Executive summary

The Western Sydney Airport Project

The proposed Western Sydney Airport project will be one of the largest and most complex infrastructure projects in Australia. The project is proposed on Commonwealth land known as Badgerys Creek in the Liverpool Local Government Area.

The project as proposed in the draft Environmental Impact Statement (EIS) is intended as a staged development. The draft EIS and its associated 'Airport Plan' considers an initial single-runway development capable of handling up to 185,000 aircraft movements (37 million passengers per annum) nominally by around 2050, following which a dual runway is proposed with a total theoretical maximum capacity of 370,000 aircraft movements per year (82 million passengers) assumed to be reached in 2063.

Stage 1 works include a single 3.7 kilometre runway in the north of the site, capable of handling a full range of international and domestic passenger and freight aircraft, a business park, parking and cargo facilities in addition to areas of environmental conservation. The stage 1 draft EIS includes operation of the airport until 2030 when it is anticipated that approximately 10 million passengers and 63,00 aircraft would use the airport annually.

The draft EIS provides a broad assessment of the eventual two-runway development, but acknowledges that given the long time horizon to full development, more detailed assessment will be required to fully understand the impacts of the project at that time. Instead the draft EIS focuses on the assessment of Stage 1.

The draft EIS also recognises that there is currently no operator (or Airport Lessee Company – ALC) nominated for the construction and operation of the airport, and as such the Airport Plan is considered to be a transitional document until an operator is on board and a detailed masterplanning and project development process can commence. Sydney Airports currently has a first right of refusal to be the operator of the airport under an agreement reached as part of the privatisation of Kingsford Smith Airport. This creates significant uncertainties for the draft EIS, which acknowledges that key aspects of the draft EIS are effectively indicative only.

Statutory approvals context

Stage 1 of the Western Sydney Airport project is being assessed under the *Environment Protection and Biodiversity Act 1999* (EPBC Act) through an Environmental Impact Statement, as all works are proposed on Commonwealth land (EPBC 2014/7391). The draft EIS was released on public exhibition on Monday 19 October and exhibition will close on Friday 18 December 2015.

The draft EIS contains an 'Airport Plan' which defines the proposed layout and land uses for Stage 1 and an associated 'Airspace Architecture and Operation', which defines operation and flight paths associated with the airport. The Airport Plan must be approved by the Infrastructure Minister under the Commonwealth *Airports Act 1996* (Airports Act) prior to the commencement of development. The approval of the Minister for the Environment is a prerequisite of any consent under the Airports Act, and the Minister for the Environment in deciding to approve the EIS would issue conditions of consent to be imposed through the Airports Act consent on the project. Further detail is provided in Section 1.6.1 of the EIS.

This process is untested in Australia, as to date the Airports Act has only ever been used to manage assessment and approvals relating to the expansion of existing federally leased airports. New legislation has

been granted (the *Airports Amendment Act 2015*) specifically to deal with the Western Sydney Airport, to accommodate the special circumstances of a greenfield airport with no lease in place.

Future expansion and approval of the airport beyond 2030 would be subject to further planning and assessment under the Airports Act.

The draft EIS peer review

WSP | Parsons Brinckerhoff were engaged by Western Sydney Regional Organisation of Councils (WSROC) and Macarthur Regional Organisation of Councils (MACROC) to project manage the Peer Review of the Western Sydney Airport draft EIS.

In this capacity WSP | Parsons Brinckerhoff was required to run a competitive tendering process to engage specialists in key areas of interest to the councils. WSP | Parsons Brinckerhoff reported to WSROC under the direction of a Steering Committee (of officers of the participating councils) to confirm which specialists should be engaged, the Steering Committee provided direction throughout the review process and reviewed draft inputs.

The key issues nominated for peer review (and the specialists engaged) were:

- Aviation planning (Arup)
- Overflight noise (Marshall Day)
- Ground based noise and vibration (WSP | Parsons Brinckerhoff)
- Traffic and transport (Arup)
- Air quality and greenhouse gas (Katestone)
- Human health impacts (CHETRE)
- Social and economic (Hill PDA)
- Biodiversity (EMM)
- Surface water and Groundwater (Cardno)
- Impact on Blue Mountains (WSP | Parsons Brinckerhoff)

In its role of project manager, WSP | Parsons Brinckerhoff undertook an overall review of the draft EIS to cover off issues not addressed by the specialists and developed the overarching findings of the peer review.

Key findings

General adequacy

The draft EIS was prepared on a very accelerated program, and it is apparent from media coverage to date that there has been significant Federal political pressure to progress the project rapidly. The draft EIS was prepared over a period of approximately 8 months from engagement of EIS consultants to provision of an initial draft for Commonwealth Department of Environment review. By way of comparison the previous EIS for the project prepared in the late 1990s was undertaken over well over two years. We are aware that the period whereby the Department of Environment reviews the adequacy of the draft EIS prior to approving it for public exhibition was similarly compressed. From our review it is apparent that this has resulted in a number of omissions and limitations, which are discussed throughout this report.

Airport Layout

The draft EIS nominates a preferred airport layout for both the Stage 1 and long term developments, noting that the layouts are indicative only and would be confirmed once an ALC has been appointed. Alternative layouts are presented for both the Stage 1 and long term layouts, however these are all based on a 50/230 degree runway orientation, in other words there has been no consideration of alternative runway orientations – a key determining factor of flight paths. This contrasts with the EIS undertaken in the late 1990s which examines multiple layouts and runway alignments, and gives little visibility of whether the chosen layout, and in particular the runway alignments, achieve the best environmental outcome. Given the time that has lapsed since the previous EIS we would have expected to see a thorough current option-evaluation process to explore alternatives.

Airspace architecture (flight paths)

Chapter 7 of the draft EIS describes the 'Airspace Architecture and Operation' of the proposed airport which includes the flight paths for the Stage 1 Scenario (2030), prepared by Air Services Australia on behalf of the Department of Infrastructure. Only one set of flight paths is provided for 2030 in the draft EIS, featuring a 'merge point' (a point at which all incoming flights converge) over Blaxland. The concept of merge points is relatively new, and is considered good practice as it allows for incoming flights to minimise thrust and so reduce noise.

The brief of Air Services Australia as outlined in the draft EIS was to develop a set of flight paths that avoids impacts on existing operations at Kingsford Smith at 2030 (although it was acknowledged that this would be impossible in the long term) and to ensure safety of operations. We have a number of concerns in regard to the flight paths presented in the draft EIS:

- The draft EIS makes clear that they have not been designed to minimise environmental (and in particular noise) impacts on communities.
- They have taken no account of the smaller airports (Camden, Richmond, Bankstown), other than to note that these would be impacted in the long term.
- There is no visibility in the draft EIS of how these contours were arrived at, and how they compare to alternatives considered.
- The contours are 'proof of concept' – in other words they are indicative only, and could be revised by a future ALC without recourse to the EPBC Act. As such there is considerable uncertainty over what actual impacts may eventuate.

We have the following recommendations in this regard:

- Greater consideration of alternative options is required, with an additional objective of minimising environmental impacts.
- A holistic review of flight paths taking account of all airports in the Sydney metropolitan area should be undertaken. As part of this, options that allow for flight paths at Kingsford Smith to be modified should be considered.
- In recognition that a future ALC may modify the flight paths from those presented in the EIS, sensitivity testing should have been presented to demonstrate the changes of noise impacts that would result if flight paths are modified.
- The case for a merge point should be further explored, and consideration of alternative merge points should be examined.

Our peer review was limited to an evaluation of the information presented, and did not extend to development of alternative flight paths by our peer review team. As such we cannot comment on whether the

flight paths nominated may in fact be the best outcome. In other words the key issue is lack of transparency around the nominated flight paths.

Draft EIS places no explicit limits on key impacts

In a number of areas the EIS does not provide assurances that acceptable environmental thresholds will not be breached, and does not set hard limits on environmental impacts. In the case of aircraft noise this is a reflection of the nature in which aircraft noise is managed in Australia, and this is explored further in Section 4.1.1. However the same is also largely true of other aspects of the draft EIS – the mitigation measures are generally not prescriptive, and there is little in the way of hard limits on impacts. This is no doubt in part due to the fact that the ALC has not yet been appointed, and that the Department of Infrastructure is seeking flexibility over management and mitigation. However this creates uncertainty over the likely future impacts.

Uncertainties over the way the approvals process will operate

As noted above, the project is subject to assessment under the EPBC Act, and the Environment Minister's agreement (and conditions) are a prerequisite of any subsequent approval under the Airports Act. The draft EIS notes that the future development and expansion of the airport will be subject to further assessment and approval under the Airports Act, and that the preparation of a masterplan will be required within five years of the commencement of the project. This would superseded the current Airport Plan, which is described in the draft EIS as a transitional document. In effect it is implied that once the airport is leased, all future approvals would be under the Airports Act.

What is less clear is:

- What the potential triggers would be for further referrals and potentially approvals under the EPBC Act.
- What further assessment and approval would be required for the construction and operation of Stage 1 (beyond the current EIS and associated Airport Plan approval) once an ALC is appointed and more is known about the actual airport layout and operations.
- What limitations any EPBC Act approval will place on the airport
- What level of community and stakeholder engagement will be accommodated in the process going forward.

We would like to have seen greater clarity in this regard.

Key issues raised by specialists

Table ES.1 identified the key issues raised by the specialists for each environmental issue reviewed.

Table ES.1 Summary of key issues raised

Environmental issue	Key issues raised
Noise (aircraft overflight)	■ Assessment based on 2030 scenario which reflects early stage of airport operation only ■ Uncertainty around actual flight paths ■ Proposed mitigation measures are generic due to uncertainty of flight paths ■ Outline of mitigation process is not performance driven.
Noise (airport ground-based noise and vibration)	■ Type and magnitude of impact, pre and post mitigation has not been included ■ A single rating background level has been assumed for all receptors, this generalisation has

Environmental issue	Key issues raised
	underestimated the magnitude of noise impacts at receptors close to the airport. ■ Luddenham sensitive receptors were not included in background noise monitoring. ■ No cumulative noise impact assessment has been considered ■ The M12 motorway and the realignment of the Northern Rd has been excluded from the assessment regarding operational road traffic noise in Stage 1.
Local air quality and greenhouse gas (GHG)	■ Local air quality assessment has several long term exceedances NO_2, formaldehyde, $PM_{2.5}$ and PM_{10} ■ Effectiveness of proposed mitigation measures to achieve compliance was not quantified. ■ GHG emissions relatively small
Regional air quality	■ Stage 1 assessment is acceptable ■ Ozone concentration significantly above allowable increment for longer term development
Community Health	
Aviation planning	■ No real visibility in draft EIS of how flight paths were determined ■ No presentation of alternatives ■ No certainty over final outcome ■ No consideration of point merge – impacts on Blaxland
Surface transport and access	■ STM3 model has not been effectively calibrated and validated as the model is still in development with TfNSW ■ No traffic intersection modelling undertaken ■ Did not consider assessment of rail ■ Traffic estimate is based on 2011 which may be an underestimate as it does not include recent land use developments ■ Traffic generation (outside of air cargo) is unknown and no consideration made for passengers transferring within the airport.
Human health	■ Reviewed air quality, noise and water impacts however no discussion on implications of the distribution of effects for inequality and equality have been discussed. ■ No rational or justification given on why a Health Risk Assessment (HRA) has been undertaken rather than a Health Impact Assessment (HIA) ■ Perceived health issues not considered ■ Social determinants of health have not been considered ■ Long term cumulative impacts were not considered.
Biodiversity and offset strategy	■ Offset package has not been prepared and residual ecological risks have not been discussed ■ Mitigation measures are limited ■ Difficult to assess the biodiversity value of the site for the long term development.

Environmental issue	Key issues raised
Surface water and groundwater	■ Duncan Creek and its tributaries have not been modelled to allow definition of baseline and hydraulic impacts ■ Draft EIS appears to dismiss any relevance of increased pollutant loads on the receiving environment ■ Groundwater assessment lacks qualification of data, no baseline time-series data collected ■ Two residual risks for groundwater were identified; soil and subsurface contamination from spill/release of chemical or contaminants and impact on groundwater dependant ecosystems from reduced water supply.
Social impact	■ Balance of discussion on impacts – strong focus on economic benefits rather than a balanced discussion ■ Strong focus on regional benefits not local impacts ■ Many potential issues are stated with little assessment of their implications or level of significance or duration ■ No discussion on how mitigation measures will be co-ordinated or resourced or who the key accountability falls with ■ Claims being made by Commonwealth about economic generation and job creation have not been explicitly tested in the draft EIS ■ The draft EIS does not describe the economic or social impacts of any transfer of activity from other areas in Sydney or Australia.
Greater Blue Mountains	■ A detailed assessment of significance under the Biodiversity Assessment for the Blue Mountains World Heritage Area has been deferred until a 'multidisciplinary workshop' is held to identify and assess potential impacts. ■ Limited assessment of wilderness value and high sensitivity ■ Noise levels predicted to be relatively low (below 50-55dB LAmax) however for a natural landscape is prediction is not justified and many impact the amenity values.