

STAAP Members' Briefing Note on Noise Abatement Departure Procedures (NADPs)

The rules laid down in the Aeronautical Information Package (UKAIP) for departing aircraft from Stansted Airport essentially require jet aircraft to attain a height of not less than 1000ft above aerodrome level when they are 6.5k from start of roll and to maintain a climb gradient of not less than 4% to an altitude of at least 3000ft and to follow the Noise Preferential Routing (NPR) until they are at either 3000ft or 4000ft depending on the route being followed and whether it is a night flight or day time flight. In practice the detailed way in which pilots fly individual aircraft is governed by the aircraft manufacturer's instructions and the airlines own operating procedures.

The manufacturers of aircraft provide detailed NADPs for their aircraft and usually there are 2 NADPs, one designed to minimise noise close to the aerodrome and one to minimise noise further away, referred to as NADP1 and NADP2. These procedures stipulate flap and thrust settings, and acceleration rates, at various heights and speeds, but both will be completed by the time the aircraft reaches 3000ft. The CAA has asserted that the different NADPs don't increase noise in total only redistribute it. A typical procedure is shown in Appendix 1.

The choice of which detailed procedure to follow is made by the individual airlines, not by the airport or Air Traffic Control, but only the vertical profile of the flight is affected and the aircraft stay within the existing NPR.

Information provided by the Flight Evaluation Unit (FEU) at Stansted has confirmed that aircraft departing from Stansted have previously followed the NADP1 procedure, but in the past year a significant number have moved over to using NADP2. The explanation for this change in procedure is that it saves fuel and reduces CO₂ emissions as the flaps are retracted earlier and the aircraft becomes more streamlined, but it also means that aircraft start accelerating earlier and will be at differing heights above communities than previously.

Residents in Hatfield Heath in particular have noticed that aircraft are lower than they have been previously, and detailed research by the FEU has confirmed that the average height of aircraft in the first 3 months of 2009 was 500ft lower than the same period in 2008. The significance of this change in height is that noise reduces with increased distance from the source, so a nearer aircraft will be noisier than one further away if other factors remain unchanged. In addition residents have reported that aircraft appear to be concentrated along the centre line of the NPR track which brings them more directly over Hatfield Heath.

These two problems highlight different dilemmas for the aviation industry; whether to reduce CO₂ emissions at the expense of an increase in noise, and whether to concentrate flights along a narrow corridor or to spread the burden over a wider area.