

# Environmental Management of Changes to Aircraft Operations

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## Change summary

Version	Date	Change Description	Amended by
11	1 February 2018	Updates to process elements to clarify accountabilities, outcomes and requirements. Addition of new Appendix B detailing guidance on EPBC Act significance criteria.	s47F

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## 1 Purpose

The purpose of this National Operating Standard (NOS) is to prescribe the requirements for environmental impact assessment (EIA) and stakeholder planning and engagement (including reputation management) that must be met by Airservices, prior to the implementation of changes to aircraft operations.

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

Note: other commitments may apply to environmental change management, for example as described in "Airservices Commitment to Aircraft Noise Management" (2013) and 'Airservices Communication and Consultation Protocol' (2016), both available on Airservices' website.

## 2 Scope

This Standard applies to all Airservices 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 changes:

- 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 operation – 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.

### 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 Executive General Manager (EGM) Air Navigation Services (ANS), to assess the potential application of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act); 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

The main objectives of environmental change management for aircraft operations are to:

1. Meet Airservices' legislative obligations to:

- a. minimise significant environmental impacts resulting from any Airservices action, and ensure appropriate environmental assessments are undertaken, as required under 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 Ministerial Directions relating to aircraft noise management;
2. Minimise Airservices business risks by maintaining effective stakeholder 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 Airservices ISO:14001 aligned EMS - as described in AA-NOS-ENV-0001);
  4. Assist in achieving organisational environmental, sustainability and community management commitments (as described in Airservices Environmental Policy C-POL0030);
  5. Assist in achieving efficiency outcomes for Airservices customers, through improved flight paths and associated reductions in fuel costs and emissions.

## **4 Principles and mandatory requirements**

### **4.1 Iterative process and collaborative approach**

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

These management elements shall be conducted collaboratively and concurrently by relevant accountable/responsible parties throughout the change lifecycle.

### **4.2 All proposals**

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

1. Be assessed for environmental impact prior to implementation;
2. Undergo stakeholder engagement planning and stakeholder consultation prior to implementation where potential community or environmental impacts are identified;
3. Be reassessed prior to implementation, if the proposal has already been impact assessed in accordance with this NOS and:
  - a. has subsequently been modified or;
  - b. over 18 months has elapsed since the initial assessment process;
4. Be undertaken in accordance with this National Operating Standard (NOS) and subordinate procedures;
5. Seek to achieve a noise outcome which balances the needs of the community and aviation industry stakeholders.

### 4.3 Information system

CIRRIS is Airservices information system which must be used to record case workflows and due diligence activities associated with a change proposal.

The Environmental Systems and Assurance Manager is accountable to ensure that CIRRIS accurately codifies the screening and assessment criteria and logic described at Appendix A of this standard.

If CIRRIS is unavailable, change proposals shall be documented in a manner which conforms to the criteria and process steps outlined in this standard.

### 4.4 Proposals with potential 'significant impact'

Any proposal that results in an EPBC Act assessment finding of potential '**significant impact**', shall be referred, by the EGM ANS, to the Commonwealth Environment Portfolio Minister (the Environment Minister) for advice, (unless the Accountable ANS Manager decides not to proceed with the proposal).

Once advice is received from the Environment Minister:

- the Environment Minister's advice shall be considered by the CEO; and
- 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, in accordance with the EPBC Act.

Refer to Section 6.3 for further information regarding EPBC Act referral assessment requirements.

### 4.5 Procedures

Airservices business groups with accountabilities for planning and implementing changes to aircraft operations (as indicated in this NOS) shall develop procedures that describe:

- The internal business processes required to enact the requirements of this Standard (including interactions with other business groups and external stakeholders);
- The relevant methodologies for undertaking the environmental assessments described in this standard;
- The relevant methodologies for planning, undertaking and documenting stakeholder engagement and community consultation.

## 5 Accountabilities

### 5.1 Overall change implementation

The ANS Group holds ultimate accountability for ensuring that no change proposal is implemented without appropriate environmental impact assessment and stakeholder management in accordance with this NOS.

In practice this means:

- Project managing the change process to ensure that all assessment and management elements are completed and endorsed by relevant managers;

- Accepting or rejecting risk assessments (environmental and reputational) in CIRRIIS, produced during the environmental change management process (in accordance with Airservices Risk Management Standard AA-NOS-RISK-0001);
- Authorising implementation of the change once all environmental change management requirements (as described in this NOS and any change specific plans) have been met;
- The Accountable ANS Manager is the clear point of accountability for the overall success of a change. The Accountable ANS Manager is either:
  - The Northern or Southern Operations Manager; or
  - The EGM ANS (if the proposed change represents a class B risk for environmental or reputational consequences<sup>1</sup>).

## 5.2 Assessment and management elements

Key elements and roles in the change management process are described in Table 1 below, and described in detail in Sections 6 and 7.

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<sup>1</sup> To enable this, ANS shall maintain risk assessments (the “Ongoing Airport Noise Management Risk Assessment”) to manage ongoing risks associated with noise management at specific Airports in addition to assessing the risk of change.

**Table 1: Key stakeholders and their role in the Environmental Change Management Process**

Change Process Element	Outcome / Deliverable	Accountable ANS Manager <sup>2</sup>	ANS Noise and Community Engagement Manager	Change Proposer	ANS Operational Standards – Flight Path Design Manager	ANS Operational Standards – Environment and Noise Team Leader	Community Groups	Environment Minister
Initial Environmental Screening	Decision regarding further environmental change management requirements; Environmental Change Record created in CIRRS (MOC module)	A	C	R	C	I		
Targeted Environmental Impact Assessment	A completed assessment of environmental impacts, and determination of 'potential significant impact'.	A	C	C	C	R		
	Environmental Change Risk Assessment <sup>3</sup> created in CIRRS (Risk module) and linked to existing Environmental Change Record (in MOC module)	A	C	C	C	R		
Stakeholder Planning	Assessment of community/reputational impact Commencement of Stakeholder	A	R	C	C	C		

<sup>2</sup> Accountable ANS Manager is defined as either Northern or Southern Operations Manager, or EGM ANS for class B risks defined in the Ongoing Airport Noise Management Risk Assessments

<sup>3</sup> The Environmental Change Risk Assessment will be eventually updated (through the Stakeholder Planning and Engagement stage) to include stakeholder and reputational consequences



Change Process Element	Outcome / Deliverable	Accountable ANS Manager <sup>2</sup>	ANS Noise and Community Engagement Manager	Change Proposer	ANS Operational Standards – Flight Path Design Manager	ANS Operational Standards – Environment and Noise Team Leader	Community Groups	Environment Minister
	Engagement Plan (SEP) development							
	Environmental Change Risk Assessment updated <sup>4</sup> in CIRRIS (in Risk module), linked to the existing Environmental Change Record (in MOC module)	A	R	C	C	C		
Review and Endorsement of assessment elements and SEP	Acceptance/rejection of Environmental Change Risk Assessment (resulting from above products) recorded in CIRRIS	A R	I	I	I	I		
Referral and Assessment advice under the EPBC Act (if triggered)	Referral to the Environment Minister and management of approval process	A R	C	C	C	C	I	C
Stakeholder Engagement	Implementation of Stakeholder Engagement Plan (SEP)	A	R	C	C	C	I	

<sup>4</sup> The updates will address community, stakeholder and reputational consequences for consideration in concert with environmental impact consequences in the one risk assessment.

Change Process Element	Outcome / Deliverable	Accountable ANS Manager <sup>2</sup>	ANS Noise and Community Engagement Manager	Change Proposer	ANS Operational Standards – Flight Path Design Manager	ANS Operational Standards – Environment and Noise Team Leader	Community Groups	Environment Minister
	Environmental Change Risk Assessment updated in CIRRIIS (as required following community consultation)	A	R	C	C	C		
Change Implementation	Initiated change to flight operations once all change requirements are met and Environmental Change Risk Assessment is accepted in CIRRIIS	A R	C	C	C	C	I	
Post Implementation Review (PIR)	A completed PIR which assesses and draws conclusions regarding the effectiveness of the change implementation	A R	C	C	C	C		
	Closure of Environmental Change Risk and updates made to ongoing ANS operational risks as required	A R	C	C	C	C		

**RACI Matrix –Key:**

**Responsible (R)** Those who do the work to achieve the task. Others can be delegated to assist in the work.

**Accountable (A)** The one ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. In other words, an accountable party must sign off (approve) work that responsible parties provide. There must be only one accountable party specified for each task or deliverable.

**Consulted (C)** Those whose opinions are sought, typically subject matter experts; and with whom there is two-way communication.

**Informed (I)** Those who are kept up-to-date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.

## 6 Environment Impact Assessment

Environmental Impact Assessment (EIA) potentially includes three main stages, as follows:

Stage 1: Initial Environmental Screening

Stage 2: Targeted Environmental Impact Assessment (EIA)

Stage 3: Referral and formal assessment under the EPBC Act.

Stakeholder Planning and Engagement is described in Section 7.

Initial environmental screening (Stage 1) must be undertaken for all proposed changes. However, the requirements for further environmental assessment (Stage 2 and 3) will be dependent on the outcomes of the preceding assessment stage.

The above stages are further explained below.

### 6.1 Initial Environmental Screening

#### 6.1.1 Purpose

Initial Environmental Screening enables proposals which, by the nature of the proposed change, are highly unlikely to result in any environmental or community impact and can therefore be progressed without further detailed assessments.

#### 6.1.2 Intent

The environmental screening enables the Change Proposer to self-assess proposals against potential environmental impacts at a high level using defined criteria (included in Appendix A).

**Note:** The Accountable ANS Manager may at any time require a Targeted EIA regardless of the result of the Initial Environmental Screening.

#### 6.1.3 Outcomes to be achieved

1. Completed initial environmental screening checklist (Appendix A);
2. A decision regarding whether the change can be implemented, or if further environmental change management is required.

#### 6.1.4 Requirements

1. Initial environmental screening must be undertaken using the CIRRIIS Management of Change module, which incorporates Airservices Screening Criteria (included in Appendix A) to create a unique Environmental Change Record in CIRRIIS for the change;
2. Any proposed changes originating from outside the Accountable ANS Manager's team must be sent to the Accountable ANS Manager for initial screening approval;
3. The final decision of screening can only be approved by the Accountable ANS Manager<sup>5</sup>;

<sup>5</sup> The Accountable ANS Manager for changes with a risk assessment of class B is the EGM ANS.

4. The screening outcome must be recorded in the National Request for Change (NRF) system

## 6.2 Targeted Environmental Impact Assessment

### 6.2.1 Purpose

A Targeted EIA shall be conducted where the initial environmental screening indicates further assessment is required (refer to initial screening criteria at Appendix A).

### 6.2.2 Intent

The Targeted EIA is required to:

- Identify and assess potential impacts to the environment (including noise, emissions, impacts to humans and wildlife, and cultural heritage values);
- Inform the Accountable ANS Manager about potential environmental risk associated with proposed flight path changes, as a basis for decision making;
- Meet legal, industry standard, and other impact assessment requirements as described in:
  - Legislation, including the EPBC Act, *Airservices Act 1995*, and associated Ministerial Directions;
  - Requirements as specified under ISO14001:2015 – Environmental Management System Requirements.

### 6.2.3 Outcomes to be achieved

1. A report provided to the Accountable ANS Manager which assesses all potential environmental impacts of the Proposal (including a determination of whether potential significant impact is triggered under the EPBC Act through consideration of the 'EPBC Act Referral Criteria' in Appendix B');
2. If required, initiation of an EPBC Act referral process;
3. The creation and management of an Environmental Change Risk Assessment entry in CIRRIIS<sup>6</sup> which:
  - a. Describes the likely environmental impacts and consequences of the change;
  - b. Is linked to the Environmental Change Record in CIRRIIS (created through the Initial Environmental Screening in the MOC module);

### 6.2.4 Requirements

1. The assessment report shall be signed and endorsed by the Noise and Environment Team Leader;
2. The Targeted EIA shall:
  - a. Be based on accepted industry practices and environmental assessment methodologies;

<sup>6</sup> Note: Both environmental and reputational consequences can be recorded in the same risk record in CIRRIIS. Stakeholder and reputational consequences will be added to this risk assessment through the subsequent Stakeholder Planning and Engagement stages.

- b. Include an assessment of impacts<sup>7</sup> to applicable environment values, as described under the EPBC Act (including noise, air quality and impacts to biodiversity values);
- c. Include a benefits assessment for the change (including fuel and aircraft emissions reductions);
- d. Include an assessment of the environmental impacts of future traffic growth associated with the proposed change;
- e. Include a risk assessment (the 'Environmental Change Risk Assessment') which considers all environmental impacts (not just EPBC significance) in accordance with Airservices Risk standard AA-NOS-RISK-0001, and Environmental Risk Management Procedure AA-PROC-0004. Other potential business risk impacts shall be addressed during remaining steps of the change process;
- f. Have a level of rigor and detail which is informed by:
  - i. The particular identified environmental values, sensitivities and communities potentially affected by the proposed change;  
 Note: In addition to assessing potential impacts on residential communities, particular attention shall be given to assessing potential impacts on newly overflowed rural-residential communities.
  - ii. Feedback from the ANS Noise and Community Engagement unit regarding their information needs to support effective stakeholder planning and engagement (e.g. key impacts/issues of concern to the particular community affected by the change which should be addressed in the environmental assessment);
  - iii. the Environmental Change Risk Assessment.
- g. Include an assessment relating to 'significant impact' as defined under the EPBC Act;
- h. Be quantitative and objective;
- i. Be clearly documented in a report and document controlled (using prescribed templates);
- j. Provide an appropriate trail of evidence for assurance and auditing purposes;
- k. Provide sufficient information and analysis to allow stakeholder planning and engagement to occur;
- l. Include clear conclusions regarding:
  - i. the potential for environmental impact on key values described in the EPBC Act (particularly community noise impacts).  
 Conclusions shall be supported by cited literature where relevant;

<sup>7</sup> In Accordance with the Australian Government Significant Impact Guidelines 1.2 (EPBC Act 1999), 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...'

- ii. whether the change constitutes potential significant impact according to the EPBC Act.
  - m. Include recommendations to address identified potential significant impacts (i.e. lodge an EPBC referral to the Environment Minister, or redesign the proposed change).
4. The Targeted EIA report shall be attached to the Environmental Change Record in CIRRIIS (which is linked to the Environmental Change Risk Assessment);
  5. Assessments shall be subject to a robust critical review process, within ANS Operational Standards, prior to finalisation;
  6. Assessments that are part of an EPBC referral and approval process shall be considered for external peer review by appropriately qualified experts prior to finalisation.

## **6.3 EPBC referral and assessment under the EPBC Act**

### **6.3.1 Purpose**

The purpose of this stage is to seek advice (through a referral) from the Environment Minister regarding whether a Proposal constitutes 'significant impact' under the EPBC Act, and if so, to have the Proposal formally assessed by the Environment Minister.

### **6.3.2 Intent**

Referrals are required for all Proposals:

- which have met the criteria for potential significant impact (as per Airservices EPBC Act Referral Criteria, Appendix B) in the Targeted EIA, and
- where the Accountable ANS Manager has decided to proceed with the Proposal as planned.

A decision can be made by the Accountable ANS Manager to refer a change proposal for assessment under the EPBC Act regardless of the results of the Targeted EIA process, if:

- It is deemed to present a high risk of community or environmental impact through Stakeholder Planning and Engagement (Refer to Section 7); or
- A business decision has been made to refer the proposal to reduce uncertainty regarding potential impacts.

### **6.3.3 Outcomes to be achieved**

1. A request for advice (i.e. an EPBC Act referral) sent to the Minister by the Accountable ANS Manager, regarding whether or not the Proposal is likely to result in significant impact.
2. Advice and/or a decision from the Environment Minister regarding whether the Proposal constitutes significant impact and any further assessments or actions required under the EPBC Act (following referral of any Proposal to the Minister for assessment).
3. If the Proposal is deemed by the Environment Minister (following referral) as likely to have a significant impact (i.e. constitutes a 'controlled action'):

- a. An environmental assessment report (in whichever form specified) sent to the Environment Minister, for formal assessment under the EPBC Act;
  - b. A decision from the Minister, following review of the environmental assessment report, regarding whether to approve the action, and what conditions (if any) to impose.
4. Appropriate recording of assessment outcomes (including decisions and approval conditions) in CIRRIIS.

#### 6.3.4 Requirements

1. EPBC Act referrals shall be prepared and managed in accordance with legislated mechanisms and timeframes, as described in the EPBC Act<sup>8</sup>;
2. EPBC assessment outcomes shall be captured in CIRRIIS through:
  - a. An updated Environmental Change Risk Assessment;
  - b. Approval commitments (as described in the referral) or conditions set by the Minister, recorded in the CIRRIIS Permit/Licence Management module.

## 7 Stakeholder Planning and Engagement

### 7.1 Purpose

The purpose of the Stakeholder Planning and Engagement stages are to:

1. Assess potential social impacts to the community and Airservices reputation, as a result of change proposals that could potentially result in community noise exposure and/or environmental harm;
2. Guide preparation of the Stakeholder Engagement Plan (SEP), which sets the requirements for informing and seeking feedback from the community regarding change proposals.

### 7.2 Outcomes to be achieved

SEP Development

1. Guidance provided to ANS Noise and Environment Team regarding the required level and focus areas of the Targeted EIA (based on community and reputational considerations);
2. A SEP provided to the Accountable ANS Manager, which describes the way in which the change should be communicated to stakeholders;
3. An updated Environmental Change Risk Assessment (reflecting community and reputational consequences/risks) recorded in CIRRIIS;

SEP Implementation

4. Implementation of the SEP in relation to relevant stakeholders (including relevant Airport Community Aviation Consultation Groups (CACGs) , politicians, media and other organisations and community groups as required);

<sup>8</sup> For further information refer to Australian Government Significant Impact Guidelines 1.2 (EPBC Act 1999).

## Informed Decision

5. A decision by the Accountable ANS Manager regarding whether or not to proceed with implementing the Proposal or whether further consideration is required.

## 7.3 Requirements

### SEP Development and Implementation

1. The SEP shall be signed and endorsed by the ANS Noise and Community Engagement Manager;
2. The SEP shall be attached to the Environmental Change Risk in CIRRIIS as a key control;
3. Development of the SEP shall be iterative, in collaboration with the Targeted EIA described in Section 6.2;
4. The SEP shall reflect the findings of the Targeted EIA and any other considerations (e.g. reputational risks) relating to impacts to the community;
5. The SEP will vary in each case (targeted to the particular change) but, as a minimum shall include:
  - a. Information provided and/or a presentation to relevant community groups and bodies (e.g. CACGs) where the proposed change is communicated;
  - b. Details of community consultation being undertaken published on the Airservices website;
  - c. Participation in other activities required by other SEPs, where necessary;
  - d. A request for comments on the intended change to be provided by a specified date (where community feedback is sought).
6. The CIRRIIS Environmental Change Risk Assessment (created through the Targeted EIA) shall be:
  - a. updated in CIRRIIS to describe community and reputational consequences/risks from the change<sup>9</sup>;
  - b. linked to the Environmental Change Record in CIRRIIS;
  - c. Ultimately accepted or rejected by the Accountable ANS Manager prior to SEP Implementation in CIRRIIS.
7. Community consultation under the SEP shall:
  - a. Be targeted to all areas potentially affected by the change;
  - b. Provide justification for the change, explicitly describing how any potentially negative impacts are balanced by benefits, and on what basis the chosen approach is optimal compared to viable alternatives;
  - c. Describe timeframes for implementation, specific proposed flight paths, and likely noise levels and associated impacts;

<sup>9</sup> Note: Inclusion of environmental, community, stakeholder and reputational consequences in the one risk assessment, enables consideration of these factors in concert to derive a single overall risk for the change (the Environmental Change Risk Assessment).



- d. Consider the social, economic and cultural context of the communities being consulted to ensure genuine engagement and accessibility of information.
8. The community shall receive all relevant information relating to a change proposal within a reasonable timeframe, to provide them with the opportunity to effectively give feedback prior to implementation.

## 8 Post Implementation Reviews

### 8.1 Purpose

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

1. Verify assumptions made about potential environmental impacts and risk consequences, and the effectiveness of the change management process;
2. Inform future changes and improve the overall change management process;
3. Update ongoing operational environmental risks as required.

### 8.2 Outcomes to be achieved

1. The organisation can demonstrate that benefits have been realised and risks have been managed;
2. Improvements are made to the environmental change management process, as required;
3. Closure of the Environmental Change Risk Assessment and updates made to ongoing ANS risks as required (including the Ongoing Airport Noise Management Risk Assessment).

### 8.3 Requirements

1. The scope of a PIR shall be determined by the Accountable ANS Manager (as per 8.1, above);
2. A PIR, as a minimum, shall include a review of ANS operational environmental risks associated with flight path management;
3. The scope, scale and approach for the PIR shall be determined by the Accountable ANS Manager, but may:
  - a. Draw conclusions regarding whether the actual change outcomes aligned with the Targeted EIA and SEP;
  - b. Highlight any ongoing actions required;
  - c. Identify any required improvements/changes to associated environmental management processes, documentation and risks.

**Note** that the above requirements can be incorporated into any other applicable ANS change process reviews as required, rather than developing a stand-alone EIA and/or SEP PIR.

## 9 Skills, qualifications, and awareness

Managers with accountabilities described in this National Operating Standard shall:

- Ensure that all staff involved in environmental management of proposed changes have the necessary skills, qualifications and/or awareness to effectively perform their role;
- Implement training and/or education and awareness programs to build required capabilities and experience, as required.

## 10 Assurance assessments

Parties with accountabilities described in this NOS shall conduct periodic assurance assessments to confirm that associated requirements and obligations are being met.

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

## 11 Documentation and recording

All environmental assessments and records of stakeholder engagement shall:

1. Be maintained on record in accordance with Airservices records management standards;
2. Be attached in CIRRIIS (in either the Environmental Change Record or Environmental Change Risk Assessment, depending on the relevant process requirements in the NOS);
3. Have key actions recorded in CIRRIIS.

## 12 Definitions and acronyms

Within this document, the following definitions apply:

Term	Definition
Accountable ANS Manager	The clear point of accountability for the overall success of a change. The Accountable ANS Manager is either: <ul style="list-style-type: none"> <li>• the Airservices Northern or Southern Operations Manager; or</li> <li>• the Airservices EGM ANS (if the proposed change represents a class B risk).</li> </ul>
ANS	Airservices Air Navigation Services Group
ATM	Air Traffic Management
ATC	Air Traffic Control
ATS	Air Traffic Service
CASA	Civil Aviation Safety Authority
EGM	Executive General Manager
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 <sub>2</sub> ), as well as nitrogen oxides (NO <sub>x</sub> ), 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.
CIRRIS	Airservices 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 NOS: <ol style="list-style-type: none"> <li>1. Management of Change (MOC)</li> <li>2. Risk</li> <li>3. Permit/licence Management</li> </ol>
Change Proposer	The Airservices worker who is entering the change proposal into CIRRIS
EIA	Environmental Impact Assessment.
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 Initial Environmental Screening stage of the environmental change management process. The Environmental Change Record is updated throughout the change lifecycle.
Environmental Change Risk Assessment	A unique assessment of the environmental risk of the proposed change, recorded in CIRRIS, which includes environmental, social and reputational consequences/considerations, and is updated iteratively

Term	Definition
	throughout the change management process. The risk is transitional and closed at the conclusion of the change process.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> – 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	Where advice is sought 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 Uses	Noise sensitive uses are residential, education establishments, offices, hospitals, aged care, 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
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.
Proposal	<p>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:</p> <ul style="list-style-type: none"> <li>• A new, or amendment to an existing, instrument approach</li> <li>• A new, or amendment to an existing, flight path or air route</li> <li>• Re-classification of airspace</li> <li>• Change to preferred runways</li> <li>• 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)</li> <li>• A change that allows use of a flight path/airspace by a different type or number of aircraft</li> </ul> <p><b>Note:</b> A tactical decision of an air traffic controller to alter the track of an individual aircraft does not constitute a proposal.</p>
NRFC	National Request for Change registers, which are managed by the Business Units.
SEP	Stakeholder Engagement Plan – Sets Airservices requirements for informing and seeking feedback from the community regarding change proposals.
Significant Environmental Impact	A proposal determined to have significant impact in accordance with the Commonwealth EPBC Act 1999.

## 13 References/related documents

### 13.1 Internal documentation

- Airservices Environment Policy: C-POL0030
- Airservices Risk Management Standard: AA-NOS-RISK-0001
- Airservices Environmental Risk Management Procedure: ENV-PROC-0004
- Airservices Environmental Management System Objectives and Requirements – AA-NOS-ENV-0001
- Airservices Communication and Consultation Protocol - [http://www.airservicesaustralia.com/wp-content/uploads/Communication-and-Consultation-Protocol\\_WEB.pdf](http://www.airservicesaustralia.com/wp-content/uploads/Communication-and-Consultation-Protocol_WEB.pdf)

### 13.2 External documentation

- 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 Airservices Initial ANS Screening Criteria

**Note:** All vertical measurements are Above Ground Level (AGL)

### Context

- The initial screening of proposed changes to aircraft operations by Airservices is undertaken to identify those proposals which do not require further Targeted Environment Impact Assessment (EIA). In keeping with Airservices' risk appetite in the environmental sphere, the criteria aim to ensure only those proposed changes with very low risk (eg. the change occurs at high altitude, over water or over non-residential areas) are not subject to detailed environmental assessment.
- The criteria (shown in Table 1) were developed by Airservices acoustics engineers and aviation environmental scientists, and have been enacted for over a decade. Application of the criteria over this extended timeframe has validated and verified their appropriateness for driving the required level of environmental assessment for proposed changes to aircraft operations by Airservices.

**Table 1: Airspace change screening criteria**

Stage	Action	Criteria	Result
A	1) Change to aircraft operations	A change to an air route that is entirely: <ul style="list-style-type: none"> <li>Above 20,000 ft, or</li> <li>Over water and &gt; 5 nm from land, or</li> <li>Over non-residential areas and above 2,000 ft</li> </ul>	True to any – go to C False or Unknown to all – go to B and C
B	1) New air route, approach or departure procedure	Entirely new, and not a change to anything pre – existing	True or False or Unknown
	2) Lateral change to <ul style="list-style-type: none"> <li>an approach;</li> <li>a departure procedure, or</li> <li>an air route</li> </ul>	At an airport with an air traffic control tower <ul style="list-style-type: none"> <li>any change below 3,000 ft</li> </ul>	True or False or Unknown
		<ul style="list-style-type: none"> <li>&gt;100m at below 1,000 ft</li> <li>&gt; 200m at 1,000 ft to below 2,000 ft</li> <li>&gt; 300m at 2,000 ft to below 3,000 ft</li> <li>&gt; 600m at 3,000 ft to below 6,000 ft</li> <li>&gt; 2,000m at 6,000 - 20,000 ft</li> </ul>	True or False or Unknown
	3) Change resulting in a decrease in altitude	Decrease > 100 ft at: <ul style="list-style-type: none"> <li>Below 10,000 ft – jets</li> <li>Below 6,000 ft – non-jets</li> </ul>	True or False or Unknown
4) Change directly allowing an increase in movements	Increase > 5 movements per day at: <ul style="list-style-type: none"> <li>Below 10,000 ft - jets</li> <li>Below 6,000 ft – non-jets</li> </ul>	True or False or Unknown	

	5) Change in hours of operation	A change directly allowing a departure or arrival time within the hours between 10pm – 7am	True or False or Unknown
	6) Change in aircraft type	A change directly allowing a different type or category of aircraft to use a given route	True or False or Unknown
C	7) Change in distance flown	Increase > 100 nm	True or False or Unknown

### Applying the initial screening criteria:

1. Screening criteria may only be applied by people who have undergone appropriate training in the use of, and basis for, the criteria.
2. For the purposes of initial screening, residential areas are identified through analysis of aerial photographs and/or satellite imagery for residences or communities underneath or close to the flightpath. If uncertain, this should be marked as 'unknown' or Airservices Noise and Environment (N&E) Team can be contacted for advice.
3. Average traffic levels may be applicable at locations where there is little variation in movements throughout the year. Consideration shall be given to locations that host special events attracting additional movements such as air shows.

### Screening Outcome

1. Proposals shall undergo Targeted EIA where application of the screening criteria indicates a 'True' or 'Unknown' result, for any of the criteria at Stages B and C in Table 1 (i.e. may result in environmental impact).

## Appendix B Airservices Aviation Noise EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft Operations

**Table 1: Determining high or low number of existing flights<sup>1</sup>**

Receptor	N70		N65		N60	
	High	Low	High	Low	High	Low
Urban residential: day (6am to 11pm)	≥10	<10	≥25	<25	≥50	<50
Rural Residential: day (6am to 11pm)	≥7	<7	≥16	<16	≥35	<35
Urban or Rural Residential: night (11pm to 6am)	≥6	<6	≥6	<6	≥6	<6

1. Flight numbers in the table above are considered to be 'busy day' (90th percentile) movements. Note that, on occasion, when the number of existing flights are low and not well distributed throughout the year, it may be appropriate to use an average number, rather than the 'busy day' 90th percentile number.

**Table 2: Aviation noise EPBC Act referral thresholds for locations which already experience a high number of existing flights**

Location type	Noise Metric	Day (6am-11pm) <sup>2</sup>	Night (11pm – 6am) <sup>2</sup>
Residential (urban and rural)	N70; N65; N60	>25% increase	>10% increase
	LAm <sub>ax</sub>	>5dB(A) increase	>3dB(A) increase

2. 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). This definition is applied consistently for all Airservices environmental assessments, whether or not a curfew is in place at the specific airport.

**Table 3: Aviation noise EPBC Act referral thresholds for locations which experience a low number of existing flights**

Location type	Noise Metric	Day (6am-11pm)	Night (11pm – 6am)
Urban residential	N70	Up to 10 flights	Up to 1 flight
	N65	Up to 25 flights	Up to 2 flights
	N60	Up to 50 flights	Up to 3 flights
	LAm <sub>ax</sub>	>5dB(A) increase	>3 dB(A)
Rural residential	N70	Up to 7 flights	Up to 1 flight
	N65	Up to 17 flights	
	N60	Up to 33 flights	Up to 2 flights
	LAm <sub>ax</sub>	>5dB(A) increase	



**Table 4: Aviation noise EPBC Act referral thresholds for specific noise receptor categories**

Noise Receptor	Noise Metric	Day (6am-11pm)	Night (11pm – 6am)
Hospitals	N70; N65; N60	>25% increase	>10% increase
	LAmix	>5dB(A) increase	>3dB(A) increase
Schools	N70	Up to 10 flights	NA
	N65	Up to 25 flights	
	N60	Up to 50 flights	
	LAmix	>5dB(A) increase	
NES sites	N70; N65; N60	Assessed on a case by case basis based on identified receptors and associated sensitivities	
	LAmix;		
Industrial /open spaces/parks	N70	Up to 20 flights	NA
	N65	Up to 50 flights	
	N60	Up to 100 flights	

### Applying the EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft Operations

#### 1. Tables 1 - 4:

- a. Tables 1 - 4 above are used to determine whether a proposed new or amended flight path should be referred to the Commonwealth Environment Minister for advice regarding whether it constitutes 'significant impact', within the meaning of the *Environmental Protection and Biodiversity Conservation Act 1999* (the EPBC Act). Note, however, that the EPBC Act has no guidance on aviation noise significance criteria for environmental assessment of changes to aircraft operations.
- b. Table 1 is used initially to determine whether there are a high or low number of existing flights in the area of the proposed change, and therefore whether Table 2 or Table 3 is then used to assess aviation noise impacts.
- c. Table 2 shows Airservices aviation noise referral thresholds for locations which experience a high number of existing flights prior to the change. If Table 2 is used, impact is measured as a percentage increase in flight numbers over a particular 'noise above' metric (N70, N65 and N60).
- d. Table 3 shows Airservices aviation noise referral thresholds for locations which experience a low number of existing flights prior to the change. It lists thresholds in number of flights, per noise contour band, per day or night, for urban or rural locations and receptors. If Table 3 is used, impact is measured in total number of flight events over a particular 'noise above' metric (N70, N65 and N60), such that the level of flights is still low.
- e. Table 4 defines aviation noise referral thresholds for specific receptor categories (hospitals, schools etc).

## 2. Steps in Applying Tables 1 - 4:

- Step 1 Using Table 1, identify whether the existing number of flights is “high” or “low”. For a high number of existing flights (day or night criteria), Table 2 must be used to determine the potential significance of any aviation noise impacts, while a low number of existing flights must use Table 3.
- Step 2 Identify the relevant aviation noise receptors for the proposed change (urban residential, sensitive – school, etc).
- Step 3 From available data, identify the number of flights currently using the existing flight path for the applicable noise metric (N70 and/or N65 and/or N60), for day and/or night times, as per the operating times of the existing flights.
- Step 4 Identify how many flights will use the flight path as a result of the proposed change for the applicable noise metric (N70 and/or N65 and/or N60) for day and/or night, as per the operating times of the flights associated with the proposed change.
- Step 5 Using either Table 2 or Table 3, as determined at Step 1, read across to determine whether the increased number or noise metric of flights in the change proposal, in any contour, exceeds stated thresholds for the relevant receptor.
- Step 6 Consider the additional criteria in Table 4 to determine if noise thresholds for noise receptor categories are exceeded.
- Step 7 If any criteria are exceeded, and the change is planned to proceed in its current form, then the change should be referred to the Commonwealth Environment Minister for advice and a determination of whether it constitutes ‘significant impact’ (as per the requirements of the EPBC Act).

### **Context and Considerations**

1. The Airservices Aviation Noise EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft Operations (the Referral Criteria) 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 noise levels exceeding these thresholds, and the change is planned to proceed in its current form, the proposal shall be referred to the Commonwealth Environment Minister for advice (known as an ‘EPBC Act Referral’) and a determination on whether it constitutes significant impact.
3. The Referral Criteria were developed giving consideration to relevant published literature including 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 Airservices key noise metrics and the Referral Criteria thresholds is provided below:
  - a. Noise Metrics
    - i. ‘Number Above’ metrics (N70, N65 and N60).

- 'Number Above' metrics (also known as 'N Contours') are an aircraft noise characterisation mechanism used to map noise 'zones' around an aerodrome. Number above metrics show the number of noise events above a given noise level (for example, N70 contours would show the number of aircraft noise events greater than 70dB(A)).
- Application of the Referral Criteria to a particular change, entails a comparison of existing N contour events around a given airport, with those represented by the change. The change in events can either be expressed as a percentage increase over the current state, or up to a total numbers of flights (refer to 'b' below for further details).

Why N70, N65 and N60?

In March 2000, the (then) Commonwealth Department of Transport and Regional Services (DOTARS) released a discussion paper entitled 'Expanding ways to describe and assess aircraft noise'.

70 dB (A) and N60 dB(A) were identified as suitable levels for describing noise impacts given that:

- 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.

In addition to N70 and N60, Airservices uses N65 when required to improve granularity of change characterisation (as an intermediate threshold between N70 and N60).

ii. LAmax.

- In addition to N contours, LAmax is used to describe the potential noise increase (expressed in dB(A)) represented by the proposed change.

LAmax represents the loudest noise level of a single flight by a specific type of aircraft.

b. Referral thresholds (percentage noise increase, total flight numbers, and noise levels in dB(A))

i. Percentage noise increase, and increase in total flight numbers.

- These thresholds were devised by Airservices aviation noise and environmental specialists and acoustics engineers, based on qualitative estimates of levels of noise below which there is minimal risk of a change resulting in significant impact under the EPBC Act (in the absence of published, defined criteria for these metrics). The thresholds are above what would be expected to be experienced through normal growth in aviation traffic in Australia.

ii. LAmax.

- Thresholds for these metrics are based on published literature<sup>1</sup> regarding how perceptible noise changes (expressed in dB(A)) are to 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.

1. Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Queensland Department of Transport and Main Roads 2013.

## 5. Validation of the Referral Criteria

The noise metrics and thresholds described in the Referral Criteria have been used by Airservices in aviation noise impact assessments from 2013 to the present, over which time their appropriateness for identifying potential 'significant impact' has 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 Airservices' Noise Complaints Information Service (NCIS);
- c. Consultation with stakeholders (including the Aviation Noise Ombudsman and the Commonwealth Department of Infrastructure and Regional Development) regarding noise complaints and noise impact assessments;
- d. A referral to the Commonwealth Department of Environment, under the EPBC Act, for Airservices Gold Coast Airport Instrument Landing System (ILS) Project (which included discussion of the Referral Criteria and associated methodology to assess potential significance of aviation noise impacts).

Over 200 airspace changes have been successfully assessed for potential aviation noise impacts and implemented by Airservices since inception of the Referral Criteria in 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, the current Referral Criteria threshold levels are considered by Airservices to be appropriate and relatively conservative.

### Referral Criteria Definitions

- LA<sub>max</sub>: A maximum A-weighted sound pressure level in a given stated interval (see AS2021:2015).
- 'Number Above' metrics (i.e. N70, N65 and N60) – Noise characterisation mechanisms used to map noise 'zones' around an aerodrome, showing the number of noise events above a given noise level (i.e. 70dB(A), 65dB(A) and 60dB(A)). For example, N70 contours would show the number of aircraft noise events greater than 70dB(A).

(For further information refer to:

[https://infrastructure.gov.au/aviation/environmental/transparent\\_noise/expanding/4.aspx](https://infrastructure.gov.au/aviation/environmental/transparent_noise/expanding/4.aspx))

- Commonwealth Matters of National Environmental Significance (MNES) sites: sites which represent Matters of National Environmental Significance – as listed in the EPBC Protected Matters Search Tool.

- Sensitive sites are considered by Airservices to be schools, hospitals and churches, due to increased vulnerability of occupants to the negative effects of aviation noise.
- Urban residential and rural residential areas are determined based on searches of relevant State or Territory Land-Use and Planning Tools.

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## 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 Airservices 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.

Airservices OBR includes (but is not limited to):

- provision of charting services and other publications
- maintenance or provision of nav aids under contract
- provision of air traffic services under contract (eg. for Solomon Islands and Nauru)
- delivery of training, and
- funds received by Airservices for official development assistance (aid) activities.

For further information on OBR, refer to the following documents:

- [C-PROC0194](#)
- [MI-0205](#)