

14 December 2015

Department of Infrastructure and Regional Development
Western Sydney Airport Submission
Western Sydney Unit
GPO Box 594
Canberra ACT 2601

RE: Submission for draft Environmental Impact Statement (EIS) for the Western Sydney Airport at Badgerys Creek

Dear Sir/Madam,

In November 2015 parents from Lower Blue Mountains schools and preschools began informal discussions about the Western Sydney Airport draft Environmental Impact Statement (EIS) and the examination of the flight paths proposed. A meeting was called for local representatives of P&Cs and P&Fs on Monday 30 November, attended by over 60 concerned parents and citizens. This joint submission brings together the variety of concerns raised at that meeting. We find the assurances given in the EIS and associated documents unconvincing. The evidence indicates our children will be adversely affected. The impact is exacerbated by poorly thought through flight paths, lack of curfew and in stark contrast to the legislative protection of children, schools, and communities affected by Sydney Kingsford Smith airport. The unpredictability and variability of aircraft noise is likely to have a greater effect on children's reading than road traffic noise, which is of a more constant intensity. (Jones & Rhodes, 2013).

We have serious concerns about the negative impact upon the health, cognitive development, learning and wellbeing of the children in the Blue Mountains communities who attend High schools, Primary schools and Preschools in our area. We make the following submission to the draft EIS for the Western Sydney Airport.

Our key concerns are related to the intensity of incoming flights over the Lower Blue Mountains due to the point merge and the negative effects on school children. In particular:

1. The effects of continuous noise pollution on children's learning and health
2. The effects of toxic aircraft emissions on children's health
3. The effects of sleep deprivation on children's health and wellbeing
4. The loss of amenity to our local community
5. The lack of mitigation strategies or compensation to schools under the flight path

We also have general concerns about the EIS. In particular:

6. The lack of clear evidence given for the need for a second airport in Sydney
7. The lack of reasoning and explanation for the point merge system and lack of alternatives offered
8. The lack of maximum levels to minimise community disturbance
9. The risk to public safety from bushfires with priority for emergency services not properly addressed
10. The risk to our World Heritage National park that surrounds our communities

To minimise these effects, we request that:

- Alternatives to an airport at Badgerys Creek be prioritised, given the concerns which have led to Badgerys Creek being rejected twice already as a second airport site. These alternatives could include:
 - fully engaging Sydney Kingsford Smith Airport to 100% capacity;
 - locating a second airport in a location which will not send large volumes of flights over a World Heritage area and over communities with low ambient noise levels, which are therefore more affected by airport noise;
 - developing a high speed rail alternative.

If the airport proposal for Badgerys Creek is to proceed, we request:

- A full independent investigation, in more detail than the current EIS, and addressing gaps and inaccuracies in the current EIS as highlighted in the WSROC Review of the Western Sydney Draft Environmental Impact Statement (Parson Brinkerhoff, 2015). This investigation should cover:
 - the health effects of the proposed airport, including the effects of noise pollution and air pollution on children's health and their cognitive, psychological and physical development; and including
 - testing and exploration of alternative flight paths and management systems that minimise overfly of residents and schools and share the noise pollution equitably.
- A curfew consistent with the curfew in place for Sydney Kingsford Smith Airport, restricting the types of aircraft and operations allowed between 11:00pm and 6:00am and on Saturdays and Sundays, particularly regarding older and noisier aircraft used for freight planes.
- An hourly cap of 80 aircraft movements, consistent with the cap in place for Sydney Kingsford Smith Airport;
- Equal distribution of flight paths in all directions from the airport, using the STAR system, to minimise the impact on local communities and environments, consistent with the STAR system for flight sharing in place for Sydney Kingsford Smith Airport.
- That the curfew, hourly cap and flight sharing be protected by legislation, consistent with the legislative protection in place for Sydney Kingsford Smith Airport.
- That the noise levels of flights be quantified and capped for Stage 1 and Stage 2, particularly given the likelihood of older and noisier freight planes using the airport.
- That the World Health Organisation Night Noise Guidelines for Europe (World Health Organisation, 2009) apply, including a target of 40dB for night noise, which incorporates a 10dB penalty for night flights and a 5dB penalty for evening flights, to protect the public, including the most vulnerable groups such as children, the chronically ill, and the elderly.
- That baseline levels of current air pollutants, ambient noise levels and public health in the Low, Mid and Upper Blue Mountains be established now, to allow for prediction and amelioration of the effects of increased air and noise pollution. This information is missing from the EIS.
- That restrictions are put in place to exclude the Blue Mountains area from possible fuel dumping.
- That limits are set for air pollution levels from the airport operations and flight paths based on Australian Air Quality guidelines set in the Air NEPM (Commonwealth of Australia).
- The EIS must be expanded to give clear and unrestricted priority to Emergency Services to use the airspace and authority to ground any/all planes during fire-fighting operations and other emergency events. It must also include plans for flight diversion, queuing and grounding for extended periods during a major bushfire event.
- That a noise insulation programme be established to assist residential properties and public buildings to implement noise abatement strategies such as roof and wall cavity insulation or double glazing, consistent with the Sydney Kingsford Smith Airport noise insulation programme established in 1995 in relation to the construction of the third runway. This programme should include consideration of the impact of low ambient noise levels, as found in the Blue Mountains LGA.

1. The effects of continuous noise pollution on children's learning and health

Aircraft noise is a chronic environmental stressor for school children, and "schools exposed to high levels of aircraft noise are not healthy educational environments" (Clarke, Crombie, Head, van Kempen, & Stansfield, 2012). Research has established that the effects on children of high levels of environmental noise, such as aircraft noise, include:

- deficits in sustained attention and visual attention;
- difficulties in concentrating (based on teachers' reports);
- poorer auditory discrimination and speech perception;
- poorer memory requiring high processing demands; and
- poorer reading ability and school performance on national standardised tests (Jones & Rhodes, 2013).

Research shows the direct link between noise pollution and its negative impact on learning causing children to learn to read more slowly (Boyles, 2002). Other research shows further developmental delays; interference with motivation, memory, language and speech acquisition in children (Bistrup, 2011).

Detailed studies on children shows the link between aircraft noise exposure and increased risk to children's health. In particular, elevated blood pressure and stress hormone levels compared with kids living in quieter areas. (Boyles, 2002) Studies in the British Medical Journal have linked aircraft noise to 10-25% higher rates of stroke and heart disease that increase with people's proximity to an airport or aircraft noise. (Toscano, 2013) The World Health Organisation has also written about the dangers of aircraft noise and considers it not only as a cause of nuisance but also a concern for public health and environmental health. (The WHO European Centre for Environment and Health, 2011).

The Western Sydney Noise-Modelling Tool over an example school in our area (Blaxland Preschool) shows that we can expect 50-75 flights a day and 10-20 during evenings and 20-30 at night in 2030 causing 60-65dBA of noise pollution. This means a plane every 8 minutes flying overhead during the day, a plane every 20 minutes during the evening and every 18 minutes throughout the night. This then grows in 2050 to a plane every 4 minutes throughout the day, every 3 minutes during the evening and every 6 minutes at night.

A plane every 4-8 minutes during the day will interrupt lessons and student's concentration. Hours will be lost in lesson time as teachers and students pause for a plane to fly overhead. A plane every 4-20 minutes during the evening and 6-18 minutes at night will interrupt homework, family time and sleep.

Our educational environments are quieter compared to other urban settings with less background noise. The EIS underplays the noise problem and fails to take into account the general quietness of the Blue Mountains urban areas and its effect on the perceived noise level. It also fails to account for the cumulative effect of the density of noise pollution from the intensity of flights throughout the day and night. It also does not take into account the topography of our area, the altitude of the location compared to the plane altitude rather than sea level, the unique Blue Mountain topography; its ridges and valleys and their effects on noise distribution. We feel that the noise modelling is incomplete and warrants further investigation.

We are especially concerned about aircraft noise exposure on our children as we actively encourage outdoor play in our schools and the noise will be perceived louder outside the school building. Studies show outdoor play teaches essential skills and is important to a child's physical development and emotional wellbeing. (Council for Learning Outside the Classroom, 2009)

Another of our concerns with noise pollution is the 28 freight planes per day quoted in the EIS. Freight planes in Australia are often older commercial planes than the new plane models quoted in the EIS. We believe the noise modelling need to be recalculated based on these noisier, older aircraft models.

The point merge system of channelling all incoming flights over the Lower Blue Mountains in Stage 1, and the Mid and Upper Blue Mountains in Stage 2, is unacceptable. It places an unjust noise burden on our children and our schools. It is a risk to our children's health and may cause learning and developmental delays in our schools. We request further detailed review by an independent body on the effect of noise pollution on children's education.

2. The effects of toxic aircraft emissions on children's health

Children are more at risk than adults of developing health problems from air pollutants due to their immature physical development as well as increased lung surface area. Children breathe in 50% more air per kilogram of body weight than adults (Ritz & Wilhelm, 2008). Also, children are more likely than adults to play outside.

Exposure to toxic aircraft emissions can cause wide range of negative health aspects in children such as lung and respiratory problems, cardiovascular disease, lower resistance to respiratory infections, premature mortality, headaches, dizziness, visual disorders, and memory impairment (United States Environmental Protection Agency, 1999). These air toxins can also impair children's lung function and neurodevelopment, and exacerbate asthma (Ritz & Wilhelm, 2008). The EIS states there will be an increase in emergency hospital admissions for children suffering from asthma as a result of the air pollution. Repeated exposure to these toxins from aircraft emissions poses a serious threat to the health of children.

We are also concerned about the possibility of aircraft fuel dumping over the Blue Mountains. The EIS states that ideally fuel should be jettisoned before 6000ft, however flights over Lower Blue Mountains are predicted to be at 5000ft. In an emergency, if fuel needs to be jettisoned this will not be high enough to evaporate and dissipate, causing further air and land pollution.

We are very concerned that the increased air pollution from frequent plane overflight and possible fuel jettisoning will cause our children very serious health risks. Further testing and research should be carried out on current levels of air quality and public health in the Blue Mountains as this information is missing from the EIS. We demand restrictions are put in place to exclude the Blue Mountains area from possible fuel dumping and limits are set for air pollution levels from the airport operations and flight paths based on Australian Air Quality guidelines set in the Air NEPM (Commonwealth of Australia).

The effects of sleep deprivation on children's health and wellbeing

According to the EIS the Western Sydney Airport will operate on a 24 hr basis with frequent flights (every 20 minutes) inbound and outbound throughout the night.

Sydney Kingsford Smith Airport operations are limited by a daily curfew and hourly cap. According to Air Services Australia: "Sydney Airport has a curfew that restricts both aircraft type and runway usage between the hours of 11.00pm and 6.00am" (Airservices Australia, 2012). In addition, Sydney Kingsford Smith Airport has a movement cap of maximum 80 aircraft movements per hour which cannot be exceeded (Airservices Australia, 2010). Sydney Kingsford Smith Airport also uses a STAR system rather than a point merge system to share the noise pollution equitably across Sydney suburbs.

However, children living in Western Sydney and the Blue Mountains will be forced to live with frequent all-night aircraft noise. The Western Sydney Noise-Modelling Tool (that we explored in an earlier point) shows that we can expect a plane every 20 minutes during the evening and every 18 minutes throughout the night in 2030. This then grows in 2050 to a plane every 4 minutes throughout the day, every 3 minutes during the evening and every 6 minutes at night.

The EIS admits that exposure to night-time noise pollution 50dBA causes people to wake up. Planes are predicted to cause 60-65dBA of noise pollution. This means in 2030 our children can be woken up 30-50 times a night between 6pm and 7am. In 2050 it grows to a staggering 125-175 times a night. This is an unacceptably high level of night awakenings. This high level is unfair and will interrupt sleep and cause sleep deprivation. The World Health Organisation guidelines advise that night-time aircraft noise over 40dB affects vulnerable groups such as children, the chronically ill, and the elderly (World Health Organisation, 2009).

Sleep deprivation has been proven to lead to health and social issues in adults and children in numerous studies. Studies show cardiovascular, metabolic, psychiatric problems as well as negative social outcomes in adults and children. Also children suffer the next day from sleepiness, annoyance, mood swings, and decreased cognitive performance (Halperin, 2014).

A grumpy, annoyed, sleepy, moody, forgetful child is not the best situation for schooling. Tired children have problems concentrating in class - leading to delays in learning.

The increased health and social risks to children in our area from night aircraft noise is highly concerning. Children in the Blue Mountains and Western Sydney deserve the same limits and equality as those in inner Sydney. We need to explore an alternative location for the flight path, an alternative to the point merge system or a site for the airport away from schools and residential houses.

Western Sydney Airport also requires limits and targets to ensure equitable sharing of aircraft noise across the whole of Sydney, Western Sydney and the Blue Mountains. We require a curfew to stop night-time disturbance, a movement cap to limit intensity of flights, and targets for flight path sharing to ensure equitable sharing of noise.

4. The loss of amenity to our local community

The Blue Mountains area has many unique features to its amenity. Living within the World Heritage listed National Park, we enjoy the dramatic beauty and natural acoustics it offers us. However, with the intensity of flight paths proposed in the EIS, the lifestyle, social, acoustic, environmental, visual, recreational and aesthetic amenity of this area will be drastically be altered. The point merge flight path system was never part of any past proposal and residents are shocked and dismayed at the negative effects to local amenity.

5. The lack of mitigation strategies or compensation to schools under the flight path

There is no mention in the EIS of Noise abatement strategies such as roof and wall cavity insulation or double glazing for schools or residences impacted by noise, nor is there mention of compensation to pay for it.

The Sydney Kingsford Smith Airport noise insulation programme was established in 1995 to ameliorate the impact of aircraft noise following the opening of the third runway. Residential properties in the Australian Noise Exposure Index (ANEI) 30 contour and public buildings (schools, churches, day care centres and hospitals) in the ANEI 25 contour were eligible for assistance under the programme (Commonwealth of Australia).

We believe that for social equity, residences and public buildings under the flight path and located near the airport in the Blue Mountains and Western Sydney should be eligible for compensation to install sound insulation.

6. The lack of clear evidence given for the need for a second airport in Sydney

We question the need for a second airport in Sydney and we remain unconvinced by the reasons presented thus far. Whilst there has been a 45% growth in passenger numbers at Sydney Kingsford Smith Airport, there has only been a 3% increase in flight numbers as planes are larger and can carry a higher capacity.

We would also like to point out that Melbourne's second airport; Avalon is under-utilised by passengers with only 5 flights a day and has been operating at a loss for several years (Paul, 2015).

7. The lack of reasoning and explanation for the point merge system and lack of alternatives offered

According to an independent review of the EIS, the level of detail in the EIS is grossly inadequate in regard to the uncertainty of the Airport's "indicative" flight path plan (Parson Brinkerhoff, 2015). The EIS lacks a clear justification or explanation for the location and configuration of the flight paths and point merge system. There are also no alternative flight paths or alternatives to the point merge system explored in the EIS. There has also been no testing of flight paths before the EIS was released.

The STAR system is an alternate method of setting flight paths and is used at Sydney Kingsford Smith Airport. It is possible to conserve fuel using the STAR system. We feel that the justification of fuel economy using the point merge system is not correct in all cases. When travelling from the east, north or south, it cannot be more fuel efficient to fly past the proposed airport to the west, to simply reach the merge point over Blaxland so planes can then descend along the designated flight path into Western Sydney Airport.

We require a more rigorous study into the Western Sydney Airport's flight path plans be carried out. Best practice flight path plan design for the airport would include testing and exploration of alternative flight paths and management systems that minimise overfly of residents and schools and share the noise pollution equitably.

8. The lack of maximum levels to minimise community disturbance

The EIS does not contain maximum acceptable levels for a range of adverse effects to children and adults living under the flight path. There are no set maximum levels of; noise pollution, air pollution, no noise sharing targets, no plane movement caps nor a night curfew.

The EIS lacks any information on current noise pollution levels recorded in the low, mid and upper Blue Mountains to benchmark noise pollution. Also, there are no maximum levels set for stage 1 or Stage 2 of the Airport operations.

9. The risk to public safety from bushfires with priority for emergency services not properly addressed

The EIS lacks a comprehensive review of the management of bushfires within the proposed flight paths. The EIS must be expanded to give clear and unrestricted priority to Emergency Services to use the airspace and authority to ground any/all planes during fire-fighting operations and other emergency events. It must also include plans for flight diversion, queuing and grounding for extended periods during a major bushfire event. Many of our schools are located in bushland settings, placing our children at risk if fire-fighting efforts are in any way delayed or hampered.

10. The risk to our World Heritage National park that surrounds our communities

We enjoy living within a World Heritage listed National Park and exploring the opportunities it offers our children to explore Aboriginal perspectives, connect with nature through play and learn about sustainability. We are concerned that the flight path endangers the environment around our schools as well as the Greater Blue Mountains World Heritage Listed National Park.

According to the Civil Aviation Safety Authority: "Noise within the National Parks system often interferes with the very reason visitors go to the National Park – for peace and quiet. Aircraft noise tends to interfere with the 'natural quiet' that visitors seek within a National Park." (Australian Government Civil Aviation Safety Authority)

We believe that aircraft noise and pollution emissions from the density of flights will disturb the delicate ecosystem of the National Parks and surrounds; including endangered and protected species of flora and fauna. It will also interfere with the quiet enjoyment of the beautiful natural environment of the Blue Mountains National Park.

Conclusion

The current EIS fails to identify the impact of a 24 hour operational airport on children and local communities in the Lower Blue Mountains. We respectfully request that these inadequacies be addressed through additional research, testing and independent review as outlined above. The proposed flight paths and point merger system is detrimental to local schools and educational environments and has the potential to cause long term significant implications for children's health and future generations of this area.

In its current form, the Environment Minister should reject this proposed EIS. The Federal Government needs to commission a more robust and definitive EIS which addresses our educational and community concerns.

On behalf of the Lower Blue Mountains P&C and P&F Committees 2015,

Blaxland High School P&C

Blaxland Preschool Kindergarten Executive Committee

Blaxland Public School P&C

Blaxland East Public School P&C

Blue Mountains Grammar School P&F

Ellison Public School P&C

Glenbrook Preschool Parent Committee
Glenbrook Public School P&C
Lapstone Preschool Kindergarten Association Inc
Lapstone Public School P&C
Mt Riverview Public School P&C
Springwood and District Preschool Kindergarten Parent Committee
Springwood Public School P&C
St Finbar's Primary School P&F
Warrimoo Public School P&C
Winmalee Public School P&C
Winmalee High School P&C

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