



# Aircraft Noise

## The major problem for communities living around airports

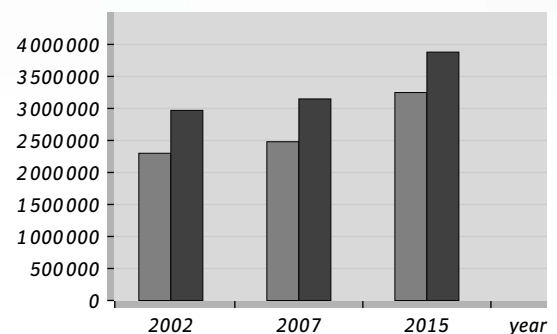
Noise continues to be the major problem for communities living around airports and under flight paths, especially at night. Aircraft noise has raised conflict ever since the first jet flight. Major technological innovations have made the planes quieter, but the improvement has been offset by the development of larger aircraft and more frequent flying (often in sensitive times of the day)... The need to expand airspace and define new routes to accommodate the growth in flights, is creating noise nuisance for new populations who find themselves living under holding stacks and flight paths.

There is little prospect of significantly quieter planes being introduced during the next 20 years. Aircraft must comply with international standards on aircraft noise which are determined by the International Civil Aviation Organisation (ICAO). Currently, all planes coming off the production line must comply with the "chapter 3" standard which came into force in 1977! A new standard for aircraft noise, Chapter 4, will come into force on 1 January 2006. However, the new standard is very weak and already met by 98% of aircraft currently in-production. It will improve the current standard by a little over 3dB, on average, at each measurement point. The industry's aspirational target is to develop an aircraft that reduces perceived aircraft noise by 50% by 2020 compared to 2000 (ACARE, 2000). Even if this demanding target can be met, it will take several years with its gradual introduction to the fleet before the benefits are felt. Moreover, such improvements are not sure to counter the effects of increasing traffic

### Noise Levels Increase

Airport noise levels will increase. During the 1990s, North America, Europe, Japan, Australia and New Zealand agreed to phase out operations of the old, Chapter 2 aircraft from their airports. This accelerated fleet replacement and meant that noise contours (showing the area exposed to a given level of aircraft noise around an airport) became static or even decreased in some cases. But with no further

plans for a full or partial phase-out of Chapter 3 aircraft, and the limited contribution of new technology, noise levels around most European airports are set to increase again as traffic grows:



Probable Number of People Exposed to Aircraft Noise in Europe (all major airports in the EU15) (ANOTEC Consulting, 2004)

### The Regulatory Response?

These predicted increases go against European noise objectives (2002/49/EC, Noise Directive) which refer to the need to limit the number of people affected by aircraft noise. Furthermore, over 50 Ministers worldwide have signed a Charter on transport, environment and health which commits them to working towards the World Health Organisation's guidelines on community noise exposure.

These recommend against daytime noise levels in excess of 55 dBA Leq (16 hour) to prevent high levels of annoyance. But at present, there are no EU-wide noise limits for airports. Instead, airport noise is regulated by member states through local operational measures.

### **The ICAO “Solution” A Balanced Approach?**

In 2001, ICAO developed a balanced approach to noise management at airports. This comprises four elements namely reduction at source, land use planning, operational procedures and operational restrictions. However, as noted above, the potential to reduce noise at source is currently limited, while land use measures in densely populated regions in Europe are difficult to implement, unless radical policies are considered such as removing noise affected houses on a widespread basis. Operational procedures, such as Continuous Descent Approach, can bring marginal improvements but significant benefits are only likely to be achieved through operational restrictions. The balanced approach is applied to European airports through EU Directive 2002/30/EC on rules and procedures for introducing noise-related operating restrictions at Community airports. This Directive effectively prevents EU-wide action by requiring an airport-by-airport approach based on local circumstances and inhibits effective action. Airports will not want to be commercially disadvantaged if they introduce a rigorous noise management policy while competing airports don't have to.

### **Summary of key community issues:**

- Perception is that aircraft noise has not improved, due, to the significant increase in number of noise events
- Current noise indices that average noise exposure do not accurately reflect community annoyance
- Night noise remains a particular problem
- Wider recognition of impact of noise on health and the performance of children
- Concerns are being ignored, especially by regulators
- Airspace management emerging as key issue
- Aircraft noise impacts can have Human Rights implications
- Airport consultative committees have no “teeth” to address problems
- Community groups argue for greater regulatory intervention and controls
- “reference: Lancet 2005; 365: 194249, Aircraft and road traffic noise and children, cognition and health: a cross-national study”

### **A Way Forward**

Airport communities would like to see EU-wide controls on day and night-time flights at all airports. These controls and limits are dealt with in other GreenSkies Fact Sheets.

However, the way noise is reported is as important as taking action to reduce it. Relatively simple procedures can be put into place to improve the way in which noise is reported and communicated. At Sydney Airport, the Australian government developed a system that tells an individual resident:

- the aircraft altitude over their property,
- the average daily number of movements on a flight path (and range between quietest and busiest days),
- the number of days when there are no flights, any “quiet” periods (e.g. night curfews),
- the number of events over a given threshold (e.g. 70 dBA),
- seasonal, daily or hourly distributions.

These data give a real life picture of what its like to live near an airport and can be easily understood by residents. Most noise models are capable of providing this information.

### **Conclusion**

Residents require greater protection from aircraft noise and greater certainty. This can only be achieved by establishing noise limits for all EU airports, for both the day and night time periods. Too often, communities have been given promises about future noise levels, which have been broken. Once set, airport must remain within these long-term limits irrespective of future plans for expansion.

### **References**

1. ANOTEC Consulting, 2004, “Study on Current and Future Aircraft Noise Exposure at and around Community Airports - Revision of baseline study”, Report to the European Commission No. PAN012-7-0, [http://europa.eu.int/comm/transport/air/environment/doc/aircraft\\_noise\\_revision.pdf](http://europa.eu.int/comm/transport/air/environment/doc/aircraft_noise_revision.pdf)
2. ACARE 2001, “European Aeronautics: A vision for 2020, Advisory Council for Aeronautics Research in Europe” [http://www.acare4europe.com/html/about\\_us1.shtml](http://www.acare4europe.com/html/about_us1.shtml)

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