and community stakeholders that may bring forward flight path and airspace change proposals are also expected to adopt the Standard. Where the Standard is not applied by these parties, Airservices may implement actions to address the requirements of the Standard, potentially delaying implementation of the proposed change.

6. Aviation stakeholders, including air transport operators, general aviation, adjacent aerodromes and the military are also important participants in the development of flight path and airspace change proposals. Whilst the Standard focuses on community stakeholders, the principles and general process laid out in this document may be applied consistently by proponents to their engagement with aviation stakeholders.

7. The Standard does not apply to flight path and airspace changes at higher altitudes (for example movements over 20,000ft) that do not impact community stakeholders, although the principles and general process will be adopted for any necessary engagement with aviation stakeholders.

8. The Standard does not apply to temporary changes of less than 30 days duration, including operational changes to support runway maintenance activity or similar (including safety-critical works). While the full extent and scope of the Standard does not apply, it is expected that engagement would be conducted for these changes to inform communities of any noticeable temporary change. This may be through existing notification channels or broader communication as deemed appropriate to the scope and scale of the temporary change.

9. The safety of air navigation is the most important consideration when developing flight path and airspace change proposals. Community engagement on the impacts of aircraft overflight at lower altitudes is an important factor in how the proposals are developed.

10. The Standard was finalised on 12 September 2023 after national engagement and applies to all future flight path and airspace change proposals. Proposals in development at the time of publication will not be expected to apply the Standard retrospectively, however it should be considered during future stages of the proposal, where relevant.

11. The Standard will also recognise and be updated to reflect any relevant outcomes of Government's Aviation White Paper for which a Terms of Reference was released on 7 February 2023.

12. Airservices Australia, in delivering engagement according to this Standard, may do so using internal resourcing, or using specialist community engagement consultants accessed through a panel of providers.

1.3. Drivers of flight path and airspace change

13. There are several drivers that may prompt Airservices or a third-party proponent to change the orientation of existing flight paths, introduce new flight paths or change airspace, as described in Table 1.

Table 1: Drivers for flight path and airspace change proposals

Theme	Description of the driver
Safety	Continue to enhance aviation safety performance or manage specific aviation safety risks.
Major developments	Introduce a new airspace system and suite of flight paths to support an airport Major Development Plan (MDP) for additional runway capacity.
Airspace capacity	Add capacity in the airspace system to meet the forecast growth in demand for air transport without unreasonable delays.
Aviation Sustainability	Support aviation sustainability goals by improving flight efficiency to reduce aircraft fuel burn and emissions.
Overflight impacts	Limit and where possible reduce the impacts of aircraft overflight on communities and the local environment.
Resilience	Strengthen the resilience of air traffic operations to poor weather, technical failures and unplanned events.
Compliance	Maintain compliance with evolving legal and regulatory obligations linked to the design and use of the flight paths.

Technology and innovation	Support the introduction of new technologies and innovative operating procedures.

1.4. Scope and scale of change proposals

14. The scale of the flight path and airspace change proposals that may be developed to address these drivers vary greatly in size and complexity. The largest and most complicated proposals are typically prompted by airport Major Development Plans (MDPs) or modernisation projects that address multiple drivers simultaneously, by overhauling an existing airspace system and introducing a new suite of flight paths. Other large proposals may focus on introducing new features to an existing airspace system, for example by re-positioning individual flight paths or adding new ones. Smaller proposals are usually required to amend specific parts of an existing airspace system to address a single driver.

15. Table 2 provides further details on the three core levels of change proposal. Where impacts are described as 'significant', as described in Section 160 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the proposal requires referral to the Commonwealth Minister for the Environmental in relation to any impacts will have or are likely to have a significant impact on the environment.

Table 2: Levels of flight path and airspace change proposal based on size and potential impacts

Level	Description	Features
Level 1	The largest, most complex changes involving a suite of new flight paths or changes to multiple existing flight paths and/or airspace, resulting in the design of a new airspace system: • proposals to introduce a new suite of flight paths that support airport Major Development Plans for additional runway capacity • modernisation projects to redesign the existing airspace system and introduce a new suite of flight paths that serve air transport at one large airport, or several adjacent airports operating in close proximity.	• A broad range of potentially significant* impacts distributed across large geographical areas. • Many potentially viable alternative flight path design options. • A very large and varied mix of potentially affected stakeholders. * A significant impact refers to an impact identified through environmental assessment as triggering referral to the Commonwealth Minister for Environment in accordance with the *Environment Protection and Biodiversity Conservation Act 1999*.

Level 2	Large-scale flight path and/or airspace changes to introduce new features to an existing airspace system: • changes to the lateral orientation and vertical profiles of specific arrival and/or departure flight paths • addition of new arrival and/or departure flight paths to the existing system • changes to the configuration of flight paths to better manage the impacts of aircraft overflight, for example through the introduction of alternating respite routes.	• Noticeable* or significant impacts contained within specific geographical areas. • A shortlist of potentially viable alternative flight path design options that are intended to operate within the existing airspace system. • A large but distinct sub-set of stakeholders affected. * A noticeable impact refers to a change in operations that while not deemed significant through environmental assessment, could still be noticed by the community – a lateral or vertical shift in aircraft operations, or a new overnight operation at a time that currently has no operations, for example.
Level 3	Smaller, more specific changes to amend aspects of an existing airspace system or operational procedures: • proposals to replicate existing flight paths with new more precise routes designed using advanced satellite-based navigation • proposals to introduce a new Instrument Landing System that redistributes the pattern of aircraft tracks over the ground • proposals to introduce new operating procedures that may redistribute the pattern of aircraft tracks over the ground • proposals to introduce new hours of operation, carriers or new aircraft types to the existing flight paths (noting these changes would be "inform" campaigns only to ensure awareness). "Day of operations"[1] changes would not be included. • on-ground maintenance or similar works programs, extending beyond 30 days, that result in noticeable changes to regular airspace operations.	• A narrow set of specific impacts. • Few potentially viable alternative flight path design options apart from making no change. • A limited number of geographically confined stakeholders affected.

[1] "Day of operation" changes refer to changes made to operations on the actual day due to airport, airline or air traffic control requirements – e.g. The type of aircraft may be changed for demand or due to operational requirements.

1.5. Level of community engagement relevant to flight path and airspace changes

16. It is important for the Standard to distinguish the extent that community stakeholders are expected to be engaged in Level 1, Level 2 and Level 3 proposals. As a result, the Standard is informed by guidance from the International Association for Public Participation (IAP2) Australasia which characterises stakeholders' involvement in a change proposal. Depending on the nature and scale of the change proposal, Airservices will inform, consult, involve and collaborate in the development of design options, as summarised in Table 3.

Table 3: IAP2 spectrum of stakeholder participation (Inform to Collaborate levels) and engagement commitments

Spectrum	Engagement objective	Proponents' commitment
Inform	To provide stakeholders with balanced and objective information to assist them in understanding the problem, alternative options and solutions.	To keep stakeholders informed.
Consult	To obtain stakeholder feedback on analysis, alternatives and/or decisions.	To keep stakeholders informed, listen to and acknowledge concerns and aspirations, and provide feedback on how inputs have influenced decisions.
Involve	To work with stakeholders throughout the process to ensure that concerns and aspirations are consistently understood and considered.	To work with stakeholders to ensure that concerns and aspirations are directly reflected in the alternative options developed and provide feedback on how inputs have influenced decisions.
Collaborate	To partner with stakeholders in the decision-making process including the development of viable alternatives and the identification of the preferred solution.	To look to stakeholders for advice and innovation in formulating solutions and incorporate advice and recommendations into the decisions to the maximum extent possible.

17. Stakeholders' influence on the development of the proposal and the final outcomes increases from 'inform' to 'empower':

- Proponents of smaller, more specific changes (Level 3) should aim to 'inform' community stakeholders, providing balanced and objective information about the proposals to assist them in understanding the problem and the preferred solution.
- Proponents of larger changes (Level 2) should aim to 'consult' and where possible 'involve' community stakeholders, gathering feedback on alternative design options and highlighting how engagement inputs have influenced development of the proposals.
- Proponents of the largest, most complex changes (Level 1), should aim to 'involve' or 'collaborate' with community stakeholders in the development and assessment of alternative options, working directly with stakeholders as part of an iterative design development process.

18. The final level on the IAP2 spectrum is "empower", which is categorised by placing "final decision making in the hands of the public". Airservices has the statutory responsibility to develop and propose flight path and airspace changes, taking into consideration multiple

relevant factors, in addition to the impact on affected communities. To place the final decision in the hands of the public, or affected communities, would contravene Airservices' legal responsibility.

19. For each level of engagement, clear communication on negotiable and non-negotiable elements should be included in engagement information to ensure the community know what they can influence and what is not able to be changed, and why.

2. Requirements of the Standard and principles of engagement

20. The Standard is required to ensure the community engagement activities conducted by proponents of flight path and airspace change proposals are credible, proportionate, comprehensive, efficient and timely. These five outcomes are used to structure the overarching requirements that community engagement conducted in line with the Standard should meet. Table 4 describes the terms of the overarching requirements.

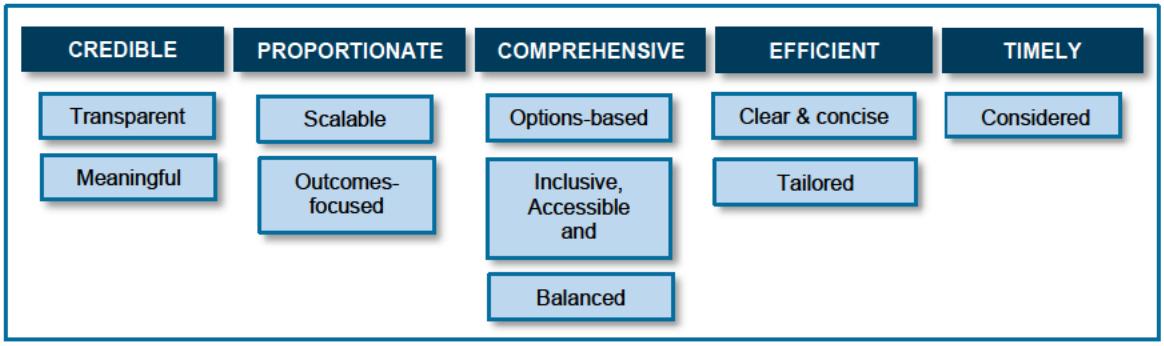
Table 4: Terms of the overarching requirements for community engagement

Overarching requirement	Terms
Engagement should be **credible**	The outcomes of change proposals are viewed by community stakeholders as legitimate because the approach followed is viewed as credible, even by those stakeholders that may not agree with the final outcomes. The Standard requires that community engagement is delivered to the following principles: **Transparent:** information on the proposal and decision should be shared openly **Meaningful:** feedback must be considered and responded to
Engagement should be **proportionate**	The extent of the community engagement conducted to support a change proposal is proportionate to the proposed change's potential impacts, the noticeability of these impacts, the range of options available, and the local circumstances of the stakeholders that may be affected. The Standard requires that community engagement is delivered to the following principles: **Scalable:** engagement activities should be proportionate **Outcomes-focused:** engagement should focus on supporting decision-making and enhancing the final outcome
Engagement should be **comprehensive**	The proponent should communicate the expected impacts of a proposal on community stakeholders, especially where there may be adverse effects. The engagement process should consider all viable options to limit and where possible reduce the total adverse effects of the changes. The engagement process should consider the special needs of different communities and respond to requirements as they arise. The Standard requires that community engagement is delivered to the following principles: **Options-based:** develop options and engage on the key choices **Inclusive, Accessible and Responsive:** incorporate a broad mix of stakeholders and impacts **Balanced:** consider the trade-offs between different impacts

4. Engagement should be **efficient**	The community engagement activities are tailored to meet the different needs of stakeholders that might be affected by a change (including those that are seldom heard or harder-to-reach). Engagement material should focus on the issues that matter most to stakeholders. The Standard requires that community engagement is delivered to the following principles: **Clear and concise:** present information in a simple format using plain language and no jargon **Tailored:** adapt engagement methods to meet stakeholders' needs
5. Engagement should be **timely**	Information relevant to engagement for a change proposal is accessible in a timeframe that enables community stakeholders to consider the material and formulate their feedback. The timeframes must be realistic and ensure there is reasonable time for community contributions. The Standard requires that community engagement is delivered to the following principles: **Considered:** dedicate adequate time for the community to consider the proposal and provide feedback

21. The overarching requirements set out in Table 4 have been used to develop 10 core principles that guide how the community engagement activities that support flight path and airspace change proposals should be planned and delivered. The principles of engagement and their relationship to the overarching requirements is summarised in Figure 1.

Figure 1: Summary of the principles of engagement and relationship to the overarching requirements



22. The principles are not presented in priority order. All 10 principles should be adopted and followed by the proponents when planning and delivering community engagement activities.

TEN PRINCIPLES

Transparent: information on the proposal and decisions should be shared openly.

Meaningful: engagement outputs should be considered and responded to.

Scalable: the engagement approach should be proportionate.

Outcomes-focused: engagement should focus on supporting decision-making and enhancing the final outcome.

Options-based: develop options and engage on the key choices

Inclusive, Accessible and Responsive: incorporate a broad mix of impacts and stakeholders

Balanced: consider the trade-offs between different impacts

Clear and Concise: present information in a simple format using plain language and no jargon

Tailored: adapt engagement methods to meet stakeholders' needs

Considered: dedicate adequate time for the community to consider the proposal and provide feedback

2.1. Benefits of applying the principles

23. The consistent application of these principles is expected to generate the following benefits:

- Improve decision-making – engaging communities leads to better outcomes, as communities can provide important knowledge and insight to the proponent before decisions are made. Engagement also helps the proponent to avoid unnecessary re-work, allowing for a lean and cost-effective approach.
- Increase community satisfaction – communities that feel heard, engaged and part of decision-making, and who are given opportunities to contribute, will be more satisfied than a community that feels unheard, powerless through lack of information and that has be afforded no opportunity to take part.
- Greater acceptance of final outcomes – trade-offs will always occur when dealing with multiple stakeholders, as a beneficial solution for one group may be detrimental to another. Proponents who base their final decision in part on a robust community engagement process are more likely to gain the support from a wide array of stakeholders, even if the final outcome may not provide a particular group with the solution that they had hoped for.
- Help build community networks – effective community engagement can help build informed and interested networks of stakeholders who can be re-engaged for different proposals. Treating community engagement as a continual process, as opposed to a one-off event in response to a specific issue, will help proponents build goodwill, leading to better working relationships.
- Build trust – the more well-informed a community is, the more likely they are to trust the process through which they are being engaged. A poorly informed community has no information upon which to base their trust and will view the engagement process with scepticism.

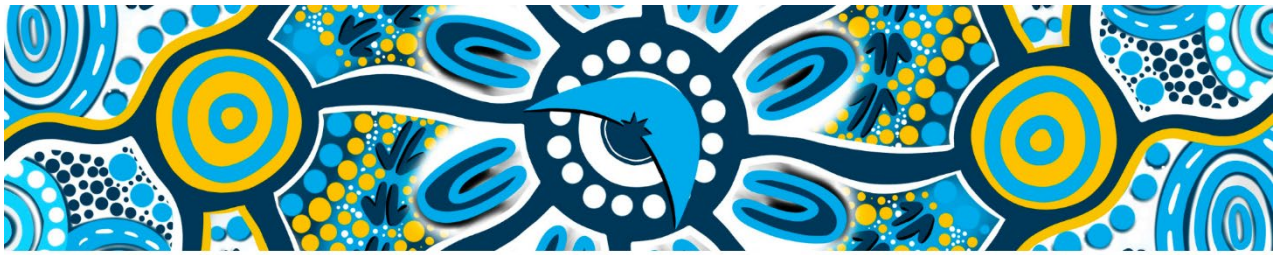
2.2. Inclusive engagement

24. Communication and engagement planning will ensure that all messaging and engagement activity is inclusive, equitable, accessible and gives consideration to diversity and linguistic requirements in accordance with the Convention on the Rights of Persons with Disabilities (CRPD) and the Anti-Discrimination Act (1991).
25. Consideration will be given to the unique communication requirements of the intended audience, and engagement planning will ensure that alternate methods of communication are provided for those who require adaptive messaging. This could include (but is not limited to):

- screen reader requirements across all messaging and collateral developed for those with sight impairment
- translation services and Easy Read English documents made available for communities where English is not the main language spoken in the home
- Auslan and captioning across visual communication materials to cater for those with hearing impairment.

26. All messaging, regardless of audience, will be delivered in an accessible format in terms of font, colour, detail and simplicity of explanation.

2.3. First Nations Engagement



First Nations Peoples must be considered in engagement planning. They are not one group but comprise hundreds of groups that have their own distinct set of languages, histories and cultural traditions. When there is a possibility that these communities may be impacted by a flight path proposal, or that the lands acknowledged as being of significance to a particular indigenous group or groups may be subject to a change, particular consideration must be made to include these groups in any relevant engagement activities.

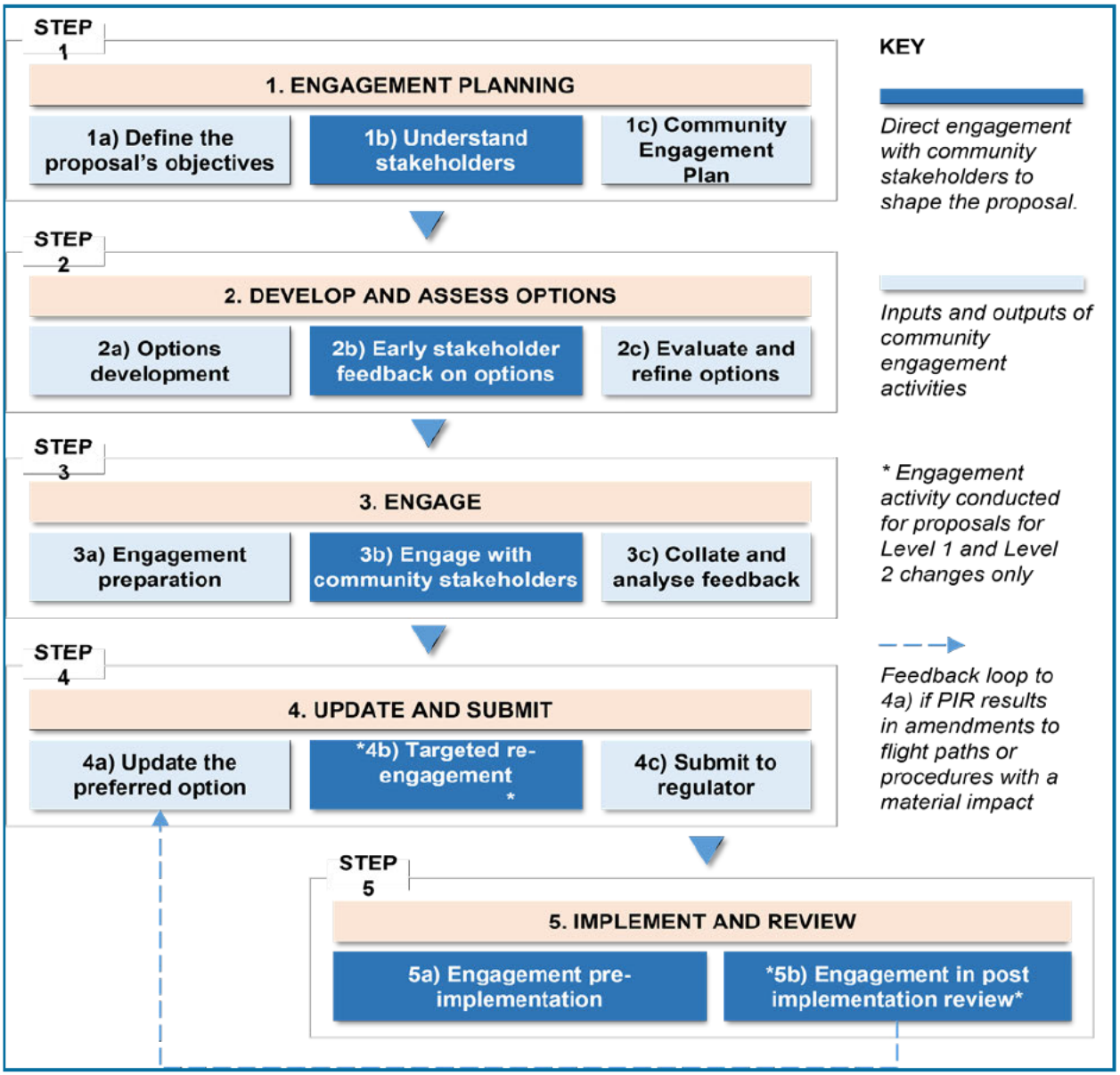
Engagement with First Nations Peoples should be discussed with Local Aboriginal Land Councils as a first step, to seek advice on the most suitable engagement approach for the local people of that area.

Engagement with First Nations Peoples must be mindful of the engagement needs of these communities, which often mean that deadline driven, "review and comment" engagement approaches are not suitable.

3. General process for community engagement

27. This section describes the general process for conducting community engagement activities that should be followed by proponents of all flight path and airspace change proposals The process is developed in line with the overarching requirements and guiding principles set out in Section 2. It provides a consistent approach that can be applied in a proportionate manner, depending on the scale of the change and the requirement to either inform, consult or involve community stakeholders.

Figure 2: Steps and activities of the general process for community engagement



28. This Standard establishes clear timeframes for engagement on changes of different scope and scale:

    - these timeframes are in some cases longer than previously applied. Implementation of engagement according to these timeframes will be completed as efficiently as possible to ensure essential changes are not subject to any unplanned delay
    - communication materials will provide an overall timeline for engagement and proposed delivery of the change to ensure this is clearly understood.

29. While a timeframe is provided for engagement activity, a firm timing for review of feedback and publishing of outcomes has not been included. This is in acknowledgement of the fact that the time required to give due consideration to feedback and to make the necessary changes to flight path and airspace designs will vary, depending on the volume and nature of feedback received. Timeframes for this review will be communicated as engagement is progressed.

30. For Level 1 and 2 changes, with multi-aviation industry involvement, other industry bodies (government, regulatory, airport and airline) will be invited to attend engagement activities to ensure all community questions can be responded to efficiently.

31. Information provided on changes will include the expected number of flights, populations overflown and forecast noise levels as a minimum.

32. Locations most affected by a proposed change will be identified during engagement planning, and engagement activities will be held as close as possible to these locations. A general principle of engagement activities being within a 10 to 15 minute drive radius of potentially impacted locations will be applied, where practicable (and subject to suitable venue availability).

33. For Level 1 and 2 changes, letterbox drops will be incorporated into engagement planning where deemed appropriate. Use of letterbox drops would include consideration of locations potentially affected and level of impact, mix of other communication tools available, local awareness of the proposed change and extend of existing community networks that can be used to generate awareness.

34. Other awareness raising tools may include newspaper advertising, Noise Complaints and Information Services (NCIS) database alerts, Engage Airservices registered user alerts, local Community Aviation Consultative Group (CACG) alerts and briefings, social media advertising, local Facebook group contact, local, state and federal elected representative correspondence, identified community/representative group correspondence, media articles and interviews, library and noticeboard information and other locally appropriate methods as available.

35. Reporting will include a summary of feedback received and our response to this, including any actions taken. This will demonstrate to submitters that their feedback has been considered and also what this has led to in terms decision-making.

36. Proponents should apply the principles set out in Section 2 to guide how the activities are delivered. The following sub-sections describe each step and the associated activities in greater detail, with guidance on the approach for Level 1, 2 and 3 changes and criteria for tracking the performance of community engagement against the Standard.

3.1. Step 1: Engagement Planning

Engagement planning overview

Define the objectives of the flight path and/or airspace change proposal, understand the community stakeholders that are potentially affected and determine the scale of the change and level of engagement that is required.

Engagement approach

- For Level 1 and 2 proposals, the proponent engages directly with individuals, groups and organisations that represent the broader community, to build an understanding of the affected stakeholders, the size and nature of the impacts and areas that may be particularly sensitive to aircraft overflight.
- For Level 3 proposals, the proponent builds an understanding of the affected stakeholders and potential impacts through desktop analysis and publishes their findings in the Community Engagement Plan or similar.
- For Level 1 and 2 proposals, a community survey is conducted at the conclusion of this step to determine a baseline level of community awareness of the change proposal, to be retested throughout the engagement program.

Performance criteria for engagement planning (Step 1)

Table 5: Performance criteria for Step 1, Engagement planning

	Activity	Engagement approach		
		LEVEL 1	**LEVEL 2**	**LEVEL 3**
1a)	Define the proposal's objectives	Publish Statement of Need a minimum of four weeks before any direct engagement begins, confirming: • the scope and objectives of the change proposal • the context and drivers for the change	The same as level 1.	No direct engagement with community stakeholders required during Step 1 for Level 3 proposals. The proponent publishes the Statement of Need online

		• the desired outcome and expected impacts (positive and negative) • the roles and responsibilities of the organisations involved.		before beginning Step 2 of the process.
1b)	Understand stakeholders	Establish a focused group of stakeholder representatives that are broadly characteristic of the local community. Record the diversity of stakeholder participation by type and geographical area to test the inclusiveness of engagement activities Conduct a series of engagement meetings (face-to-face or online) to gather initial information about: • the range of potential impacts associated with the changes included in the scope of the proposal • any areas, buildings, or sites that are particularly sensitive to the impacts of overflights • the engagement needs of community stakeholders and most effective channels • vulnerable and seldom-heard stakeholders that should be accommodated in the Community Engagement Plan. Track changes over time in the range of stakeholders engaged in the proposal as it develops.	The same as Level 1, although the size of the focus group and the number of engagement meetings is expected to be smaller because potential impacts are contained within a more specific geographical area.	The proponent conducts a desktop exercise to identify the limited number of stakeholders that may be affected by the proposal.

1c)	Publish Community Engagement Plan	Publish the initial Community Engagement Plan or similar, including • the engagement approaches that will be used • details of planned engagement activities at each step of the process • timelines for stakeholder participation. Seek feedback over a minimum four-week period from stakeholder representatives (1b) on potential gaps or improvements to the Initial Community Engagement Plan. Update the initial Community Engagement Plan in response to stakeholder feedback. Provide a summary of how the stakeholders' inputs have influenced the plan. Publish the final Plan online. Conduct a general community survey to gauge the percentage of the local population with awareness of the proposal and track changes over time as engagement activities are delivered. The proponent should record the volume of stakeholder participation in each step of the engagement process from this point onwards and track changes over time.	The same as level 1.	Develop an initial Community Engagement Plan using information from the desktop analysis in 1b. Publish the initial Community Engagement Plan or similar on the same online platform as the Statement of Need in 1a.

3.2. Step 2: Develop and assess options

Develop and assess options overview

Develop and assess the viable alternative flight path and/or airspace design options for the change, gather early feedback from stakeholders and use the information to refine the preferred option(s).

Engagement approach

- For Level 1 and 2 proposals, the proponent seeks feedback on the Options Development Methodology and Assessment Criteria from the focus group of stakeholder representatives established in Step 1, to test that they are comprehensive and inclusive. Level 3 proposals do not require direct stakeholder engagement on the methodology or criteria.
- For Level 1 proposals, proponents should engage community stakeholders in the development of options that can be refined to a shortlist of comparatively higher performing design options and a preferred option through iterative rounds of engagement and assessment.
- For Level 2 and 3 proposals that include fewer alternative options, early engagement should start with the shortlist of options and a preferred Preliminary Design.
- All levels of proposal should include a comparison of the shortlisted and preferred option(s) with existing flight-path operations.
- For Level 1 and 2 proposals, notification of upcoming engagement should be provided four weeks ahead of planned activity. Details of dates and locations of engagement sessions should be provided two weeks ahead of hosting and information on the proposal released one week ahead of engagement sessions.
- For Level 1 proposals, proponents should publish the shortlist and preferred option online, before conducting a 12 week early engagement activity, using a range of online and offline engagement methods, and including advance notification of engagement per above.
- For Level 2 proposals, similar engagement activity should be conducted for six weeks.
- For Level 3 proposals, similar engagement activity should be conducted for two to four weeks.
- A community survey is conducted at the conclusion of this step for Level 1 and 2 proposals to compare to the baseline level of community awareness of the change proposal from the previous step.

Performance criteria for develop and assess options (Step 2)

Table 6: Performance criteria for Step 2, Develop and assess options

#	Activity	Engagement approach		
		LEVEL 1	**LEVEL 2**	**LEVEL 3**
2a)	**Options development**	Engagement with stakeholder representatives through a combination of meetings, participatory sessions, consultative workshops, smaller groups and/or online surveys to: • test that the Options Development Methodology and Assessment Criteria are comprehensive and inclusive • support a deliberative approach to develop a list of viable options • assess the options and then refine towards a shortlist of higher performing designs • identify a preferred preliminary design. Publish the Options Development Methodology and Assessment Criteria.	Engagement with stakeholder representatives through an appropriate combination of meetings, participatory sessions, consultative workshops, smaller groups and online surveys to: • test that the Options Development Methodology and Assessment Criteria are comprehensive and inclusive. Publish the Options Development Methodology and Assessment Criteria.	The proponent publishes the Options Development Methodology and Assessment Criteria before beginning to create designs.
2b)	**Early stakeholder feedback on options**	Publish concept design and high-level impact assessment information about the shortlist, the preferred option, the existing operations baseline and the design work conducted to create them.	Publish concept design and high-level impact assessment information about the preferred option and a summary comparison with the shortlisted options and the existing operations baseline, including the	Publish detailed design and impact assessment information about the preferred option, a general overview of the alternative options considered

		Conduct a12-week engagement activity that includes multiple complementary online and offline methods to gather early feedback.	design work conducted to create them. Conduct a six-week engagement activity that includes the targeted use of online and offline methods to gather feedback.	(if any), and a comparison with the existing operations baseline. Conduct a four-week online engagement activity to gather feedback.
2c)	**Evaluate and refine options**	Record all early stakeholder feedback provided. Categorise the feedback and analyse the implications on the shortlist of options and preferred preliminary design. Publish an Early Engagement Report setting out how community and industry feedback has influenced the design. Conduct a general community survey to gauge the percentage of the local population with awareness of the proposal and who engaged in the process.	Same as Level 1, although the volume and diversity of early feedback is likely to be smaller.	Same as Levels 1 and 2, although the volume and diversity of early feedback is likely to be even smaller. Community survey not required but may be completed if deemed necessary.

3.3. Step 3: Engage

Engage overview

Develop the approach to engaging publicly with all affected stakeholders on the updated version of the preferred option that incorporates early feedback gathered during Step 2, deliver the engagement, analyse the feedback and respond accordingly.

Engagement approach

- For Level 1 and 2 proposals, notification of upcoming engagement should be provided four weeks ahead of engagement commencing. Details of dates and locations of engagement sessions should be provided two weeks ahead of hosting and information on the proposal released one week ahead of engagement sessions.
- For Level 1 proposals, proponents should publish the Proposed Design and full Environmental Impact Assessment, before conducting a 12-week engagement activity, using a range of online and offline engagement methods, and including advance notification of engagement per above.
- For Level 2 proposals, a similar engagement activity should be conducted for six weeks.
- If a second round of engagement is required for a Level 3 proposal it should follow a similar four-week online only format.
- A community survey is conducted at the conclusion of this step for Level 1 and 2 proposals to compare to the baseline level of community awareness of the change proposal from the previous step.

Performance criteria for engage (Step 3)

Table 7: Performance criteria for Step 3, Engage

#	Activity	Engagement approach		
		LEVEL 1	LEVEL 2	LEVEL 3
3a)	Engagement preparation	Update the Community Engagement Plan to ensure the stakeholders, engagement methods, materials and timeframes are up to date, that findings from the Environmental	Same as Level 1	Same as Level 1, if the proponent considers that a second round of formal engagement is necessary.

		Impact Assessment are considered in engagement planning, and that lessons learned from the first round of engagement are incorporated.		
3b)	**Engage with community stakeholders**	Publish the Proposed Design and Environmental Impact Assessment, including a comparison with the existing operations baseline and a detailed description of the design work and previous engagement outputs from Steps 1 and 2 that have shaped to the proposal. Conduct a 12-week engagement activity that includes multiple complementary online and offline methods to gather early feedback.	Same as Level 1 Conduct a six-week engagement activity that includes the targeted use of online and offline methods to gather feedback.	If the proponent considers that a second round of formal engagement is necessary, conduct a four-week online engagement activity to gather feedback.
3c)	**Collate and analyse Feedback**	Record all stakeholder feedback provided. Categorise the feedback and analyse the implications on the Proposed Design. Conduct a general community survey to gauge the percentage of the local population with awareness of the proposal and who engaged in the process. Consider further engagement if low level of awareness is identified.	Same as Level 1, although the volume and diversity of feedback is likely to be smaller.	Same as Levels 1 and 2 if the proponent considers that a second round of formal engagement is necessary. Community survey not required but may be completed if deemed necessary.

3.4. Step 4: Update and submit

Update and submit overview

Update the proposal and respond to stakeholders explaining the changes to the Proposed Design linked to feedback from the second round of formal engagement in Step 3. Conduct targeted re-engagement, if required, on any new impacts or substantial changes from Step 3. Finalise the proposal and submit to the regulator for approval, where required.

Engagement approach

- For all levels of proposal, targeted re-engagement is conducted on a case-by-case basis depending on the size and nature of the identified new impacts and the circumstances of the affected community stakeholders.

Performance criteria for update and submit (Step 4)

Table 8: Performance criteria for Step 4, Update and submit

#	Activity	Engagement approach		
		LEVEL 1	**LEVEL 2**	**LEVEL 3**
4a)	**Update the preferred option**	Publish the Final Design and updated Environmental Impact Assessment if required. Publish the Community Engagement Report confirming how the final design has been influenced by feedback received during the second round of engagement.	Same as Level 1.	Same as Level 1, if the proponent considered that a second round of formal engagement was necessary.
4b)	**Targeted re-engagement**	If the creation of the Final Design and updated Environmental Impact Assessment identifies any substantive changes from the information provided during Step 3, the proponent must re-engage with affected stakeholders.	Same as Level 1.	Same as Level 1, if the proponent considered that a second round of formal engagement was necessary.

		Any re-engagement responses are considered and the proponent amends both the Community Engagement Report and the Final Design accordingly and republishes.		
4c)	**Submit to the regulator**	The proponent submits an Airspace Change Proposal to the regulator for approval.	Same as Level 1.	Airspace Change Proposal not generally required.

3.5. Step 5: Implement and review

Implement and review overview

Inform stakeholders of the final decision, communicate implementation plans and conduct a Post Implementation Review

Engagement approach

- The proponent should inform community stakeholders of the Implementation Plan and ongoing mechanisms for feedback and sourcing of information.
- For Level 1 proposals, a program of ongoing community and updates should be planned to keep the change proposal visible to the community over the pre-implementation period. This should also occur for Level 2 proposals where a period of time will elapse between proposal engagement and implementation.
- Community and industry stakeholders should be engaged during the Post Implementation Review (Level 1 and 2 proposals only), in accordance with the size of the change and extent of actual impact being experienced.
- If updates to the design are required either pre-implementation or as a result of the Post Implementation Review, the proponent should undertake engagement as per the earlier steps.

Performance criteria for implement and review (Step 5)

Table 9: Performance criteria for Step 5, Implement and review

	Activity	Engagement approach		
		LEVEL 1	LEVEL 2	LEVEL 3
5a)	**Engagement pre-implementation**	Implementation plan published. Pre-implementation communication and update program developed and implemented.	Same as Level 1.	Same as Level 1 – may be done as part of Step 3 if further engagement was not deemed necessary.

		If updates to the design are required pre-implementation, the proponent must re-visit the earlier steps to engage with community stakeholders as appropriate.		
5b)	**Engagement in the post implementation review**	Monitor the implemented change, including ongoing review of community and industry feedback (generally via the Noise Complaints and Information Service). Post Implementation Review conducted 12 months after implementation of the change to assess if the anticipated impacts and benefits of the original proposal are as expected. Engage community and industry in the Post Implementation review including: • Terms of Reference • Review considerations • Draft report Draft Post Implementation Review Report published for a four-week comment period. Final Post Implementation Review Report published. Recommendations of the Post Implementation Review implemented in accordance with this Standard.	Same as Level 1, though review complexity and extent of community and industry engagement will vary depending on the change.	Post Implementation Review conducted via desktop analysis. If community and/or industry feedback identifies the need, a process similar to Level 2 may be applied.

Appendix G – Community Engagement Framework

COMMUNITY ENGAGEMENT FRAMEWORK OVERVIEW

We recognise the value of engagement and engage with the community on flight path and airspace changes and current aircraft noise and operations.

Airservices Community Engagement Framework (CEF) has been developed to provide a rigorous process for delivery of community engagement activity for flight path and associated airspace changes. The CEF has been developed based on stakeholder feedback on previous engagement activity, findings of Aircraft Noise Ombudsman investigations and following consideration of established "best practice" engagement processes, models and practices.

The CEF is a key pillar of our approach to engagement which includes:

- **Community engagement** – timely, meaningful and transparent engagement with communities, community groups and their local, State and Federal elected representatives, with an interest in or impact from aviation operations, and Community Aviation Consultation Groups (CACGs)
- **Industry engagement** – regular, in depth engagement with airport owners and operators, airlines and aviation operators, to determine change requirements and opportunities to enhance the efficiency and sustainability of the aviation sector
- **Government engagement** – ongoing formal and informal regulatory engagement with the Civil Aviation Safety Authority (CASA), Departments and other Commonwealth Agencies, to ensure our statutory and regulatory obligations are met and that key government parties with an aviation function are kept informed of Airservices activity.

We have developed ***Flight Path Design Principles*** which describe the various elements that are considered in flight path and airspace design. These Principles are relevant to the interests of all of our stakeholders and are applied to all new flight path and airspace changes. For each new change, we will report on how the Principles were applied and how they shaped the final change decision.

Airservices ***Commitment to Aircraft Noise Management*** provides details of our approach to minimising the impact of aircraft operations, including our legislated obligations, methods to reduce aviation noise impacts, our processes for noise monitoring, interface with the aviation industry, investigations into complaints and forums for discussion of air traffic noise concerns.

WHAT IS THE COMMUNITY ENGAGEMENT FRAMEWORK?

The CEF provides a clear set of commitments, processes and information tools for our community engagement on flight path and airspace changes. It also establishes how we will respond to community initiated change suggestions and to complaints about aircraft noise.

The CEF includes:

- **Our Commitment to Community Engagement** – a public commitment to how we will engage with communities on flight path and airspace changes. This statement establishes the behavioural commitments in relation to engagement
- **Our Community Engagement Approach** – a range of procedures that support our engagement practice. These procedures cover initial environmental change assessment and social impact analysis, community engagement planning and implementation, feedback collation and data reporting, complaints management, noise information sharing, and investigations of community suggested noise improvements. Information on our approach to engagement is provided on *Engage Airservices*
- **Airservices website** – a dedicated Community Engagement tab that provides access to Airservices updates on temporary changes to aircraft operations, our engagement platform and airport gateways, and information regarding Community Aviation Consultation Groups (CACGs) and the Aircraft Noise Ombudsman (ANO)
- ***Engage Airservices* interactive engagement platform** – an online engagement portal, providing information on current flight path and airspace changes and engagement activity. Community members can register to receive updates and alerts of new flight path and airspace changes and upcoming engagement activity
- **Airport noise portals** – our Noise and Flight Path Monitoring System (NFPMS) for 15 capital city and regional airports provides public reporting of information on air traffic movements, runway use, and flight paths, and complaints summaries and statistics. It also includes summaries of noise improvement investigations and outcomes
- ***Aircraft in your Neighbourhood* airport gateways** – an online airport gateway for Sydney, Brisbane, Gold Coast and Sunshine Coast airports, that provides community members with a fully interactive opportunity to access air traffic and noise related information relevant to their address, suburb or general area. This includes flight paths and aircraft flow and links to useful resources
- ***WebTrak*** – a tool that enables the community to see where aircraft fly and explore historical trends and patterns. Aircraft noise data is also displayed, collected daily from noise monitors strategically located around communities close to the airport
- **Noise and Complaints Information Service (NCIS)** – our aircraft noise complaints, information and investigation service, providing the community with information about aircraft operations, and conducting targeted investigation into air traffic noise impacts to identify noise improvement opportunities and report on compliance of Fly Neighbourly Procedures and Noise Abatement Procedures.

Airservices Engagement

Community, Industry, Government

Commitment to Aircraft Noise Management

Flight Path Design Principles

Community Engagement Framework

Our Commitment to Community Engagement

Our Community Engagement Approach

- Airservices Website
- *Engage Airservices*
- Airport noise portals
- *Aircraft in your Neighbourhood*
- *WebTrak*
- Noise Complaints and Information Service (NCIS)

Appendix H – Noise Complaints and Information Service Managing Aircraft Noise Complaints and Enquiries Procedure

Noise Complaints and Information Service (NCIS) - Managing Aircraft Noise Complaints and Enquiries

Procedure

C-PROC0336

Version 6

Effective 22 December 2023

Endorsed:	NCIS Manager
Approved:	Donna Marshall Head of Community Engagement

Change summary

Version	Date	Change description
6	22 December 2023	• Various updates and restructuring of document content to reflect recent process improvements including greater integration of Community Engagement interface • Removed content more appropriate for NCIS training manual • No change bars applied due to the extent of the changes

This document was created using Generic Document Template C-TEMP0047 Version 9.

Table of contents

1 Purpose

This document describes the procedures for the Noise Complaints and Investigation Service (NCIS) in responding to complainants and their aircraft noise complaints about aircraft operations, including flight path changes.

2 Overview

2.1 Complaint Management System

The Airservices Complaint Management System consists of the policies, procedures, practices, staff, hardware and software used by the NCIS in the management of complaints. The purpose of the Complaint Management System is to:

- enable NCIS to respond to relevant issues in a timely and cost-effective way
- provide reporting and information on relevant issues
- provide public reporting regarding summaries of complainants and relevant issues
- identify opportunities for aircraft noise improvements
- identify the need for educational information to improve community understanding of relevant issues.

This Complaint Management System is for individuals. It does not cater for petitions or representative complaints.

2.2 Alignment

The procedures in this document are aligned to the:

- Commonwealth Ombudsman's Better Practice Guide to Complaint Handling
- NSW Ombudsman's Managing Unreasonable Complainant Conduct Practice Manual.

When responding to contacts, staff should also act in accordance with any other internal documents providing guidance on the management of contacts.

3 The Complaint Process

3.1 Intake

Our system is set up to receive submissions from individuals.

Generally, we require a complaint to be made by the complainants personally, in their own words.

However, complaints will be accepted from third parties if they are made on behalf of complainants who:

- have a disability or infirmity
- are aged or under-aged
- require an interpreter, and/or
- have literacy or other accessibility issues.

Where submissions are in writing and signed with the names of more than one person we may:

- create a complainant profile for the first named person, or
- if one party already has a profile in the database, process the submission under that name.

A petition or any other form of representative complaint will be processed under the name of the person who submitted it and it will be treated as an individual complaint from that person.

3.1.1 Submission

Contacts may be submitted to the NCIS using:

- the online Noise Complaints and Information Service Contact Form
- WebTrak
- telephone
- letter.

Incoming contacts will be assessed by a Complaint Specialist who will determine:

- whether it raises a new, relevant issue
- whether a response is required, and
- if so, who it should be assigned to.

3.1.2 Case creation

We will create a case for each primary relevant issue raised by a complainant. The contact is recorded in the case, along with any subsequent contacts on the same relevant issue.

3.1.3 Online and WebTrak submissions

Contacts lodged via the online form will receive an immediate on-screen acknowledgement of receipt. An automatic email acknowledgement will also be sent to the nominated email address.

Both acknowledgements explain the next steps in the process, timeframes, and include a copy of the complainant's submitted comment. Complainants are also advised to retain a copy as copies will not be issued separately.

3.1.4 Phone submissions

3.1.4.1 New contacts

A complainant has the option of contacting us by telephone. For new phone contacts we will ask questions that allow us to make a clear and comprehensive record of the relevant issues we need to respond to.

Due to the complexity of some aviation issues, we may ask the complainant to put those concerns in writing to ensure clarity and comprehensiveness and/or to enable us to refer the matter.

We will advise the complainant that our preference is to respond to their relevant issues in writing. In order to respond in writing we will require an email or postal address. If a complainant declines to provide an email or postal address, we will explain that we are able to provide greater detail and clarity by responding in writing and that we are limited in the response we can provide if a call back from one of our Complaint Specialists is requested. For example, a written response can include images to support the explanation.

Note: If a written response is not appropriate for the complainant, for example for accessibility or language reasons, we will work with the complainant to identify the most appropriate means of communication.

Prior to the completion of the call, we will:

- clarify the relevant issues to be answered
- record the information and contact details into our database
- state the expected timeframes

3.1.4.2 Escalation of calls

All complainants may have a telephone call escalated to a more senior team member.

If a complainant has had a call escalated once, and on a subsequent call asks for escalation again, a senior team member will review their request and determine whether this is warranted, having regard to the circumstances and the need to allocate resources fairly. The reasons for the decision will be documented on the complainant's case.

3.1.4.3 No transfer of calls

We will not "warm transfer" calls internally.

If a complainant requests to speak to a more senior team member, we will firstly attempt to assist and answer any matters without having to involve a senior team member. If we are not able to assist and the request is necessary, we will advise the complainant that they will be called back, giving a timeframe wherever possible.

This is to allow time to properly prepare for the call, including reading the history of the case, so that the complainant does not need to repeat themselves.

3.1.4.4 Insults or abuse

If a caller is insulting or abusive, (including racist, sexist and homophobic abuse) we will warn them that the behaviour is unacceptable and that if it continues we will terminate the call.

If the behaviour continues, we will immediately and politely terminate the call. We will document the termination in the record of the conversation and advise the Senior Complaint Specialist of the occurrence.

Where a caller remains anonymous and repeatedly calls to insult or abuse a staff member, and then hangs up the call, management will consider terminating all calls to protect staff. The duration will be determined on a case-by-case basis.

3.1.4.5 Unproductive calls

A call is deemed to be unproductive where a complainant repeatedly:

- continues to ask the same question or make the same point, despite being advised we will provide an answer or explanation or having been advised a previous response answers the question or point
- refuses to listen to an explanation, or interrupts, disagrees with or argues about an explanation
- prolongs the conversation when the call is being brought to a close
- will not let the NCIS staff member speak
- raises matters outside Airservices remit or unrelated to aircraft noise.

When a call has become unproductive, we will advise the complainant of this, the reasons why, and that if we cannot progress further we will have to terminate the call. If the call continues to be unproductive, we will politely terminate the call.

We will document the termination of the conversation and advise a Senior Complaint Specialist of the occurrence so it can be documented in the database.

3.1.4.6 Recording of call by complainants

If a complainant tells us they are recording the call, we will advise them that:

- under our procedures we are not required to continue the call
- they can still communicate with us via our online form or post
- if they refuse to end the recording, we will politely terminate the call.

3.1.4.7 Review of terminated calls

A Senior Complaint Specialist or other senior NCIS team members may review the recording of terminated calls for quality and training purposes.

When reviewing, a file note in the database will be created by the reviewer containing the findings of the review. This will be saved on the complainant's case.

If the review finds that the caller's behaviour was inappropriate, a senior team member will write to the caller describing the inappropriate behaviour. The letter may warn of the consequences of further such behaviour, or where warranted, it may impose immediate sanctions on the caller.

Consequences may include placement on a management plan, restrictions or exclusions from contacting the NCIS by phone, or other sanctions considered appropriate in the circumstances of the case.

If the review finds that a call was improperly terminated, the occurrence will be escalated to the NCIS Manager for decisions on appropriate action.

Appropriate action may include measures such as a training plan and the provision of apologies to the complainant.

3.1.4.8 Security threats

Examples of security threats include:

- threats to aircraft
- threats to airports
- threats to Airservices personnel
- bomb threats.

If a caller makes a bomb threat, keep the caller on the phone and complete a Bomb Threat Checklist.

For all threats, including bomb threats, follow the *NCIS Security Incident Guidelines*.

3.1.4.9 Threats of self-harm or suicide

If a caller says something that indicates they may be thinking of harming themselves, you may provide the contact details for 24-hour telephone support services, including:

- Lifeline 24 hr Counselling Service: **13 11 14**
- Beyond Blue: **1300 224 636**
- Suicide Call Back Service: **1300 659 467**

You should consider getting help from colleagues to manage people who pose a risk of harm to themselves or someone else. This could include signalling to another person to alert them to the nature of the call or interaction and that assistance is required.

We will document the conversation and advise a Senior Complaint Specialist of the occurrence so it can be documented in our database. The senior team member will notify Security so that police in the relevant area can be contacted.

For all self-harm or suicide threats, follow the *NCIS Security Incident Guidelines*.

3.1.5 Letter submissions

Letters can be sent by post to the NCIS. Our postal address is:

Noise Complaints and Information Service

PO Box 211

Mascot NSW 1460

Letters received by the NCIS through the NCIS postal address will be processed by a Complaint Specialist. The letter will be scanned and the electronic copy attached to a file in the complaints management database.

3.2 Analysis of contacts

3.2.1 Initial assessment of contact

A Complaint Specialist will make an initial assessment of the contact to identify the primary relevant issue being raised.

If this is a new relevant issue, it will be considered a new contact, and a new case will be created for that relevant issue.

If the complainant already has a case on that relevant issue, the submission will not be considered to be a new contact, and it will be added to the existing case.

3.2.1.1 Is a response required?

The Complaint Specialist will then make an assessment of whether or not the contact requires a response.

A complainant who has provided contact details and raises a new relevant issue will receive a response.

If the submission lacks detail, (for example, “Loud noise”), the response may be restricted to a general response or asking the complainant for additional information.

Submissions consisting of comments or feedback will not be responded to by NCIS if the comment or feedback relates to an open engagement activity.

In these cases, the NCIS will send the complainant an acknowledgement email advising the comment or feedback has been provided to Community Engagement for consideration and response, as appropriate.

Decisions about whether to respond or not will be clearly documented within the complainant’s record either on the complainant’s profile or within the complainant’s relevant case.

3.2.2 Repeat contacts

If a complainant’s contact raises a matter currently open for response, and where the further contacts don’t raise a new issue, we will inform the complainant we do not require further information at this time and ask them not continue to contact us until we have responded.

If we have already provided this advice and there is no new issue or question raised, we will not respond, however the matter will be brought to the attention of the Senior Complaints Specialist who will review that procedure has been correctly applied and to determine how to manage these future contacts. In these cases, we will advise the complainant that as we have already provided information on the issue and there is no further information we can provide, that we will not provide any further responses on this issue.

3.2.3 Anonymous contacts

Complainants may choose to remain anonymous, however we will be unable to respond to their contact.

We encourage all complainants to provide their full contact details. This is to ensure we have all the information needed to properly investigate and respond to the complaint. Complainants may wish to provide pseudonyms.

3.2.4 Assignment of cases

Most cases will be handled by the Complaint Specialists.

Cases will be assigned to senior team members according to the following table. The senior team member may either refer it elsewhere in Airservices, respond to it personally, or advise the Complaint Specialist how to respond.

Type of case	Assign to
The Complaint Specialist is unsure whether the issue is one for NCIS	Senior Complaints Specialist or Manager
Enquiries from members of Parliament or their offices, local government	Senior Complaints Specialist or Manager who will refer to Government Relations
Enquiries from the media	Senior Complaints Specialist or Manager who will refer to the Media Officer
A complainant exhibiting unreasonable behaviour	Senior Complaints Specialist or Manager
If investigation involving internal and/or external liaison is required, or if an investigation of a more complex, technical nature is required – see Section 4 Investigations.	Consult Senior Complaints Specialist or Investigator
Complainants who have been advised that we will respond to new issues only – if a new issue has been raised or if not sure	Senior Complaints Specialist
If an escalation or review is requested – see Section 6.1 Escalation and Review	Senior Complaints Specialist or Manager

3.3 Response

Contacts are dealt with on a case-by-case basis and actions taken in relation to each will differ according to specific circumstances.

Due to the complexity of aviation operations, the preferred method of response to contacts is in writing.

In deciding how to respond, we will take into account the need to allocate our resources fairly across all the contacts we receive. Therefore, we may:

- provide information or an explanation
- investigate the matter
- decline to investigate or further investigate the matter
- ask for further information or clarification
- request the complainant to reframe the contact into a clear statement of the relevant issues being raised and the outcome being sought.

In responding to contacts, we may advise the complainant making the contact of:

- relevant information and explanations, including imagery
- whether any noise improvement opportunities have been identified
- any action we took or propose to take, or why no actions can be taken
- the solution that we have proposed or put in place, or why no solution can be identified
- the reason for any decisions made.

3.3.1 Timeframe for response

If a response is required, the target timeframe for response is 21 days. If we are receiving a high volume of contacts and a response is not able to be provided within 21 days, we will provide advice of the delay on our NCIS webpage, contact form and auto acknowledgement emails.

We will provide the response at the earliest opportunity following that 21 day period.

If the complexity of the enquiry requires detailed investigation or if other matters are preventing the completion of the response, we will endeavour to keep the complainant updated with the progress of their complaint response.

3.3.2 Aviation-related matters outside Airservices remit

When reviewing a contact, if we determine the contact is within the remit of the Civil Aviation Safety Authority (CASA) or the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the Department), we will refer the complainant to the relevant organisation, or with the complainant's permission we will seek agreement from that organisation to transfer the matter to them.

Examples of issues within the remit of other federal agencies include safety (CASA), curfew, drones (the Department) and military (the Department of Defence).

If a contact is about an issue that is outside the remit of Airservices and other federal agencies with aviation responsibilities, we will provide information where possible and explain where responsibility lies. Examples of such issues include odours, emissions and health issues.

If a contact is about ground running at airports or another environmental issue within the responsibility of airports, we will refer the complainant to the airport or airport operator or seek to transfer the complainant to that organisation with the permission of the complainant.

3.3.3 Emergency services

We are unable to provide any information to the public about ambulance, rescue, police air wing or covert activities, including track displays that show flight numbers or other means of identifying these movements. We will refer to these movements as "emergency services".

4 Investigations

4.1 Investigations

Aircraft noise investigations will be conducted by the Complaint Specialists. These investigations will consist of searches and queries using tools and documents such as:

- ANOMS
- WebTrak
- Airservices reports
- Aeronautical Information Package (AIP), e.g. Departure and Approach Procedures (DAP), En Route Supplement Australia (ERSA), and Visual Terminal Charts (VTC).

4.2 Complex investigations

Complex investigations will be conducted by the Investigations team and/or senior team members. Complex investigations may include those that require:

- liaison with other areas of Airservices
- external liaison including with other agencies, aviation operators, airports, airport operators
- complex matters raised
- analysis of the potential for change in flight paths or other procedures.

The manner in which a complex investigation is conducted will be informed by the specific circumstances of the case and the need to allocate our resources fairly.

At the conclusion of the investigation, the complainant will be advised of the outcome in writing.

4.3 Noise improvement investigations

An initial noise improvement investigation may be conducted for reasons including:

- to progress findings of a complex investigation
- after a complaint trend analysis has indicated a potential opportunity for improvement
- at the suggestion of a complainant or the Aircraft Noise Ombudsman (ANO).

Noise improvement investigations will be conducted by the Investigations team and/or senior team members.

In investigating potential noise improvements, consideration will be given to:

- safety
- air traffic management efficiency
- whether a better noise outcome can be achieved overall.

Proposals that compromise safety will not be progressed.

Moving noise from one part of the community to another generally will not be considered a better noise outcome overall.

Internal and external consultation will occur as required, for example, with air traffic control, operators, airports and airport operators.

If the investigation finds that the proposal is feasible, it will then be progressed through to Community Engagement for further analysis.

4.4 Investigations into actions or decisions taken by Airservices

The investigation of actions or decisions taken by Airservices in relation to flight path change processes, including community engagement, environmental assessment and flight path design processes, or the release of related information, is not within the remit of the NCIS. Enquiries of this nature are forwarded to the relevant area of Airservices, recorded and tracked in the NCIS database.

4.5 Investigations into complaints about staff members

The investigation of complaints about Airservices staff members is outside the remit of the NCIS.

4.5.1 NCIS and Community Engagement staff members

Complaints about individual NCIS or Community Engagement staff members must be made in writing to the relevant manager, clearly setting out the nature of the complaint.

For complaints about NCIS or Community Engagement staff, the relevant manager is the Head of Community Engagement. If the complaint is about the Head of Community Engagement, the relevant manager is the relevant Executive Officer.

If the grounds for the complaint are unclear, the relevant manager may request clarification from the complainant or may decline to proceed with the complaint. The reasons for this decision will be provided to the complainant in writing.

If the complaint proceeds, the relevant manager will investigate the allegations and respond in writing to the complainant.

4.5.2 Other staff members

Complaints about staff members outside of the NCIS and Community Engagement will be referred to the relevant manager who will decide whether the matter requires investigation and if so, how to proceed.

4.6 Community Engagement Complaints

Complaints received by the NCIS in relation to Community Engagement will be forwarded to the Community Engagement team for review and action as appropriate. The complaint will be recorded in the NCIS database noting it has been forwarded to Community Engagement. The NCIS will send the complainant an acknowledgement email advising the complaint has been provided to Community Engagement for consideration and response, as appropriate.

5 Managing unreasonable conduct

We are committed to being accessible and responsive to all people who contact us. At the same time our success depends on:

- our ability to do our work and perform our functions in the most effective and efficient way possible
- the health, safety and security of our staff
- our ability to allocate our resources fairly across all the contacts we receive.

At times complainant's may exhibit behaviour that is considered unreasonable. This may include persistent contact, abusive or threatening language, demanding outcomes that are not reasonable, and threatening harm to themselves or others.

When people behave unreasonably in their dealings with us, their conduct can significantly affect the progress and efficiency of our work. As a result, we will take action to manage any conduct that negatively and unreasonably affecting our people and will support our staff to do the same in accordance with these procedures. We do this in line with the Commonwealth and NSW Ombudsman guide to managing unreasonable conduct by a complainant. Unreasonable conduct may include:

- unreasonable persistence
- unreasonable demands
- unreasonable lack of cooperation
- unreasonable arguments
- unreasonable behaviours

5.1 Unreasonable Persistence

Unreasonable persistence most commonly involves a complainant continuing to raise the same issue. If not managed, this type of behaviour can lead to using a disproportionate amount of time and resources addressing this persistence, impacting on the resources available for other work, and inadvertently dealing with the same matter multiple times.

We will inform individuals who contact us repetitively in a short period of time that we do not require multiple contacts about the same matter.

Where this continues to occur after giving the above advice, we may process these contacts into our database in bulk without reading them individually.

If a complainant has already received one or more responses from us, a senior complaint specialist will review the correspondence and may write to the complainant to:

- explain that they need not lodge more than one contact in order to have their matter taken seriously and a response provided.
- explain that decisions to investigate noise improvements are based on the number of complainants raising the same issue, not the same issue being raised multiple times by a single complainant.
- advise that we may place them on a management plan if they continue to lodge multiple contacts about the same issue.

5.2 Management plans

A management plan may assist us to limit and actively manage unreasonable conduct on the part of the complainant. A management plan may be used for complainants who are displaying unreasonable conduct in accordance with Section 5.0 Managing unreasonable conduct and 5.1 Unreasonable Persistence.

A management plan to manage unreasonable conduct may include:

- only responding to new relevant issues not previously responded to, or questions not previously answered in earlier responses.
- placing restrictions on contacting us by phone including time limits on calls, specified times when calls will be accepted, or not allowing contact via phone in extreme cases.
- placing restrictions on the volume of online contacts, including only reading the first contact submitted in the month and recording any others into the existing case.
- other measures considered appropriate by the NCIS Manager having regard to the specific circumstances.

The decision to approve and implement a management plan will be made by the Senior Complaints Specialist and NCIS Manager. The complainant will be notified of the decision. We will review each management plan on an ongoing basis.

6 Documenting actions or decisions

We will document in the Noise Complaints Management System (NCMS) database all steps taken to respond to contacts including:

- all interactions with complainants
- any investigations conducted
- any decisions made
- all correspondence.

When documenting phone conversations, we will add as much detail as needed to enable anyone reading the account to understand what the complainant raised, what advice or information they were given and any undertakings given about providing further information, including timeframes.

6.1 Escalation and review requests

If a complainant is dissatisfied with the way their contact was handled, they may ask for their contact to be escalated for review. NCIS team members may also initiate a review.

Internal reviews of how a contact was managed will be conducted by a person other than the original complaint handler.

Initially this will be conducted by peer review by another Complaints Specialist or the Senior Complaints Specialist. Reviews may also be conducted by the Investigator or the NCIS Manager, as appropriate.

A review may consist of:

- reviewing contacts, conversations, notes, correspondence, decisions and outcomes
- conducting further investigations and/or seeking further advice
- identifying aspects that could have been handled differently
- identifying training needs.

Which actions we decide to take, and who the review is assigned to, will be tailored to each case and will take into account the need to allocate our resources fairly across all the contacts we receive.

If a complainant initiated the review, we will provide the complainant with the outcome of the review in writing.

After a matter has been reviewed once, if a complainant requests further review we will ask the complainant to submit in writing their reasons for requesting a further review. After consideration of the reasons, we may decline to undertake a further escalation or review. If so, the complainant will be advised of this decision in writing.

If the review is escalated, it will be completed by the NCIS Manager. The complainant will be advised in writing of this action and the subsequent decision.

We will inform complainants about the external review option available from the Aircraft Noise Ombudsman.

6.2 Managing high volume

From time-to-time the volume of incoming submissions that require a response may exceed our ability to respond in accordance with these procedures in a timely manner.

This may occur due to one or more factors including:

- community campaigns encouraging submissions to be made
- staff vacancies pending recruitment or absences on leave
- media attention
- sustained adverse weather events
- new flight paths including new runways, new landing systems and new airports.

If this occurs, the NCIS Manager will implement a High Volume Management Plan. This may include temporary amendment of regular procedures for the purposes of increasing the volume of submissions that can be responded to while incoming submissions and/or submissions awaiting response remain high.

The plan will be in writing and may set out:

- the reasons the plan is required
- the elements of these procedures that will be amended or suspended for the duration of the plan
- the nature of any amendments to these procedures or any new measures introduced
- an initial timeframe for operation of the plan
- a provision for review of the plan at the end of this time period.

The review may result in an extension of the plan if it determines that the circumstances that required it continue to apply. The plan may be extended in its original form or amended as considered appropriate.

7 Aircraft Noise Ombudsman (ANO)

7.1 Acceptance of direct referrals from ANO

If a complainant contacts the Aircraft Noise Ombudsman (ANO) regarding a relevant issue and they have not previously contacted NCIS, the complainant should be referred to contact the NCIS directly.

Direct referrals from the ANO may be accepted only if the contact has been received in writing. If a complainant has contacted the ANO by telephone, the ANO should refer them to contact the NCIS directly.

This is to ensure that the contact received is in the complainant's own words. The NCIS will not generally accept referrals consisting of summaries or synopses of a conversation unless there are accessibility reasons for doing so.

Direct referrals from the ANO will not be accepted where the complainant has contacted the NCIS previously and we consider this would circumvent the complaint management process.

7.2 Management of ANO requests for NCMS data

Requests are categorised as follows:

Standard requests - These are typical requests for information that may include copies of complaints made to the NCIS, responses to complaints and associated material.

These requests will be handled by the NCIS and the response time should generally be within one week. There may be occasions where a request is more complex, for example, where there is an extensive history with the specific complainant with multiple complaints, notes and correspondence which may take longer to action. These would be identified in the initial search and may take one to two weeks to action with early advice to the ANO notifying of the extended timeframe.

Other requests - These requests for information and timeframes would be negotiated with the ANO on a case-by-case basis. For example, they may be related to a review the ANO may be undertaking where information requests could be thematic, for example, may require a range of material over a specific time period to be provided or a category of complaints.

If the ANO seeks records of complainants containing personal information where those complainants have not requested reviews from the ANO, for privacy reasons the NCIS may need to liaise with complainants to request permission to release their records (see next section).

However, this would be as a last resort if alternative means such as redacting or de-identifying personal information are unavailable.

Organisational documentation will be requested from the relevant business unit and the response prepared by them.

7.2.1 Management of privacy issues

The Airservices Privacy Statement ensures if a complainant requests a review of the handling of their complaint by the ANO, Airservices may provide the ANO with complainant personal information relevant to that review if requested by the ANO.

If the ANO seeks to undertake a systemic review and requests that data containing personal information be provided for complainants who have not requested a review by the ANO, Airservices will not provide personal information without permission from the relevant complainant(s). In addition, the ANO may request statistical and / or depersonalised data for the purposes of systemic reviews.

7.3 Review of transcripts and recordings by the ANO

Transcripts must only be prepared in response to a Request for Information from the ANO and must be accompanied by a Management Review. The Management Review must be prepared by the NCIS Manager for submission to the ANO and must include the following factors:

- complainant's complaint history
- demeanour and behaviour of the complainant in their contact(s) with NCIS
- summary of the tone of the conversation(s)
- Manager's conclusions about the conduct of the conversation
- context, such as complaint volume and the daily environment.

All transcripts, which will be prepared by the NCIS Manager or by an external agency with appropriate privacy policies and procedures, must be de-identified. Transcripts are to be verbatim and to include appropriate nuances of the conversation, e.g. expressions of tone. The staff member on the recording may review the transcript against the voice recording to ensure that the transcript is a true and correct record of the call. If the staff member believes the transcript is incorrect, they may submit revised wording to the NCIS Manager.

Transcripts prepared in response to an ANO Request for Information will not be released to any other organisation, agency or individual, including the complainant who is party to the call.

If, after consideration of the transcript and the Management Review, the ANO considers that review of the voice recording is warranted, a further Request for Information to this effect must be received from the ANO.

The ANO may listen to a recording subject to these conditions:

- Both the NCIS Manager and the Head of Community Engagement must be consulted on the request. The staff member on the recording must also be consulted.
- A copy of the recording will not be released. The recording must be listened to at an Airservices location.

8 Other

8.1 Privacy

Personal information that identifies individuals, including complainants and private aircraft operators or private owners, will only be disclosed or used by Airservices as permitted under the relevant privacy laws.

8.2 Analysis, evaluation and reporting of contacts

We will ensure that contacts are recorded in a systematic way so that information can be easily retrieved for reporting and analysis.

Regular reports will be run on:

- the number of complainants and contacts per associated airport
- the number of complainants per suburb
- the issues raised by complainants.

Regular analysis of reports will be undertaken to monitor trends and identify emerging complaint hotspots. This information will be shared with Community Engagement for further investigation.

8.3 Monitoring of the complaint management system

We will continually monitor our complaint management system to:

- ensure its effectiveness in responding to and managing complaints
- identify and implement opportunities for further efficiencies in the operation of the system.

Monitoring may include the use of quality assurance audits, internal reviews and complainant and ANO feedback.

8.4 Continuous improvement

We are committed to improving the effectiveness and efficiency of our complaint management system. To this end, we will:

- implement best practices in complaint handling
- recognise and reward exemplary complaint handling by staff
- regularly review the complaints management system and complainant data
- implement appropriate system changes arising out of our analysis of data and continual monitoring of the system.

8.5 Voice recordings and transcripts

Procedures related to NCIS voice recordings apply to **all** Airservices staff.

8.5.1 Purpose of recording calls

Phone calls will be recorded for security, quality assurance and training purposes. Callers will be advised of this during the introductory message. Recordings, wherever they are held, are deleted after 30 days. This does not apply to recordings of calls deemed to be a potential or actual security threat.

8.5.2 Release of voice recordings

Recordings will not be provided to any agency, organisation or individual except:

- The police or relevant security agency including Airservices Security & Resilience when appropriate
- If the Airservices Legal Counsel deems it necessary under the Freedom of Information legislation
- For internal audit and review purposes, subject to the approval of the Head of Community Engagement
- The Aircraft Noise Ombudsman may listen to a recording subject to the conditions set out in section 7.3 Review of transcripts and recordings by the ANO.

8.5.2.1 Release of recordings for security purposes

If a staff member identifies potential security incidents, including threats of self-harm, a copy of the recording may be provided to Airservices Security & Resilience with the Security Incident Report if requested.

Voice recordings provided to Security must be stored in accordance with security procedures.

8.5.2.2 Review of recordings for quality assurance and training purposes

Recordings may be used internally for quality assurance and training purposes, with the express permission of the staff member on the recording. Recordings are to be deleted once training is completed.

The only staff members who will be permitted to listen to recordings are:

- NCIS Manager
- Senior Complaints Specialist
- the staff member on the recording

Recordings may also be used for the training of new staff members and continuous improvement of all staff, subject to the NCIS Manager discretion.

A transcript must not be made of the call.

Recordings may only be retrieved by:

- NCIS Manager
- Senior Complaint Specialist

8.5.3 Release of transcripts

Transcripts will not be prepared or released for any reason other than in accordance with section 8.5.2 Release of voice recordings.

9 Definitions

Within this document, the following definitions apply:

Term	Definition
Aircraft noise improvement	A change to a flight path, procedure or document that provides an overall reduction in noise for the community when considered holistically.
Complaint	An expression of dissatisfaction made to the NCIS by an individual about a relevant issue.
Complainant	A person who makes a complaint, or lodges an enquiry.
Contact	The collective term for complaints and enquiries raising relevant issues made to the NCIS via phone, online form or post.
Complaint management system	All policies, procedures, practices, staff, hardware and software used by the NCIS in the management of complaints. The Noise Complaints Management System (NCMS) is the specific name of the database software used to manage complaints.
Enquiry	A question or request for information about a relevant issue, or following up on the progress of a previous contact.
Relevant Issue	A relevant issue may include one or more of the following: aircraft noise, aircraft movements, flight paths, other aviation activities and operations, the flight path change process and associated community engagement activities, and/or Airservices actions or decisions in regard to these matters.

10 References

Title	Number
Commonwealth Ombudsman, Better Practice Guide to Complaint Handling	
NSW Ombudsman, Managing Unreasonable Complainant Conduct Practice Manual	

Appendix I – Environment and Sustainability Strategy 2021 - 2026

airservices

2021 - 2026 STRATEGY

ENVIRONMENTAL SUSTAINABILITY STRATEGY

CONTENTS

FOREWORD

MESSAGE FROM OUR CEO

Connecting People with their World Safely.

Aviation generates economic growth, creates jobs, and facilitates international trade and tourism. It is essential in supporting our global social fabric and cohesion – linking family and friends and allowing people to experience other cultures, communities and places. Whilst the impact of the COVID-19 pandemic has had a significant impact on aviation, it will rebound.

Society's expectations in relation to environmental protection are evolving, with the impacts of aircraft emissions, aircraft noise and the industry's reliance on other natural resources, increasingly being called out at both a global, national and community level. In response, our industry is seeking to improve its sustainability, whilst also looking to address significant disruption, which is likely to flow from the exponential increase in Unmanned Aerial Vehicles (e.g. drones).

As Australia's airspace manager, we manage 11% of the world's airspace, delivering both Air Traffic Management (ATM) and Aviation Rescue and Fire Fighting (ARFF) services. As an integral part of Australia's aviation ecosystem, we are in a unique position to facilitate flight paths for airspace users which enable fuel burn reduction and work to minimise the impact of aviation noise on the communities, wherever practical.

Our service delivery is supported by geographically distributed assets, and we are committed to safeguarding the inherent environmental values and ecological systems of the land from which we operate. We recognise that environmental sustainability is a key driver in the future success of our organisation, and will invest to reduce resource consumption and any negative environmental impacts. Enacting the strategy will place our business operations on a trajectory to achieve net zero carbon emissions by 2050. Through the next five years, we will reduce our environmental impact, implement innovative solutions and advance the principles of environmental sustainable development.

Jason Harfield
Chief Executive Officer

AIRSERVICES' ENVIRONMENTAL SUSTAINABILITY STRATEGY 2021-2026

	PARTNER OF THE AVIATION ECOSYSTEM IN ENVIRONMENTAL SUSTAINABILITY		ORGANISATIONAL ENVIRONMENTAL SUSTAINABILITY	
PILLAR	AIRCRAFT EMISSIONS	AIRCRAFT NOISE	ECOLOGICAL SUSTAINABILITY	SUSTAINABLE RESOURCE MANAGEMENT
GOAL	Facilitate aircraft emission reductions within our flight information regions	Minimise the impact of aviation noise on communities, where practicable	Preserve biodiversity health and minimise pollution	Ensure sustainable and resilient operations whilst reducing our environment footprint
PROGRAM OBJECTIVE	Shared Use Airspace Trajectory based operations Route Optimisation	Improved balancing of competing flight path design constraints Expansion of flight path monitoring data Continuous Descent Operations Unmanned Traffic Management: Flight Information Management System	Biodiversity protection prioritisation Waste Protection Measures Environmental Management Plans	Resource Profiling Opportunity discovery Waste process efficiency and reduction Sustainable Procurement Practices Resource efficiency performance enhancement Climate Change Impact Assessments
OUTCOME TARGET	Through improved ATM practices, reduce C02 emissions per flight by an average of 10% by 2030	100% of aircraft complying with Noise Abatement Procedures (NAP) at large metropolitan airports - Preferred Runway Use (PRU) by 2026	Environmental protection measures are implemented at our top 30 sensitive regional sites and top 10 priority airport sites by 2026 Environmental Management Plans are effectively implemented to cover all airports and regional areas by 2026	10% reduction in our total environmental footprint by 2026 Asset transformation to improve resource efficiency and resilience will occur across 20 primary locations by 2030

WHO WE ARE

We provide safe, secure, efficient and environmentally responsible ATM and ARFFS to the aviation industry.

Facilitating the movement of passengers and freight over 11% of the world's surfaces, demands a complex infrastructure network. We have over 700 sites across the Australian continent and extending into the Indian, Southern and Pacific Oceans.

Many of our sites are located in areas recognised for their unique biodiversity and fragile ecosystems with some buildings acknowledged for their heritage values. Our 3000+ employees are situated at over 30 differing geographic locations and, like the wider Australian community, place an increasing scrutiny on their and their employer's impact on the environment.

KEY STATISTICS

4 AIR TRAFFIC CONTROL CENTRES MANAGING 11% OF THE EARTHS AIRSPACE

29 AIR TRAFFIC CONTROL TOWERS

27 AVIATION RESCUE FIRE FIGHTING SERVICE STATIONS

RIGHT: A graphical representation of Australia's airspace.

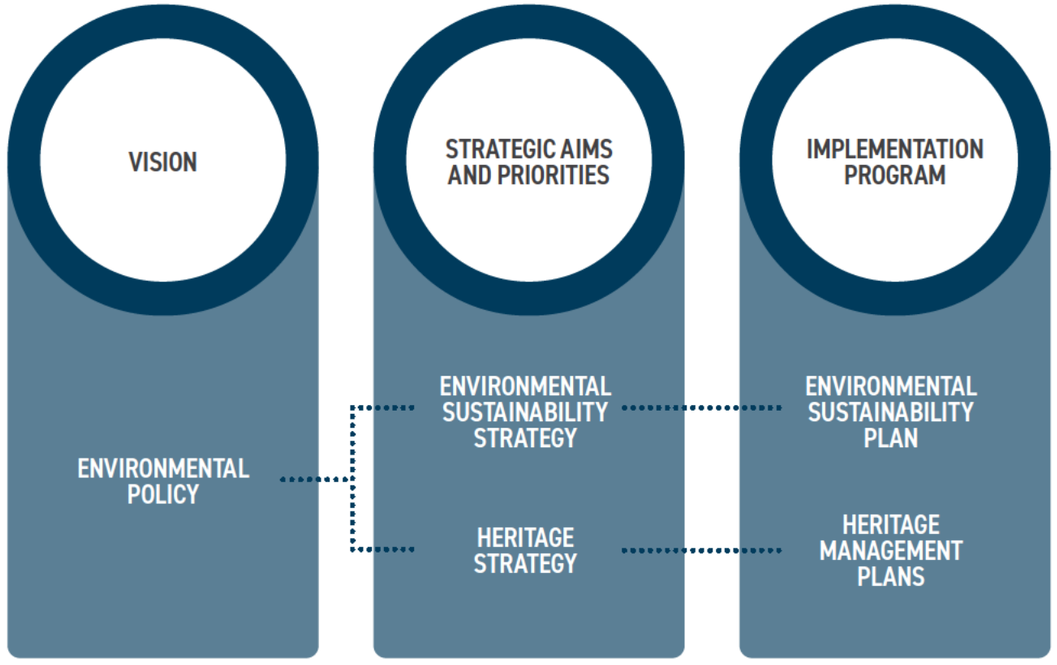
ENVIRONMENTAL CONTEXT

We have various legislated obligations in relation to environmental management. In particular, we are bound by the:

- Air Services Act 1995;
- Environment Protection and Biodiversity Conservation Act 1999;
- Airports (Environment Protection) Regulations 1997; and
- Airports Act 1996.

Our Environmental Policy articulates our ambitions in relation to the environment and its management. Our policy is supported by subordinate environmental strategies, plans and our Environmental Management System. This document presents our strategic aims and priorities in relation to the environmental sustainability of our organisation; and how we intend to assist airspace users reduce their emissions and noise profile within the Australian Flight Information Regions.

We will produce an annual Environmental Sustainability Plan to demonstrate how we are enacting the strategy. The plan will detail program activities and achievements against agreed targets and key performance indicators.



INDUSTRY CONTEXT

Aircraft are now environmentally cleaner and quieter than in previous decades, however aviation is still responsible for both visual and noise pollution along with greenhouse and other gas emissions.

The International Civil Aviation Organisation (ICAO) has two aspirational goals for the international aviation sector, which includes a 2% annual fuel efficiency improvement through 2050 and carbon neutral growth from 2020 onwards. ICAO recognises the role which operational improvements led by Air Navigation Service Providers (ANSPs) will play in driving these goals. Many aviation institutions, including our industry body the Civil Air Navigation Services Organisation, are promoting a 'green led' aviation recovery post COVID-19.

Australia has set a target to reduce emissions by 26-28% below 2005 levels by 2030, and is a signatory to the Paris Agreement. An increasing number of aviation organisations, including our customers, have committed to carbon neutrality by 2050 in efforts to ensure the long-term sustainability of the industry.

From 2020, further runway capacity will be added to address future demand for air travel. A new parallel runway was opened in Brisbane in July 2020, planning for new runways in both Melbourne and Perth has commenced and a new airport being built in western Sydney. Aircraft noise profiles will alter.

Australia has been chosen by a number of companies for commercial trials of both delivery and passenger transport in lower airspace volumes. Increased numbers of aerial vehicles in this airspace segment will expand the amount of people who are potentially exposed to aircraft noise.

Services to aircraft are currently supported by a large and geographically distributed terrestrial infrastructure network. We were an early adopter of space-based surveillance. As technology advances, other core systems could be transitioned to space-based delivery thereby allowing us to reduce our geographic footprint.

OUR GOALS

COLLECTIVE INDUSTRY AND GLOBAL VISION

This strategy is based on the collective vision of an environmentally-sustainable aviation industry and recognition that in order to fulfil our key part in Australia's aviation ecosystem we need to focus on both our own internal operations and service delivery.

Refining, developing and implementing new and innovative practices will not only have environmental benefits, but will lead to better management of risk and produce operational efficiencies.

The United Nations' Sustainable Development Goals (SDGs) exist to drive global action for a more sustainable future. Whilst the SDGs are focused on impacting change on a global scale, this strategy demonstrates how we can contribute to a specific number of key goals:

Ensure availability and sustainable management of water and sanitation for all

Ensure access to affordable, reliable, sustainable and modern energy for all

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Make cities and human settlements inclusive, safe, resilient and sustainable

Ensure sustainable consumption and production patterns

Take urgent action to combat climate change and its impacts

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Protect, restore and promote sustainable use of terrestrial ecosystems

These UN SDG's are translated into our Environmental Sustainability Strategy to ensure we will:

- continually reduce our environmental impact through our processes and sustainability values; and
- facilitate improved environmental outcomes for our customers and those who live in the communities surrounding airports that we service, where practicable.

OUR AMBITION

STRATEGY PILLARS

Our ambitions in relation to environmental sustainability cover four key areas, each with their own goal and key focus areas.

Our strategic vision has two distinct drivers, the first is centred on being a partner to the aviation industry, and the second is our responsibility for our organisation's performance.

	PARTNER OF THE AVIATION ECOSYSTEM IN ENVIRONMENTAL SUSTAINABILITY		ORGANISATIONAL ENVIRONMENTAL SUSTAINABILITY	
PILLAR	AIRCRAFT EMISSIONS	AIRCRAFT NOISE	ECOLOGICAL SUSTAINABILITY	SUSTAINABLE RESOURCE MANAGEMENT
GOAL	Facilitate aircraft emission reductions within our flight information regions	Minimise the impact of aviation noise on communities, where practicable	Preserve biodiversity health and minimise pollution	Ensure sustainable and resilient operations whilst reducing our environment footprint

Each pillar is described below and builds on our existing environmental management programs, which in some cases have been subject to:

- significant refinement in recent years; and
- significant infrastructure investment that are being made in efforts to improve both Air Traffic Management and Aviation Rescue and Fire Fighting service delivery.

A series of high level targets have been established to support the implementation of the strategy. Lower order measures and targets that enable the achievement of the top level outcome will be detailed within our Environmental Sustainability Plan.

STRATEGY PILLAR:

AIRCRAFT EMISSIONS

GOAL	Facilitate aircraft emission reductions within our flight information regions
OUTCOME TARGET	Through improved ATM practices, reduce C02 emissions per flight by an average of 10% by 2030

The contribution of aviation to global emissions is relatively low (circa 2%), but to ensure the long term viability of the industry, growth must be achieved in an environmentally sustainable manner.

Emission reductions in the commercial aviation sector will be primarily driven through aircraft technology advances including the deployment of sustainable aviation fuels and market measures, it is, however, acknowledged that Air Traffic Management must play a role in improving flight efficiency.

Our focus through the life of the strategy will be implementation of the OneSKY program which is supported by the Civil Military Air Traffic Management System (CMATS). The program when fully operational by 2026 will enable reduction of 145,000 tonnes of Carbon Dioxide (CO2) emissions per annum within the Australian Flight Information Regions. These benefits will be delivered through:

Shared Use Airspace: providing greater access for all users to available airspace, better fuel planning, and optimal airspace design to deliver preferred routes and flight levels.

Trajectory based operations: airspace users will be able to plan their arrival using a continuous descent from cruise to touchdown, enabling opportunities to not only save fuel but also decrease noise.

Route Optimisation: enabling airspace users to operate on User Preferred Routes (UPR) and access Dynamic Airborne Reroute Procedures (DARP). Both initiatives will allow aircraft to operate in a manner that aims to reduce fuel burn through using prevailing weather patterns.

As demand for our services return, we will ensure that our previous commitments to deliver programs which aim to optimise fuel burn in a capacity constrained environment are enacted within the Australian Flight Information Regions. These will deliver emission reductions within a 7 year period from commencement, which include:

Long Range Air Traffic Flow Management – Reduction of 48,535 tonnes of CO2 emissions.

Airport Collaborative Decision Making – Reduction of 183,000 tonnes of CO2 emissions.

Implementation of these programs along with other more tactical route and aerodrome optimisation practices will enable a reduction in aviation's CO2 emissions within the Australian Flight Information Regions by an average of 10% per flight by 2030.

STRATEGY PILLAR:

AIRCRAFT NOISE

GOAL	Minimise the impact of aviation noise on communities, where practicable
OUTCOME TARGET	100% of aircraft complying with Noise Abatement Procedures (NAP) at large metropolitan airports - Preferred Runway Use (PRU) by 2026[1]

We need to cater for the changing nature of aircraft operations, air traffic growth, airport expansion and advances in aviation technology, while keeping aviation safety as our first priority.

This requires a careful balance of ensuring safety, operational efficiency and minimising the effects of aviation noise on the community, wherever practicable. These efforts seek to make cities and other built environments more resilient and liveable, and allow us to take meaningful actions to deliver more sustainable services into the future. Responsibility for aircraft noise management is shared between a number of key stakeholders including aircraft operators, airports, government regulatory and planning agencies and the community. We will continue our commitment to accurately measure noise impacts in communities, and provide quick access to accurate information on aircraft movements and associated noise levels.

Noise profiles in cities will change as airports expand their runway capacity and a new airport is built in Western Sydney. The Unmanned Aerial Vehicle sector is growing quickly, and over the coming years our role in Unmanned Traffic Management will evolve in response to these trends. This new service domain provides the opportunity to embed environmental sustainability principles and facilitate protection for all community stakeholders. We are committed to working with all stakeholders to deliver better noise outcomes and achieve best practice in aircraft noise management. Our programs will enable:

Improved balancing of competing flight path design constraints

Over the last few years, we have focused on maturing our approach to community engagement and developing flight path design principles in concert with industry and community stakeholders. These principles allow us to embed a repeatable and transparent "environment by design" approach at the core of planning, development and implementation of new and revised flight paths.

With noise management principles and a revised engagement approach in place, we will measure and monitor our success against an agreed set of indicators and targets, and continually refine and adapt our approach based on the feedback we receive from community and stakeholder groups including the Aircraft Noise Ombudsman.

Expansion of flight path monitoring data

We will implement improved technology to monitor and report on aircraft flight path compliance, and create wider opportunities to reduce noise impacts through critical data gathering and analysis.

Continuous Descent Operations

Our OneSKY program will to allow us to implement Continuous Descent Operations which allow aircraft to minimise thrust on approach to airports. Reductions in thrust deliver better noise and emissions outcomes.

Unmanned Traffic Management: Flight Information Management System

As we seek to support the increased demand for access to lower level airspace, environmental protection will be a key consideration in the development of our approach.

1 Non-compliance due to weather, safety and operational requirements are excluded.

STRATEGY PILLAR:

ECOLOGICAL SUSTAINABILITY

GOAL	Preserve biodiversity health and minimise pollution
OUTCOME TARGET	– Environmental protection measures are installed at our top 30 sensitive regional sites and top 10 priority airport sites by 2026 – Environmental Management Plans are effectively implemented to cover all airports and regional areas by 2026[2]

IMAGE: Arron Downes - Smoky Fire Station at sunset.

Our Environmental Management System helps manage our organisational environmental performance, and achieve continuous improvement to enable sustainable operations. Our approach aims to ensure that our impact is kept to a minimum and that we monitor our impacts.

As an organisation, we are committed to protecting the biodiversity of the sites from which we operate to ensure sustainable management for the future. In the past, we have made all efforts to avoid operational activity in places of environmental significance. However, as safety is our paramount priority, on occasions there have been no practical alternatives to locating aids in National Parks or conservation areas.

A sustainable ecosystem relies on the biodiversity health of our waterways, soils, groundwater, and the animals and plants that occupy those habitats must be safeguarded from harm.

As we perform our services, there is potential for contaminants to enter the ecosystem, including:

- wastewater from fire-fighting operations, training, and vehicle wash-down;
- overland water flow contaminated with general dirt, road grime, various residues of hydrocarbons such as oils and grease; and
- other substances (e.g. foam residue).

We recognise that we must improve current operations to minimise risk of further harm and address the pollution legacy of our past use of fire-fighting agents which included per-and poly-fluoroalkyl substances (PFAS). If not managed appropriately, this legacy contamination can increase risk of potential harm to the environment and human health. We are committed to meeting our statutory obligations and being a good corporate citizen. Our focus will be on impact management of historical PFAS use and involve site characterisation and provision of management plans through building further on existing studies and site assessments.

Advances in technology will provide us with opportunities to review how our services are provided, which may allow us to divest some sites following appropriate rehabilitation. Until these opportunities arise, we need to manage our impacts, and continue to care for our unique Australian natural beauty and diversity of ecosystems.

This would be enabled through these programs:

Biodiversity protection prioritisation
We will enhance the protection of our sites addressing both the biodiversity health impact which come from invasive weeds and pest animals, and potential pollution events from the storage of fuels and chemicals. We will identify priority sites for protection and conservation due to their environmental sensitivity, documenting action plans and implementing measures.

Waste protection measures
As acknowledged above, some of our historic and current practices may increase the potential for contaminants to be released into the ecosystem. We will implement asset modifications and other treatment options to mitigate impacts, and manage contamination risks to acceptable levels.

Environmental Management Plans[2]
We will extend the reach of our current Environmental Management Plans and assure they are effectively implemented at all airports and regional areas. Our collective efforts to manage environmental risks and impacts from our activities will be described within these plans, including clear commitments to protect the environment from pollution and waste mis-management practices that could affect the surrounding environment.

2 Includes; Operational Environmental Management Plans / PFAS Management Plans / Trade Waste Management Plans / Regional Environmental Management Plans.

STRATEGY PILLAR:

SUSTAINABLE RESOURCE MANAGEMENT

GOAL	Ensure sustainable and resilient operations whilst reducing our environmental footprint
OUTCOME TARGET	– 10% reduction in our total environmental footprint by 2026 – Asset transformation to improve resource efficiency and resilience will occur across 20 primary locations by 2030

The principles for sustainable resource management embrace the promotion of conservation and the sustainable use of Australia's natural resources for future generations. By adhering to these principles, we will build resilience into our infrastructure, by addressing factors which include the impacts of climate change, and deliver sustainable operations.

Our current operations directly contribute greenhouse gas emissions in the region of 40 kilotonnes[3] of CO_2e per annum. Over the life of the strategy, we will ensure that our environmental footprint is reduced in a manner that is both good for the environment and makes fiscal sense.

Our focus will be on efficient management of energy, water, land, materials, and waste. Efficiency may be measured through the reduction in the consumption of natural resources and increased use of renewable resources, which is delivered through improved equipment, infrastructure, alternative technology, change in behaviours and improved processes.

By the end of 2023, we will have developed a roadmap to drive Airservices' business operations to achieve **net zero carbon emissions by 2050**, thereby demonstrating our support to the government's commitment to the Paris agreement.

AIRSERVICES BUSINESS OPERATIONS: TRAJECTORY FOR NET ZERO CARBON EMISSIONS BY 2050

	TARGET 2035 (MID POINT)	ASPIRATION 2050
CARBON EMISSIONS	20,000K PER ANNUM	CARBON NEUTRAL
PRODUCTION OF RENEWABLE ENERGY (% OF ANNUAL CONSUMPTION)	40%	70%

3 Total of Airservices emissions reported for 2019-20 under Australia's National Greenhouse and Energy Reporting Scheme.

To achieve our strategy outcome targets and as a stepping stone to our 2050 strategic aim, we will drive:

1 Reductions in Environmental Footprint

These reductions will be supported by:

Resource Profiling

To gain an understanding of our footprint, we currently undertake National Greenhouse and Energy Reporting (NGER) focused on electricity and fuel consumption. We will extend our benchmarking and baselining delivering a comprehensive and complete view of resource consumption practices across the full suite of energy, water, land, materials, and waste.

Opportunity discovery

We will determine resources and sites that can deliver the greatest efficiency impacts by applying results from the resource profiling program. This will establish locations best placed for asset transformation, facility and site improvement and increased production of renewable energy. We will also examine emerging technologies and trends in sustainable procurement and supply chain assessment (e.g. electric vehicles) in our efforts to reduce our footprint.

Waste process efficiency and reduction

A streamlined approach to our waste management (e.g. solids, industrial, wastewater) will be enacted. We will also increase our data analysis in efforts to determine reduction opportunities and allow greater flexibility for recycling and reuse.

Sustainable Procurement Practices

Our supply chains will be examined to view the impact of our business from the widest vantage point and we will embed sustainable procurement processes to support this critical aspect of our approach.

Resource efficiency performance enhancement

We will formalise resource efficiency requirements within our Environment Management Systems and other business processes which oversight asset and facility management.

2 Manage the effects of Climate Change

This will be supported by:

Climate Change Impact Assessments

The global climate is changing, and will continue to change, in ways that have the potential to affect the planning and day to day operations of our services and business. The manifestations of climate change include higher temperatures, altered rainfall patterns, and more frequent or intense extreme events such as heatwaves, drought, floods and storms. Our assets will need to be adaptable to climate, and as a consequence we will explore risk profiles that may affect our operations and work to improve resilience of our infrastructure.

The programs and initiatives which will be delivered over the next five years will seek to improve our resilience against climate change, lessen our environmental footprint, scope our transformation to full environmental sustainability and drive changes in the business practices within our supply chain. We will leverage the interest and commitment which our staff have to the environment and embed a culture of environmental efficiency. This will support the delivery of at least a 10% reduction in our environmental footprint within the strategy period, predominantly by improved waste management and a reduction in the total equivalent carbon emissions (CO2e)4 from our operational activities.

4 A standard unit for measuring carbon footprints which have the equivalent global warming impact. Emissions will be calculated from scopes 1, 2, and 3 emissions and can be balanced by purchasing offsets.

CHALLENGES AND BENEFITS

Implementation of our aspirations for the environment are not without their challenges, but we believe that the benefits of the work justify the effort involved.

CHALLENGES

- Design and delivery of engineering and technological controls
- Operational adaptability in changing process
- Implementation of culture change

BENEFITS

- Meet societal expectations for environmental performance and sustainability
- Enhance our reputation as a world leader within the aviation industry
- Align with key customer environmental targets and aviation forum groups
- Achieve full support for our social license to operate

ENACTING OUR STRATEGY

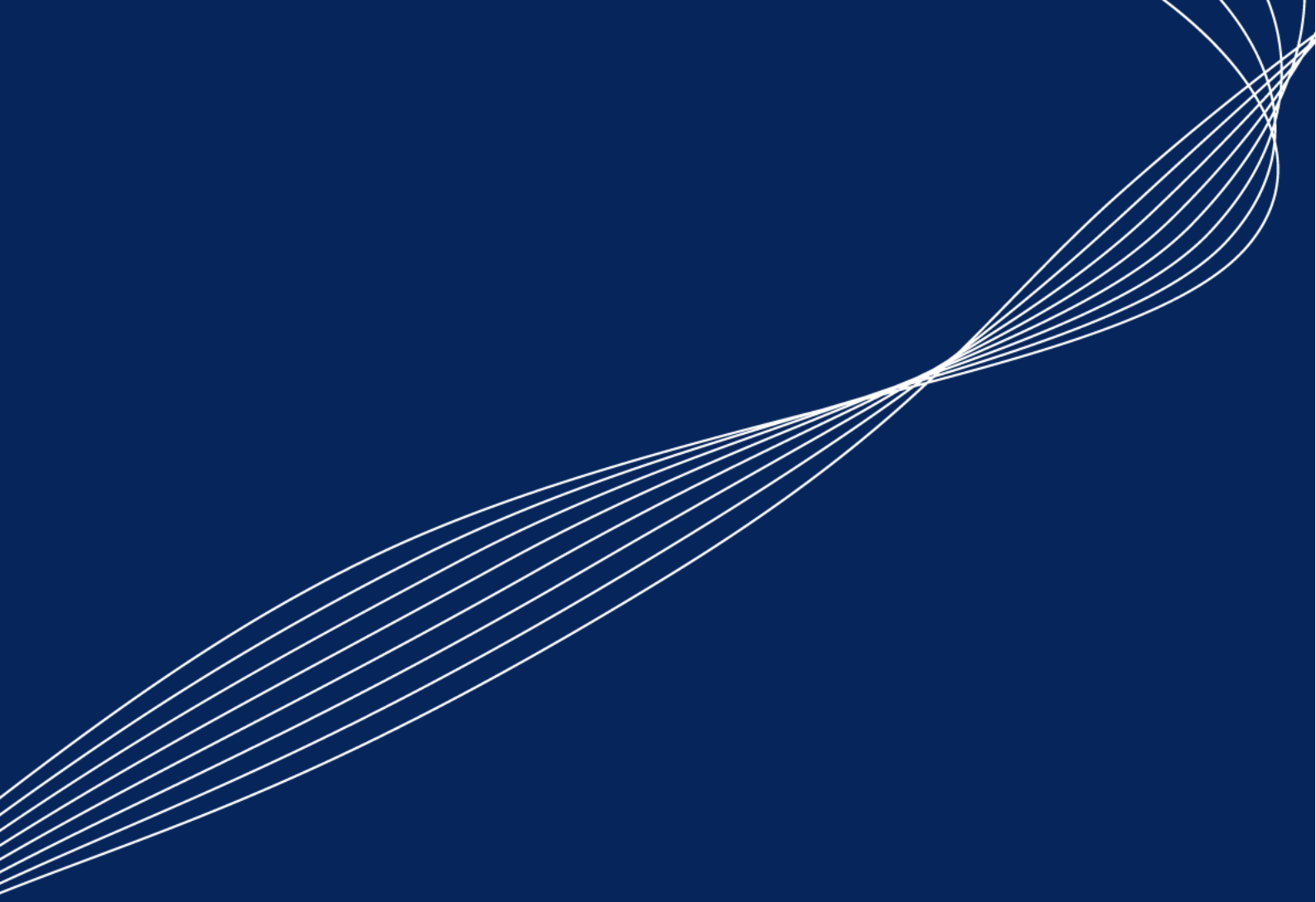
Our strategy details how commitments within our Environmental Policy will be achieved through aligned goals, objectives and targets. Progress will be overseen by the organisation's Executive and Board to ensure we are achieving the intended outcomes.

Governance mechanisms will be established to oversee implementation of the strategy across all pillars and the entire value chain within Airservices.

The annual Environmental Sustainability Plan will have clear measures for success to ensure traceability with pillar goals and objectives. Periodic reviews will be conducted to identify improvements in effective implementation, and validate progress and achievement of targets.

Most importantly, the success of this strategy is dependent on the commitment and advocacy of our people who will be charged with developing, implementing, operating and continually improving the programs of work that underpin the commitments made within the strategy, which will be embedded into our culture.

IMAGE: Tony Withers - Bushfires



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