



# Parafield aircraft noise issues

November 2012

## 1 Purpose

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- 1.1 This report provides details of the investigations undertaken by the Aircraft Noise Ombudsman's (ANO) office into aircraft noise issues being raised by residents of Parafield.

## 2 Overview

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- 2.1 In March 2012, the ANO office noted the trend of complaints and enquiries from Parafield residents that mentioned particularly noisy operations from one type of twin engine aircraft.
- 2.2 Over the period August to November 2011 inclusive, Airservices had recorded contact from 44 complainants from Parafield, with 32 mentioning circuit traffic. Of the 32 complainants, nine mentioned 'twin engine' circuit traffic. On this basis, the ANO office looked further into the issue. Advice from Parafield Airport and the largest operator of training aircrafts at the airport indicated that they had also seen a rise in the number of noise complaints to their offices.

## 3 Analysis of issues

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- 3.1 Analysis of the issue drew on information obtained through complaints received both by the ANO and Airservices, web research, discussions with aircraft operators, airport management, meetings with industry stakeholders, and an email exchange with an engine silencer manufacturer in Europe.
- 3.2 While it is true that 'some planes are just noisier than others', this case did raise some issues that deserved attention. Several factors contributed to a change in the experience of aircraft noise in the community, particularly from one type of twin engine aircraft. These were:
- One of the training providers replaced the engines on seven twin engine aircraft with a new engine, which has a new type of propeller. The operator considered this change necessary because the original engines had reliability issues, which the training provider consider unacceptable from a safety perspective. Complaints to the ANO office suggest that the new engines were considered noisier by some residents.
  - In 2010 an incident on landing led to a mandated change to the landing configuration of the aircraft, resulting in a changed noise signature earlier in the circuit. Homes near the end of the circuit are affected by this changed noise signature. Given the variation in circuit patterns, various areas around the airport are affected by the change in landing configuration.
  - Increasing numbers of students for all providers at Parafield Airport means there is also more training than before.
- 3.3 Community awareness of noise issues can be heightened when issues about Airports or aviation more generally are in the public domain, such as in the media. The public consultation period for the Parafield Preliminary Draft Master Plan 2012-2017 ran from 12 March 2012 to 7 June 2012. This is likely to have contributed to an increase in concerns being expressed by the community about aircraft noise.

## 4 Changes to improve the aircraft noise outcome

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4.1 The ANO engaged with the airport and aircraft operators to investigate a number of avenues for improving the noise outcomes at Parafield Airport. These stakeholders had already been looking for opportunities to reduce the impact of operations on the community. Opportunities pursued included:

- Amending the Fly Friendly Program (see 4.2 below)
- Amending the circuit arrival procedures (see 4.3 below)

In addition, the ANO received information from a complainant about engine silencers being used in Europe for General Aviation aircraft and investigated further the fitting of aircraft with engine silencers/mufflers.

### 4.2 *Amending the Fly Friendly Program*

The Fly Friendly Program is a voluntary code of conduct for the aircraft operators. It is designed to reduce the impact of operations on the community. Under the revised agreement, operators at Parafield will try to limit their circuit training activities to finish earlier in the evenings when possible (from the previous 11pm to 10pm where possible on weeknights and by 9pm on weekends) and to start later on Sunday mornings by half an hour (i.e. starting after 8.30am). Circuit training had been restricted only on Christmas Day, but this is extended now to include some other key public holidays: no circuit training on Christmas Day or New Year's Day, and on Anzac Day circuit training would not start before 9am. The current Fly Friendly Program is available at the Parafield Airport website:

<http://www.parafieldairport.com.au/operations/fly-friendly-policy>

### 4.3 *Amending the circuit arrival procedures*

In May 2012, at the instigation of the Parafield Airport Technical Working Group, the operator undertook to work with the Civil Aviation Safety Authority (CASA) to explore whether the circuit arrival procedures could be amended. The intent was to see if the noisier landing configuration of the aircraft could occur later in the circuit (while still meeting safety requirements). This was aimed at reducing the number of residents affected by the noisier landing configuration. CASA has now approved the new procedure and the flying school has implemented it as a permanent change for all circuit training arrivals using the twin engine aircraft. The new procedure means the engines will typically run at a slower rate and with a quieter propeller setting.

### 4.4 *Fitting aircraft with engine silencers/mufflers*

The ANO contacted a European exhaust system developer and manufacturer that specialises in engine exhaust-noise silencers for general aviation aircraft. We sought information on silencers available for the particular twin-engine aircraft causing concern in Parafield and were advised that they do not have a silencer for such aircraft nor were they aware of any such system for this model aircraft. They did say that they have the experience and competence to design and manufacture such a system, however the initial purchaser would have to meet all costs. They estimated that this would be about 60,000 Euros (or 76,000 Australian dollars). Costs for each unit after that would depend on the number ordered, but would be in the vicinity of \$10,000 each.

The manufacturer also said that they would require the client to provide an aircraft during the design, installation and test flying (which would represent a further substantial cost to the client). They would be able to certify the aircraft according to European standards, but did not comment on whether they could comply with Australian standards, as they were not familiar with the requirements. Silencer systems do have a negative impact on performance (usually only 1 or 2%) and this would need to be taken into account for certification, as the aircraft must be able to continue climbing after departure if one engine fails.

In effect pursuing the option of silencers would involve substantial direct and indirect costs, would not guarantee any particular level of benefit, and could not be assured of achieving Australian certification. This would suggest that a silencer for the twin engine aircraft operating at Parafield Airport is not a viable option at present.

- 4.5 The ANO acknowledges that amendments to the Fly Friendly Program and circuit arrival procedures are changes at the margin and, for some residents, may not be discernible. However, every change to improve the noise outcome is a step towards better balancing the impacts on the community with the business demands of the operators.

## 5 Conclusion

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- 5.1 The ANO presented complaint data on this issue to relevant stakeholders in order to determine if they could achieve any reduction in the noise generated by their operations. Having determined that some changes were possible, the ANO advised complainants and monitored the action being pursued. It is a credit to the airport and aircraft operators that they responded to the information provided by the ANO and acted to improve noise outcomes, making changes in a relatively short timeframe.
- 5.2 This investigation provides a good example of how effective analysis and communication of information from complaints can assist in delivering improvements to noise outcomes. The ANO continues to encourage Airservices to analyse and present complaint information in ways that enable stakeholders to identify opportunities such as these.
- 5.3 Nevertheless, it is important to acknowledge that the noise improvements from the changes made are at the margin. For many complainants, the changes will not provide any significant improvement to the aircraft noise they experience. The ANO encourages all stakeholders to remain committed to improving noise outcomes, and in particular encourages Airservices to use complaint data to help identify areas of concern.

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20 November 2012