

SSE'S RESPONSE TO STANSTED DEPARTURE ROUTE TRIAL CONSULTATION

GLOSSARY OF TERMS

Performance Based Navigation

Traditionally aircraft have navigated using ground based radio beacons. The introduction of satellite-based technology has enabled aircraft to navigate more accurately. It allows for more efficient use of airspace, improved fuel efficiency, noise mitigation and at reduced cost.

In the aviation sector, this new technology is termed Performance Based Navigation or PBN. The trial on the two departure routes has shown that much better track keeping is possible. Participating aircraft are consistently flying much closer to the centre line of the departure route after take-off in the 3km wide Noise Preferential Route.

The trial objective was to test the technology and profile the initial departure flight path so as to avoid, where possible, flying over the centres of local villages close to the airport and reduce the number of people directly overflown. In this regard, the trial has been successful. The results show that in excess of 98% of flights are contained within a swathe of just 400m.

However, consistently flying more accurately also results in a concentration of aircraft close to the route centre line. The impacts of PBN on local communities around airports depend on each specific location. Each airport is different. It is SSE's view that concentration should be the preferred solution within existing Noise Preferential Routes at Stansted.

CAP 725 CAA Guidance on the Application of the Airspace Change Process

Proposed changes to flight paths are governed by the Civil Aviation Authority which has the statutory duty to approve or otherwise any proposal. The regulatory document is CAP 725 which states that changes should be made after consultation only where it is clear that an overall environmental benefit will accrue or where airspace management considerations and the overriding need for safety allow for no practical alternative.

RNP1 (RF) concentrated routes used in PBN flight path trial

The two trial departure routes at Stansted were designed to Required Navigational Performance of one nautical mile (RNP1) standard with Radius to Fix (RF) Path Terminators – or RNP1 (RF).

Required Navigational Performance is a type of PBN and includes a requirement for on-board performance monitoring. The Radius to Fix technique is used to construct the departure route when turns are required after take-off.

N70 "Number Above" metric

The N70 metric is devised to represent 'Number Above' contours, combining information on single event noise levels with aircraft movement numbers. All other things being equal, if the number of aircraft movements over an area doubles, the N70 doubles.

L90 background noise level

L90 is the noise level exceeded for 90% of the measurement period and is the universally accepted metric for the assessment of background or ambient noise levels. This has special importance to the mostly rural area around Stansted against which aircraft noise events are clearly noticeable.