



**LYDD AIRPORT RUNWAY EXTENSION PLANNING
APPLICATION:**

**REVIEW OF ASPECTS OF LYDD AIRPORT RESPONSE
TO SHEPWAY COUNCIL DECEMBER 2009**

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1. Introduction

1.1 This document provides a review of two aspects of the London Ashford Airport (LAA) response to questions from Shepway District Council, dated December 2009:¹

- paragraphs 6.9 to 6.15 of the Main Report, relating to the noise and visual impacts of arriving and departing aircraft and drawing comparisons between an ATR 42-300 and a Boeing 737;
- the background aviation assumptions in LAA's Nitrogen Deposition Assessment.

2. Noise and visual impacts

2.1 Paragraphs 6.9 to 6.15 of the Main Report seek to address the issue of whether birds in the SPA would become habituated to the noise and visual impact of aircraft using LAA.

2.2 Paragraph 6.10 notes that it is not possible to differentiate noise impacts from visual impacts. However in subsequent paragraphs the airport seeks to draw parallels between current and future aircraft activity, concluding that there would be no significant change in visual disturbance as a result of the proposed development of the airport.

2.3 At paragraph 6.11 of the Executive Summary document, LAA states

The photomontage below show a ATR 42-300 aircraft at the same position as a Boeing 737 aircraft, which was photographed during landing at the airport in February 2007 during a noise trial. The photograph was not taken at Lade Pit, but at Greatstone Primary School, which is approximately the same distance from the airfield as the SPA.

2.4 Subsequent paragraphs claim that the ATR42 and the Boeing 737 are similar in size and speed and that there would be "very little difference in the visual disturbance to bird populations" with movements of a Boeing 737 compared to an ATR42.

2.5 In terms of the validity of using the ATR42 as an example of the current activity at the airport, this is a longstanding issue since the submission of the original Environmental Statement in 2006. LAA has sought to portray baseline activity at the airport as including 320 commercial movements a year by twin-turboprop airliners (of which 120 are by ATR42s) in the 'Existing Operations' scenario, and 5810 (of which 2190 were by ATR42s) in the 'Future Baseline' scenario (300,000 passengers a year with no runway extension).²

¹ London Ashford Airport (Lydd), *Response to Shepway District Council's Letter dated 15 October 2009*, December 2009.

² London Ashford Airport (Lydd), *Supplementary Environmental Information - Community Noise Impacts at 300,000 ppa*, October 2007, Appendix 4.

2.6 In the ES, LAA claimed that "the recent investment, particularly the introduction of the ILS, has resulted in the airport being increasingly attractive to airline companies, so passenger numbers in 2006 are expected to be significantly higher."³ In fact passenger numbers at LAA in 2006 showed a drop of 2% on the 2005 figure and by 2008 had fallen a further 39%. In the period to October 2009 the passenger numbers showed a further drop of 69% compared to 2008 levels.⁴ Thus, contrary to LAA predictions, there is no indication that the investment in the airport, notably the introduction of the ILS, has increased the attractiveness of the airport to commercial passenger operators. In this respect, the validity of the airport's claims in the ES and subsequent documents for current, or baseline activity at the airport have become less valid with each year that passes since the original planning application was submitted. Since baseline activity has actually fallen since the submission of the ES, the contrast between activity levels at LAA now and those planned for the future is greater now than it was in 2006.

2.7 In respect of the validity of using the ATR42 as part of the baseline case, a single ATR 42-312F (a cargo version of the ATR 42-300) has been based at Lydd since September 2009, under wet lease to Trans Euro Air, whose flying operations largely transferred from Southend to Lydd in May 2009. This aircraft's operations at Lydd have been confined to non-revenue empty positioning flights. It may also be relevant that a significant proportion of this aircraft's activities are at night when visual impact to birds is less likely to be an issue.

2.8 In terms of the LAA statement that visual disturbance by a Boeing 737 is likely to be similar to that caused by an ATR42 "comparing the two aircraft from the perspective of a bird", there is nothing in the LAA document to substantiate this claim. The quoted dimensions of the 737 are 38% to 57% larger than those of the ATR42, while the 737's wing area – a dimension not quoted by LAA but which is likely to be highly relevant to the visual appearance of the two aircraft types – is 129% larger than that of the ATR42.

2.9 The location of the photographs (Main Report p.18) to illustrate the visual disturbance is questionable. While reference is made to Greatstone Primary School (the location of the photos) being a similar distance from the aircraft as the SPA site at Lade Pit, the worst case location within the SPA for visual disturbance is likely to be the section north of Boulderwall Farm. This is significantly closer to the runway 21 climb-out/runway 03 approach than Lade Pit. It may also be worth noting that, while the photos depict aircraft on final approach to runway 21, aircraft taking off are likely to generate greater visual impact because they will appear more suddenly, they will be accelerating, and the combined noise and visual impact will be greater due to high power settings.

2.10 While the LAA document states that it is not possible to de-couple noise from visual impact, the implication that the combined noise and visual impact of an ATR42 is somehow comparable to that of a Boeing 737 is not

³ ES, Chapter 3, para 3.5.3.

⁴ Source: CAA, *UK Airport Statistics*.

sustainable when the respective noise profiles of the two aircraft types are compared. Appendix 1 is an excerpt from a document published by Seattle-Tacoma Airport in the USA. It provides a graphic illustration of the difference in noise footprint between a Boeing 737-700 (centre-right of the diagram) and a Dash 8-400 (far right). The Dash 8-400 is similar to the ATR42 in that it is a twin-turboprop airliner. However it is larger than the ATR42 and its US Federal Aviation Agency certified noise levels are higher in all phases of flight than those of the ATR42. It can be seen from this that the noise footprint of a twin-turboprop aircraft such as the ATR42 is a fraction of the size of that of a Boeing 737 and that, concomitantly, the level of noise generated by a Boeing 737 is significantly greater at a given distance from the flight path than that of the ATR42.

3. Flight path assumptions underpinning nitrogen deposition study

3.1 Appendix 4 of the LAA submission in December 2009 contains the Nitrogen Deposition Assessment. Section 1 of that study makes clear that no changes have been made in the flight paths assumed for the purposes of the nitrogen deposition assessment since those undertaken for the Revised SEI in August 2008.

3.2 The nitrogen deposition study focuses on a relatively small area within approximately 2.5km radius of the airport. This restricts the extent to which different flight path assumptions might have relevance for the methodological validity of the nitrogen deposition assessment. However a number of errors or omissions in the flight path assumptions as at August 2008 would be pertinent to the nitrogen deposition study. These were originally set out in Spaven Consulting Report No. 08/157/LAAG/4 of October 2008. They include:

- Left turns on departure from runway 21 are depicted flying too far south. The implication of this for the nitrogen deposition study is that aircraft will in fact remain within the study area for longer than the 2008 flight paths would predict, with the potential for higher emissions within that area.
- All arriving aircraft on runway 21 are shown following a straight-in approach from at least three miles out. This fails to take account of light aircraft profiles. The implication of this for the nitrogen deposition study is that emissions are likely to be more widespread than would be predicted from a uniform straight-in approach path.
- Jet departures from runway 21 are all shown departing to the south east and jet departures from runway 03 are all shown departing to the north east. The implication of this for the nitrogen deposition study is that emissions are likely to be more widespread than would be predicted from these single assumed departure paths.
- Arrivals to runway 03 are shown approaching straight in over the Lydd Range, which is unrealistic for the majority of traffic. The implication of this for the nitrogen deposition study is that emissions are likely to be more widespread over the south eastern and south western parts of the study area.

3.3 Since the August 2008 Revised SEI, LAA has introduced RNAV (satellite-based) approaches to both runways. This has the potential to permit IFR approaches to runway 03, flying through the D044 range, when the range is inactive, whereas previously only visual approaches would have been possible to that runway. In addition, the runway 21 RNAV approach is not on the same alignment as the pre-existing ILS and NDB approaches to that runway. Any flight path assumptions used as a basis for the nitrogen deposition assessment should take account of these changes. However there is no evidence that they have done so.

4. Summary and conclusions

4.1 The assertion that there is no significant difference between current and proposed aircraft activity at LAA in terms of potential noise and visual disturbance of birds is not supported by the evidence.

4.2 Noise levels from future Boeing 737 movements will be significantly higher than those from any existing ATR42 movements. Visual disturbance is also likely to be greater due to the significant difference in size between the two types.

4.3 The flight path assumptions used as a basis for the nitrogen deposition assessment appear to be those submitted with the Revised SEI in August 2008. These contained numerous previously reported flaws and are therefore an inaccurate basis for any emissions analysis. Further changes in flight paths since August 2008 are also not accounted for in the nitrogen deposition assessment.

Noise Footprint Comparison

