



Submission on the Western Sydney International (Nancy-Bird Walton) Airport - Airspace and Flight Path Design - Draft Environmental Impact Statement

Department of Infrastructure, Transport, Regional Development, Communications and the
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Submission prepared by:

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INTRODUCTION

Identification of Gross Deficiencies in the EIS

This submission is lodged in response to the public exhibition of the draft Environmental Impact Statement released by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (**Department**) titled *Western Sydney International (Nancy-Bird Walton) Airport – Airspace and Flight Path Design (EIS/draft EIS)*.

An initial essential point to note is that the EIS relates only to the proposed airspace and flight path design for the previously approved Western Sydney International Airport (**WSI Airport**). The WSI Airport was previously approved by the Australian Government without the final identification of the flight paths that would be adopted for the operation of the WSI and without final consideration of the environmental or amenity impacts on the people of the Blue Mountains and the people of Western Sydney, arising from the 24 hour operation of aircraft into and out of the WSI.

The Department and the Australian Government elected to disaggregate the WSI Airport project into separate parts. This firstly diminishes the significant cumulative impacts of the whole project and secondly locks in the initial stages before those cumulative adverse impacts can inform an assessment of the whole. The practical implication is that the airport is under construction before impacts of flight paths can be assessed as acceptable or not. This sense of pre-determination pervades critical aspects of the draft EIS.

The Government and the Department adopted a course which would never be accepted in the case of the proponent of a private development, assessed for its environmental impact in accordance with the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* and with the *Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations)*. The Government and the Department took advantage of the Government's position as the proponent of the development of the WSI with the clear knowledge that the true environmental impacts of the conduct of the WSI, including the impacts on the people of the Blue Mountains, would not be known until the development of the WSI was locked in and without any possibility of significant alterations in the physical layout and physical components of the airport.

That approach has now been compounded by the wholly inadequate EIS. This submission identifies the gross inadequacies of the EIS and the respects in which the EIS, as presently drawn, must inevitably lead the Minister for the Environment and Water (the Honourable Tanya Plibersek MP) (**Minister**), to advise the Department (as proponent of the WSI) that it should not give authorisation to the airspace and flight path design that is presented through the EIS. That advice will, in the circumstances identified in this submission, be given by the Minister in accordance with s163(1)(a) of the EPBC Act. In view of the gross deficiencies in the EIS, there would appear to be no basis on which the Minister could give any other advice to the Department.

The City of Blue Mountains

We are a community which lives in a City within a UNESCO World Heritage National Park. This is exceptionally rare. There is only one other place like this in the world.

The successful inscription of the Greater Blue Mountains onto the World Heritage list in November 2020, was in part dependent upon the demonstration that the impacts of development, both local and regional, would not threaten the values that justified the nomination.

We call on the Federal Government to do better.

The Blue Mountains is not another suburb of Sydney. It is a unique and internationally recognised location, where for many decades and particularly since the World Heritage inscription, Blue Mountains City Council has exercised its stewardship responsibility to carefully balance development and land management, to protect and preserve the values of this significant location. These protections are supported by the Blue Mountains community, who consciously choose to live in this unique natural location due to these environmental values. Up to 5 million tourists per annum visit for the same reasons.

Engagement with nature, tranquillity, quiet and dark skies are defining characteristics of the residential areas of the Blue Mountains in indeed the Greater Blue Mountains Area as a whole. The stark and unacceptable impacts from noise and visual intrusion in the Blue Mountains will be unlike the impacts anywhere else, because of the existing environment – the quiet, dark skied environment inside a World Heritage Area. The Federal Government has not respected this.

The draft EIS for the WSI flight paths does not appropriately respond to the Greater Blue Mountains World Heritage Area. It records values, confirms significance yet inexplicably ignores these and blatantly confirms high levels of visual intrusion and amenity impacts. The proposed flight path plan for Western Sydney International Airport will see a significant increase in the amount of airplane activity above the GBMWA and National Park, 24 hours a day.

Western Sydney as a whole is being treated inequitably. The lack of curfew proposed for WSI is nothing short of discrimination against Western Sydney, forcing night time impacts that Eastern Sydney has been, and is now actively being protected from. This must be redressed. The reticence of the Australian Government to attempt to review and remove curfews from Eastern Sydney only confirms the real and adverse impacts that arise from overflight that would be experienced by those communities from Kingsford Smith Airport. That concern does not extend to Western Sydney and Blue Mountains communities.

Blue Mountains City Council (Council) raises significant concern around the lack of relevant or thorough environmental assessment within the draft EIS. There are substantial omissions in baseline data, an absence of appropriate metrics and standards for assessment of wilderness areas, and a complete disregard for the uniqueness of the Blue Mountains setting. This has led to a grossly inadequate assessment of impact, particularly on noise, and visual intrusion – eroding the quality of life of Blue Mountains residents, degrading World Heritage values and forever diminishing the natural areas, character and amenity of the Blue Mountains.



Blue Mountains City Council has consistently confirmed its opposition to the Western Sydney Airport, since its inception. This was emphatically confirmed in Council's 2016 submission to the EIS for the Western Sydney Airport. Council continues to advocate against any adverse impact on quality of life of the community, on the environment, and on the values of the World Heritage Area as a result of Western Sydney Airport, and this submission responds to the public exhibition of the draft EIS, exhibited until 31 January 2024.

The submission identifies gaps and inadequacies in the draft EIS and Flight Path Plan for the proposed WSI that must be addressed, to ensure an appropriate and valid assessment of environmental impacts. It reflects community concerns voiced through various channels, including the 10 September 2023 public forum hosted by the Federal Member for the Blue Mountains, Susan Templeman MP and Blue Mountains City Council.

A. KEY ISSUES

Following are key issues central to Council's response to the Draft EIS. Resolution of these issues is fundamental for the WSI to appropriately respond to the World Heritage setting of the Greater Blue Mountains and to address substantial flaws and gross inadequacies in the assessment to date. Each issue is then detailed further within the submission, against the relevant chapter of the draft EIS.

- 1. Threat to Outstanding Universal Values and Integrity of the World Heritage Area**
- 2. High Visual Impact on Iconic Landscapes (Planes over the Three Sisters)**
- 3. Absence of a Wilderness Area Assessment**
- 4. Inadequate UNESCO Notification**
- 5. Adverse Impact to the Quality of Life and Health of the Blue Mountains Community**
- 6. Noise and No Curfew (Inequity for the Blue Mountains and Western Sydney)**
- 7. Call for a holistic review of Sydney Basin Airspace**
- 8. Environmental Impacts**
- 9. Threat to Blue Mountains local economy and tourism**
- 10. Failure of Process**



1. Threat to Outstanding Universal Values and Integrity of the World Heritage Area

The City of the Blue Mountains is one of only two cities in the world within a UNESCO World Heritage National Park – the GBMWhA inscribed in November 2000. The successful inscription of the Greater Blue Mountains onto the World Heritage list was in part dependent upon the demonstration that the impacts of development, both local and regional, would not threaten the values that justified the nomination. The draft EIS for the WSI flight paths does not appropriately respond to the World Heritage listing and inexplicably fails to adequately address the Outstanding Universal Values of the area, confirming high levels of visual intrusion and amenity impacts on these iconic landscapes. This part of the Council's submission should also be taken as a response to Chapter 23 of the draft EIS and Technical paper 14: Greater Blue Mountains World Heritage Area.

We are all stewards of the GBMWhA. Since it was first considered, Badgerys Creek Airport has been identified as a potential threat to the World Heritage status of the GBMWhA.

In 1999, the International Union for the Conservation of Nature (IUCN) deferred the World Heritage Nomination of the Greater Blue Mountains, citing as one of its reasons, the potential for an airport at Badgerys Creek which “might compromise the integrity of the area.” The 1998 World Heritage Nomination (**1998 Nomination**) for the GBMWhA, presented by the Australian Government, noted that the IUCN, in its response to the Nomination, identified:

“... possible impacts of the proposed airport at Badgerys Creek (in Western Sydney) on the Greater Blue Mountains Area. The IUCN report suggests that potential impacts may arise from aircraft noise, visual impact and air pollution. (p. 22)

In 2000, at the 24th Session of the World Heritage Committee (**24th Session**), assurances were given by the Australian Government (including recommendations from the then Minister for Environment and Heritage) that the potential for any impact on the World Heritage values of the GBMWhA from any international airport at Badgerys Creek would be managed and monitored, to ensure there were no adverse impact on World Heritage values.

The Australian Government explicitly represented to the 24th Session that if an airport at Badgerys Creek were to proceed it would not adversely affect either the ecological and biological processes relating to the evolution and development of eucalypt-dominated ecosystems **or the aesthetic values of the GBMWhA**. In response both to these assurances, and to assurances related to other identified threats, UNESCO inscribed the Greater Blue Mountains, as nominated, on the UNESCO World Heritage List in 2000.

At the time of writing, there is international interest in recognising cultural values of World Heritage Areas including the GBMWhA. The adoption of the proposed flight paths will compromise the identified values of the GBMWhA that UNESCO has acted to protect and demonstrate substantive retrograde policy by the Federal government in the international context.

The Australian Government's Nomination identified the “Aesthetic importance” of the GBMWhA by citing the following quotation from Yi Fu Tuan and by making the following statement:

“Wilderness cannot be defined objectively” (Yi Fu Tuan, 1974):



*“... much of the nominated area is aptly described as wilderness. It includes a series of large natural areas, remote and hard of access, **where the influence of modern, industrial society is minimal and a sense of harmony with the environment may be achieved.***

The aesthetic quality of wilderness is one of the most significant in the Greater Blue Mountains. It is sought for inherent spiritual satisfaction, much as is artistic beauty; in this case through isolation, solitude and appreciation of the integrity and enormity of nature and of its ability to protect, in its deepest recesses, ancient remnant species.”

(1998, Page 140-142, **emphasis** added)

The Australian Government’s vision at that time stands at odds with the intensification of overflight proposed above the Blue Mountains wilderness. The pristine values of the wilderness have attracted artists to the Blue Mountains as the Inaugural City of the Arts for generations. This artwork by a former Katoomba High School student Maya Brooks, vividly depicts the perceived disconnect between the renowned beauty of the Blue Mountains and an emerging association with aircraft.



HSC work by former Katoomba High School student Maya Brooks



Aircraft are the very antithesis of wilderness, and an influence that will no longer be minimal, but intrusive and contrary to the values of the Blue Mountains, including those identified by the Australian Government in the Nomination. However, the concepts and values relied upon by the Australian Government in the 1998 Nomination are not recognised or acknowledged in any substantive way in the draft EIS. They appear to now be regarded as an embarrassment or inconvenience that is best overlooked or downgraded in importance.

Blue Mountains City Council holds a strong stewardship responsibility for the protection of the GBMWhA and this is reflected in its significant and ongoing investments in its environmental management programs and the stringent planning controls in Blue Mountains Local Environmental Plan 2015.

We express deep concern at the lack of consideration of the socio-economic impacts and reputational damage associated with the very real potential for placement of the Greater Blue Mountains World Heritage Area on the List of World Heritage in Danger in accordance with Article 11 (4) of the Convention in Chapter 21-Socio-economic Impacts, as a result of the operation of WSI. The potential placement of the GBMWhA on the List of World Heritage in Danger would represent an egregious failure of environmental governance, and have broad adverse environmental, social and economic implications.

The values of the GBMWhA are not lost on the residents of the Blue Mountains or on the countless visitors to the Blue Mountains who have for generations come to this special place to experience those values, which have also been protected and preserved over the millennia by our First Nations people.

2. High Visual Impact on Iconic Landscapes (Planes over the Three Sisters)

The draft EIS states that the visual impact of flights over the GBMWhA and its iconic landscape areas will be “moderate – high”. The device of presenting a range of “moderate – high impact” simply seeks to downplay instances of high impact on aspects of the GBMWhA. There is no attempt to consider mitigation measures to lessen those visual impacts. There is no detailed assessment or discussion of impacts, as must be the case in any EIS which complies with the applicable federal legislation. The draft EIS simply concludes that the flight path impacts are inevitable because the airport is under construction. This part of the Council’s submission should be taken as a response to Chapter 23 of the draft EIS.

Images such as that below, show flights paths over the Jamison Valley, forever adversely altering this iconic landscape and the experience and values of the place, experienced without the “influence of modern, industrial society” for countless generations.





View south-east from Echo Point Lookout to The Three Sisters and Mount Solitary, with flight paths shown (Chapter 15, Page 15-56)

The draft EIS includes the following statement:

“... in addition to meeting at least one of the criteria for Outstanding Universal Value, a World Heritage Area that is listed for natural values also needs to meet conditions of integrity. Integrity is a measure of the ‘wholeness and intactness’ of the natural heritage and its attributes.

The Greater Blue Mountains World Heritage Area Strategic Plan (NSW DECC, 2009) states, with respect to objective of integrity, ‘... to maintain, and wherever possible improve, the current and future integrity of the Greater Blue Mountains World Heritage Area...’ including, seeking ‘to ensure that adjoining land uses are sympathetic to the conservation and presentation of World Heritage values’” (page 148 Technical Paper/Chapter 38)

The draft EIS completely omits any assessment of the impact of the flight paths on the OUV of the GBMWA and any consideration of the threat to the integrity of the World Heritage Area posed by the proximity of the airport (as identified by UNESCO) and its flight paths, despite directly acknowledging that:

*“... indirect effects on the Outstanding Universal Value of the Greater Blue Mountains Area are expected to be limited to **potential noise, visual amenity, air quality and cultural/heritage impacts** as a result of aircraft overflights of the GBMA” (p.23-21, **emphasis added**).*



These impacts are the same as the potential impacts that were highlighted by UNESCO at the time of the World Heritage Nomination, and which were then raised because of their potential for adverse impact on the integrity of the area and risk to the World Heritage listing. A detailed, transparent assessment of the potential impacts on the Values and Integrity of the GBMWhA must be undertaken.

3. Absence of a Wilderness Area Assessment

Modern aircraft travelling to and from an international airport located close to the eastern boundary of the GBMWhA will inevitably intrude on wilderness. This part of the Council's submission should be taken as a response to Chapter 23 of the draft EIS.

Since making its case to UNESCO and aware of concerns expressed by the IUCN, the Australian Government has had two decades to create frameworks and standards to ensure that aircraft movements from the Badgery's Creek Airport do not undermine the OUV of the GBMWhA. Despite this awareness of potential impact and ample time, the Government and the Department have failed to take any meaningful action to address the issue and identify appropriate standards based on readily available international best practice.

In the face of Government inaction, the authors of the draft EIS could have drawn on readily accessible standards for aircraft flight paths adopted in other jurisdictions. The background noise levels used in the Draft EIS assessment are for Australian urban areas. The draft EIS states that *"no specific aircraft noise criteria for conservation and wilderness areas has currently been developed. In Australia, assessments of new airport developments use the 70 dBA L_{Amax} and 60 dBA L_{Amax} noise exposure levels as impact thresholds for day and night time operations respectively."*

Such statements and obfuscation appear to be designed to avoid confronting the real issue and acknowledging international standards that could have been adopted. The Australian Government had agency to set standards over decades, and failing to do so, prepares an EIS that does not interrogate exemplars that should reasonably apply to a World Heritage Area.

The assessment relies on subjective and unsubstantiated claims of "generally insignificant" impact, despite flight paths traversing multiple wilderness areas, including Grose Valley, Kanangra Boyd, Nattai, and Wollemi. The overflights are contrary to the management objectives of Wilderness areas including: *to restore (if applicable) and to protect the unmodified state of the area, and to permit opportunities for solitude and appropriate self-reliant recreation.*

The failure to draw upon and use readily accessible standards when preparing the Draft EIS is an unacceptable omission. The draft EIS presents a narrow view of Outstanding Universal Values and fails to acknowledge self-evident potential impacts. Additionally, in the absence of appropriate recognition of wilderness, it is considered that the baseline assumptions used to undertake an impact assessment are flawed. This must be redressed.

Viewed through the generational lens, the Council submits this proposal will be seen as a profound failure of environmental governance. From its antecedents in the Australian Government's nomination for World Heritage, including the challenge of a potential new airport identified by the IUCN in that nomination process, there is a failure to set or account for standards for overflight of



wilderness areas and inadequate identification and assessment of perceived and actual impact in the EIS.

4. Inadequate UNESCO Notification

In September 2023, at the 45th session of the World Heritage Committee (with notes published 6 October 2023), the Committee resolved as follows:

"The World Heritage Committee,

...

10. *Requests furthermore the State Party to fully assess the potential impacts of the Western Sydney International (Nancy-Bird Walton) Airport on the OUV of the property, in line with the Guidance and Toolkit for Impact Assessments in a World Heritage Context;*
11. *Finally requests the State Party to submit to the World Heritage Centre, by **1 December 2024**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 47th session."*

Chapter 23 of the draft EIS (Matters of National Environmental Significance) refers to the Statement of Integrity for the GBMWH. It then states in the final paragraph of the chapter that *"The current statement of integrity (UNESCO, 2022b) says that since World Heritage listing, proposals for a second Sydney airport at Badgerys Creek, adjacent to the Greater Blue Mountains Area, have been abandoned. **This statement is no longer current.**"*

The Council has been informed by the Federal Government that the only notification given by the Government to UNESCO in relation to the construction of the airport at Badgerys Creek is cursory information to the effect that the draft EIS is on public exhibition, providing details of the submission process. There remains no confirmation that a report is being prepared to present to the 47th session of the World Heritage Committee in 2024.

5. Adverse Impact to the Quality of Life and Health of the Blue Mountains Community

The City of the Blue Mountains is located inside a World Heritage Area. By its nature, this location is unique. It has unique environmental attributes which are recognised globally. These same attributes are a significant contributor to residential amenity and strongly influence why our community chooses to reside in the Blue Mountains.

Engagement with nature, tranquillity, quiet and dark skies are defining characteristics of the residential areas of the Blue Mountains. The draft EIS has fundamentally ignored these characteristics in all aspects of the assessment, and thereby substantially underestimates the likely adverse impacts from noise, light, and general disturbance from WSI operations.

The stark change for the Blue Mountains community from quiet nights and dark skies to regular overflights at lower altitude, 24 hours a day is fundamentally inequitable. No other areas affected by



WSI operations will experience such change. To utilise urban standards (as in the draft EIS) as the assessment baseline is not acceptable or appropriate in the Blue Mountains.

We call on the Federal government to acknowledge the unique location of the Blue Mountains and revisit the assessments on noise and visual impact, to accurately and thoroughly understand the extent of impact in the Blue Mountains and amend the flight paths accordingly before finalisation of the EIS.

Detailed responses in relation to noise, air quality, visual intrusion, social and health impacts are included against chapters 11, 12, 15, 18 and 20 respectively.

6. Noise and No Curfew (Inequity for the Blue Mountains and Western Sydney)

Western Sydney Airport is proposed to operate 24 hours a day. The absence of a curfew is a significant, inequitable burden on the people of the Blue Mountains and Western Sydney, with potential to irreversibly impact quality of life, and create sleep disturbance and ongoing health risks. These are not adequately considered in the draft EIS.

The draft EIS outlines that a key design principle of the flight path design was to avoid disruption to existing aircraft operation within the Sydney Basin and as such, amendments to existing flight paths to accommodate WSI have been avoided as far as is practicable.

The absence of a curfew at WSI poses a significant concern for residents in the Blue Mountains, with potential adverse effects on their quality of life due to increased noise levels. The Council highlights the range of curfew policies and noise abatement procedures for nearby airports, including Sydney Airport, Bankstown, Camden, and Richmond RAAF, which underscores the need for a consistent and community-sensitive approach.

The Blue Mountains and Western Sydney as a whole is being treated inequitably. The lack of curfew proposed for WSI is nothing short of discrimination against Western Sydney, forcing night time impacts that Eastern Sydney has been, and is now actively being protected from. The reticence of the Australian Government to attempt to review and remove curfews from Eastern Sydney only confirms the real and adverse impacts that arise from overflight that would be experienced by those communities from Kingsford Smith Airport. That concern does not extend to Western Sydney and Blue Mountains communities. This must be redressed.

Beyond the lack of curfew, the assessment of noise within the draft EIS for the Blue Mountains and GBMWhA is severely flawed and must be revisited.

Baseline ambient noise levels have been incorrectly established, particularly within sensitive and Wilderness Areas of the GBMWhA. The evaluation presented in the EIS does not provide a comprehensive examination of the cumulative impact of overflight noise across diverse and sensitive soundscapes, and lacks a thorough exploration of viable or adequate mitigation measures. This view is supported by an independent peer review by Marshall Day Acoustics provided at Attachment 1.



The Council calls on the Federal Government to demonstrate thorough and relevant environmental assessment practices and to appropriately consider the unique soundscapes and characteristics of the Blue Mountains. The absence of this assessment in the draft EIS renders the current noise assessment fundamentally flawed and incapable of providing the information required by the Minister to provide any advice under s163 other than advice that the proposed flight paths should not be approved.

The potential for significant noise impacts over the Blue Mountains is further detailed against Chapter 11 of the Draft EIS.

7. Call for a holistic review of Sydney Basin Airspace

As referenced at Key Issue 6 above, a central instruction to the flight path designers for the proposal in the draft EIS was to avoid impact to existing operations at Kingsford Smith Airport and the Sydney Basin airspace. This has prevented a transparent assessment of flight path options across the Sydney Basin. It has led to an inequitable and unfair burden on the Blue Mountains and Western Sydney, taking 24 hour flights over highly sensitive, low noise environments.

This is a disservice to residents in the Blue Mountains and Western Sydney. For well over two decades successive governments have actively considered and planned for a second international airport in Sydney but failed to account for a holistic review of airspace architecture across the basin. The draft EIS suggests that such a review may occur for the introduction of the second runway in 2055. The suggestion of a generational gap in equalising impacts across Sydney to work to mitigate impacts on Western Sydney is wholly unacceptable.

The Council asserts that the avoidance of revisiting the Sydney Basin airspace in a holistic way has resulted in unacceptable and inequitable impacts to the Blue Mountains and Western Sydney, and that these impacts could be mitigated were the proposed flight paths more equitably dispersed across Sydney.

A holistic reassessment of the Sydney Basin airspace must happen now, to review alternative strategies for curfews and noise sharing across Greater Sydney.

This is further addressed throughout this submission, against chapters 5, 7, 8 and 11.

8. Environmental Impacts

The assessment of environmental impacts within the draft EIS is both inconsistent and inadequate. The potential for significant impact to threatened fauna through strikes, implementation of wildlife buffers and other airport operations has been inadequately assessed and the mitigation measures are unrealistic. It is not acceptable that threatened species such as Regent Honeyeater and Grey-headed flying fox are simply referenced and then dismissed, without appropriate and detailed fauna surveys.

It is a matter of fact, that Australia is increasingly affected by climate change, with increase occurrence and severity of extreme weather events. This includes an increase in temperatures. The draft EIS includes superficial references to climate change, which are not supported by detailed analysis such as changing weather conditions and how these will influence the operation of WSI Airport. Detailed responses have been provided against Chapters 5, 7 and 12 of the draft EIS (refer below).



The projected greenhouse gas emissions are misrepresented through the exclusion of international flights, and very real impacts to air quality in the Blue Mountains have not been considered. The Australian government has not completed detailed studies or established baseline datasets. This is addressed in detail against Chapter 12 of the draft EIS.

In 2024 and as a new global-facing infrastructure project, this can only be described as deficient environmental governance. For an airport on the edge of a World Heritage Area, it is reckless.

9. Threat to Blue Mountains local economy and tourism

The Blue Mountains is reliant on the visitor economy, with a nature-based recreation and tourism industry dependent on a high level of amenity and tranquillity in natural areas. Substantial levels of aircraft noise and overflights has substantial potential to destroy the visitor experience in the Blue Mountains. Removal of the experience of pristine wilderness, peace and quiet, and the dark sky erodes the unique values of the Blue Mountains, being the core reason for visitation from around the world. The draft EIS asserts that “The increased access to key tourist destinations, in particular for tourists visiting areas such as the Greater Blue Mountains, is considered to outweigh the potential adverse amenity impact of the flight paths.” There is no evidence presented to support this assertion. By whom is this asserted conclusion considered to be correct and on the basis of what studies? There is no analysis of economic impact, and no evidence that the authors of the Draft EIS understand the inherent value of the Blue Mountains for residents and visitors.

This is addressed in detail against Chapter 19 of the draft EIS.

10. Failure of Process

Development approval was given to the airport presented in the 2016 Western Sydney Airport Environmental Impact Statement (the 2016 EIS). In order to assess the viability of its operation, indicative flight paths were developed. The flight paths identified and assessed in the 2016 EIS represented one possible airspace design (referred to as a ‘proof of concept’). These initial ‘proof of concept’ flight paths proposed an aircraft merge point above Blaxland in the lower Blue Mountains.

Following community and stakeholder feedback, it was later determined that the airspace design should not converge arriving aircraft at a single point over any one single residential area and as such, this merge point was abandoned. The Council supports this move.

It is considered, however, that the current draft flight paths (the subject of the current draft EIS) are substantially different to those presented in the 2016 EIS and upon which the development of the airport itself was approved. The draft EIS regularly references pre-determined limitations or the setting of parameters on solutions that would mitigate impacts on the Blue Mountains due to the construction of the airport already having commenced. The Council challenges the validity of this approach.

It reasonably could be argued, that had the current draft flight paths and the impacts associated with them been presented through the initial impact assessment process that the 2016 EIS would not have been approved, and solutions would not be “locked in” by the ongoing construction of the airport.



The Council strongly opposes impact to the World Heritage Area being justified on the basis of construction having already commenced on the airport and submits that alternative mitigation strategies must be implemented prior to finalisation of the draft EIS.

As a process failure, the Council can now only record and reiterate the concern it identified and stated in its submission to the original EIS. Air space design and flight paths are an 'essential element' for the environmental impact assessment and development of an international airport.

By deferring the essential element of airspace design, so fundamentally altered from the original 'proof of concept' (itself a contradiction in terms given the extent of redesign), the present EIS and its current impacts are pre-determined to the extent that the construction of the airport is already locked in. This is evidenced by the self-serving assessment stating that proposed and identified impacts cannot be avoided.

Had the community and the determining authorities been able to consider the construction of the airport and the more substantial impacts of its flight path operation, a different decision could have been reached. In other words, the suitability of the airport and its operational impacts, the subject of the EIS and as critiqued in this submission, could have been wholly and appropriately evaluated.

Since raising this concern in its submission to the original EIS, the Chief Justice of the NSW Land and Environment Court, in *Palm Beach Protection Group Incorporated v Northern Beaches Council* [2020] NSWLEC 156 (20 November 2020), has identified the inappropriate practice of 'salami slicing' a project, meaning the disaggregation of a project into parts to diminish the significant cumulative impacts of the whole project.

The consequence in this case is that the community is expected to tolerate significant impacts on the environment and on the amenity of the Greater Blue Mountains when the correct approach should have been to bring into question the very suitability of the airport and its location on residential communities, constructed on the edge of an internationally renowned wilderness in the first place.



B. SUBMISSION RESPONSE BY EIS CHAPTER

This section of the submission provides a response against each Chapter of the Draft EIS, with a key list of recommendations. These are to be read in conjunction with Key Issues identified in Part A of the submission, which present higher order, overarching concerns with the Draft EIS and its process.

CHAPTERS 1-4: STRATEGIC CONTEXT AND PROJECT SETTING

The content within Chapters 1-4 is largely addressed with specific detail, against other relevant chapters. A short summary is provided, referencing relevant chapters of the draft EIS.

KEY ISSUES:

Flawed overall Objectives and Guiding Principles of WSI: The following objectives and guiding principles are identified in the EIS:

- improve access to aviation services for Western Sydney
- resolve the long term aviation capacity constraints in the Sydney Basin
- maximise the economic benefit for Australia by maximising the value of the Airport as a national asset
- optimise the benefit of WSI for employment and investment in Western Sydney
- deliver sound financial, environmental, and social outcomes for the Australian community.
- The project will assist in achieving these overall objectives as it would enable single runway operations to commence at WSI through the introduction of new flight paths and a new controlled airspace volume.

The Council notes the absence of any guiding principles related to the surrounding environment, World Heritage setting or ongoing sustainability measures. As a self-described “city-shaping” project, this an inexplicable omission.

EIS Infrastructure and Construction Scope Exclusion: The EIS lacks consideration of the environmental impacts associated with the construction and infrastructure development of the airport. Notably, there is an absence of a detailed analysis of critical infrastructure, such as the planned train line, impacts to the Great Western Highway and access to the Blue Mountains. This raises significant concerns about the broader ecological consequences. A comprehensive assessment must encompass all facets of the airport's development, ensuring a holistic understanding of its environmental footprint.

The Sydney Airport Curfew Act 1995 v No Curfew for Western Sydney and the Blue Mountains: Section 4.1.2 of Chapter 4 of the draft EIS confirms the current limitations to Kingsford Smith Airspace, as well as the caps on arrivals and departures captured under the *Sydney Airport Demand Management Act 1997*. There is no such curfew or even demand information presented in the EIS, to justify the proposed 24 hour operation of WSI. The lack of rationale for the different approaches across the east and west of Greater Sydney is alarming. This is addressed throughout this submission and detailed against Chapter 11.



Lack of accurate regional context setting or appreciation of the values of the GBMWhA: Various sections within these introductory chapters talk to the regional context for WSI but fail to recognise the GBMWhA and associated Wilderness Areas, for their inherent values, geodiversity, biodiversity, water catchment, Indigenous heritage, and scenic and aesthetic significance.

These sections also talk to the economic growth of Western Sydney and projected population increases, and the potential for positive impacts on tourism within the region, as justification for WSI. However, there are vast omissions and underestimations of the likely adverse impacts on the Blue Mountains economy and visitation within the GBMWhA as a result of noise and visual intrusions, detracting from the core reasons for tourism. This is addressed in detail throughout this submission and specifically at Chapter 19.

Radar Vectoring Areas over the Blue Mountains and Grose Valley: Figures 1.5 to 1.9 (pp.1-7 – 1-11) of the draft EIS identify radar vectoring areas over the Blue Mountains broadly (in relation to runway 5) and the Grose Valley in relation to runway 23). It is understood that vectors are commonly used to establish the arrival pattern for the airport, and it includes holding patterns when the airport is busy. This aircraft activity is outside of flight paths, and therefore is likely to be an additional, unmeasured impact, to take place over the World Heritage Area and is unacceptable. This is detailed further against Chapter 7 of the draft EIS.

Flight Length, Noise, and Cargo Hub Focus: The argument regarding the impact of noise depending on flight length suggested in the EIS raises questions about the justification for increased noise levels associated with longer flights. The Council advocates for a more accurate assessment of noise implications based on flight duration. Additionally, the focus on WSI as a major cargo hub, points to the need for a critical examination of the environmental impacts of freight operations, especially considering the projected freight percentage.

The EIS does not include any discrete analysis of the impact of intensive airfreight operations at WSI. In the Council's submission, the airfreight component of the total aviation market is well known for its use of old aircraft, which have much higher noise emission profiles than modern passenger aircraft.

The Council cannot identify any section of the EIS in which an attempt is made to identify the types of airfreight aircraft likely to be used at the WSI and the times at which those aircraft are likely to utilise WSI. In particular, there is no consideration of whether airfreight operators are likely to utilise WSI over the night period, which at present is closed to those operators at KSA, because of the KSA curfew.

Given the possible impact of noisy airfreight operations on the residents of Western Sydney and the Blue Mountains, and on the bushland areas of the Blue Mountains and on the GBMWhA, the failure of the EIS to address this issue is a very significant omission which must be rectified.

CHAPTER 1-4 RECOMMENDATIONS:

1. **Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (same as Recommendation 9, 14, 19, 33, 44)



2. **Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 10, 15, 20, 45, 52)
3. **Undertake a review of proposed airfreight operations at WSI** ensuring that the noise impacts of the type of aircraft likely to be used at the WSI for this purpose, and the time of operations of those aircraft (including operations during the night periods) be appropriately modelled and fully explained in a revised stand-alone section of the EIS.
4. **Reconsider the scope of the draft EIS** to include a detailed analysis of supporting critical infrastructure to demonstrate the environmental impact as a result of the construction and development of the airport, and associated traffic impacts.
5. **Provide clarification and further analysis of the noise implications of radar vectoring zones** including further information on the potential environmental impact of these zones on the GBMWA.

CHAPTER 5: STATUTORY CONTEXT

The Department (or its predecessor) utilised the provisions of the EPBC Act to secure approval of the Airport Plan for the WSI. In accordance with s159 of the EPBC Act and following, the Department was required to secure advice from the then Minister for Environment and Water (**previous Minister**) for the adoption of the Airport Plan.

Although it is obvious the Airport Plan should not have been approved by the Department and should not have been the subject of advice by the previous Minister, without the contemporaneous approval of flight paths and airspace management for the WSI, that approach was nonetheless taken.

In accordance with ss160(1) and 160(2)(b) the Department cannot give an authorisation for airspace management and flight path approval at the WSI without first obtaining and then considering advice from the Minister in accordance with Part 11 Division 4 of the EPBC Act.

The Department accepts that airspace management and flight path adoption at WSI *will have or are likely to have a significant impact on the environment*, and therefore is an action which falls within s160(2)(b).

The review of the statutory context within which WSI Airport Plan was approved, and through which the WSI is being progressed, illustrates that the pathway utilised by the Federal government is convenient rather than environmentally thorough.

It is unfathomable that the construction of a second airport on the edge of the largest metropolis in Australia and on the edge of a World Heritage Area, has not holistically considered airspace within the Sydney basin, and has not undertaken a detailed assessment of the short or long term impacts on the Greater Blue Mountains Area. The following significant concerns are raised, focused on the reduced role of the Minister for Environment and Water in the EIS process, and the apparent lack of compliance with Condition 16 of the Airport Plan.



KEY ISSUES:

Minister's Role and EPBC Act: The chapter outlines the role of the Minister for Environment and Water in providing advice under the EPBC Act.

In the case of the WSI, the Minister, whether directly or through her delegate, is satisfied through the Department's referral of its proposals for airspace management and flight paths at WSI, that the Department's proposals are likely to have a significant impact on the environment. Further, the Minister is also obviously satisfied, in accordance with s162, that Part 8 of the EPBC Act (excluding ss82, 83 and 84 within Part 8) should apply in relation to the action that the Department proposes to authorise at WSI.

As a consequence, there has been an effective determination that the relevant impacts of the proposed airspace and flight path design must be assessed through the preparation of the draft EIS, prepared in accordance with the EIS Guidelines.

In this case, the EIS Guidelines are set out in within Appendix C to the draft EIS.

As already noted, the Airport Plan has been approved. That approval was granted subject to Conditions numbered 1 to 50 inclusive. Condition 16 is titled *Airspace Design Process*.

Condition 16 is addressed in greater detail later in this submission. For present purposes, it is relevant to note the following conditions:

- (1) *The ALC must not permit regular aircraft operations to commence at the Airport unless the requirements of this condition have been satisfied.*
 ...
- (5) *The airspace and flight path design must take account of the following principles, in addition to the principles in section 2.2.5 of the Airport Plan:*
 - (a) ...
 - (d) *airspace and flight path design must minimise to the extent practicable the impact of Aircraft Overflight Noise, following:*
 - (i) *residential areas;*
 - (ii) *Sensitive Receptors;*
 - (iii) *the Greater Blue Mountains World Heritage Area – particularly areas of scenic or tourism value; and*
 - (iv) *Wilderness Areas.*
- (6) *The airspace and flight path design for the airport, once developed, must include or be accompanied by noise modelling of a range of realistic airport capacity and meteorological scenarios.*

...



(8) *Any referral(s) of a plan for aviation airspace management, in accordance with section 161 of the EPBC Act, must explain how all matters in this condition 16 have been addressed in developing the plan.*

Lack of Compliance with Condition 16 of the Airport Plan - Blue Mountains Impacts: The Council emphasises the relevance of Conditions 16(5) and 16(6), specifically in relation to the impacts on the Blue Mountains. Condition 16(5)(d) confirms that airspace and flight path design must minimise to the extent practicable the impact of Aircraft Overflight Noise on:

- (i) residential areas;
- (ii) Sensitive Receptors;
- (iii) the GBMWHa – particularly areas of scenic or tourism value; and
- (iv) Wilderness Areas.

There is no detailed assessment within the draft EIS, no establishment of baseline data and a failure to utilise appropriate or relevant assessment standards for wilderness areas.

Condition 16(6) of the Airport Plan requires that noise modelling “*of a range of realistic airport capacity and meteorological scenarios*” must be included. This has not occurred, and a detailed response is provided against Chapter 11 (Aircraft Noise).

It is a matter of fact, beyond any dispute, that Australia is increasingly affected by climate change, including an increase in temperatures. Western Sydney is, over the increasingly extended summer season, subject to extreme heat. The forecast number of days during which temperatures will exceed 35 degrees centigrade in Western Sydney is steadily increasing.

It is also the fact that high temperatures affect aircraft performance. That performance is affected in at least two ways. First, through limitations on the capacity of aircraft to carry their full payload when taking off, requiring reduced volumes of freight or reduced numbers of passengers, and reduced fuel loads. Secondly, impacts on the rate of climb that a fully laden aircraft can achieve in high temperature conditions.

The WSI is located at the foot of the Blue Mountains. The EIS is replete with references to the altitude at which aircraft will pass over the residential and natural areas of the Blue Mountains, including the GBMWHa. However, the EIS gives no consideration whatsoever to the impact of increasing temperatures on the modelling of aircraft performance and aircraft altitude that is assumed in the EIS.

If, as a result of temperature extremes, aircraft are unable to secure predicted increases in altitude assumed in the flight path modelling under the EIS, then the inevitable result will be that aircraft will pass over areas of the Blue Mountains (and other areas of Western Sydney) at lower altitudes than those modelled through the EIS process. These lower altitude flights will affect both noise levels and the visibility of aircraft.

The EIS completely fails to address this issue, with the result that the EIS does not comply with Condition 16 of the construction conditions for the Airport Plan. Further, the EIS does not address Requirement 1 of the Minister’s Guidelines. The impact of aircraft flying over residential areas and bushland/world heritage areas in the City of Blue Mountains is a matter of significance given the



expected impacts on the Blue Mountains environment and heritage. The EIS does not adequately address this issue and does not clearly state (identify) and discuss any and all unknown variables or assumptions made in the assessments on which the proposed flight paths are presented.

Similarly, the EIS does not clearly state and discuss the extent to which the limitations on available information in relation to aircraft performance (on days of high temperature) may influence the conclusions of the EIS.

These are gross deficiencies. Any recommendation made to the Minister, seeking the advice required under s163(1), in light of these deficiencies, must inevitably result in the Minister advising the Department that it should not give the proposed authorisation for airspace management and flight path design for WSI. Any other advice could only be given once the requirements of the EIS Guidelines are satisfied and the Minister fully informed. Any contrary advice given by the Minister would constitute a decision that is so unreasonable that no reasonable decision-maker could make it.

Further, Condition 16 requires that in developing the airspace and flight path design, public consultation is required, including with the community. It is argued that the design principles for airspace design identified in the Airport Plan (as referenced in Figure 6.3 of the Draft EIS) severely restricted any detailed assessment or community consultation. The principle to *avoid changes to noise sharing arrangements at Kingsford Smith Airport* appear to have heavily influenced design, where other principles such as *consideration of impacts of air operations on natural and visually sensitive areas* have been ignored. There was no consultation on air space, nor any detailed assessment of the Sydney Basin airspace holistically.

It is the Council's submission that the draft EIS does not comply with Condition 16 of the Airport Plan. To meet the requirements of Condition 16 there must be a rigorous assessment of impacts, and a transparent and robust evaluation against the requirements of the Condition.

Schedule 5 to the EPBC Regulations

Chapter 5 within the EIS makes no reference to s323 of the EPBC Act found within Part 15 Division 1 Subdivision F *Australian World Heritage management principles*. Section 323(1) provides that the EPBC Regulations must prescribe principles for the management of natural heritage and cultural heritage. The principles prescribed are the *Australian World Heritage management principles*.

Those principles are found in Schedule 5 to the EPBC Regulations. Within Schedule 5, the following general principles are recorded:

1 General principles

- 1.01 *The primary purpose of management of natural heritage and cultural heritage of a declared World Heritage property must be, in accordance with Australia's obligations under the World Heritage Convention, to identify, protect, conserve, present, transmit to future generations and, if appropriate, rehabilitate the World Heritage values of the property.*



- 1.02 *The management should provide for public consultation on [decisions](#) and actions that may have a significant impact on the property.*
- 1.03 *The management should make special provision, if appropriate, for the involvement in managing the property of people who:*
 - (a) *have a particular interest in the property; and*
 - (b) *may be affected by the management of the property.*
- 1.04 *The management should provide for continuing community and technical input in managing the property.*

Clause 3 within Schedule 5 reads as follows:

3 *Environmental impact assessment and approval*

- 3.01 *This principle applies to the assessment of an action that is likely to have a significant impact on the World Heritage values of a property (whether the action is to occur inside the property or not).*
- 3.02 *Before the action is taken, the likely impact of the action on the World Heritage values of the property should be assessed under a statutory environmental impact assessment and approval process.*
- 3.03 *The assessment process should:*
 - (a) *identify the World Heritage values of the property that are likely to be affected by the action; and*
 - (b) *examine how the World Heritage values of the property might be affected; and*
 - (c) *provide for adequate opportunity for public consultation.*
- 3.04 *An action should not be approved if it would be inconsistent with the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.*
- 3.05 *Approval of the action should be subject to conditions that are necessary to ensure protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.*
- 3.06 *The action should be monitored by the authority responsible for giving the approval (or another appropriate authority) and, if necessary, enforcement action should be taken to ensure compliance with the conditions of the approval.*



It is the Council's submission that the EIS has entirely failed to appropriately assess the likely impact of the proposed airspace management and proposed flight paths at the WSI on the GBMWhA. A very faint attempt has been made to convey the impression that an adequate impact assessment has been undertaken but, under close scrutiny, the deficiencies in this purported assessment are plain. In particular, the EIS fails to fully address the requirements of clause 3.03 within Schedule 5.

As a consequence, the proposed airspace management and proposed flight paths for WSI must not be approved by the Department. Any such approval would clearly conflict with clause 3.04 within Schedule 5. Such an approval, on the basis of the EIS as presently drawn, would be inconsistent with the protection, conservation, presentation and transmission to future generations of the Outstanding Universal Values and of the integrity of the GBMWhA.

CHAPTER 5 – STATUTORY CONTEXT RECOMMENDATIONS:

6. **Ensure that the Minister for Environment and Water** is given robust and adequate information to provide the advice required by s163, failing which the Minister must inevitably advise that DIT should not give an authorisation of the proposed flight paths.
7. **Revisit the draft EIS** to thoroughly address the requirements of Condition 16 of the Airport Plan, specifically Conditions 16(5) and 16(6) as they relate to the Blue Mountains Local Government Area and the GBMWhA.
8. **The Department must not approve** the airspace management and flight path approval proposals until the requirements of the EPBC Act, the EPBC Regulations and Condition 16 of the Airport Plan approval are fully satisfied.

CHAPTER 6: PROJECT DEVELOPMENT AND ALTERNATIVES

The introductory part of this chapter references that WSI will require changes to the management of existing airspace within the whole of the Sydney Basin, and that the 2016 airspace concept (referred to as a 'proof of concept') was to demonstrate air traffic management feasibility and assess key issues of potential noise and air impacts.

This 'proof of concept' was relied upon to proceed with Stage 1 and construction of WSI, yet the Sydney Basin airspace was not holistically reviewed, and the flight paths within the draft EIS bear no resemblance to the original 'proof of concept'. This EIS chapter presents a contradictory and misleading representation of the development of the flight paths and alternatives explored, and poorly assesses the significant environmental impacts likely to occur as a result of preferred flight paths and airspace design. As detailed below, a transparent and thorough review of flight path options must be prepared, which appropriately considers environmental impacts, particularly with regard to the GBMWhA.

KEY ISSUES:

'No action' consideration and Infrastructure Limitations: This part of Chapter 6 is both cursory and superficial. An Environmental Impact Statement is required to meaningfully assess alternatives to a



proposal, with a comparative consideration of environmental impact. This section presents WSI as a 'fait accompli', confirming that construction has commenced, and the airfield geometry and infrastructure is fixed.

The section concludes with a single statement that *"The need to process aircraft in an orderly sequence when arriving has limited the opportunity to develop multiple alternative approach paths for aircraft arriving at WSI. Similarly, airspace constraints within the Sydney Basin as a result existing flight paths, military areas etc also limit the opportunity for the development of multiple departure paths for WSI."*

This does not represent an authentic and transparent assessment of options. Rather by nominating limitations due to established runway orientation and existing air traffic complexity in the Sydney Basin, the basis for the assessment of flight path options (as presented in section 6.3.1.4 – 6.3.1.5) is flawed. The assessment of the preliminary flight path design is inadequate, given the exclusion of a thorough reassessment of the entire Sydney Basin airspace.

Flight Path Selection Process and Environmental Favourability: Concept flight paths are claimed to have been assessed against safety, capacity, efficiency and environmental criteria, and the top 5 options distilled to create two options to then be distilled into a single concept design – 'W'. It is acknowledged that the environmental criteria considered dwelling overflights and that the development of options also removed the merge point originally presented in 2016 (over Blaxland in the Blue Mountains), which is positive.

However, the Council notes the adequacy of the environmental considerations with regard to the GBM WHA and of the wilderness area assessment. Section 6.3.2.2 simply states that visual impacts on sensitive tourist and recreation areas by overflight aircraft were considered. No further statement is made. Chapter 15 of the Draft EIS then confirms that the visual impact to these areas and to highly sensitive iconic landscapes is a moderate to high adverse impact. This assessment of impact and flight path options from an environmental perspective is inadequate and must be revisited.

Reciprocal Runway and Night time impacts: Council notes that an explanation was provided for the proposed reciprocal runway operations concept which limits flight paths during suitable conditions over night. This provides respite for more densely populated areas but also leads to higher rates of overflight for the paths still in operation. The orientation chosen for this operation is runway 05 arrivals and runway 23 departures. Increasing traffic on the runway 05 arrivals orientation will impact the World Heritage wilderness areas and the runway 23 departures orientation will significantly impact residential and dark sky areas of the Blue Mountains, including the Linden Observatory during nighttime hours (when Sydney Airport curfew is operating). This is an unacceptable impact which has not been assessed.

CHAPTER 6 – PROJECT DEVELOPMENT AND ALTERNATIVES RECOMMENDATIONS:

9. **Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 14, 19, 33, 44)



- 10. Implement at Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport,** to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 2, 15, 20, 45, 52)
- 11. Revisit the environmental impact assessment and flight path options** to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWhA.
- 12. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWhA, including the Linden Observatory, and realign flight paths to avoid these areas.

CHAPTER 7: THE PROJECT

The details of the project and the assumptions underpinning the EIS that are identified in this chapter highlight a concerning level of uncertainty around final flight path design, flight frequency, and runway mode. Additionally, the fact that the methodologies used for the night period selected, the averaging of aircraft movements, and the assumptions of noise abatement procedures that will not always be able to be implemented, means that the assessment of impacts in the EIS does not accurately reflect what will be experienced by residents and in the environment, particularly during peak periods. Consequently, there is the potential for greater impacts than described and assessed in the EIS.

The EIS does not, at any point, identify the action that will be taken to mitigate the impacts of noise, visibility of aircraft and the modelling on which the preliminary conclusions identified in the EIS are based if that modelling is shown to be incorrect. Any such errors will have real life and real time consequences for the residents of the Blue Mountains and Western Sydney, and for the natural areas of the Blue Mountains, including the GBMWhA.

In these circumstances, it is appropriate for the Council on behalf of the Blue Mountains community to ask, and to support the same question being asked by other residents of Western Sydney: Who within the Department will accept personal responsibility for any such errors or inadequacies? Further, what action will the Department take to mitigate the impact of modelling errors to eliminate the adverse consequences of those errors on the residents of Western Sydney and the Blue Mountains.

KEY ISSUES:

Concerns with aircraft movements per day methodology (7.2.2): It is acknowledged that assumptions need to be made to predict aircraft movements for the purpose of assessment in the EIS, and that the schedules used to determine the average daily movements have been prepared by the WSA Co. There is concern that the methodology of annualising weekly schedules and then averaging these annual movements by day for the purpose of assessing impact downplays peaks that would occur seasonally and daily (within a given week).



This methodology also means that the assessment in the EIS is based on one forecast scenario of flight schedules, rather than the maximum capacity or forecast peak usage. However, given the uncertainty of the final design and operation, there is the potential that these averages will be exceeded. The EIS does not include triggers for mitigation or management measures if these average flight movements (and therefore the assessed impact) are exceeded in the final design and operation of WSI.

Consideration of noise abatement procedures in assessment (7.3.5): The EIS indicates that the preliminary design incorporates some noise abatement procedures such as preferential flight paths. This section also outlines that weather and runway conditions take precedence over noise abatement procedures for runway selection and mode, which is understandable for safety reasons. However, if the assessment is based on noise abatement procedures which are regularly unable to be implemented due to weather conditions or for safety reasons, there is the potential for a greater impact than considered in the EIS. This is important for night time flights where preferential flight paths are proposed as a noise abatement procedure. It is also important for flights on the many days on which the WSI will be subject to high temperatures, which will affect aircraft performance and the ability to reach the rate of climb and altitude modelled for departing aircraft.

Night period selection, runway modes, and adequacy of the assessment of night time impacts (7.4.1.1): It appears that the night period identified in the draft EIS responds directly to the KSA curfew. This is not justified and strays from the accepted standard night hours of 10pm to 6am. Further, the shortening of the night time period in the draft EIS (11pm to 5:30am) skews the assessment of night time impacts, given the proposed change in runway modes of operation in this period. While the change in mode is intended to alleviate some impacts, due to the nominated shorter 'night' period, greater impacts could be expected between 10-11pm and 5:30-6am, as these are considered day time hours under the WSI assessment.

Radar Vectoring Areas over the Blue Mountains and Grose Valley: As reference above, Figures 1.5 to 1.9 (pp.1-7 – 1-11) in the Introduction to the draft EIS, and figure 7.7&7.8 within this chapter, identify radar vectoring areas over the Blue Mountains broadly (in relation to runway 5) and the Grose Valley (in relation to runway 23). It is understood that vectors are commonly used to establish the arrival pattern for the airport, and includes holding patterns when the airport is busy. This aircraft activity is outside of flight path corridors, and an additional, unmeasured impact on the Blue Mountains.

Despite commentary in the EIS and assurances provided to the community during consultation about noise and relative impacts based on distances from nominated flight paths, these vector areas extended over the majority of the Blue Mountains and could see planes queuing and circling over the residential areas of the City and over the GBMWA, waiting to land at WSI. This is a further example illustrating the need for the flight path design to be revisited prior to finalisation of the EIS.

Uncertainty of impact resulting from Off-procedure manoeuvring options (7.5.7): It is acknowledged that for safety and operational reasons, or as a result of weather conditions, aircraft may be compelled to ascend or descent outside the designated flight paths, and that off-procedure manoeuvring areas



are required to accommodate this. However, the reasons provided in the draft EIS for off-procedure manoeuvring include:

- Expediting sequencing and high arrival demand peak-periods
- Address backlogs from events such as the closure of other major airports (presumably including KSA)

Both of these occurrences seem likely however, the EIS claims that it is 'not feasible to predict, depict, nor quantitatively assess the impact' of these off-procedure manoeuvres. This is not acceptable and renders the assessment within the EIS irrelevant. Data should be available (from KSA operations or international examples) to inform assumptions on the likely frequency of these events and operational implications, for the purposes of assessing impact, just as assumptions have been made to predict future scheduling and aircraft movements to inform flight design.

Given the record of high temperatures in Western Sydney in summer, and the predicted exacerbation of those high temperature by climate change, the EIS must address the impact of heat on off-procedure manoeuvring areas. The EIS entirely omits any such consideration.

The off-procedure manoeuvring areas identified include a greater extent of the GBMWhA and a broader residential area of the Blue Mountains and Western Sydney than shown in the flight path designs. Similarly, if off-procedure manoeuvring is likely to result in aircraft flying at lower altitudes, as a result of high temperatures or other adverse weather conditions, this likely circumstance must also be assessed. The draft EIS does not include adequate assessment of these impacts, nor does it nominate any mitigation measures or management procedures for this scenario.

CHAPTER 7 – THE PROJECT RECOMMENDATIONS:

13. Revise the draft EIS to:

- **Assess the impacts of peak periods** (days and seasonally) rather than the average of annualised aircraft movements; and
- **Assess the likelihood of noise abatement procedures being compromised by weather** (including the predicted increasingly high temperatures in Western Sydney) and runway conditions and assess the impacts of flight paths when these abatement procedures are not in place; and
- **Assess night time impacts for the accepted standard night period of 11pm - 7am or an 8 hour timeframe**, not the 11pm-5:30am period proposed; and
- Assess the likely frequency and duration of events (including weather events) resulting in off-procedure manoeuvring, and the potential impacts of these occurrences.
- **Provide clarification and further analysis of the noise implications of radar vectoring zones** including further information on the potential environmental impact of these zones on the GBMWhA.



CHAPTER 8: FACILITATED CHANGES

The proposed flight paths for WSI have been designed to minimise disruptions or amendments to the existing Sydney Basin airspace, integrating with the service needs of Kingsford Smith Airport (KSA), Bankstown Airport, Camden Airport and the RAAF at Richmond. It has been a functional requirement of the project to enable WSI and KSA to operate independently with no changes to the noise sharing mechanisms in place for KSA.

KEY ISSUES:

Sydney Basin Airspace: It is the strongly held opinion of Council and the authors of the acoustic peer review, that an infrastructure investment of such a scale as WSI warrants a holistic review of the airspace architecture of the Sydney Basin. Avoidance of such, as is the case with the draft EIS, significantly restricts available mitigation measures that would otherwise be available for WSI to reduce impacts within Western Sydney and the Blue Mountains. The draft EIS acknowledges that, despite efforts to avoid and minimise impacts through design, residual impacts remain due to the unavoidable nature of flight path design in an already highly utilised airspace.

Inequitable impacts on residents of Western Sydney and the wilderness and recreation areas of the GBMWSHA are the result of the approach adopted in the draft EIS, being to avoid disruption of existing flight paths at KSA.

The draft EIS is advanced on the premise that the existing airspace architecture of the other international airport, Kingsford Smith Airport (KSA), is not to be altered. The authors of the Draft EIS consider it too challenging a task to open up that airspace design, given the “complexity” of the Sydney airspace.

This is a disservice to residents in Western Sydney because the Australian Government cannot equalise or distribute impacts, as much as possible, across the Sydney Basin. For well over two decades successive governments have actively considered and planned for a second international airport in Sydney but failed to account for a holistic review of airspace architecture across the basin. The draft EIS suggests that such a review may occur for the introduction of the second runway in 2055 to undertake such a review. The suggestion of a generational gap in equalising impacts across Sydney to work to mitigate impacts on Western Sydney is wholly unacceptable.

While the draft EIS reaches conclusions of acceptable impacts in Western Sydney, the reticence to review either airspace architecture (with an increased share of flights) or removal of curfews in Eastern Sydney in association with KSA speaks to a lived experience in Eastern Sydney and of material impacts from aircraft overflight. While the authors of the draft EIS dismiss the potential for impacts on Western Sydney and the Blue Mountains, it is instructive that the Australian Government is looking to a 30 year process to review flightpath design with the communities of Eastern Sydney.

Leading planning agencies and universities have identified the socio-economic divide between Eastern and Western Sydney, identifying the ‘latte line’ which is notionally drawn through Kingsford Smith Airport northwest through Parramatta. To the west of the ‘latte line’ all levels of government are tasked with redressing spatial inequality. Managing the impact on Western Sydney and Blue



Mountains through the failure to equalise airspace design and share curfews only entrenches, rather than addresses, this unequal impact.

CHAPTER 8 – FACILITATED CHANGES RECOMMENDATIONS:

- 14. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Action 1, 9, 14, 19, 33, 44)
- 15. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 2, 10, 20, 45, 52)

CHAPTER 9: COMMUNITY AND STAKEHOLDER ENGAGEMENT

This chapter lists the range and nature of consultation processes undertaken in the preparation of the draft EIS, a summary of issues raised during stakeholder engagement and a response to these issues. Significant concern is raised about the limited consultation with the Blue Mountains community and key stakeholders, particularly the lack of meaningful engagement on the World Heritage values of the GBMWhA and lack of meaningful engagement with local Dharug and Gundungurra Traditional Owners and Custodians.

KEY ISSUES:

Lack of Meaningful Consultation with Traditional Owners and Custodians: Feedback from local Dharug and Gundungurra Traditional Owners and Custodians confirms that while some early consultation was undertaken, at that time no specific information was available and therefore the feedback that could be provided was limited. Traditional Owners and Custodians were not adequately included in meaningful discussions and decision-making processes related to the proposed flight path design and its potential impacts on Aboriginal lands, skies and waters.

Large parts of the Blue Mountains Local Government Area area subject to the Gundungurra Indigenous Land Use Agreement (ILUA), requiring that appropriately detailed consultation occur where processes or development may impact these lands. It is evident within the draft EIS that highly significant places such as Echo Point and the Three Sisters will incur a moderate-high visual and amenity impact as a result of WSI operations, yet no meaningful consultation has occurred with Traditional Owners of these places. This is unacceptable and must be corrected before the draft EIS is finalised.

Lack of Meaningful Consultation with UNESCO: The consultation process includes a significant and notable oversight in addressing the Outstanding Universal Values associated with the GBMWhA. Specifically, there was a conspicuous absence of reference to any meaningful engagement with organisations including UNESCO and the Blue Mountains World Heritage Institute.



This is addressed in Part A of this submission, and Council calls on the Federal Government to transparently engage with UNESCO on this significant infrastructure project which poses a threat to the World Heritage Area and its listing.

Cursory response on flight path, noise, and World Heritage values concerns: The responses provided in this chapter do not address the concerns raised by submitters on these issues, including those raised by Blue Mountains City Council. The response simply states that noise and potential impacts have been explained in a non-technical manner and then refers readers to Technical Papers. These remain grossly inadequate, lacking detailed assessment and absent of any appropriate ambient noise studies for sensitive and wilderness areas such as the GBMWH. A.

Inaccurate representation of the perceived benefits: Within Chapter 9, Blue Mountains City Council is listed as an organisation which provided comments on the benefit of WSI from the perspective of tourism, and employment. This is not an accurate representation of the Council's previous submission and does not accurately capture comments made in consultation sessions. The broad-brush presentation of the information is suggestive of a collective view among many organisations on these issues, which is not accurate and needs to be corrected.

CHAPTER 9 – COMMUNITY AND STAKEHOLDER ENGAGEMENT RECOMMENDATIONS:

- 16. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians,** with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS.
- 17. Reconsider previous feedback provided by the community and key stakeholders,** including Council and the Blue Mountains World Heritage Institute, and clearly address concerns raised relating to flight paths, noise and World Heritage values.
- 18. Undertake meaningful engagement with UNESCO as a matter of urgency and prior to finalising flight paths,** to address the potential threat of the airport on the GBMWH and its World heritage listing.

CHAPTER 10: APPROACH TO IMPACT ASSESSMENT

This chapter outlines the methodology for the impact assessment undertaken against relevant statutory requirements and guidelines.

KEY ISSUES:

The key issues with the impact assessment are outlined in the summary of key issues (Part A of this submission) and in the response to individual chapters of the EIS (Part B of the submission). In particular, serious concerns are raised with the piecemeal EIS process undertaken for the WSI, and the assessment of impact on the UNESCO World Heritage Area.

Issues are also raised with the scope and methodology of the assessment of individual impacts, detailed in response to individual chapters in this submission. Broadly there is concern with the adequacy of baseline data, inaccuracies in assumptions, and the lack of rigour in assessment of particular impacts, and such as the impact on wilderness areas.



CHAPTER 10 – APPROACH TO IMPACT ASSESSMENT RECOMMENDATIONS:

Recommendations to address deficiencies with the impact assessment are detailed within the response to each chapter of the draft EIS.

CHAPTER 11: AIRCRAFT NOISE

Significant concern is raised with the noise assessment included in the draft EIS, particularly within the Blue Mountains context. Baseline ambient noise levels have been incorrectly established, particularly within sensitive and Wilderness Areas of the GBMWhA. The evaluation presented in the EIS does not provide a comprehensive examination of the cumulative impact of overflight noise across diverse and sensitive soundscapes, and lacks a thorough exploration of viable or adequate mitigation measures.

To inform the preparation of submissions, the Western Sydney Regional Organisation of Councils (WSROC) and Western Parkland Councils separately engaged Marshall Day Acoustics to conduct a peer review to assess the reliability and technical accuracy of the aircraft noise assessment presented in the draft EIS. The peer review contains a focused section on the Greater Blue Mountains Area, identifying unique impacts and challenges, and the limitations of the EIS assessment. The Marshall Day Peer Review report is included at Attachment 1.

The inaccuracies in and limitations of the EIS noise assessment must be addressed prior to the finalisation of the EIS. The Council calls on the Federal Government to demonstrate thorough and relevant environmental assessment practices and to appropriately consider the unique soundscapes and characteristics of the Blue Mountains. The absence of this assessment in the draft EIS renders the current noise assessment fundamentally flawed and incapable of providing the information required by the Minister to provide any advice under s163 other than advice that the proposed flight paths should not be approved.

KEY ISSUES:

Inappropriate ‘Night’ definition: Noise predictions are provided for various time periods, including 24 hour, Day (defined as 5:30am to 11pm) and Night (defined as 11pm to 5:30am). This ‘night’ definition does not align with industry standard / accepted practice for describing and assessing aircraft noise impacts, including thresholds typically used to assess impacts such as sleep disturbance, which adopts a broader night defined period of 8 hours, from 10pm to 6am or 11pm to 7am.

To alter the standard ‘night’ definition to align with Kingsford Smith Airport curfew, does not represent industry best practice, purposely skews the assessment and must be corrected. The alteration of this definition actively discriminates against the people of Western Sydney and the Blue Mountains.

Inaccurate Ambient Background Noise Monitoring: Ambient background noise monitoring in the Draft EIS was conducted at only two localities within the Blue Mountains. Both locations are in close



proximity to the Great Western Highway, thereby capturing elevated road noise. None of the selected monitoring locations are within residential areas, natural or wilderness areas of the GBMWhA, and no monitoring or quantification of wilderness soundscapes is included.

The purported noise monitoring prepared for the EIS cannot be, and is not, an accurate assessment of ambient noise levels within the Blue Mountains, and it naturally follows that the potential noise impacts from aircraft overflights have been utterly underestimated. It is essential that a comprehensive noise monitoring program be undertaken, with receivers appropriately placed across all representative areas of the Blue Mountains, to enable an accurate understanding of noise effects across the residential and natural areas of the local government area, and the GBMWhA. This expanded and rigorous monitoring is also required to secure baseline data to support the modelling of the impact of aircraft noise on both the residential and the natural areas of the Blue Mountains.

Lack of Monitoring and Protection Measures for Wilderness Areas: Despite the legislative declaration of four Wilderness areas in the GBMWhA, the proposed flight paths are not nominated on the basis of any measures to monitor or protect these ecologically and culturally sensitive areas. Further, Condition 16(5)(d) of the Airport Plan requires that airspace design and flight paths must look to minimise, to the extent practicable, the impact on wilderness areas and on the GBMWhA. This has not been done.

Given that soundscapes within the GBMWhA have not been quantified, and that the estimated frequency of aircraft at key sensitive areas is based on N60 values, overflight dispersion has not have been adequately addressed. This is an oversight in any assessment or preservation of wilderness quality and raises serious concerns about potential detrimental impacts on the tranquillity and natural state of declared Wilderness areas.

Inadequacy of Noise Criteria in Wilderness Areas: The draft EIS adopts a noise threshold of 60 dB L_{Amax} . Whilst such thresholds would generally be considered low in a typical urban setting, they are not appropriate either within a quiet bushland or wilderness setting or for the assessment of noise impacts on the GBMWhA.

To understand the potential impact of aircraft noise in Wilderness areas, assessment should be undertaken at a lower decibel benchmark (20-40dB) for a comprehensive understanding beyond the limited and insufficient decibel thresholds presented in the current EIS.

Further, the draft EIS does not include any analysis of the amount of time across aircraft noise will be audible within the GBMWhA or in other bushland areas. The regularity and the duration of intrusive man-made noise, particularly when unexpected and outside of urban settings, are both significant and warrant detailed assessment.



An accurate and relevant baseline assessment must be undertaken. Conducting such baseline assessments is not novel. The failure to do so in the EIS suggests a lack of rigour and a level of distortion in the assessment process to identify and report on reasonably discernible impacts.

Lack of Specific Source for Ambient Noise Levels: With reference to Table 11.7 'Ambient and background recommended amenity noise levels,' the reference lacks a specific source for the suggested noise levels. Justification is required for the appropriateness of these levels in the context of the EIS, as Section 1.5 states that it 'does not apply to: ...transportation corridors.' Clarification on the source and relevance of these noise levels is required to support any conclusions reached in the EIS.

Lack of Evaluation for Lower Altitude Overflights: Many towns in the lower, mid, and upper regions of the Blue Mountains currently experience a surge in overflights at lower altitudes from Kingsford Smith Airport (KSA). Despite anecdotal evidence and the opportunity to utilise existing data, the current impact of overflight noise within the Blue Mountains has not been systematically modelled or considered in the draft EIS. A more inclusive evaluation, considering lower altitude overflights, is essential for a comprehensive understanding and a balanced approach to addressing community concerns. Given the high summer season temperatures that will be experienced at WSI, and the impact of these temperatures on aircraft performance and altitude, the issue of lower altitude overflights assumes even greater importance than would otherwise be the case.

Insufficient Cumulative Impact Assessment: The Guidelines stipulate that cumulative impacts are to be assessed, but the draft EIS does not provide adequate assessment and conclusions for informed decision-making on aircraft overflight noise impacts and their mitigation. A more comprehensive noise assessment considering cumulative impacts across sensitive noise settings is essential for informed decision-making.

Holistic Reassessment of Sydney Basin Airspace: Central to the design of flight paths included in the Draft EIS, is the avoidance of impact to existing operations within the Sydney Basin airspace. This prevents a rigorous and transparent assessment of options across the Sydney Basin, leading to a fundamentally inequitable distribution of impact, unfairly burdening Western Sydney.

A holistic reassessment of the Sydney Basin airspace would inevitably present alternative solutions for addressing noise and environmental impacts more effectively and equitably. Strategies such as curfews, noise sharing, or scaling back the proposed operational intensity of WSI in the future are not thoroughly explored in the current draft EIS.

CHAPTER 11 – AIRCRAFT NOISE RECOMMENDATIONS:

19. **Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to



mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 9, 14, 33, 44)

- 20. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (Same as recommendation 2, 10, 15, 45, 52)
- 21. Adopt alternative noise metrics**, informed by international best practice and standards, to provide an accurate representation of aircraft noise impacts within the GBMWhA, including wilderness areas.
- 22. Amend the 'night' definition** to align with industry standard and accepted practice for describing and assessing aircraft noise impacts, adopting a broader night defined period of 11pm to 7am or 10pm to 6am – 8 hours.
- 23. Amend the draft EIS to provide noise level information at lower thresholds**, supported by validation work to improve the reliability of predicted noise level data at low sound pressure levels that are below the validated range of practical noise modelling tools. The analysis should account for the amount of time aircraft noise will be audible in these areas.
- 24. Establish a system of permanent noise monitoring stations at key locations in the Blue Mountains**, away from the Great Western Highway, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate noise pollution assumptions and determine management strategies.
- 25. Adhere to the requirements outlined in the Commonwealth Government guidelines:** *"Guidance Material for Selecting and Providing Aircraft Noise Information"* (2003) including a thorough assessment of cumulative noise impacts, comprehensive site-specific noise abatement options, and alternatives such as night-time curfews or scaling back proposed future intensity if impact benchmarks are not met.
- 26. Undertake further consultation with the community and key stakeholders** prior to finalising flight path design to minimise to the extent practicable the impact of aircraft overflight noise, having consideration to overflight avoidance, overflight dispersion, and overflight mitigation procedures.
- 27. Undertake user experience and aircraft noise surveys** when the airport opens to proactively identify and address issues specific to the GBMWhA.



CHAPTER 12: AIR QUALITY AND GREENHOUSE GAS

The assessment in the draft EIS on greenhouse gas emissions contains inconsistencies and selective use of data that significantly undermines the overall credibility of the assessment, resulting in a substantial underestimation of the potential impacts of Western Sydney International Airport on climate change.

Additionally, the Council highlights the absence of, and need for, a pre-operational air quality baseline assessment, against which to measure potential adverse impacts over time.

KEY ISSUES – GREENHOUSE GAS

Misrepresentation of emissions: The Council is of the view that many of the statements and discussions in Technical Paper 3 (TP3) have selectively used the presented data, resulting in a misleading assessment of greenhouse gas emissions from WSI.

In analysing emission projections, while tables and figures in the draft EIS show full flight emissions, emissions from international flights have been excluded from the discussion, despite representing 89% of the projected 2055 flight CO₂e emissions from the airport. TP3 regularly references emissions for only domestic flights and the portion of emissions from flights under 10,000 feet.

The draft EIS also outlines the project's flight emissions against Australia's total projected economy wide emissions (accounting for emissions from other sectors); however, this discussion again excludes international flights and potentially emissions over 10,000 feet. This represents a lack of comprehensive reporting and compromises transparency around the full impacts of climate change associated with the WSI.

Further, emissions from operations, airplane idle, and taxiing are not included in the report, leading to a material underestimation of the emissions impact. By omitting these emissions sources from WSI the EIS again materially underestimates and fails to provide transparency, around the total impacts of emissions from WSI on climate change.

The report excludes the impact of radiative forcing of non-CO₂e emissions, such as water vapour and Cirrus cloud formations at altitude. Whilst it is acknowledged that there is uncertainty as to the extent, these emissions are generally accepted as having an impact at least equal to CO₂e emissions, if not larger. It is also widely accepted in science that the radiative forcing impact of flights at night have a warming effect, and therefore the exclusion of radiative forcing should be revisited.

Collectively, the assessment results in a substantial understatement of potential climate change impacts. The report assumes that only emissions reportable by the Australian government will impact climate change, representing a flawed perspective. The key summary misleadingly states that WSI's CO₂e emissions may marginally contribute to potential climate change, while excluding major emission sources like international flights and radiative forcing associated with flights. This misrepresentation



contradicts the actual impact on climate change, which should be classified as a major impact according to definitions in Chapter 5 of the draft EIS.

KEY ISSUES - CLIMATE RISK

Whilst climate risk is technically addressed in the draft EIS, the brevity of detail is such that it is not considered a useful assessment. The report highlights the risk of hot weather impacting the efficiency of flights, requiring increased fuel use, and subsequently resulting in higher CO₂e emissions. No information has been provided on whether this has been factored into the future emissions projections, and this would further increase climate change impacts.

The draft EIS presents positive narratives about aviation industry initiatives to address climate change yet does not commit to any action, beyond the development of a strategy before the airport's commencement. Additionally, the draft EIS claims that greenhouse gas emission mitigation, management, or monitoring are out of the control of the Department of Infrastructure, Transport, Regional Development, Communication and Arts (DITRDCA), and as such no specific greenhouse gas emission mitigation, management or monitoring are proposed.

This is both inaccurate and represents extremely poor environmental governance. This type of assessment further underscores the importance of the role of the Minister for Environment in the finalisation and endorsement of the EIS.

KEY ISSUES - AIR QUALITY

The draft EIS proposes limited air quality monitoring in the Blue Mountains. There is no pre-operational air quality baseline data for the Blue Mountains, and none proposed in the draft EIS. As a City in a World Heritage Area, inscribed for its environmental values, this is incomprehensible. Potentially significant adverse impacts on air quality are likely to occur as a result of WSI operations, impacting the health and well being of the community, and the finely calibrated ecosystems within the sensitive Blue Mountains natural environment.

Air quality management strategies must go beyond simply observation and must adopt measures to mitigate adverse impacts on air quality in the Blue Mountains. The need for continuous and adequate air monitoring is critical to understand and manage potential air quality impacts on the City of the Blue Mountains and the GBMWH as a result of the operation of WSI.

A system of permanent air quality monitoring stations in key areas of the Blue Mountains is required before the commencement of airport operations, to be used as a reference point for evaluation of air quality changes over time. The data collected would assist in decision making around the environmental impacts of the airport or any future expansion of operations (including the proposed second runway).



CHAPTER 12 – AIR QUALITY AND GREENHOUSE GAS EMISSIONS RECOMMENDATIONS:

28. Review the draft EIS to:

- Assess and outline climate impacts of all flights including international, domestic and those above 10,000 feet so that there is fair representation and understanding of impacts on the climate.
- Include a radiative forcing factor for non-CO₂e emissions based on the best available science.
- Include operational and taxiing emissions in any statement about climate impact associated with WSI.
- Apply consistent comparisons against a percentage of Australian economy emissions. If domestic flights are listed with a percentage of total economy emissions also list state, international and total flight emissions.
- Complete a comprehensive climate risk assessment including the update of 2055 emissions to reflect the significant increase in days above 35 degrees Celsius.
- Increase the scope of the climate risk assessment to look at local climate impacts on the Blue Mountains in order to outline the impact of increased contrails on the ecosystem, and impact on the sense of wilderness and tourism for the region.

29. The Department of Infrastructure, Transport, Regional Development, Communication and Arts commits to:

- An overall lower number of flights to reduce emissions
- Limiting overnight flights where radiative forcing of non CO₂e emissions are widely accepted to only have a warming effect
- Only working with best practice operators who are signatories to relevant leading standards
- Airport Carbon Accreditation at Level 4+: Transition
- Only allow aircraft from manufacturers that have committed to "Original Equipment Manufacturers" (OEM) net zero commitment to access the airport, whether the aircraft carry passengers or freight
- Actively and substantially incentivise Sustainable Aviation Fuel (SAF) and hydrogen aircraft to use the airport

30. Establish a system of permanent air quality monitoring stations at key locations in the Blue Mountains, away from the Great Western Highway, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate air pollution assumptions and determine management strategies.

31. Ensure that the Minister for Environment has access to all of the information required to allow her to provide the advice required under s163.



CHAPTER 13: AIRCRAFT HAZARDS AND RISK

The Draft Environmental Impact Statement (EIS) provides an assessment of the potential impact of aircraft hazards and risks of departures and approaches on Western Sydney. This review focuses on the assessment of Warragamba Dam and Prospect Reservoir, the Blue Mountains and other fire initiation risks, fuel jettisoning and wildlife impacts. It is the Council's view that this inadequately assesses the potential impacts on the Greater Blue Mountains World Heritage Area and the mitigation measures proposed are not appropriate to address environmental impact issues. The key concerns are identified below.

KEY ISSUES

Low Probability Events on Dams and water contamination: The calculated frequencies indicate very low probabilities of direct impacts on the dams. Similarly, the draft EIS while noting the possibility of water contamination, emphasises that significant adverse impacts are unlikely to occur. However, as with many other sections of the EIS, these statements are not supported by evidence. A more detailed examination of potential ecological, public health, and community consequences is required.

Risk of fire initiation: The draft EIS includes discussion of fire initiation associated with aircraft crashes in the Blue Mountains and surrounding areas. Considering the overwhelming impact of bushfires on the GBMWHa generally, Council considers the EIS estimated crash rate during take-off and landing for 2055 operations is approximately 1 in 50 years, resulting in a corresponding post-impact fire rate of around 1 in 100 years, alarmingly high. If the GBMWHa were to have a post-impact aircraft fire it would have the potential to largely devastate the area and destroy the values for which the area is inscribed on the World Heritage list. Further analysis is required and mitigation measures detailed.

Fuel Jettisoning: The assessment indicates that, when conducted at a sufficient altitude, fuel jettisoning poses no impacts at ground level as the fuel volatilizes before reaching the ground. The report refers to data from the ATSB National Aviation Occurrence Database, indicating that fuel jettisoning incidents are generally minor, with 43% occurring shortly after take-off or during climb.

There appears to be no specific assessment or international comparative examples, to consider how fuel jettisoning may result in different and more extreme impacts, when occurring over a WHA listed for its ecological values. No baseline environmental data to enable monitoring over time is included in the draft EIS. This must be rectified.

Wildlife Hazards: As also referenced below against Chapter 16, the draft EIS identifies potential risks with wildlife strikes, which can pose a significant risk to aircraft safety, leading to human fatalities, aircraft damage, and operational costs.

Relevant recommendations are contained against the other chapters of the draft EIS.



CHAPTER 14: LAND USE

KEY ISSUES: WILDLIFE BUFFERS

The proposed wildlife buffer, being the 13km radius around WSI, intercepts the eastern edge of the GBMWhA. The draft EIS outlines requirements for land within the buffer area, including the need to establish management measures to avoid wildlife attraction.

Proposed mitigation measures in the draft EIS outline that *“WSA Co will negotiate with State and local government agencies and landowners if required on agreed action plans for monitoring and, where necessary, reducing wildlife attraction to areas in the vicinity of WSI”*. It is noted that the attractors include places like wetlands, landfill sites and large waterbodies. The draft EIS also outlines that the 13km buffer will be monitored for any potential wildlife hazards that may impact the 24-hour operations of WSI, including negotiation with landowners to mitigate these risks.

The draft EIS does not explicitly refer to the Blue Mountains National Park as a wildlife attractor, nor does it discuss the clear conflict and contradiction of reducing wildlife attraction within these natural and wilderness areas inside a World Heritage National Park. No information or detail is provided on risks would be mitigated.

It is not acceptable that the GBMWhA may be subject to a management plan which seeks to reduce wildlife and manage wildlife attractors (such as trees and vegetation) inside a National Park listed for its biodiversity values. It is vital that additional information be provided prior to the airport opening, so that the community can have a clear understanding of the impacts of the proposed wildlife buffers.

This is further detailed against Chapter 16 – Biodiversity.

CHAPTER 14 – LAND USE: RECOMMENDATIONS

- 32. Revise the draft EIS to provide further detail on how wildlife buffers will be managed, particularly in highly sensitive areas such as the GBMWhA.**



CHAPTER 15: LANDSCAPE AND VISUAL AMENITY

The Blue Mountains is widely regarded as one of the most iconic landscapes in Australia. Central to the experience of living in and visiting the Blue Mountains, is standing on the edge of wilderness, and engaging with the natural environment, in a setting unlike anywhere else in Sydney. Visitors and locals alike are attracted to the characteristic blue haze and topography which provide a unique backdrop to Sydney, particularly Western Sydney. The Blue Mountains and wider GBMWHa are also highly valued by astronomers, visitors, and locals for their dark skies.

Further, the Blue Mountains economy is reliant on tourism and has a burgeoning nature-based recreation industry which depends on a high level of amenity and tranquillity in natural areas, including the GBMWHa. Substantial levels of overflights are likely to diminish the visitor experience in the Blue Mountains, with negative impacts on the recreation and tourism industry.

The draft EIS confirms that some of the most iconic and important visual landscapes and significant Aboriginal cultural sites in the Blue Mountains will be significantly impacted by the proposed flight paths, both day and night. The draft EIS assesses the visual impact as **moderate – high impact** when considering landscape character, views from lookouts and views from campgrounds. This is unacceptable and does not comply with Condition 16 of the Airport Plan 2016 and is not in accordance with the Greater Blue Mountains World Heritage Area Strategic Plan (2009).

Council strongly opposes the planned flight paths, expressing deep concern over their confirmed impact on extremely sensitive and tranquil areas within the GBMWHa and National Park. Particularly, the Council objects to flight paths that traverse iconic landscapes and significant Aboriginal places and sites, including but not limited to Echo Point, the Three Sisters, and Mount Solitary.

KEY ISSUES:

Impact on World Heritage Values: The draft EIS does not adequately consider the world heritage values of the Blue Mountains in its assessment of visual impact. The Greater Blue Mountains World Heritage Area Strategic Plan (2009) provides the broad management principles for the area, and lists values and attributes associated with the GBMA landscape. As quoted in the draft EIS, the Strategic Plan also notes *“the GBMWHa’s wilderness qualities have particular aesthetic value to local communities and park visitors alike. ...Potential threats to the appreciation of the area’s aesthetic values include inappropriate lighting as well as overflights by helicopters, low-flying jets and other aircraft”* (TP7, page 14).

The draft EIS blatantly states that the proposed flight paths will have “no direct or indirect impact” on the wilderness values of the GBMA, yet does not provide any evidence to support this claim. The draft EIS later states, with reference to Echo Point lookout, that *“by 2055, the frequency of aircraft visible would more than double and their prominence in this view would increase. **These flights have the potential to intrude upon the wilderness character of this view.**”* (Chapter 15, Page 55).



The impact of the proposed flight paths on the wilderness values of the GBMWHa must be appropriately acknowledged, and the entire visual impact assessment revised to correct the current gross inadequacies.

Impacts on Aboriginal Cultural Values: The draft EIS does not adequately address the impacts of the flight paths on aboriginal cultural values, including disruptions to places of significant spiritual value. Impacts to sites of high cultural value are outlined (most being identified as having moderate impact) but the draft EIS simply states that avoidance of flight paths over the GBMA is not possible, so impacts are unavoidable. This is despite the draft EIS explicitly stating that First Nations participants raised concerns about “any increase in noise or visual intrusion” (TP14, page 97) at Echo Point/The Three Sisters.

The proposed night-time visual impacts as a result of the flight paths will significantly disrupt the land-sky connection, with many Aboriginal stories and practices requiring an unbroken connection to maintain and strengthen significance. The draft EIS specifically references the disruption of the land-sky connection between the ‘Emu in the sky’ constellation through the intrusion of aircraft, highlighting that during March and April when the Emu in the Sky is most visible, the visual intrusion would be likely to have some negative cultural impact to the existing land-sky connection.

No mitigation is proposed. No alternate flight paths are suggested. This type and level of impact is wholly unacceptable. The flight paths must be reconsidered to avoid such visual intrusion to significant sites of high cultural value.

Night-time Visual Impacts: The EIS determines a **moderate-low visual impact** from the Linden Observatory and that there would be a **negligible visual impact** on the intrinsically dark landscapes of the Blue Mountains. This is blatantly untrue.

Council has been working to maintain and protect the unique dark sky status of the Greater Blue Mountains Area. The draft EIS considers the visual impact of flight paths on intrinsically dark landscapes, including campgrounds, to be negligible, “*given the minimal level of change and the few number of people that may experience this change*”. (TP14, page viii). Council challenges this claim, with several campgrounds likely to experience a significant change due to proximity to the airport and location underneath flight paths, most notably Euroka campground at Glenbrook. Such sites are valued for their remoteness, and the intrusion from aircraft is likely to impact the experience for visitors to these places.

Further, it is noted that the “night-time” hours are 11pm – 5.30am, which do not correspond to actual periods of darkness, and as such the actual night-time impacts are likely to be greater than captured by the draft EIS.

The Linden Observatory: The Linden Observatory is the largest operating observatory in the Sydney region, with a history dating back to the 1940s. Astronomers at the observatory regularly contribute to research and have made significant discoveries. The observatory also provides education programs and science related events, serving as a hub for learning about astronomy and other STEM subjects. The mandate of the observatory trust is to maintain the site for use and education in astronomy in perpetuity.



The proposed flightpaths through the airspace above and around Linden Observatory present a serious risk to the viability of the observatory and its ability to continue its long and valuable contribution to the astronomy community. The proposed flightpaths breach the International Astronomy Union guidelines for aircraft in proximity to observatories, guidelines which have been adopted previously in Australia.

The passage of commercial aircraft through the observatory airspace will introduce effects that significantly degrade the quality of seeing required for serious astronomical observations. Aircraft can introduce significant long lasting turbulence and contrails in the airspace impeding the ability to make observations.

The draft EIS incorrectly refers to the Observatory as the “former Linden Observatory” and references amateur use without recognising the long standing partnership between amateur and professional astronomers. The EIS also only mentions aircraft lighting as a possible effect, ignoring the effects of turbulence and exhaust contrails.

Degradation of seeing conditions risks the loss of the observatory for serious observations, and consequently a loss of future opportunities for growth, income and conservation of this unique heritage listed asset.

CHAPTER 15 – LANDSCAPE AND VISUAL AMENITY RECOMMENDATIONS:

- 33. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 9, 14, 19, 44).
- 34. Revisit the environmental impact assessment and flight path options** to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWhA. (Same as Recommendation 11)
- 35. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWhA, including the Linden Observatory, and realign flight paths to avoid these areas. (Same as Recommendation 12).
- 36. Implement scheduling adjustments** as the airport opens to mitigate adverse impact on significant visual landscapes, where overflight cannot otherwise be reasonably avoided.
- 37. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians**, with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS. (Same as Recommendation 16)



CHAPTER 16: BIODIVERSITY- ENVIRONMENT

KEY ISSUES

An Independent Technical Peer Review of Studies is required. Understanding the potential impacts of WSI on the surrounding biodiversity values of the GBMWHa would require detailed species knowledge and local species distribution knowledge. Many of the assumptions and assertions made in the Technical Paper 8 (Biodiversity) are made with reference to previous studies and have been interpreted by the consultants tasked with preparing the EIS, who are ecological generalists and not species experts.

In order to adequately assess the validity of the draft EIS's assumption, and assertions that the potential impacts on biodiversity are not significant, a detailed independent peer review by experts of the key species likely to be impacted is required.

Lack of additional studies to support flight path design: The draft EIS does not include sufficient additional studies or detailed investigation on the potential biodiversity and environmental impacts likely to arise as a result of the flight path design and the 24 hour operation of the WSI Airport. The reliance on work completed for the 2016 EIS is not acceptable or representative of a thorough environmental assessment.

The Council in its 2016 submission identified that the preliminary Bird and Bat Strike Risk Assessment relied on a desk top review, three days of survey work and the consultants "knowledge of bird and bat strike issues at other airports". That assessment concluded that further works in the study area were required. The additional work that has occurred is not sufficient and must be independently peer reviewed.

Lack of Detailed consideration of GBMWHa. Despite the submission made by Council in 2016, the draft EIS remains deficient in its assessment of the GBMWHa.

The GBMWHa has a number of migratory birds listed in the EPBC Act. The GBMWHa is also recognised as an Important Bird and Biodiversity Area by Birdlife International as a globally important habitat for the conservation of bird populations. Council is of the strong view that the impact of the proposed flight paths over the GBMWHa on these migratory birds needs to be appropriately assessed before the EIS is finalised.

As referenced in the Council's 2016 submission, the Australian Transport Safety Bureau (ATSB) reports that between 2004 and 2013 there were 14,571 bird strikes reported in Australia with the majority of these associated with high-capacity air transport aircraft, such as those that would be using WSA. The ATSB also found that the majority of bird strikes occur during take-off (38%), followed by landing (36%), approach (18%) and initial climb (6%), all operations that will be occurring above the GBMWHa and urban areas of the Blue Mountains. In other words, 98% of all bird strike potential will occur within the airport site and proposed flight paths over the Blue Mountains. Further assessment must be undertaken.



Identified risk to Regent Honeyeater and Grey-headed Flying Fox. These two threatened species are known to occur within the Greater Blue Mountains Area and the likely impact to their habitat and mortality as a result of aircraft strike, is acknowledged within the draft EIS, but downplayed as unlikely to occur with great regularity. The majority of comparative airspace considered in the assessment is at Kingsford Smith Airport or other active locations such as Bankstown. As with the 2016 EIS, the GBMWhA and obvious and expansive role as a wildlife attractor, is understated and has not been adequately assessed. This must be revisited.

CHAPTER 16 – BIODIVERSITY RECOMMENDATIONS

- 38. Undertake an independent peer review of the biodiversity impacts on the Greater Blue Mountains World Heritage Area**, including wildlife strikes, to validate conclusions drawn in the draft EIS.
- 39. Establish a system of wildlife monitoring stations at key locations in the Blue Mountains**, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate wildlife assumptions and determine management strategies.
- 40. The Commonwealth Government oversees the management of wildlife buffer zones** and the implementation of risk management plans associated with wildlife strikes, particularly concerning threatened species.



CHAPTER 17: HERITAGE

KEY ISSUES – ABORIGINAL CULTURAL HERITAGE:

Significance Assessment (17.3.2.1): This section acknowledges that when assessing cultural values, intangible values such as spirituality and connectedness to nature require a qualitative approach and a consideration of a tipping point, whereby an impact may fundamentally affect sustaining the cultural practices of a place. A grading of low to severe is then described, stating that *“For the purposes of this assessment a predicted noise level of 70 dB(A) and above is classed as a severe impact, particularly where those heritage places were otherwise located in a tranquil rural or bushland location. Other factors that may affect the severity of noise related impact relate to the frequency of flights (and therefore frequency of disturbance) and whether or not flights occur at night when background noise in rural areas is at its lowest.”*

There is no explanation of the reason for adopting 70dB(A) in the EIS. Elsewhere in the draft EIS 60dB(A) is considered to result in a high level, adverse noise impacts, particularly in tranquil or wilderness areas. 70dB(A) therefore appears a threshold level, convenient for and acceptable to the proponent to include in this section. Were 60dB(A) the threshold test for a severe impact, all heritage items listed in Table 17.4 would be assessed as severely impacted.

Lack of Recognition and Protection for Aboriginal Cultural Heritage: The draft EIS states there are over 13,500 recorded Aboriginal sites in the area, with a potential of many more. Several of these sites have received statutory recognitions, although all Aboriginal sites hold significance for Aboriginal people. The proposed flight paths are over a large number of Aboriginal sites. The risk of air pollution having a detrimental effect on rock art sites is particularly distressing to Traditional Custodians, especially given the potential for damage that is not able to be accurately measured.

The assessment within this section of Chapter 17 (17.5.1) is grossly lacking. The section lists Declared Aboriginal Places and nominates potential impacts to culturally significant places, with particular reference to the impact of noise, visual intrusion and disruption of the land-sky connection.

The assessment then confirms that the impact to a number of these places will be **moderate, significant or severe**. With respect to Echo Point, the draft EIS states that *“knowledge holders were of the view that increases in noise and visual intrusions would impact the cultural values of the site and were concerned to minimise these.”*

Despite this admission, there are no mitigation measure proposed. To the contrary, noise and visual intrusion over multiple culturally significant sites including the declared Aboriginal Place of the Three Sisters (Echo Point), is identified as substantial under the draft EIS – and confirmed to have a high visual impact.



Section 17.6.1 states that *“DITRDCA will ensure that the detailed design phase considers Aboriginal cultural places and values, noting that safety is not negotiable, and that capacity, environment and efficiency factors must also be considered in the flight path design.”* Consultation at this stage, is too late.

The cursory assessment contained within the draft EIS cannot be considered an adequate assessment of culturally significant and iconic landscapes. The EIS must be amended to include a detailed assessment, informed by meaningful consultation with the Aboriginal community. Delaying any consideration to the detailed design phase is not acceptable.

The following further key matters have been raised by Traditional Custodians within the Blue Mountains, representatives of the Gundungurra Indigenous Land Use Agreement Committee, and Council’s First Nations Team:

- **First Nations Community Concern:** The Aboriginal community are extremely concerned about the lack of protection and importance for Aboriginal sites and places of significance given NSW is still the only Australian State without a Cultural Heritage Act.
- **First Nations Concern about Noise Pollution:** Traditional Owners are also concerned about noise pollution. Excess and constant noise pollution in areas that are normally remote, will have an enormous impact on cultural activities and essential peaceful connections to Country. Native animals will also be affected, and their behaviours and peace will be altered.
- **First Nations Concern about Environmental Impact:** Animals, plants and trees will be negatively impacted by worsened air quality, and in the event of fuel jettisoning, however unlikely, there could be detrimental effects on the environment and waterways.
- **First Nation Concern about Breaking of land-sky connections:** Visual intrusions will also have negative impacts. The constant breaking of land-sky connections is of particular concern to Traditional Owners.

The following statement was provided by Darug Traditional Owner, Chris Tobin:

Please listen. This submission will be brief.

It is not my intention here to sway a decision that has already been made nor plead for the life of our Country to the soulless groups (NSW govt included) which have been created to try and extract wealth out of her with no regard for the legacy left to the following generations. I would in fact be quite stupid not to be cynical of the process especially when an Environmental Impact Statement is sought AFTER work has already been started and the government is already assuring anyone who asks that is going ahead anyway; so I feel I would be wasting my time even writing this in that respect.

No. this letter is more to serve as proof to my grandchildren whom will be left with the increasingly difficult job of trying to care for their ailing ancestral Country that we did indeed try to speak for Country and stop the destruction of their birthright, their ‘Ngurra’ or Country which has been assaulted continuously and cumulatively since the arrival of the British colony in 1788



Country for our people means more than just the beautiful rocks and trees and wonderful creatures who share our home with us. It where we have belonging on the earth and the inherited responsibility of caring for her and passing on a healthy Country to the following generations.

In Aboriginal culture she (the Country) is an extension of us and not something we can buy and sell. We have no right to damage her as we are presently doing and planning to worsen further with a 24-7 airport being constructed that will impact so destructively on the health and well-being of the whole of our Country.

We as the traditional Aboriginal Custodians have the responsibility to speak for our Country and have long pleaded on behalf of her that the health and well-being of the Country comes first. Our concern is not just for us, but the health of us all -drinking from polluted waterways, danger from the increased traffic needed to serve the airport and the voluminous influx of people being encouraged to use it with all the attendant fumes and rubbish that uncaring visitors produce.

Our concerns extend also to the disruption of the Sky Country including the bird and animal migrations and navigations underneath and amongst the constant noise that will be produced. The stars too, considered as the Spirit world for our Ancestors, once prominent and where many of our stories reside are becoming less and less visible. Disappearing too is the peace and respite we seek in the last remaining intact ecosystems within our traditional lands (largely within the Blue Mountains National Park) and will become harder to find due to the constant descending and ascending of planes from the outside world.

The so-called authorities have no right to do this. There is no 'bill of sale' for this Country and no treaty. It was taken by force and without consent. The only claim to legitimacy to make decisions for her by these failing institutions would be for them to show great respect and responsibility for the Country it has laid claim to. Sadly they are showing themselves to be unfit for the job and our only hope is to look to the Great Spirit to help change the hearts of those who are in a position to stop any further destruction and instead look for ways to improve the health of the Country and rescue the birthright of our children and offer them a future

~Chris Tobin

Dharug Custodian

KEY ISSUES – HISTORIC HERITAGE:

This section nominates a number of listed, built heritage items. However, it the draft EIS fails to consider any of the listed walking tracks, either state or locally listed, within the Blue Mountains Local Government Area or within the Blue Mountains National Park.

Many of the heritage inventory sheets for these iconic walks, identify that part of their significance lies in the early recreation and opportunities to connect with nature, provided to the public, with certain reserves in the Blue Mountains holding state significance as being the first to be gazetted for purely



recreational purposes and “being able to walk through natural scenery from accommodation near the highway to enjoy escarpment and waterfall views.” (Post Office Directories of the 1830s).

There is no evidence of a detailed assessment of these walking tracks. It appears that the superficial assessment within the draft EIS is confined to the potential for physical impacts to fabric and does not consider any of the associated social and other heritage values integral to these listings, which are tied to recreation and experience of nature and wilderness. These values will be irrefutably impacted as a result of the proposed flight paths, with significant noise impacts throughout the GMBWHA. The experience of bushwalking in the Blue Mountains, as has been appreciated for more than 200 years, will be irrecoverably and adversely altered.

CHAPTER 17 - HERITAGE RECOMMENDATIONS:

- 41. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians**, with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS. (Same as Recommendation 16 and 37)
- 42. Amend the draft EIS to recognise and protect Aboriginal Cultural Heritage and Country by:**
 - Acknowledging the significance of all Aboriginal sites, irrespective of statutory recognition, as each holding unique cultural value
 - Conducting a comprehensive reassessment of the draft flight path design, ensuring a thorough understanding of the potential impact on the extensive network of over 13,500 recorded Aboriginal sites listed in the draft EIS
 - Taking proactive measures to preserve and protect Aboriginal sites and places of cultural significance, acknowledging their intrinsic value to the Aboriginal community
 - Implementing strategies to mitigate air pollution risks to rock art sites and evaluate the noise pollution impacts on cultural activities and connections to Country
 - Considering the potential adverse effects on native animals, recognising the disruptions caused by persistent air and noise pollution, and formulating strategies to address these impacts
 - Addressing concerns regarding the negative environmental consequences on Country, encompassing plants, trees and waterways, due to air pollution and implement measures to protect the environment
 - Developing strategies to minimise visual intrusions over Aboriginal sites, recognising the importance of preserving the visual integrity of these cultural landscapes including the importance of land-sky connections.
- 43. Undertake a heritage impact assessment on the walking tracks of the GBMWHA**, to understand the impacts to the significance and heritage values of these tracks, particularly from a social and recreational perspective.



CHAPTER 18: SOCIAL

The draft EIS includes a Social Impact Assessment (SIA), aligning with the NSW Department of Planning and Environment's Social Impact Assessment Guidelines for State Significant Projects 2023. The SIA aimed to assess potential social impacts arising from the operation of flight paths, covering the categories: way of life, community, culture, accessibility, health and wellbeing, surroundings, livelihoods, and decision-making systems. **The SIA has concluded that significant social impacts will occur, primarily as a consequence of aircraft noise.**

KEY ISSUES:

Social Inequality and Impact on Blue Mountains and Western Sydney: The Council raises significant concerns about the social inequality of impacts associated with the flight path design for WSI.

The proposed operation of WSI 24 hours a day, 7 days a week is fundamentally inequitable. It will result in significant increases in noise and other environmental impacts for residents across Western Sydney and the Blue Mountains, particularly during night-time hours. This is not an impact that Eastern Sydney is required to take. To the contrary, the flight path design for WSI purposely avoided any impact on noise sharing arrangements at Kingsford Smith Airport, preserving clear skies over eastern Sydney at night. This cannot be described as anything less than discrimination against Western Sydney and the Blue Mountains.

As identified in the SIA, research has documented that aircraft noise can lead to health, economic and educational disparities. According to Technical Paper 1, by 2033, 132,000 people would be exposed to an average of more than 10 daily movements above 60 dB(A) within the Blacktown, Penrith, Blue Mountains, Liverpool, Camden and Wollondilly LGAs. By 2055 this would increase to 175,000 people (9.5% of the population in that area). Figure 6.1 of Technical Paper 10 indicates, amongst other items, the 2033 N60 and N70 noise contours and identifies large, populated areas of the lower Blue Mountains and mid Blue Mountains. This spatial analysis adds a critical layer to understanding the inequitable concentration of impacts in specific areas.

The draft EIS outlines that further consultation will be undertaken on social issues, to promote the social and economic welfare of the community. While Council supports further consultation, significant concern is raised about the effectiveness, and authenticity of a consultation process proposed to take place after flight paths are approved. As a matter of law, such an approach cannot result in a genuine consultation process.

Compensation and funding of initiatives to ameliorate the social impacts, particularly in relation to the exacerbation of inequality for vulnerable groups, will be required. The draft EIS claims that WSI will “provide long term economic and employment opportunities in the surrounding area”. This cannot be at the expense of vulnerable groups in the community without appropriate recompense.



Changes to way of life: The draft EIS acknowledges that people in the Blue Mountains highly value their living environment, and residents value the quiet character of their environment, unaffected by man-made noise, as well as the region's clean air, scenic views, World Heritage Area, and cultural heritage. This also underpins Council's strategic documents and is highlighted in the Blue Mountains Community Strategic Plan (CSP).

Despite the acknowledged value Blue Mountains residents place on their unique living environment, the draft EIS downplays the potential impact on their way of life. The description of "minor changes to the enjoyment of residential properties" suggests an underestimation of the profound effect that increased noise levels from aircraft overflight will have on the quiet and peaceful character that residents value so highly. This is further detailed against Chapter 11 – Aircraft Noise.

The draft EIS should consider a more comprehensive assessment of the potential impacts on the way of life in the Blue Mountains, considering the unique values held by residents who live in a City within a World Heritage Area. Proposed mitigation measures should go beyond a classification of impact severity and actively address the protection of the region's character and World Heritage values.

Change to the use and enjoyment of social infrastructure: Surveys undertaken as part of the SIA highlight the significance of the Blue Mountains as a valued holiday area for nearby residents and those in Greater Sydney – noting it is significant for the City's mental wellbeing. Survey responses raised some concern that activities such as bushwalking, which are reliant on isolation, would be impacted by the airport's visual and noise impacts.

The SIA identifies changes to the use and enjoyment of walking tracks and lookouts within the Greater Blue Mountains Area (GBMA). Moderate to moderate-high visual impacts across key lookouts, including Rock Lookout, Echo Point, and Cleary Memorial Lookout are confirmed in the draft EIS. This is further addressed against Chapter 15 – Landscape and Visual Amenity.

As highlighted in other sections of this submission, the profound impact likely from aircraft overflights on wilderness areas, the GBMWA, and the residential areas of the City defined by their silence, has been grossly underestimated in the draft EIS. Council has significant concerns regarding impact on the local character of the Blue Mountains, potential disruptions to visitor experience, and fundamental changes to the use and enjoyment of social infrastructure by the community.

Impact on community wellbeing was raised in the SIA as a key concern by survey respondents. Specifically, concerns about 24/7 operations and night-time noise were highlighted and the potential for disturbances that could impact sleep quality and increase stressors, particularly for young people and students. Survey respondents noted that houses in the Blue Mountains often lack substantial soundproofing, making residents more susceptible to noise disturbances.

The draft EIS highlights sleep disturbance as a potential consequence for Blue Mountains residents due to movements above 60dB between 11pm and 5:30am. The exposure of more than 10 daily



movements above 60dB, particularly impacting people with disabilities, carers, and those with trauma or sensory disorders, raises concerns about the wellbeing of vulnerable groups within the community. The Council notes the inadequate mitigation strategies proposed to address potential sleep disturbance, including the lack of consideration of a curfew, noise abatement procedures, funding for the installation of noise mitigation measures, or any noise sharing arrangement across the Sydney Basin Airspace.

Changes to Childrens behaviour and learning: Section 6.5.3 of Technical Paper 10 states that *“Aircraft-related noise and emissions may affect children’s behaviour and attentiveness at school, also affecting staff’s ability to teach and overall educational and wellbeing outcomes for students, families and staff. The likelihood of this impact is determined by the existing baseline conditions, consultation findings and evidence of this impact occurring elsewhere.”*

As raised in Part A and against Chapter 11 within this submission, the existing ambient noise level in the Blue Mountains is low, and substantially below the baseline levels used in the draft EIS (which related to urban areas). As such, increases in noise and the substantial change from existing levels, is likely to be highly disruptive to education (particularly for students and children with cognitive disability). This is confirmed in the Social Impact Assessment supporting the draft EIS, yet it has not been assessed for the Blue Mountains context. This must be corrected.

CHAPTER 18 - SOCIAL RECOMMENDATIONS:

- 44. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same Recommendation 1, 9, 14, 19, 33)
- 45. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (Same as Recommendation 2, 10, 15, 20, 52)
- 46. Revisit the environmental impact assessment and flight path options** to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWA. (same as Recommendation 11 and 34)
- 47. Update the draft EIS to identify mitigation strategies**, such as compensation, funding initiatives, and public infrastructure investment to address socioeconomic impacts and impacts to quality of life.



CHAPTER 19: ECONOMIC

Key Issues:

The economic impact assessment in the draft EIS does not adequately assess the full range of social and economic impacts likely to result from WSI. The lack of any holistic economic analysis is a key omission, which needs to be addressed as a priority in a revised EIS.

Inadequate Economic Impact Assessment: The Council is particularly concerned at the lack of consideration given to the likely *adverse* economic impacts on the Blue Mountains due to the proximity of the airport. The resulting levels of aircraft noise and overflights will have a significant impact on Aboriginal culture and Country, on Blue Mountains residents and their quality of life, and on the perception of the area as a place of tranquillity, solitude, respite and escape from urban living both for residents and visitors.

The draft EIS states that there is “no specific legislation that guides economic impact assessments”. In fact, there are ample national and international reference points to guide an effective process for assessing economic impacts. In defining the approach taken to the Economic Impact Assessment reference is made to ‘sensitive receivers’, however, these remain undefined. Much greater clarity in this part of the EIS is required.

Threat to Blue Mountains' Tourism Economy: The Blue Mountains economy is heavily reliant on the tourism economy, with a burgeoning nature-based recreation and tourism industry dependent on a high level of amenity and tranquillity in natural areas. Aircraft noise and overflights have the potential to greatly diminish the visitor experience in the Blue Mountains, and primary perceptions of the place, with resulting negative impacts on the recreation and tourism industry.

The whole of the local government area (LGA) is utilised for tourism and recreation purposes, from the Scenic Eastern Escarpment through to Mount York in the West. The draft EIS does not appropriately acknowledge this reality. The lack of evidence presented in the Economic Chapter is concerning. With the exception of short-term impacts on house prices no evidence is presented, with a series of general claims such as:

“The increased access to key tourist destinations, in particular for tourists visiting areas such as the Greater Blue Mountains, is considered to outweigh the potential adverse amenity impact of the flight paths.”

There is no evidence or case studies presented in the draft EIS to justify such claims. The GBMWH is typified by its wilderness and remoteness, its quietness and calm. The existing low level of overflight has been acknowledged by Blue Mountains City Council as a key value, enhanced through resolutions acknowledging the Dark Sky values. No analysis of the economic value of these attributes has been undertaken in the draft EIS.



In assessing the existing economic environment, a very broad blanket approach is adopted and whilst specific reference is made to tourism, notably in the Blue Mountains region, comments relating to aircraft noise and/or visual intrusion “generally avoiding tourist destinations” are grossly misleading and factually incorrect.

Visitors to the Blue Mountains generally arrive at the eastern escarpment, which is currently a focus of increased utilisation and investment, linking visitation and recreation offers between the Blue Mountains and Penrith LGA’s. Further, wilderness camping experiences at Euroka (Glenbrook), bushwalking and natural recreation activities in the Glenbrook section of the Blue Mountains National Park and acknowledged places of aboriginal significance will be severely impacted by overflights.

CHAPTER 19 - ECONOMIC RECOMMENDATIONS:

- 48. Revisit and substantially revise the economic chapter of the draft EIS**, including a detailed assessment of the adverse impacts of the airport on the unique character and visitor experience of the Blue Mountains, and on the local economy, including the tourism and nature-based recreation sectors. The assessment must consider the impact on the whole of the Blue Mountains LGA (including the eastern portions), the wider role the Blue Mountains plays for Greater Sydney, and present appropriate evidence and case studies to support claims made.
- 49. Include additional sensitive tourism and recreation areas in modelling** such as walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWhA from outside the Blue Mountains LGA.
- 50. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWhA, including the Linden Observatory, and realign flight paths to avoid these areas. (Same as Recommendation 11 and 34)



CHAPTER 20: HUMAN HEALTH

The Western Sydney Regional Organisation of Councils (WSROC) commissioned the Centre for Health Equity Training, Research and Evaluation at the University of NSW to independently review the health component of the EIS in order to assist councils in preparation of their submissions. The key findings of the peer review, as it relates to the Blue Mountains, are included below.

KEY ISSUES:

The Blue Mountains Context: The City of the Blue Mountains is located inside a World Heritage Area. By its nature, this location is unique. It has unique environmental attributes which are recognised globally. These same attributes are a significant contributor to residential values of the City and to the drivers for people to reside in the Blue Mountains.

Engagement with nature, tranquillity, quiet and space are defining characteristics of the residential areas of the Blue Mountains. The draft EIS has fundamentally ignored these characteristics in all aspects of the assessment, thereby substantially underestimating the likely adverse impacts from noise, light, and general disturbance from WSI operations.

The stark change for the Blue Mountains community from quiet nights and dark skies to regular overflights at lower altitude, 24 hours a day will have a substantial and inequitable adverse impact. To utilise urban standards (as in the draft EIS) as the assessment baseline is not appropriate in the Blue Mountains and not an accepted international standard.

We call on the Federal government to acknowledge the unique location of the Blue Mountains and revisit the assessments on noise and visual impact.

Health and Well Being: The draft EIS acknowledges the value of the GBMWhA in providing opportunity for recreation, spirituality, being in touch with wilderness, and social and economic benefits, all of which contribute to some extent to the wellbeing of residents and visitors. The draft EIS also directly states that noise and air emissions have the potential to affect the physical and mental health and wellbeing of residents, particularly in 2055.

No mitigation options are presented in the draft EIS to combat these impacts to resident health and wellbeing, with the assessment of impact instead focusing only on tourism. This is wholly unacceptable. The draft EIS must be revisited to appropriately consider the very real impact the proposed flight paths will have on the wellbeing of residents of the Blue Mountains, who are not simply “frequent visitors to the GBMA” as stated in Technical Paper 14.

Sleep disturbance: The peer review outlines that the most important health impacting endpoint is sleep disturbance. Whilst the draft EIS provides detail about the proportion of people at any one location with no flight movements, no discussion is included around flight respite at different times of day. The peer review outlines the importance of respite at different times of the day and night, such



as in the late evening when people are trying to fall asleep or in the early hours of the morning when people are resting deeply. Similarly, as outlined elsewhere in this submission, the definition of “night” as being from 11pm to 5:30am is inadequate. The standard international measure for night is from 11pm to 7am, providing an 8-hour window for sleep.

The peer review also recommends the precautionary principle be the standard consideration for all decision making. That is, the strictest measures are adopted even in the absence of evidence.

CHAPTER 20 – HEALTH RECOMMENDATIONS:

- 51. Implement at Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport,** to protect residents equitably across the Sydney Basin from unacceptable night-time impacts.
- 52. Establish a system of air-quality and noise monitoring stations at key locations in the Blue Mountains,** at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate assumptions and determine management strategies related to human health.

CHAPTER 21: FACILITATED IMPACTS

This section of the draft EIS provides an assessment of the impact of change on other currently operating airports and their airspaces within the Sydney Basin. The authors of the draft EIS claim that the changes and consequential impacts are minor. This includes changes to operations out of Kingsford Smith Airport, Bankstown, Camden and Richmond Airports.

However, based on the information provided, certain new flight tracks are proposed which have the potential to further, adversely impact the Blue Mountains through noise and visual intrusion. Figure 21.26 identifies new arrival and departure flight tracks into and out of Bankstown airport, showing Cessna and Beech aircraft flying as low as 3500ft, emitting noise at up to 68 dB(A) over residential areas of the Blue Mountains, with villages such as Hazelbrook, Woodford, Linden and Blaxland directly under these new flight tracks.

Despite the low numbers of aircraft per days (10 movements per day nominated in the draft EIS) these are lower flying aircraft (Cessna and the like), now proposed to fly over Blue Mountains residential areas and the GBMWhA. There is no evidence that this has been included in the noise assessment (Chapter 11 of the draft EIS) or considered as part of a cumulative impact assessment of all changes as a result of the WSI Airport operations. The Council requests a detailed assessment on these additional flight tracks, and cumulative assessment of noise over the Blue Mountains.

CHAPTER 21 – FACILITATED IMPACTS RECOMMENDATIONS:

- 53. Confirm the cumulative impact of all flight paths over the Blue Mountains,** including changes to all currently operating airports as a result of WSI Airport operations.



CHAPTER 22: CUMULATIVE IMPACTS

It is the Council's view that the cumulative impacts resulting from the operation of WSI have not been adequately assessed in the draft EIS. There is no evidence or discussion on long term strategic planning initiatives across the region, or how key infrastructure development, either current or in the pipeline, has been considered and incorporated into the environmental assessment.

KEY ISSUES:

The Council expresses significant concerns about inadequacies identified in the facilitated impact analysis of the 2023 Environmental Impact Statement (EIS) on the preliminary flight path design. Several critical concerns contribute to the Council's scepticism about the thoroughness and reliability of the EIS including the lack of balance of economic benefits with amenity and environmental concerns, impacts on tourist destinations and the impact of increased traffic on the Great Western Highway including freight. Council is of the view that the EIS pays insufficient attention to the potential repercussions on both Western Sydney and the Blue Mountains and raises concerns about the thoroughness of the analysis as detailed below.

Lack of Balance of Economic Benefits with Amenity Concerns: While acknowledging the GWH as a key regional corridor, the Council challenges the EIS's assertion that the increased accessibility resulting from the highway's duplication will invariably bring economic benefits to tourist destinations, especially within the Greater Blue Mountains. It emphasises the necessity of a balanced approach that weighs the perceived economic advantages against potential adverse impacts on the region's amenity arising from the proposed flight paths of the Western Sydney International Airport (WSI).

Duplication of the Great Western Highway: The Council acknowledges the national significance of the Great Western Highway (GWH) as a crucial transport corridor. However, it emphasises the necessity of evaluating the impacts of duplication of the GWH not only in the context of its national importance but also in consideration of its vital role in connecting the villages of the Blue Mountains. Any upgrades to the Great Western Highway must consider the World Heritage settings, both environmentally, visually and from the perspective of Blue Mountains residents.

Impact of Increased Road Freight from WSI: The Council also notes the predicted 88% increase in road freight volume on the Great Western Highway between 2013 and 2031, independent of WSI. It underscores the likelihood of further adverse effects and risks for the Blue Mountains and other Western Sydney communities due to the airport and associated developments, emphasizing the need for a thorough assessment of these impacts on safety, amenity, and the Greater Blue Mountains World Heritage Area (GBMWH).

Understated Predictions and Comprehensive Evaluation: The Council raises concerns about the understated prediction of traffic generation from the airport. The existing modelling, which only considers passenger and staff transport, fails to account for associated airport uses within the zoned lands, including business development, terminal support services and freight generation. The Council urges a comprehensive evaluation that incorporates the full spectrum of potential impacts on the transport infrastructure, safety, and overall amenity of the affected regions, particularly the Greater Blue Mountains.



CHAPTER 22- CUMULATIVE IMPACTS RECOMMENDATIONS:

- 54. Reconsider the scope of the draft EIS** to include a detailed analysis of supporting critical infrastructure to demonstrate the environmental impact as a result of the construction and development of the airport, and associated traffic impacts. (Same as Recommendation 4)

CHAPTER 23: MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

As identified in Part A of this submission, Council reconfirms that the draft EIS has not adequately considered the potential impacts of the proposed airport on the integrity of the Greater Blue Mountains World Heritage Area (GBMWHa) and particularly on the wilderness values of the GBMWHa.

Chapter 23 details the legislative context under which WSI is considered, particularly the relevance of the EPBC Act and its definition of 'matters of national significance' (MNES). The chapter then spends pages confirming the policy settings including the World Heritage Convention, International Union for the Conservation of Nature, and relevant NSW legislation including the Wilderness Act 1987, which covers the protection and management of national parks.

Despite this comprehensive context setting, the methodology (including initial screening of MNES) is cursory at best. It focuses on the perceived lack of physical impact on the environment or biodiversity and consequentially assesses that the impact to threatened species and migratory species as not significant. The chapter then continues to confirm that the Outstanding Universal Value and Integrity of the Greater Blue Mountains World Heritage Area will not be adversely affected by the proposal.

This is simply not true and as detailed in Part A of this submission, there are potentially significant and unparalleled threats to the World Heritage Area as a result of the operation of Western Sydney Airport and the proposed flight path design. The following key issues (to be read in response to this chapter of the draft EIS) are included above at Part A:

- **Inadequate Assessment of legislated Wilderness Values Impact**
- **Downplaying of World Heritage Value Impacts**
- **Historical Concerns and UNESCO World Heritage Listing Deferral**
- **Socio-economic Concerns and Reputational Damage**
- **Economic Implications of World Heritage in Danger**

CHAPTER 23 - MATTERS OF NATIONAL SIGNIFICANCE RECOMMENDATIONS:

- 55. Consult with UNESCO's World Heritage Committee to conduct an independent review of the draft EIS** and thoroughly assess the impacts on the Integrity and Outstanding Universal Values, together with the impact on wilderness values, of the GBMWHa.
- 56. Revise draft EIS to include an assessment against World Heritage Listing criteria**, taking into consideration previous concerns expressed by the International Union for Conservation of



Nature regarding an airport on this site, and addressing significant deficiencies including the need for:

- ambient noise measurements from a representative sample of locations within the GBMWhA;
- new modelling of noise impacts to confirm expected noise levels;
- an expanded list of the locations of sensitive tourism and recreation areas for modelling to include sites associated with walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWhA from outside the area;
- an assessment of impacts on the GBMWhA in regards to the wider role it plays in the Greater Metropolitan Area of Sydney;
- an assessment against World Heritage Listing criteria taking into consideration previous concerns with a potential airport expressed by the International Union for Conservation of Nature;
- a thorough review of noise impacts on wildlife in the GBMWhA;
- a detailed bird and bat strike risk assessment;
- a thorough review of noise impact by user group in the GBMWhA; and
- an assessment of current international trends in relation to aircraft noise in national parks and consideration of the application of alternate noise metrics currently being used in the United States.

57. Update the Greater Blue Mountain World Heritage Area Strategic Plan to reflect potential airport issues as a matter of urgency and consider the updated plan in determining the draft EIS.

CHAPTER 24: MITIGATION AND ENVIRONMENTAL MANAGEMENT

As part of the EIS mitigation and environmental management chapter, the Department presents a proposed mitigation strategy by installing a system of permanent and temporary noise monitoring terminals and claims that this will be an adequate mitigation measure. However, the Department does not disclose the location or baseline metrics of the monitoring systems nor the mitigation actions to be taken if the proposed monitoring identifies impacts over and above the anticipated impacts (based on the modelling undertaken to date). The Council notes that full and transparent details of any proposed noise and air quality monitoring programs are required to assess the adequacy of the proposed monitoring. Clear identification of the precise mitigation measures, and the point at which they will be implemented, is also required.

KEY ISSUES

Inadequate Mitigation and Monitoring Measures: The EIS states that noise monitoring has occurred in the GBMWhA. The ambient noise conditions were assessed at 29 locations over a two-to-4-week period in Q4 2022. This level of baseline monitoring was clearly inadequate, with the monitoring locations unrepresentative of many areas in the Blue Mountains, raising questions about its effectiveness in capturing the diverse acoustic conditions across the Blue Mountains local government area and within the GBMWhA. Moreover, the selected locations do not adequately reflect the full



spectrum of noise environments experienced in many areas of the Blue Mountains. This underscores the need for a more comprehensive and inclusive approach to noise monitoring that accurately accounts for the diverse acoustic and sensitive characteristics of the entire Greater Blue Mountains region.

The EIS presents an additional monitoring measure in table 24-2 (p.24-11) Aircraft noise. Airservices Australia proposes to install a system of permanent and temporary noise monitoring terminals at suitable locations, incorporated into the Airservices Australia NFPMS network and reporting systems. The EIS claims that the interface will allow community and other stakeholders to see where aircraft fly and explore historical trends and patterns. The monitoring system aims to establish a baseline that could give an evidence base for any future flight path modification or noise abatement initiatives.

However, Council argues that this assessment is flawed as no details are provided as to the proposed locations or intensity of monitoring, making a critical assessment of the adequacy of this monitoring impossible. Given the cursory and non-representative nature of the ambient noise survey it does not provide confidence that the ongoing monitoring regime for the operational phase of the project will be sufficiently comprehensive and robust to address community concerns about the monitoring of the ongoing and progressive deterioration of residential amenity and erosion of the integrity of the GBMWHa associated with the progressively intensifying use and potential second runway.

CHAPTER 24 MITIGATION AND ENVIRONMENTAL MANAGEMENT RECOMMENDATIONS:

58. Consult with UNESCO's World Heritage Committee to conduct an independent review of the draft EIS and thoroughly assess the impacts on the Integrity and Outstanding Universal Values, together with the impact on wilderness values, of the GBMWHa.

59. Revise draft EIS to include an assessment against World Heritage Listing criteria, taking into consideration previous concerns expressed by the International Union for Conservation of Nature regarding an airport on this site, and addressing significant deficiencies including the need for:

- ambient noise measurements from a representative sample of locations within the GBMWHa;
- new modelling of noise impacts to confirm expected noise levels;
- an expanded list of the locations of sensitive tourism and recreation areas for modelling to include sites associated with walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWHa from outside the area;
- an assessment of impacts on the GBMWHa in regards to the wider role it plays in the Greater Metropolitan Area of Sydney;
- an assessment against World Heritage Listing criteria taking into consideration previous concerns with a potential airport expressed by the International Union for Conservation of Nature;
- a thorough review of noise impacts on wildlife in the GBMWHa;
- a detailed bird and bat strike risk assessment;
- a thorough review of noise impact by user group in the GBMWHa; and
- an assessment of current international trends in relation to aircraft noise in national parks and consideration of the application of alternate noise metrics currently being used in the United States.



- 60. Update the Greater Blue Mountain World Heritage Area Strategic Plan** to reflect potential airport issues as a matter of urgency and consider the updated plan in determining the draft EIS.



CONCLUSION

The Australian Government has been tasked with developing WSI Airport, as a once in a generation infrastructure project for Sydney. Equally the government must ensure that its flight path and airspace architecture for WSI Airport has acceptable impacts and that all reasonable measures are employed to mitigate those impacts.

The Draft EIS fails in that task. This submission identifies a multitude of areas in which the environmental assessment is grossly deficient.

The failure stems, in the first instance, by the approach of the Australian Government and the Department, to disaggregate the decision to construct the airport from the decision on whether the foreseeable impacts on the communities of Western Sydney and the Blue Mountains arising from its operation and its flight paths are acceptable. It is the Council's submission that should those assessments have been publicly available, and the true impacts understood, the airport would not have proceeded. This arises from the inevitable impacts of an airport in close proximity to residential communities and a world renowned wilderness.

In the second instance, the draft EIS on flight path design has been advanced on the precondition that the airport will of course operate, thus dismissing impacts as inevitable. The draft EIS, in important respects, has been prepared to justify the operation of an airport already under construction.

As a City within a World Heritage National Park, the urban settlement of the Blue Mountains is home to 80,000 people. The community, to varying degrees, will be impacted by the acoustic and visual impacts, in common with other parts of Western Sydney. The point of difference is that these residents have chosen towns and villages and a living environment not unreasonably impacted by noise.

The draft EIS has not respectfully acknowledged the impacts to health and wellbeing that arise from this proposal.

The authors of the draft EIS dismiss a range of potential impacts on community and the environment. The reticence of the Government to attempt to change flight path design for Eastern Sydney and attempt changes to curfews with those very communities with lived experience of aircraft overflight suggests impacts are not minimal but go to the health and wellbeing of communities. Indeed, the draft EIS suggests that flight paths will not be changed for decades.

In contrast, the Council submits that the draft EIS and its flight path proposal will result in serious and unacceptable impacts across a range of key issues. With its antecedents in the World Heritage Nomination, the flight paths will impact irrevocably on the Outstanding Universal Values and integrity of the Blue Mountains World Heritage Area and the process represents a failure to meaningfully engage with UNESCO and First Nations people. Iconic landscapes will be subject to high visual impacts, and appropriate wilderness assessment criteria did not inform draft EIS.

Accordingly, as this submission details, in these impacts and recommendations to mitigate these impacts, there is limited remedy available because the operations of WSI airport and its impacts on Western Sydney are largely inevitable. However, the submission identifies two avenues to the Australian Government to remedy this failure in process:



- i. It must advance the full review of airspace design and architecture for the Sydney basin as a whole, thus equalising impacts across communities, in a manner which is consistent with the introduction of a second international airport, and
- ii. It must adopt the same approach to curfews across the Sydney basin ensuring the health and well-being of all communities is prioritised overnight time flights with its known impacts.

It is the Council's submission that the draft EIS, as presently drawn, must inevitably lead the Minister for the Environment and Water to advise the Department (as proponent of the WSI Airport) that it should not give authorisation to the airspace and flight path design that is presented through the draft EIS. That advice will, in the circumstances identified in this submission, be given by the Minister in accordance with s163(1)(a) of the EPBC Act. In view of the gross deficiencies in the EIS, there would appear to be no basis on which the Minister could give any other advice to the Department.



RECOMMENDATIONS

CHAPTER 1-4 RECOMMENDATIONS:

1. **Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (same as Recommendation 9, 14, 19, 33, 44)
2. **Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 10, 15, 20, 45, 52)
3. **Undertake a review of proposed airfreight operations at WSI** ensuring that the noise impacts of the type of aircraft likely to be used at the WSI for this purpose, and the time of operations of those aircraft (including operations during the night periods) be appropriately modelled and fully explained in a revised stand-alone section of the EIS.
4. **Reconsider the scope of the draft EIS** to include a detailed analysis of supporting critical infrastructure to demonstrate the environmental impact as a result of the construction and development of the airport, and associated traffic impacts.
5. **Provide clarification and further analysis of the noise implications of radar vectoring zones** including further information on the potential environmental impact of these zones on the GBMWA.

CHAPTER 5 – STATUTORY CONTEXT RECOMMENDATIONS:

6. **Ensure that the Minister for Environment and Water** is given robust and adequate information to provide the advice required by s163, failing which the Minister must inevitably advise that DIT should not give an authorisation of the proposed flight paths.
7. **Revisit the draft EIS** to thoroughly address the requirements of Condition 16 of the Airport Plan, specifically Conditions 16(5) and 16(6) as they relate to the Blue Mountains Local Government Area and the GBMWA.
8. **The Department must not approve** the airspace management and flight path approval proposals until the requirements of the EPBC Act, the EPBC Regulations and Condition 16 of the Airport Plan approval are fully satisfied.

CHAPTER 6 – PROJECT DEVELOPMENT AND ALTERNATIVES RECOMMENDATIONS:

9. **Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 14, 19, 33, 44)
10. **Implement at Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 2, 15, 20, 45, 52)



- 11. Revisit the environmental impact assessment and flight path options** to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWHa.
- 12. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWHa, including the Linden Observatory, and realign flight paths to avoid these areas.

CHAPTER 7 – THE PROJECT RECOMMENDATIONS:

13. Revise the draft EIS to:

- **Assess the impacts of peak periods** (days and seasonally) rather than the average of annualised aircraft movements; and
- **Assess the likelihood of noise abatement procedures being compromised by weather** (including the predicted increasingly high temperatures in Western Sydney) and runway conditions and assess the impacts of flight paths when these abatement procedures are not in place; and
- **Assess night time impacts for the accepted standard night period of 11pm - 7am or an 8 hour timeframe**, not the 11pm-5:30am period proposed; and
- Assess the likely frequency and duration of events (including weather events) resulting in off-procedure manoeuvring, and the potential impacts of these occurrences.
- **Provide clarification and further analysis of the noise implications of radar vectoring zones** including further information on the potential environmental impact of these zones on the GBMWHa.

CHAPTER 8 – FACILITATED CHANGES RECOMMENDATIONS:

- 14. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Action 1, 9, 14, 19, 33, 44)
- 15. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (same as Recommendation 2, 10, 20, 45, 52)

CHAPTER 9 – COMMUNITY AND STAKEHOLDER ENGAGEMENT RECOMMENDATIONS:

- 16. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians**, with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS.
- 17. Reconsider previous feedback provided by the community and key stakeholders**, including Council and the Blue Mountains World Heritage Institute, and clearly address concerns raised relating to flight paths, noise and World Heritage values.



- 18. Undertake meaningful engagement with UNESCO as a matter of urgency and prior to finalising flight paths**, to address the potential threat of the airport on the GBMWH and its World heritage listing.

CHAPTER 11 – AIRCRAFT NOISE RECOMMENDATIONS:

- 19. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 9, 14, 33, 44)
- 20. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (Same as recommendation 2, 10, 15, 45, 52)
- 21. Adopt alternative noise metrics**, informed by international best practice and standards, to provide an accurate representation of aircraft noise impacts within the GBMWH, including wilderness areas.
- 22. Amend the 'night' definition** to align with industry standard and accepted practice for describing and assessing aircraft noise impacts, adopting a broader night defined period of 11pm to 7am or 10pm to 6am – 8 hours.
- 23. Amend the draft EIS to provide noise level information at lower thresholds**, supported by validation work to improve the reliability of predicted noise level data at low sound pressure levels that are below the validated range of practical noise modelling tools. The analysis should account for the amount of time aircraft noise will be audible in these areas.
- 24. Establish a system of permanent noise monitoring stations at key locations in the Blue Mountains**, away from the Great Western Highway, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate noise pollution assumptions and determine management strategies.
- 25. Adhere to the requirements outlined in the Commonwealth Government guidelines:** *"Guidance Material for Selecting and Providing Aircraft Noise Information"* (2003) including a thorough assessment of cumulative noise impacts, comprehensive site-specific noise abatement options, and alternatives such as night-time curfews or scaling back proposed future intensity if impact benchmarks are not met.
- 26. Undertake further consultation with the community and key stakeholders** prior to finalising flight path design to minimise to the extent practicable the impact of aircraft overflight noise, having consideration to overflight avoidance, overflight dispersion, and overflight mitigation procedures.
- 27. Undertake user experience and aircraft noise surveys** when the airport opens to proactively identify and address issues specific to the GBMWH.

CHAPTER 12 – AIR QUALITY AND GREENHOUSE GAS EMISSIONS RECOMMENDATIONS:

- 28. Review the draft EIS to:**



- Assess and outline climate impacts of all flights including international, domestic and those above 10,000 feet so that there is fair representation and understanding of impacts on the climate.
- Include a radiative forcing factor for non-CO2e emissions based on the best available science.
- Include operational and taxiing emissions in any statement about climate impact associated with WSI.
- Apply consistent comparisons against a percentage of Australian economy emissions. If domestic flights are listed with a percentage of total economy emissions also list state, international and total flight emissions.
- Complete a comprehensive climate risk assessment including the update of 2055 emissions to reflect the significant increase in days above 35 degrees Celsius.
- Increase the scope of the climate risk assessment to look at local climate impacts on the Blue Mountains in order to outline the impact of increased contrails on the ecosystem, and impact on the sense of wilderness and tourism for the region.

29. The Department of Infrastructure, Transport, Regional Development, Communication and Arts commits to:

- An overall lower number of flights to reduce emissions
- Limiting overnight flights where radiative forcing of non CO2e emissions are widely accepted to only have a warming effect
- Only working with best practice operators who are signatories to relevant leading standards
- Airport Carbon Accreditation at Level 4+: Transition
- Only allow aircraft from manufacturers that have committed to "Original Equipment Manufacturers" (OEM) net zero commitment to access the airport, whether the aircraft carry passengers or freight
- Actively and substantially incentivise Sustainable Aviation Fuel (SAF) and hydrogen aircraft to use the airport

30. Establish a system of permanent air quality monitoring stations at key locations in the Blue Mountains, away from the Great Western Highway, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate air pollution assumptions and determine management strategies.

31. Ensure that the Minister for Environment has access to all of the information required to allow her to provide the advice required under s163.

CHAPTER 14 – LAND USE: RECOMMENDATIONS

32. Revise the draft EIS to provide further detail on how wildlife buffers will be managed, particularly in highly sensitive areas such as the GBMWA.



CHAPTER 15 – LANDSCAPE AND VISUAL AMENITY RECOMMENDATIONS:

- 33. Undertake a Holistic Review of Sydney Basin Airspace** ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same as Recommendation 1, 9, 14, 19, 44).
- 34. Revisit the environmental impact assessment and flight path options** to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWhA. (Same as Recommendation 11)
- 35. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWhA, including the Linden Observatory, and realign flight paths to avoid these areas. (Same as Recommendation 12).
- 36. Implement scheduling adjustments** as the airport opens to mitigate adverse impact on significant visual landscapes, where overflight cannot otherwise be reasonably avoided.
- 37. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians**, with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS. (Same as Recommendation 16)

CHAPTER 16 – BIODIVERSITY RECOMMENDATIONS

- 38. Undertake an independent peer review of the biodiversity impacts on the Greater Blue Mountains World Heritage Area**, including wildlife strikes, to validate conclusions drawn in the draft EIS.
- 39. Establish a system of wildlife monitoring stations at key locations in the Blue Mountains**, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate wildlife assumptions and determine management strategies.
- 40. The Commonwealth Government oversees the management of wildlife buffer zones** and the implementation of risk management plans associated with wildlife strikes, particularly concerning threatened species.

CHAPTER 17 - HERITAGE RECOMMENDATIONS:

- 41. Undertake meaningful engagement with Dharug and Gundungurra Traditional Owners and Custodians**, with a specific focus on potential impacts on Aboriginal land, skies, and water, prior to finalisation of the EIS. (Same as Recommendation 16 and 37)
- 42. Amend the draft EIS to recognise and protect Aboriginal Cultural Heritage and Country** by:
 - Acknowledging the significance of all Aboriginal sites, irrespective of statutory recognition, as each holding unique cultural value
 - Conducting a comprehensive reassessment of the draft flight path design, ensuring a thorough understanding of the potential impact on the extensive network of over 13,500 recorded Aboriginal sites listed in the draft EIS



- Taking proactive measures to preserve and protect Aboriginal sites and places of cultural significance, acknowledging their intrinsic value to the Aboriginal community
- Implementing strategies to mitigate air pollution risks to rock art sites and evaluate the noise pollution impacts on cultural activities and connections to Country
- Considering the potential adverse effects on native animals, recognising the disruptions caused by persistent air and noise pollution, and formulating strategies to address these impacts
- Addressing concerns regarding the negative environmental consequences on Country, encompassing plants, trees and waterways, due to air pollution and implement measures to protect the environment
- Developing strategies to minimise visual intrusions over Aboriginal sites, recognising the importance of preserving the visual integrity of these cultural landscapes including the importance of land-sky connections.

43. Undertake a heritage impact assessment on the walking tracks of the GBMWhA, to understand the impacts to the significance and heritage values of these tracks, particularly from a social and recreational perspective.

CHAPTER 18 - SOCIAL RECOMMENDATIONS:

44. Undertake a Holistic Review of Sydney Basin Airspace ensuring a more thorough evaluation of potential impacts and alternative solutions, particularly during night-time hours, to mitigate adverse impact and provide for greater equity in noise sharing across the Sydney Basin. (Same Recommendation 1, 9, 14, 19, 33)

45. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts. (Same as Recommendation 2, 10, 15, 20, 52)

46. Revisit the environmental impact assessment and flight path options to incorporate greater consideration of the unique attributes of the residential and wilderness areas of the GBMWhA. (same as Recommendation 11 and 34)

47. Update the draft EIS to identify mitigation strategies, such as compensation, funding initiatives, and public infrastructure investment to address socioeconomic impacts and impacts to quality of life.

CHAPTER 19 - ECONOMIC RECOMMENDATIONS:

48. Revisit and substantially revise the economic chapter of the draft EIS, including a detailed assessment of the adverse impacts of the airport on the unique character and visitor experience of the Blue Mountains, and on the local economy, including the tourism and nature-based recreation sectors. The assessment must consider the impact on the whole of the Blue Mountains LGA (including the eastern portions), the wider role the Blue Mountains plays for Greater Sydney, and present appropriate evidence and case studies to support claims made.



- 49. Include additional sensitive tourism and recreation areas in modelling** such as walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWhA from outside the Blue Mountains LGA.
- 50. Revisit the draft flight path design** to comprehensively address potential impacts such as aircraft lighting and sky glow on the intrinsically dark landscapes of the GBMWhA, including the Linden Observatory, and realign flight paths to avoid these areas. (Same as Recommendation 11 and 34)

CHAPTER 20 – HEALTH RECOMMENDATIONS:

- 51. Implement a Curfew for WSI Airport consistent with the curfew the Federal Government saw fit to implement at Kingsford Smith Airport**, to protect residents equitably across the Sydney Basin from unacceptable night-time impacts.
- 52. Establish a system of air-quality and noise monitoring stations at key locations in the Blue Mountains**, at least 1-2 years before the commencement of WSI operations and maintain these monitors permanently to validate assumptions and determine management strategies related to human health.

CHAPTER 21 – FACILITATED IMPACTS RECOMMENDATIONS:

- 53. Confirm the cumulative impact of all flight paths over the Blue Mountains**, including changes to all currently operating airports as a result of WSI Airport operations.

CHAPTER 22- CUMULATIVE IMPACTS RECOMMENDATIONS:

- 54. Reconsider the scope of the draft EIS** to include a detailed analysis of supporting critical infrastructure to demonstrate the environmental impact as a result of the construction and development of the airport, and associated traffic impacts. (Same as Recommendation 4)

CHAPTER 23 - MATTERS OF NATIONAL SIGNIFICANCE RECOMMENDATIONS:

- 55. Consult with UNESCO's World Heritage Committee to conduct an independent review of the draft EIS** and thoroughly assess the impacts on the Integrity and Outstanding Universal Values, together with the impact on wilderness values, of the GBMWhA.
- 56. Revise draft EIS to include an assessment against World Heritage Listing criteria**, taking into consideration previous concerns expressed by the International Union for Conservation of Nature regarding an airport on this site, and addressing significant deficiencies including the need for:
 - ambient noise measurements from a representative sample of locations within the GBMWhA;
 - new modelling of noise impacts to confirm expected noise levels;
 - an expanded list of the locations of sensitive tourism and recreation areas for modelling to include sites associated with walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWhA from outside the area;
 - an assessment of impacts on the GBMWhA in regards to the wider role it plays in the Greater Metropolitan Area of Sydney;



- an assessment against World Heritage Listing criteria taking into consideration previous concerns with a potential airport expressed by the International Union for Conservation of Nature;
- a thorough review of noise impacts on wildlife in the GBMWhA;
- a detailed bird and bat strike risk assessment;
- a thorough review of noise impact by user group in the GBMWhA; and
- an assessment of current international trends in relation to aircraft noise in national parks and consideration of the application of alternate noise metrics currently being used in the United States.

57. Update the Greater Blue Mountain World Heritage Area Strategic Plan to reflect potential airport issues as a matter of urgency and consider the updated plan in determining the draft EIS.

CHAPTER 24 MITIGATION AND ENVIRONMENTAL MANAGEMENT RECOMMENDATIONS:

58. Consult with UNESCO's World Heritage Committee to conduct an independent review of the draft EIS and thoroughly assess the impacts on the Integrity and Outstanding Universal Values, together with the impact on wilderness values, of the GBMWhA.

59. Revise draft EIS to include an assessment against World Heritage Listing criteria, taking into consideration previous concerns expressed by the International Union for Conservation of Nature regarding an airport on this site, and addressing significant deficiencies including the need for:

- ambient noise measurements from a representative sample of locations within the GBMWhA;
- new modelling of noise impacts to confirm expected noise levels;
- an expanded list of the locations of sensitive tourism and recreation areas for modelling to include sites associated with walking tours, sporting events and canoeing/kayaking trails, along with other viewing locations into the GBMWhA from outside the area;
- an assessment of impacts on the GBMWhA in regards to the wider role it plays in the Greater Metropolitan Area of Sydney;
- an assessment against World Heritage Listing criteria taking into consideration previous concerns with a potential airport expressed by the International Union for Conservation of Nature;
- a thorough review of noise impacts on wildlife in the GBMWhA;
- a detailed bird and bat strike risk assessment;
- a thorough review of noise impact by user group in the GBMWhA; and
- an assessment of current international trends in relation to aircraft noise in national parks and consideration of the application of alternate noise metrics currently being used in the United States.

60. Update the Greater Blue Mountain World Heritage Area Strategic Plan to reflect potential airport issues as a matter of urgency and consider the updated plan in determining the draft EIS.



Blue Mountains City Council Submission January 2024: Western Sydney International (Nancy-Bird Walton) Airport -
Airspace and Flight Path Design Environmental Impact Statement

ATTACHMENT 1 – WSIA EIS ACOUSTIC PEER REVIEW

Prepared by MARSHALL DAY ACOUSTICS 21 DECEMBER 2023

For WESTERN PARKLAND COUNCILS





MARSHALL DAY
Acoustics 

WESTERN SYDNEY INTERNATIONAL AIRPORT EIS
ACOUSTIC PEER REVIEW

Rp 001 20230476 | 21 December 2023

Project: **Western Sydney International Airport (WSI) EIS – Acoustic Peer Review**

Prepared for: **Western Parkland Councils**
PO Box 57
Campbelltown NSW 2560

Attention: **Ms Joanna Kubota**

Report No.: **Rp 001 20230476**

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EXECUTIVE SUMMARY

The construction of Western Sydney International (Nancy-Bird Walton) Airport (WSI) is on track to commence aircraft flying operations in 2026.

An environmental assessment for the project in 2015-2016 informed measures to mitigate and manage the effects of the airport's operation on surrounding communities. An updated preliminary design and environmental assessment phase for single runway operations has since been undertaken, with a *draft EIS* including details of the preliminary flight paths, released in October 2023. Importantly, this draft EIS considers operations and associated impacts based on single runway (direction 05/23) operations only.

With noise impacts identified a key consideration, both stakeholders and key decision makers require complete understanding of the net impact of future aircraft operations.

Marshall Day Acoustics Pty Ltd has undertaken this peer review, to assess the reliability and technical accuracy of the aircraft noise assessment presented in the draft EIS, in turn assisting members of Western Parkland Councils to reach an informed view on potential aircraft noise impacts within their respective Local Government Areas (LGA).

This peer review considers:

- An evaluation of whether the noise assessment has been undertaken in accordance with relevant guidelines and methods with respect to aircraft noise
- A review of whether the underlying assumptions used to inform the assessment (including operational assumptions, and modelling assumptions where appropriate) are plausible
- A review of the mitigation and management measures proposed and advising on their adequacy
- An evaluation whether the conclusions reached in the studies are valid, i.e. whether the predicted impacts are in accordance with published standards and guidelines, and
- Whether the conclusions of the assessment are a realistic reflection of the actual impacts.

The peer review considers the broader assessment of noise impacts presented in other related sections of the draft EIS including airspace architecture, health and social impacts. The review of these additional sections has been concerned solely with matters related to the aircraft noise.

The noise modelling is considered to generally provide a reasonable representation of the extent of noise impacts for the flight tracks and operating scenarios modelled. Specifically, predicted noise levels have been for a range of operating scenarios and aircraft noise information produced in a range of formats consistent with current guidelines for identifying areas potentially affected by aircraft noise.

Aircraft noise impacts are an unavoidable consequence of aircraft operations in urban environments. A balance therefore needs to be achieved between the development of infrastructure to respond to the growing demands of a major city and the protection of amenity for neighbouring sensitive land uses.

Determining whether this balance has been achieved is ultimately a matter for regulatory authorities. While this peer review has identified limitations in the present assessment, it is not intended to infer that the airport operations are unsuitable. Rather, given the residual uncertainties in the assessment, further information and assessments are considered warranted to address aircraft overflight noise impacts, prior to finalisation of the EIS.

This peer review has identified several limitations concerning the content of the draft EIS, and therefore further information and assessments are recommended, as follows:

- The preliminary design of the flight paths for WSI is understood to have been based broadly on not impacting existing operations of the broader Sydney Basin airspace, i.e. designed independently of existing Sydney Basin airspace flight paths, including interface with Sydney (Kingsford Smith) Airport flight paths. The exceptions are the proposed alternative flight path options during Sydney (Kingsford Smith) Airport curfew hours (night-time defined period, 11 pm to 5:30 pm), noting less congestion/constraint.

The WSI preliminary flight paths are such that they do not impact existing flight paths. There is an opportunity to consider a wholistic approach to broader Sydney Basin airspace flight path design, such that potential noise impacts around WSI could be mitigated further.

- Noise predictions are provided for various time periods, including 24 hour, Day (defined as 5:30 am to 11 pm) and Night (defined 11 pm to 5:30 am to align with Sydney (Kingsford Smith) Airport curfew hours) period. The night defined hours that form the basis of the impact assessment do not align with industry standard / accepted practice for describing aircraft noise impacts. This includes alignment with thresholds typically used for the assessment of impacts such as sleep disturbance (i.e. L_{night}), which adopts a broader night defined period, 8 hours, 11 pm to 7 am.

It is recommended that noise prediction information and subsequent assessment of impact and mitigation for the night period considers a broader defined night period.

- Regarding assessment of impact within the Greater Blue Mountains World Heritage Area:

Noting the low ambient sound environment, the assessment considers a threshold of 60 dB L_{Amax} which does not adequately account for the impacts in wilderness areas.

It is recommended that the final EIS provide noise level information at lower thresholds, supported by validation work to improve the reliability of predicted noise level data at low sound pressure levels that are below the validated range of practical noise modelling tools. The analysis should account for the amount of time aircraft noise will be audible in these areas.

Monitoring is recommended so that aircraft noise impacts as a result of the introduction of new airport operations are proactively identified and addressed where issues arise. This should include user experience and aircraft noise surveys be carried out to develop a dose-response relationship specific to the Greater Blue Mountains World Heritage Area.

- As part of finalising the flight path design ongoing consultation should occur with the community and stakeholder reference group to minimise to the extent practicable the impact of aircraft overflight noise, having consideration to Overflight avoidance, Overflight dispersion, and Overflight mitigation procedures.

Conducting these assessments as part of the final EIS process represents an opportunity to:

- Provide clarity to affected communities and stakeholders about the nature of the noise impacts,
- Provide clarity to regulators about the form of noise controls which will be needed in the project approval to ensure that noise is appropriately managed, and
- Reduce the potential for unforeseen impacts and the associated risk of reactionary noise management procedures which could subsequently jeopardise the operational flexibility of the airport.

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APPENDIX A GLOSSARY OF TERMINOLOGY

1.0 INTRODUCTION

The construction of Western Sydney International (Nancy-Bird Walton) Airport (WSI) is well underway and on track to commence aircraft flying operations in 2026.

An environmental assessment for the project in 2015-2016 informed measures to mitigate and manage the effects of the airport's operation on surrounding communities.

An updated preliminary design and environmental assessment phase for single runway operations has since been undertaken, with a draft EIS including details of the preliminary flight paths,¹ released in October 2023.

With noise impacts identified a key consideration, both stakeholders and key decision makers require complete understanding of the net impact of future aircraft operations.

This document outlines findings of Marshall Day Acoustics' (MDA) peer review of the aircraft noise assessment presented in the draft EIS.

1.1 Scope

The objective of the peer review was to assess the reliability and technical accuracy of the aircraft noise assessment presented in the draft EIS, in turn assisting members of Western Parkland Councils to reach an informed view on potential aircraft noise impacts within respective Local Government Areas (LGA).

The scope associated with this peer review are as follows:

- Evaluation on whether the noise assessment has been undertaken in accordance with relevant guidelines and methods with respect to aircraft noise
- Reviewing the underlying assumptions used to inform the assessment (including operational assumptions, and modelling assumptions where appropriate) are plausible
- Review of the mitigation and management measures proposed and advising on their adequacy
- Evaluating whether the conclusions reached in the studies are valid, i.e. whether the predicted impacts are in accordance with published standards and guidelines, and
- Whether the conclusions of the assessment are a realistic reflection of the actual impacts.

1.2 Limitations

The primary documents considered as part of this review are as follows:

- Part C: Environmental impact assessment, specifically *Chapter 11 Aircraft noise*, referred herein as the *EIS noise chapter*
- Technical Paper 1: Aircraft Noise, referred herein as the *Technical Paper 1 (TP 1)*
- Additional sections of the draft EIS, to provide commentary of the broader assessment of noise impacts presented in other related sections, e.g. airspace architecture, health and social impacts.

The peer review considers the broader assessment of noise impacts presented in other related sections including airspace architecture, health and social impacts. The review of these additional sections has been concerned solely with matters related to the aircraft noise. In particular, the review of these specialist sections was limited to technical matters concerning noise modelling scenarios, noise level information and noise mitigation measures.

¹ Western Sydney International (Nancy-Bird Walton) Airport – Airspace and flight path design, Draft Environmental Impact Statement, <https://www.wsiflightpaths.gov.au/digital-draft-eis/>, released for public exhibition 24 October 2023

This peer review has been conducted based solely on the public available documentation. Tasks not conducted as part of this peer review include:

- Consultations with any members of the project team involved in preparing the draft EIS
- Review of noise modelling files, or
- Noise modelling for the purpose of validating any of the results presented in the draft EIS.

2.0 NOISE ASSESSMENT

2.1 Operating modes

The environmental assessment for the project prepared in 2016,² considered a range of operating scenarios as follows:

- Stage 1 development comprising a single 3,700 m runway with 63,000 aircraft movements per year which are projected to occur by 2030;
- Longer term development of the single runway to facilitate 164,000 aircraft movements per year which are projected to occur by 2050; and
- Longer term development with an additional parallel runway to enable additional capacity increases to 370,000 aircraft movements per year which are projected to occur by 2063.

Importantly, **the updated draft EIS (2023) is based on single runway (direction 05/23) operations only** but considers a range of scenarios depending on the planned activity level (PAL) and year in which that is expected/forecast to occur, i.e.:

- PAL 1 2033 – 81,000 air traffic movements
- PAL 2 2040 – 107,000 air traffic movements
- PAL 3 2050 – 226,000 air traffic movements (near capacity for single runway)

Noise prediction information and therefore subsequent description of impact and mitigation is provided for the above PAL. Additionally, each scenario considers various runway modes, including the use of preferred runway direction during day/night and reciprocal runway operations (RRO) (night period only, and suitable weather and traffic conditions), which allow for arrivals on runway 05 (from the south-west) and departures on runway 23 (towards the south-west).

Operating modes, including runway and flight path choice, are noted as only being suitable during Sydney (Kingsford Smith) Airport curfew hours, i.e. night-time defined hours, 11 pm to 5:30 pm.

TP 1 does not appear to provide sufficient information about the frequency of each operating modes, though it is acknowledged this would primarily be driven by meteorological conditions as to which runway could be used. Accordingly, the resultant overall predicted noise exposure contours are provided based on the annualised average over the year.

It is recommended that discussion is provided in the final EIS on the frequency and feasibility of the operating modes, including RRO, noting the limited meteorological conditions under which this could occur (less than 10 %).

Matters relating to the suitability of the operating modes have not been considered as part of this review, and like aircraft fleet, would be subject to the technical review process by Airservices Australia once an Australian Noise Exposure Concept (ANEC) is put forward for endorsement as an Australian Noise Exposure Forecast (ANEF), i.e. contours to be adopted and used for land use planning.

² <https://www.westernsydneyairport.gov.au/media-resources/resources/environmental-assessment>

2.2 Aircraft fleet and operations

The aircraft noise modelling has been based on a range of different aircraft types to represent the overall mix of aircraft that is expected to operate from 2026. The selected aircraft types that have been included in the modelling are considered appropriate, described in section 8.6 of *TP 1*.

Further, the noise modelling has opted for a conservative approach by assuming that all future aircraft operations are characterised by the noise emissions of existing aircraft. The draft EIS and *TP 1* acknowledge that future aircraft types are likely to be quieter than existing and those considered in the modelling. The draft EIS and resultant predicted noise contours are therefore based on current aircraft types with higher noise emissions; this is considered reasonable and conservative.

Matters relating to the suitability of the aircraft types and fleet mix are outside of our area of expertise and have not been considered as part of this review. It is noted that these would be subject to the technical review process by Airservices Australia, once an ANEC is put forward for endorsement as an ANEF.

2.3 Flight paths

The preliminary design of the flight paths for WSI is understood to have been based broadly on not impacting existing operations of the broader Sydney Basin airspace.

As such, the preliminary flight paths have been designed independently of existing Sydney Basin airspace flight paths, including interface with Sydney (Kingsford Smith) Airport flight paths. The exceptions are the proposed alternative flight path options during Sydney (Kingsford Smith) Airport curfew hours (night-time defined, 11 pm to 5:30 pm), noting less congestion/constraint.

As the WSI preliminary flight paths are such that they do not impact existing flight paths, this presents an opportunity to consider a wholistic approach to broader Sydney Basin airspace flight path design, such that potential noise impacts around WSI could be mitigated further.

It is noted the authors of this peer review are not aviation experts, and therefore matters relating to the suitability of the flight paths have not been considered as part of this review. The following sections outline preliminary airspace management strategies for minimising aircraft noise impacts and should be considered in the broader context the whole Sydney Basin airspace.

2.3.1 Conditions of approval

The approval conditions³ for the Stage 1 Development of a Western Sydney Airport include requirements to minimise the impact of aircraft overflight impacts through the flight path design process. Specifically, elements of Conditions 16 state the following:

16. Airspace design process

- (2) *The airspace and flight path design are to be developed by a steering group led by the Infrastructure Department and involving Airservices Australia and the Civil Aviation Safety Authority. After an Airport Lease is granted the ALC will also be invited to participate in the steering group. The Infrastructure Department must establish a community and stakeholder reference group (Forum on Western Sydney Airport) which will operate until the end of the detailed design stage identified in Table 10 in Part 2 of the Airport Plan.*
- (3) *In developing the airspace and flight path design, the steering group must conduct public consultation with stakeholders who include the aviation industry, the community and state and local government authorities.*

³ Australian Government, 2016, *Conditions for the Stage 1 Development of a Western Sydney Airport*

(5) *The airspace and flight path design must take account of the following principles, in addition to the principles in section 2.2.5 of the Airport Plan:*

(d) airspace and flight path design must minimise to the extent practicable the impact of Aircraft Overflight Noise on the following:

(i) residential areas;

(ii) Sensitive Receptors;

(iii) the Greater Blue Mountains World Heritage Area – particularly areas of scenic or tourism value; and

(iv) Wilderness Areas

It is recommended that as part of finalising the flight path design, the above condition remains in place, i.e. that ongoing consultation occurs with the community and stakeholder reference group to minimise to the extent practicable the impact of aircraft overflight noise.

2.3.2 Management strategies

As part of finalising flight path design, it is recommended that the following airspace management strategies for minimising aircraft noise impacts be considered:

- Overflight avoidance,
- Overflight dispersion, and
- Overflight mitigation procedures.

Overflight Avoidance

The preferred method of managing aircraft noise intrusion is to avoid overflying sensitive locations at a noise level which is audible.

Inevitably there are practical challenges to implementing this strategy in all instances; redirected flights will have impacts in other potentially sensitive locations and these alternative impacts must be weighed against the benefits afforded to the areas that are avoided. It is recommended to identify areas of higher value (including sensitive/wilderness), and therefore locations where avoidance of overflight should be prioritised.

The extent of the areas to be ideally avoided is therefore likely to be large. Nonetheless, the most sensitive areas should be identified with consideration to the following, but not limited to:

- Typical sensitivity of use (e.g. residential areas including for sleep, education facilities, areas sought after for their natural heritage, character and environment)
- Existing background/ambient noise levels
- Areas of remoteness from transportation and other anthropogenic noise sources, and
- Consultation with relevant stakeholders, including where flight paths are over national park areas, the relevant authorities.

As well as avoidance of locations, consideration should be given to how avoidance of sensitive time periods could be practically implemented – in terms of sensitive times of the day (such as Night time sleep periods), as well as potential weekly and seasonal changes in sensitivity associated with time of use.

Overflight Dispersion

If and where aircraft overflight of sensitive areas cannot be practically avoided, flight tracks are recommended to be dispersed across the widest practical range to avoid concentration of audible aircraft overflights in particular areas, and to maximise the period between audible aircraft overflights at any given location.

Overflight Procedures

If and where aircraft overflight of sensitive areas cannot be practically avoided, flight procedures should be selected to reduce the noise experienced at ground level. These procedures are broadly similar to those which may be considered for urban areas, however the following specific options for the Blue Mountains area and national park areas should be evaluated, given their proximity to WSI:

- Flight routing in combination with departure and arrival procedures which enable the aircraft to reach or maintain the greatest possible altitude over sensitive areas, and
- Adoption of reduced thrust (engine power) procedures and maximising altitude of overflights where safety permits, e.g. for arriving aircraft, the adoption of constant descent procedures, and for departing aircraft, climb straight along the runway centreline as far as practical before turning to their destination. However, assessing these procedures will require a trade off, i.e. while reducing thrust leads to reducing noise levels, there is the potential to increase the duration that the aircraft event is audible.

2.3.3 Sydney (Kingsford Smith) Airport flight paths changes

While the preliminary design of the flight paths for WSI is broadly exclusive of changes to Sydney airspace basin, there will be limited changes to existing Sydney (Kingsford Smith) Airport (KSA) flight paths. These changes are described in *Technical Paper 13: Facilitated changes* (hereafter *TP 13*).

Proposed changes to existing Sydney (Kingsford Smith) Airport flight paths are described in Appendices A-E of *TP 13*. Quantitative data includes dwelling and population counts within noise contours (N60 and N70, i.e. number of aircraft events above maximum noise level 60 dB L_{Amax} and 70 dB L_{Amax} respectively) associated with the proposed change in flight paths.

Of note are the proposed KSA Runway 25 jet departure flight path changes to the west:

- Increase in aircraft movements (above level of 60 dB L_{Amax}) over areas north-west of KSA, e.g. Parramatta and surrounding area
- Decreased movements over areas south-west of KSA, e.g. Mortdale, Oatley
- Net change of 73 % increase in population within N60 10 event contours

The Runway 34L jet departures demonstrate changes that are broadly similar to existing flight paths, with a small increase in aircraft movements (above level of 60 dB L_{Amax}) over areas north-west, e.g. Paramatta and surrounding area.

While proposed changes to existing KSA flight paths are described, the extent of impact may warrant further investigation of residual impacts, especially in areas not previously impacted by aircraft noise. Additionally, the assessment and description of change in aircraft noise presented in *TP 13*, does not appear to consider the cumulative impact of KSA and WSI impacts on areas newly impacted by WSI aircraft and also subject overflight of KSA aircraft operations as a result of flight path changes.

2.4 Method

Environmental noise may result in several different direct and indirect impacts. *TP 1* addresses the range of aircraft noise impacts as follows:

- Assessment of the extent of potential aircraft noise impacts based on a range of modelling scenarios and metrics used to present aircraft noise information.
- Assessment of the effect and significance of these noise impacts in other sections/stand alone technical papers related to land use and planning, social, including property values and human health.

This is not an uncommon approach, particularly given the assessment of the effect and significance of noise impacts often requires specialist knowledge beyond the areas of expertise of acoustic consultants. A complete appreciation of noise related impacts therefore requires reference to a range of distributed sections throughout the overall EIS.

Accordingly, while *TP 1* provides the primary basis for the comments in this peer review, additional commentary is provided in relation to technical noise matters as they are presented in the assessment of noise effects in other chapters and specialist reports.

2.4.1 Noise model

Noise modelling in the draft EIS has been undertaken using the Aviation Environmental Design Tool (AEDT) developed by the United States Federal Aviation Authority, version 3e.

AEDT is a computer model designed to predict long term noise levels in the areas surrounding an airport. The long term noise level is calculated using the concept of an annual average day, accounting for the number of operations of each aircraft type, using a given runway, and flying in a given direction, averaged throughout the year. Calculations are performed in accordance with recognised US⁴ and European⁵ documents.

AEDT can be configured to calculate the Australian Noise Exposure (ANE) metric, used solely for land use planning purposes in Australia. As such, the program is almost exclusively used in Australia and is the program currently approved by Airservices Australia, the government-owned corporation responsible for endorsing civil inputs and resultant ANEF contours for Australian airports.

Beyond calculating the ANE metric, AEDT can also calculate other noise exposure and time-based metrics, including equivalent noise level (L_{Aeq}), day night noise level (DNL), time above (TALA), time audible (TAUD) etc. as well as maximum noise level metrics (L_{ASmax}).

The prediction of single-event metrics such as the L_{ASmax} is important, as these provide the basis for the types of additional noise information such as single event maximum noise level and N-Contour maps which are used to describe aircraft noise impact throughout the draft EIS. However, these predictions are to be regarded as indicative only, noting the potential for variation in noise levels for the same aircraft operation for a variety of reasons. The use of AEDT for calculating maximum noise levels is considered reasonable, however such calculations should be primarily used for understanding the *range* of potential noise levels and for comparison of different scenarios, rather than the direct prediction of the maximum noise level expected to be measured in practice.

⁴ Society of Automotive Engineers, 1986, Committee A-21, *Procedure for the Computation of Airplane Noise in the Vicinity of Airports*, SAE-AIR-1845

⁵ European Civil Aviation Conference, December 2005, ECAC-CEAC Doc 29 3rd Edition, *Report on Standard Method of Computing Noise Contours around Civil Airports Volume 2: Technical Guide*

2.4.2 Aircraft noise metrics

As discussed in Section 2.1 of this peer review, noise prediction information and therefore subsequent assessment of impact and mitigation is based on single runway (direction 05/23) operations only.

The extent of potential aircraft noise impacts is based on a range of modelling scenarios and for different defined time periods. Different noise metric/outputs are used to assess the effect and significance of these impacts. The following provides a discussion of the key forms of information that have been provided in *TP 1* for the assessment of noise impacts.

N-contour / Number Above

N-contour or Number Above (NA) maps illustrate the number of aircraft events predicted to exceed a maximum noise level threshold in a specified time period. The noise level thresholds are 70 dB L_{Amax} and 60 dB L_{Amax} , resulting in calculated N70 and N60 values for different time periods and number of events, ranging 2 – 100+ events.

These threshold values are generally appropriate, with the following observations noted:

- The 70 dB L_{Amax} threshold is commonly used for documenting aircraft noise operations during which are at a level that could give rise to speech interference within a dwelling with partially open windows
- The 60 dB L_{Amax} threshold is generally suitable for assessing noise in urban areas. However, for the assessment of amenity impacts in quiet locations where natural soundscapes are valued (e.g. the Blue Mountains), lower predicted noise levels would be informative. It is acknowledged that the uncertainties associated with the prediction method increase with distance, meaning the lower values of predicted noise levels are subject to a greater degree of uncertainty. Predicted noise levels are however provided at discrete receptor locations in areas such as the Blue Mountains.
- The information concerning the number of events exceeding these thresholds is generally provided as 24-hour average (N70 and N60) or night-time values (11 am – 5:30pm, N60 only). Further data to address the number of events expected to occur during specific time periods could provide a useful indication of impacts during more sensitive times (e.g. typical sleeping hours, school times).

Population statistics / dwelling counts within each contour (aircraft event numbers above specified threshold) are provided for each modelled scenario and defined time period.

Single event maximum noise level contours

Single event maximum noise level contours are presented for a range of the loudest and most common aircraft proposed to operate, with contours ranging 60 – 90 dB L_{Amax} .

It is noted that the contours refer to a worst-case scenario of a single noise event occurring on any of the flight tracks used by the aircraft, i.e. where a departure track splits into two (2), the contour includes the maximum noise level on both tracks, thus providing an overestimate of the maximum level from a true single event, though equally show the highest noise level from a potential aircraft overflight at a given location from the aircraft on any flight track. This approach does introduce artefacts into the contours at positions at the outer extent.

Australian Noise Exposure Concept (ANEC)

An ANEC is provided for each scenario modelled and an overall 'composite' ANEC showing the greatest extent of each scenario.

The ANE metric is an exposure based noise metric, used solely for land use planning in Australia. However, the ANEC can be useful in understanding noise exposure around an airport. A number of studies, including the study upon which the ANE was based, have determined a relationship between noise exposure around an airport and community annoyance.

The ANEC contours provide limited information regarding land use planning, as these would typically consider longer term, ultimate capacity scenarios. Notwithstanding, the overall 'composite' ANEC has been used as the contour set to inform the draft noise insulation program, refer Section 4.3.

Respite charts

Respite charts are used in *TP 1* as a means for describing the % of day/nights when no aircraft movements are expected on given flight corridors for given scenarios. In addition to overall respite charts, and consistent with SA HB 149,⁶ it would be prudent to consider labelling flight corridors with the following:

- The daily range of movements, in the form of a minimum and maximum number of movements (noting average daily movements are included)
- Movements in that corridor as an annual percentage of all movements at the airport
- The percentage of days per year with no movements

Separate flight corridor maps may be necessary should the above information vary significantly for different times of the day, weekdays or seasons.

2.4.3 Time definition

Noise predictions, depending on the metric, are provided for various time periods, including 24 hour, Day and Night period.

TP 1 adopts the Day period as 5:30 am to 11 pm and the Night period 11 pm to 5:30 am, to align with Sydney (Kingsford Smith) Airport curfew hours, though it acknowledges that actual hours can vary.

The night defined hours that form the basis of the impact assessment do not strictly align with industry standard / accepted practice for describing aircraft noise impacts.

For example, the *National Airports Safeguarding Framework* consider number of night-time aircraft noise events for the period defined 11 pm to 6 am. It is acknowledged that the Safeguarding Framework proposes the use of these supplementary metrics for defining the extent of aircraft noise around airfields and assist in land use planning decisions, for rezoning of greenfield areas to permit noise sensitive uses, rezoning of brownfield areas to permit noise sensitive uses, and assessment of new development applications for noise sensitive uses within existing residential areas.

Importantly, the night definition in *TP 1* paper does not align with thresholds typically used for the assessment of impacts such as sleep disturbance (i.e. L_{night}). This metric adopts a broader night defined period, 8 hours between 11 pm and 7 am. Further discussion provided in Section 2.5.

It is recommended that noise prediction information and subsequent assessment of impact and mitigation for the night period considers a broader defined night period.

⁶ Standards Australia, 2016, *Acoustics—Guidance on producing information on aircraft noise*, SA HB 149:2016, Standards Australia, Sydney

2.4.4 Seasonal variation

One of the most significant factors related to variations in aircraft noise is wind direction and speed, which will directly influence runway use and hence type of aircraft operation over a given area. This is described throughout the draft EIS, including associated noise predictions for the various runway operating modes, as discussed in Section 2.1.

AEDT noise model calculations require average atmospheric parameters for the airport to be defined, including average temperature, relative humidity and pressure. The effect of the atmospheric parameters can affect calculated noise levels through varying aircraft position (altitude and thrust influenced by air density) and varying the rate of absorption as sound propagates through the atmosphere. The selection of parameters is described and included in section 8.5 of *TP 1*, for the annual average and summer/winter conditions.

However, the noise prediction information is only provided for annual average conditions, and therefore subsequent assessment of impact does not consider periods of the year which give rise to increased aircraft noise levels.

It is recommended that discussion is provided in the final EIS on the frequency of periods of the year in which meteorological conditions would result in increased aircraft noise levels.

2.5 Health/social impacts

Health and social impacts are described in *TP 1*, with reference to noise metrics and threshold values for onset of impact, adopted from relevant guidelines, including World Health Organization (WHO). The authors of this peer review are not health experts and therefore can not comment on the appropriateness or otherwise of the trigger levels.

The health/social impacts considered are 'all adverse effects,' sleep disturbance (including percentage highly sleep disturbed), hearing impairment, cardiovascular effects (incidence of IHD), annoyance (percentage of highly annoyed), and cognitive impairment in children (reading and oral comprehension).

Noise modelling information does not appear to be provided for several of the noise metric/threshold values for health impact, which are described in subsequent sections.

2.5.1 Sleep disturbance

The health technical paper provides information concerning sleep disturbance, using a dose-response relationship between total noise exposure level during the night period, 11 pm – 7 am ($L_{\text{night, 11pm-7am}}$) and the percentage of a community highly sleep disturbed (%HSD).

The EIS assessment of sleep disturbance as a health impact notes there are no specific guidelines for determining what would be an acceptable, or unacceptable '%HSD' as a result of a new project. The health technical paper assessment adopts a 3% HSD change relative to existing conditions as a trigger for significance.

The paper then includes the percentage of population in areas surrounding the airport, where the calculated %HSD is considered of significance. While the actual predictive noise modelling information is not provided in the technical papers of the draft EIS, it is assumed that it was developed separately for the purpose of the detailed health impact assessment (i.e. the noise model was configured to calculate the $L_{\text{night, 11pm-7am}}$). This is however not explicit/clear, and it is recommended that the noise prediction information presented, and hence EIS assessment of sleep disturbance, is based on the adopted metric.

The additional maximum noise level, from individual aircraft overflights are also adopted for identifying areas where sleep may be disturbed. In this case, the World Health Organization (WHO) value 52 dB L_{Amax} (external level) is the trigger for considering potential impact, however the health technical paper does not specifically state the number of events exceeding this trigger, which are sufficient to represent an increased risk of sleep disturbance.

Information is provided in the technical noise paper for the total number of people (population count) exposed to even a relatively low number of events (i.e. down to 2 events) for the varying modelled scenarios. For context, the WHO guidelines⁷ suggest that noise levels exceeding 60 dB L_{Amax} (external) (45 dB L_{Amax} internal) should ideally not occur more than 10-15 times per night when assessing dwellings with partially open windows.

A large number of the population are predicted to experience external maximum noise levels which are sufficient to result in internal noise levels corresponding to sleep disturbance thresholds. This indicates a large number of people may need to sleep with windows closed to maintain an acceptable internal amenity. The extent of this potential impact depends on the prevalence of existing ambient noise levels which could prompt an individual to sleep with closed windows, irrespective of the WSI.

Of note are the N60 10 event night contours which show an increase from 770 people (240 dwellings) in year 2033, to more than 28,000 people (1,000 dwellings) by 2055.

2.5.2 Community annoyance

The health technical paper provides discussion of potential annoyance, noting that annoyance is most prevalent response in a population exposed to environmental noise, though acknowledges the impact as 'less serious health effect than self-reported sleep disturbance.'

The assessment includes a discussion of a range of updated research studies (since the time of previous EIS) concerning dose-response relationships between total noise exposure levels (L_{den}) and the percentage of a community likely to be highly annoyed (%HA).

It is acknowledged that there are no specific guidelines for determining what would be an acceptable, or unacceptable 'annoyance' from a change in noise exposure as a result of a new project.

However, a number of recent comprehensive airport studies, two of the most significant studies, FAA Neighbourhood Noise Study 2021⁸ and the Guski (WHO) Aircraft Noise Annoyance 2018,⁹ which indicate that community annoyance from aircraft noise appears to have increased over the last 20 years by approximately 10 dB; a significant increase in sensitivity.

The health technical paper assessment includes discussion of annoyance by quantifying the percentage of population in areas surrounding the airport, where the calculated %HA is 6.5% or higher than existing conditions. This %HA is based on the Health Canada study, which also identified this threshold as the basis for considering noise mitigation measures.

⁷ World Health Organization, 1999, *Guidelines for Community Noise*

⁸ U.S Department of Transportation (FAA), 2021, *Analysis of the Neighbourhood Environmental Survey*. National Technical Information Service.

⁹ Guski, R., Schuemer, R. and Schreckenberger, D., 2018, *Aircraft noise annoyance - Present exposure-response relations*. Euronoise 2018. Crete: European Acoustics Association.

3.0 GREATER BLUE MOUNTAINS WORLD HERITAGE AREA

3.1 Overview

This section provides a high level review of *Technical Paper 14: Greater Blue Mountains World Heritage Area* (hereafter *TP 14*). The draft EIS requirements require the assessment to provide Description of the Environment (reference 6.0) describe and assess relevant impacts (reference 7.1). This peer review has identified a number of areas where these have not been satisfactorily described for the Greater Blue Mountains World Heritage Area (GBMWH).

In 2017, following the release of the Western Sydney Airport EIS in 2016, Blue Mountains City Council (BMCC) provided input into the airspace and flight path design for the airport. This was through a public consultation process facilitated through the community and stakeholder reference group, *Forum on Western Sydney Airport*, established as part of the development approval conditions for the operation of the Airport. As part of this work, BMCC commissioned MDA to prepare guidance for minimising aircraft overflight noise impacts over the GBMWH. That review was published as the *Guidelines For Minimising Aircraft Overflight Impacts* (hereafter GFMAOI) in July 2017.¹⁰

The GFMAOI identified that ambient noise levels within the GBMWH would be expected to be very low in locations that are remote from roads and water courses. For example, underlying background levels in the range of 20 to 40 dB L_{Aeq} would be expected to occur regularly in many areas. The draft EIS notes predicted aircraft noise levels would be typically in the range of 45 to 65 dB L_{Amax} (see Table 5.6 of *TP 14*) when flying at high altitude over the GBMWH. These levels of overflight noise would generally be considered relatively low in an urban context, where ambient levels can vary between 40 to 60 dB L_{Aeq} . However, amidst the low ambient noise levels expected across large parts of the GBMWH, an aircraft overflight would be clearly distinguishable (audible) and potentially prominent.

WSI is to operate 24 hours per day, these impacts are predicted to occur during both the day and night.

The GFMAOI identified from literature, particularly in relation to studies of user and visitor surveys of national park or tranquil areas, that noise impacts in national park or tranquil areas are not determined solely by the level of the noise, and are likely to relate to:

- Audible aircraft noise altering the perceived character of the area, i.e. a change from natural soundscape to a soundscape overlaid with regular man-made sources of intrusion,
- Increased awareness and sensitivity to noise intrusion in areas of the park which are valued for their tranquillity and natural soundscapes (e.g. areas where there is little to no intrusion from artificial sources of noise), and
- A reduction in the duration of periods that are free from audible artificial noise intrusion as a result of an increase in the number of aircraft movement.

These factors mean that the duration that an aircraft overflight is audible becomes more important when assessing the impact of aircraft overflights which result in relatively low noise levels. This is in contrast to impact assessments for urban areas that involve addressing relatively high noise levels which occur for briefer periods. It is therefore particularly important to account for the duration of the noise when assessing low noise level intrusion in quiet areas, as aircraft noise is present at these low noise levels but for a longer period.

¹⁰ <https://www.bmcc.nsw.gov.au/sites/default/files/docs/GuidelinesForMinimisingAircraftOverflightImpacts.pdf>

The GFMAIO identified a range of actions that would be required to assess and mitigate impacts of the WSI on the GBMWhA. The recommended actions comprise:

- Quantitative noise assessments that should be carried out to assess alternative operating strategies,
- Operational noise mitigation measures that should be evaluated as part of the airspace design, and
- Longer term measures for managing the noise impacts of aircraft overflights.

The draft EIS response to these requirements is detailed in the following subsections.

3.2 Quantitative noise assessments

Noise data in the form of a variety of noise metrics needs to be collated and compared to assess the aircraft noise overflight impacts of flight path/airspace design and operating strategies.

The type of noise data used to compare and assess alternative operating strategies must be selected to reflect the type of impact that could occur as a result of aircraft overflight; i.e. a degradation in the experience of visitors to the Blue Mountains as a result of regular audible aircraft overflight noise intrusion on the natural soundscape. Data will therefore be needed to describe both the natural sound environment and aircraft noise intrusion.

In relation to the natural sound environment, A-weighted background sound pressure levels represent the most common method of quantifying an environment which may be affected by the introduction of a new sound source. Background sound levels do not provide a measure of the intrinsic value of a soundscape that is composed entirely of natural sound sources. However, background sound levels are used in environmental noise policies throughout Australia, including NSW, as a baseline metric for gauging the intrusiveness of a new or altered noise source. The background sound level therefore has relevance when assessing the potential for aircraft noise to impact on quiet areas within the Blue Mountains. For consistency with established NSW policies, it is recommended that the background sound pressure levels are established at representative locations within the GBMWhA using the $L_{A90,T}$ noise metric – the sound level that is exceeded for 90 % of a measurement period of duration, T.

Section 4.5 of *TP 1* identifies that **none of the monitoring locations selected for the draft EIS are within wilderness areas of the GBMWhA** and there is no evidence of any quantification of ambient soundscape in the GBMWhA, which would be required to appropriately assess impacts.

In relation to aircraft noise levels no single aircraft noise metric can be relied upon in isolation to provide a complete representation of the potential impact. A range of aircraft noise metrics should therefore be collated and considered as part of the assessment, and account for:

- The level of aircraft noise overflights,
- The duration of audible noise associated with individual aircraft overflights, and
- The regulatory of aircraft overflight noise.

The above factors are commonly accounted for through the use of exposure metrics (e.g. average or equivalent noise levels) which combine the total sound energy of the noise in question, and therefore implicitly account for the noise levels, event durations and event frequency. However, the previous literature review indicated that exposure metrics are unlikely to be suitable for this type of assessment. Similarly, experience in aircraft noise assessment in Australia has shown that exposure metrics are not well suited to describing the noise in a way that individuals experience the noise or in a way that stakeholders can readily interpret. For these reasons, it is not recommended to adopt solely exposure metrics for assessing aircraft noise overflight impacts in the GBMWhA and national park.

3.2.1 Maximum noise level

Instead, adopt maximum noise levels L_{Amax} of aircraft overflights, as presented in the draft EIS. However, maximum levels significantly lower than the ranges considered in the EIS would need to be assessed (i.e. well below 60 dB L_{Amax}) to account for events at sound pressure levels which, although would generally be considered low in a typical urban setting, have the potential to significantly alter the character of the soundscape in quiet wilderness areas. *TP 14* states that “Overall, no specific aircraft noise criteria for conservation and wilderness areas has currently been developed. In Australia, assessments of new airport developments use the 70 dBA L_{Amax} and 60 dBA L_{Amax} noise exposure levels as impact thresholds for day and night time operations respectively.”

The basis and background for these thresholds are not provided. As outlined above these thresholds are not considered appropriate for the assessment of impact in the GBMWhA. The draft EIS does present predictions below 50 dB L_{Amax} , however **the assessment of impact considers a threshold of 60 dB L_{Amax} (*TP 14* Section 5.3.2.3 and Table 5.7) which does not adequately account for the impacts in wilderness areas.**

It is recommended that the final EIS provide noise level information at lower thresholds, supported by validation work to improve the reliability of predicted noise level data at low sound pressure levels that are below the validated range of practical noise modelling tools.

3.2.2 Event numbers

A measure of the number of audible aircraft events expected within key periods - as a minimum, the day, evening and night periods and also periods of expected visitor duration to the areas. This type of metric is similar to the Number Above metric used in the draft EIS (e.g. the N60 and N70), but rather than present the number of aircraft events above a sound pressure level that is defined as a threshold for disturbance or annoyance, this should indicate the number of times that aircraft noise intrudes on the natural soundscape. In practice, generating this type of information will require defining a practical sound pressure level threshold, based on a measure of background noise conditions, above which audible aircraft noise is likely to be audible for a significant portion of an overflight (i.e. as opposed to momentarily audible). The draft EIS does not present a practical sound pressure level threshold specific to the GBMWhA, instead comparing impact to an N60 threshold, which does not capture all audible noise events in wilderness locations.

The number of events calculated to be audible at key sensitive areas (Table 5.6 of *TP 14*) therefore significantly underestimate the number of audible aircraft overflights.

As noted in Section 3.2.1, including noise level information at lower thresholds in the final EIS will provide greater clarity on the number of audible aircraft overflights at key areas within GBMWhA.

3.2.3 Time-based metrics (event duration and respite periods)

A measure of the amount of time that aircraft noise will be audible (e.g. the TAA or %TAA) relate to audibility as judged by comparisons with the ambient sound level. The ambient sound level is generally taken to represent an average of all sound sources other than the source being investigated. However, in natural soundscapes, average parameters are highly prone to variations and higher frequency sound sources which are less relevant when judging the audibility of intrusive transportation type sounds. For this reason, the background sound level referred to earlier is recommended to be adopted as a representation of the underlying ambient level during quiet periods.

The draft EIS does not include any analysis of the amount of time aircraft noise will be audible, and it is recommended that the final EIS include this analysis.

3.2.4 Monitoring

In 2017 BMCC commissioned MDA to carry out monitoring of existing aircraft noise levels at two locations within the Greater Blue Mountains area. The purpose was to provide an indication of the baseline level of aircraft noise intrusion as a result of existing aircraft overflight associated with operations of Kingsford Smith Airport. The data obtained as part of that study provides an example of the type of baseline information which may need to be obtained more broadly across the GBMWHa when evaluating future impacts associated with the planned Western Sydney Airport.

The report was published in December 2017.¹¹ **No monitoring or quantification of wilderness soundscapes in the GBMWHa is included in the draft EIS.**

Quantifying impacts at the relatively low sound pressure levels required for the GBMWHa is beyond the intended scope of application of practical noise modelling tools (Section 2.4.1). At the low sound pressure levels recommended to be considered for the final EIS, noise modelling is subject to considerable uncertainties.

No validation work regarding low sound pressure level predictions from aircraft is included in the draft EIS. Validation work is therefore recommended to improve the reliability of predicted noise level data for this purpose. This should be based on comparison of measured and predicted data, in terms of sound pressure levels and event duration data, for aircraft altitudes and procedures that are comparable to potential future aircraft operations over the Blue Mountains area. Measurement data for existing aircraft movements in the vicinity of the Blue Mountains area, similar to that which was obtained as part of the previous noise monitoring work by MDA, can also enable the duration of audibility for high altitude jet aircraft overflights to be quantified and used to inform the assessment of overall time-based metrics.

3.3 Operational noise mitigation measures

The GFMAOI recommended that during development of the airspace management, the following strategies for the control of aircraft noise impacts in the GBMWHa be considered, including Overflight avoidance, Overflight dispersion, and Overflight mitigation procedures (refer Section 2.3.1).

With regards to overflight avoidance, some sensitive locations have been identified (for example in Table 5.6 of *TP 14*) but the soundscapes at these locations have not been quantified. As outlined above, the estimated frequency of aircraft events at key sensitive areas within the GBMWHa (Table 5.7 of *TP 14*) is only based on N60 values. **As such any overflight avoidance strategies (if carried out) are based on inappropriate inputs.**

Regarding overflight dispersion, it is recommended that consideration is given to identifying the areas where natural soundscapes are likely to be most highly valued, and therefore the locations where avoidance of overflight should be prioritised. The GBMWHa covers extensive areas and the size of the areas to be ideally avoided is therefore likely to be large. Nonetheless, the most sensitive areas should be identified with consideration to the following, but not limited to, factors:

- Typical sensitivity of use (e.g. areas sought after for their natural heritage, character and environment),
- Background sound levels,
- Remoteness from transportation and other anthropogenic noise sources, and
- Consultation with relevant stakeholders (e.g. National Parks Authority, Aboriginal representatives and local government).

¹¹ <https://www.bmcc.nsw.gov.au/sites/default/files/docs/GreaterBlueMountainsAircraftNoiseMonitoring.pdf>

As well as avoidance of locations, consideration should be given to how avoidance of sensitive time periods could be practically implemented – in terms of sensitive times of the day, as well as potential weekly and seasonal changes in sensitivity associated with variations in visitor numbers and park usage.

As soundscapes within the GBMWhA have not been quantified and estimated frequency of aircraft at key sensitive areas based on N60 values, it does not appear that overflight dispersion is adequately addressed.

Regarding overflight procedures, it is not clear if impacts to GBMWhA have been taken into account, or is explicitly addressed. Table 5.6 indicates that the **Night time noise levels at some wilderness campground areas** including Acacia Flat Campground, Dunphys campground, Perrys Lookdown campground and Burra Korain **campground are higher during the Night period than during the Day period**. Ideally aircraft noise impacts to camping areas would be minimised during the Night period. There are other key sensitive locations within Table 5.6 where Night levels are up to 11 dB higher than during the Day. The RRO flight tracks are presumably giving rise to this increase in Night maximum noise levels, as all other flight tracks are included in both scenarios.

The finalisation of overflight procedures, particularly the RRO should consider the impacts on the key sensitive areas within the GBMWhA.

3.4 Longer term management of impacts

Recognising the complexities and uncertainties associated with the assessment of aircraft noise intrusion in wilderness areas, the magnitude of the residual impacts may not be able to be reliably quantified. In addition, problematic impacts, or intensification of impacts as aircraft movement numbers increase, may not be readily apparent to regulators or the Airport operators. This is in contrast to noise impacts which occur in urban areas where community dissatisfaction may be more vocal or monitored as a matter of course.

To address these issues, monitoring is recommended so that aircraft noise impacts as a result of the introduction of new airport operations are proactively identified and addressed where issues arise. This should comprise a combination of:

- Surveys of visitor and park user experiences – the viability, practicality and utility of this type of survey has been demonstrated by extensive work carried out in the US and New Zealand, and
- Surveys of aircraft noise levels at key sensitive wilderness locations to quantify noise levels using the recommended metrics presented in the preceding sections.

Ideally, these surveys should be conducted concurrently to investigate the possibility of establishing a dose-response relationship between aircraft noise levels and visitor/experiences that is specific to the context of the Blue Mountains which can be used as an objective reference for ongoing airspace management of the planned Airport.

The draft EIS has not carried out user experience surveys or aircraft noise surveys as outlined above. It is therefore recommended these be carried out to develop a dose-response relationship specific to the GBMWhA.

Finally, whilst the assessment of impacts on fauna are outside of the area of expertise of the authors of this review, it is noted that Section 5.3.2.1 regarding biodiversity states that “noise levels not typically expected to exceed around 70 dBA” (based on the L_{Amax} value presented in TP 1). Therefore, these intermittent noise levels are unlikely to disturb fauna within the GBMWhA, or affect the habitats of this fauna.” No reference is provided as to how this trigger level for fauna was determined, and the basis for this should be provided.

4.0 MITIGATION MEASURES

The following sections outline the proposed mitigation measures included as part of the draft EIS as they pertain to aircraft noise matters.

4.1 Noise abatement

Chapter 10 of *TP 1* details aircraft noise management and mitigation opportunities. In broad terms, the draft EIS notes that noise abatement procedures are still to be developed in detail.

Section 10.2.1 states that “Unlike restrictions such as curfews, it is understood that in Australia noise abatement procedures are promulgated and applied as described above noting they are not legally enforceable.” When assessing impacts on residential, sensitive and wilderness receivers, and determining required mitigation, the non-enforceable nature of abatement procedures should be considered.

In development of detailed noise abatement procedures, there are a number of areas that require consideration, that are not specifically committed to in the draft EIS, discussed below.

The WSI operational preferences are defined based on a 11 pm to 05:30 am Night period. The changeover times for flight operations are determined by airspace restrictions from Kingsford Smith Airport operations, and are not based on consideration of human response to noise or the need for respite. This is discussed in more detail in other sections of this document. With reference to noise abatement there should be consideration of additional noise abatement strategies to reduce impact on sensitive receivers in the 5:30 am to 6 am (or 7 am) and potentially between 10 pm to 11 pm, which form part of the typical Night periods from a receiver perspective.

When developing mitigation due consideration should be given to sensitive non-residential areas, including the GBMWhA (discussed in detail in Section 3.0), noting that Section 10.4 identifies that management of noise at night could be achieved by prioritising “night-time flights over wedges of low-density rural land and natural areas”.

The development of flight path design is one of the six (6) mitigation and management measures for the project. Section 10.2.3 notes that “the complexity and high volume of air traffic in the Sydney Basin airspace and design criteria to minimise changes to existing Sydney Basin flight operations to the extent practical, there are limited design options for WSI flight paths and runway operational scenarios.” The design constraint to not impact on existing Sydney Basin flight operations, particularly from Kingsford Smith Airport, is very restrictive in what mitigation WSI can implement. Significant advances could be to mitigate, equitably share noise and consider impacts holistically across the Sydney Basin were this restriction to be reconsidered. This would obviously require additional engagement with third parties, but it is recommended that this is pursued.

As one example of the effects of this approach Section 9.8.5 details hold down procedures for flights departing WSI (and some arriving) such that they fly at a lower altitude for longer to avoid Kingsford Smith aircraft. This has the effect of increasing the noise footprint of the departing aircraft over sensitive areas. The report notes that “hold downs may be occasionally cancelled when traffic permits but it is important to note that the opportunity to cancel procedures decreases as traffic levels at WSI increase beyond PAL 1 (2033).”

4.2 Land use planning

This section outlines key findings from *Technical Paper 6: Land use and planning* (hereafter *TP 6*), prepared to address land use planning implications.

Importantly the ANEC contours prepared in the draft EIS are based on single runway operations only and various PAL/forecast years. Assessment of land use planning should however be based on longer term forecasts and proposed future operations, in the case of WSI, inclusive of the two (2) runways.

The ANEC based on the previous (2015) EIS, representing the long-term, two (2) runway for WSI has been adopted in various State Environmental Planning Policies (SEPPs), including *SEPP (Western Sydney Aerotropolis) 2020* and *SEPP (Precincts—Western Parkland City) 2021* for the management of land use planning in areas surrounding WSI.

Chapter 5 (Statutory context) of the overall draft EIS describes that the Airport Plan will eventually be replaced by a Master Plan. The Master Plan is required to include a number of measures relevant to noise including final flight paths and plans for managing land use in areas surrounding WSI. It is understood that an Australian Noise Exposure Forecast (ANEF) will be prepared as part of the final EIS for WSI (late 2024) and incorporated in the Master Plan. It is expected that this ANEF will supersede the ANEC contained in the SEPP. Until the ANEF contour is approved for WSI, the ANEC contour presented as the Noise Exposure Contour Map in the Western Parkland City SEPP.

Accordingly, the land use planning assessment presented in the draft EIS is not based on any new information, beyond:

- Counts of dwellings within the modelling single runway ANECs, and
- Identification of areas beyond the current SEPP ANEC, but contained within the single runway ANECs

Of note, are the development controls contained in SEPP (Western Sydney Aerotropolis) 2020, Part 3, clause 19 (5), which requires:

(5) Development consent must not be granted to noise sensitive development on the following land unless the consent authority is satisfied the development will meet the indoor design sound levels—

(a) land shown on the Land Application Map that is not in an ANEF or ANEC contour of 20 or greater,

(b) land shown on the Obstacle Limitation Surface Map.

The SEPP requirements are inconsistent with the planning provisions in LGA surrounding the WSI airport site. Specifically, where planning provisions are provided in respective Local Environment Plans (LEP), the planning authority is to consider the use or potential future use of the Badgerys Creek site as an airport and that proposed noise-sensitive development be designed and constructed appropriately. The LEP refers to AS 2021 as the primary tool for guidance on land use planning in the vicinity of the WSI site, and notes that development consent for residences is required where the proposed development is within the ANEF 20 contour for the proposed airport. The construction of residential dwellings is prohibited in land where the ANEF is above 25.

Where a proposed development within LGA surrounding WSI (development application for construction of a dwelling) sits as well as within the relevant land control boundaries defined in the SEPP, it is not clear which planning control would take precedence, i.e. the SEPP or the LEP.

Furthermore, there is no precedence to support the use of an Obstacle Limitation Surface (OLS) for aircraft noise land use planning. The OLS is defined in Part 139 (Aerodromes) Manual of Standards 2019 (MOS 139) as follows:

...a series of planes, associated with each runway at an aerodrome, that defines the desirable limits to which objects or structures may project into the airspace around the aerodrome so that aircraft operations at the aerodrome may be conducted safely The OLS identifies the airspace to be protected for aircraft operating during the initial and final stages of flight, or when manoeuvring in the vicinity of the airport

Aircraft noise is typically centred around flight tracks, due to the directionality and high level of attenuation at sideline locations to flight tracks. The OLS buffer would therefore be considered too conservative and a significant constraint on development in areas north and south of the WSI site. Conversely, the OLS buffer does not extend as far as the ANEC in line with the runway alignment.

Therefore in lieu of the OLS, it is recommended to adopt the N-contours and thresholds recommended in the *National Airports Safeguarding Framework* Guideline A as current interim guidance for

- Rezoning of greenfield areas to permit noise sensitive uses,
- Rezoning of brownfield areas to permit noise sensitive uses, and
- Assessment of new development applications for noise sensitive uses within existing residential areas, until such time that an ANEF is published.

4.3 Noise insulation program

A draft noise insulation and property acquisition policy (NIPA) is included as Appendix F and discussed in Section 11.8.1.2 of Chapter 11 of the draft EIS. The policy has been released for public consultation alongside the draft EIS. The NIPA is a high level draft policy only, with the detailed program eligibility requirements to be developed based on feedback provided and once the final flight paths are known.

The NIPA is based on the 2040 forecast year and not 2055 forecast. Section 11.8.1.2 notes that “In developing this policy, 2033 was considered too soon after establishment of the airport to reflect the time frame of the program, and 2055 did not take into account the potential second runway that is anticipated to be required around that time, nor any technological advances in aircraft.”

The inference appears to be that a future (second) noise insulation program will be instigated prior to 2055 when construction of a second runway is completed. The draft EIS does not however commit to a second runway being constructed by this time, nor that a second noise abatement program will be instigated by 2040. In basing the NIPA on 2040 projections, there is a likelihood that beyond this time, sensitive receivers will be exposed to higher noise levels and will be without adequate insulation until if/when the second runway is constructed, the second NIPA developed and treatments rolled out. On this basis it is recommended that the NIPA relating to the single runway operations be based on the 2055 projections, with the single runway at close to capacity.

The eligibility criteria for noise insulation and property acquisition policy is set out in Table 11.11 of the draft EIS. Buildings within ANEC 20 are eligible for treatment. However, acquisition is only triggered within the ANEC 40 contour (or on a case by case basis). Whilst acquisition is not triggered until ANEC 40, Australian Standard AS 2021 deems new residential development ‘Unacceptable’ where greater than ANEF 25. The trigger of ANEC 40 is based on the Kingsford Smith Airport scheme, however that was developed in relation to expansion of an existing airport, within a more urbanised context and did not include night-time operations. It is recommended the acquisition criteria be re-examined to determine a trigger more suitable to the WSI context.

When assessing properties, the NIPA does not consider noise impacts from existing aircraft operations from other airports. Whilst overlap/cumulative impacts affecting eligibility criteria may not exist, this should be confirmed.

Land use planning restrictions around the airport site have been in place for several decades, including requirements to insulate new noise sensitive development against aircraft noise. Whilst the noise impact predictions from the airport have changed since the initial noise contours were developed, there will be some existing dwellings that fall under the eligibility criteria for noise insulation treatment that were constructed to insulate against noise. It is not clear from the NIPA how this will be recognised as dealt with, noting that public funding for upgrades to these buildings may not be required.

APPENDIX A GLOSSARY OF TERMINOLOGY

ANE	Australian Noise Exposure. A noise metric predominantly used to calculate noise exposure in areas around an airfield
ANEC	Australian Noise Exposure Concept. A forecast of aircraft noise exposure around an airfield used to evaluate alternative operations. It is based on a forecast of aircraft movement numbers, operating times, types, destinations and flight paths
ANEF	Australian Noise Exposure Forecast. An ANEC that has been reviewed and endorsed by Airservices Australia. It is the only contour map with status in land use planning decisions for aircraft noise exposure.
A-weighting	<p>A set of frequency-dependent sound level adjustments that are used to better represent how humans hear sounds. Humans are less sensitive to low and very high frequency sounds.</p> <p>Sound levels using an “A” frequency weighting are expressed as dB L_A. Alternative ways of expressing A-weighted decibels are dBA or dB(A).</p>
dB	Decibel. The unit of sound level.
L_{A90,T}	The A-weighted sound level exceeded for 90 % of the measurement period, T, measured in dB. Commonly referred to as the background noise level.
L_{Aeq}	The equivalent continuous A-weighted sound level. Commonly referred to as the average sound level and is measured in dB.
L_{Amax}	The A-weighted maximum sound level. The highest sound level which occurs during the measurement period.
L_{den}	<p>The day-evening-night sound level calculated from the measured L_{Aeq} over a 24 hour period with a:</p> <ul style="list-style-type: none"> • 5 decibel penalty applied to the evening period (6 pm - 10 pm) • 10 decibel penalty applied to the night-time period (10 pm – 7 am)
L_{night}	The equivalent continuous A-weighted sound level over a specified period during the night, e.g. eight-hour period between 11 pm and 7 am (averaged over a year).