

## Airway N601: Revision to Controlling Authority

Dear Colleague,

NATS has an on-going programme of airspace changes which seeks to improve the efficiency of the ATM system. This programme aims to enhance safety and improve environmental performance.

### Overview of the proposal

NATS Terminal Control (TC) Midlands Sectors currently share access to two volumes of airspace to the east of airway N601, with the Military (see Figures 1 & 2 below). RAF Wittering's Military Aerodrome Traffic Zone is to the east of Block B (whilst the former RAF Cottesmore, the other major military user of the airspace, is closed). A schedule of open and closed times (see Figure 3) dictates when both parties can access this shared airspace.

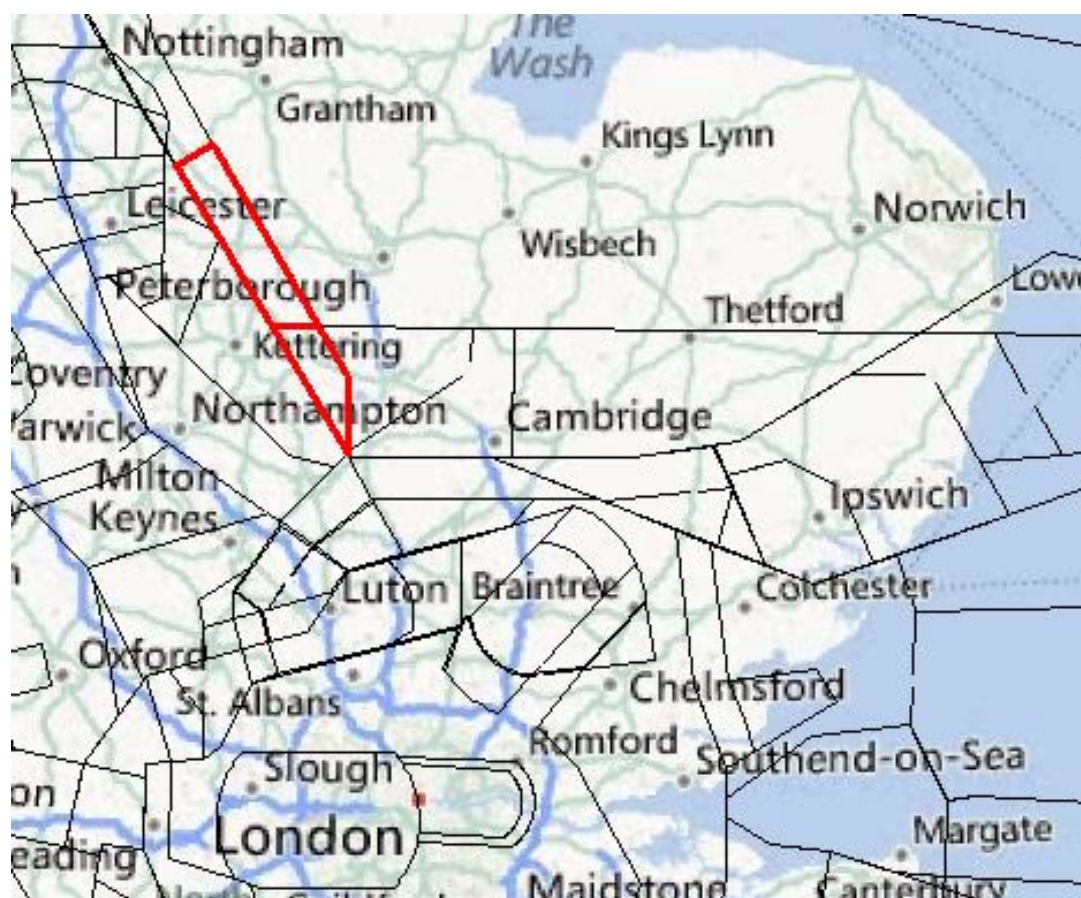


Figure 1: N601 - Airspace Blocks in a Regional Context

Prompted by a lack of use of the airspace by the military, NATS is proposing to retain permanent access to it and to be the sole controlling authority.



**Figure 2: Airspace Blocks A & B in a Local Context**

The N601 Airspace extension Area A (FL115 - FL155) and Area B (FL145 - FL195) is available as Class C airspace between the following hours:

- **May to August Inclusive:**
  - Monday to Thursday 1700 - 0830 UTC the following day
  - Friday, or the day preceding a PH, 1700 - 0830 UTC Monday, or the day after a PH, inclusive
- **September to April Inclusive:**
  - Winter**
    - Monday to Thursday 2359 - 0930 UTC the following day
    - Friday, or the day preceding a PH, 1700 - 0930 UTC Monday, or the day after a PH, inclusive
  - Summer**
    - Monday to Thursday 2259 - 0830 UTC the following day
    - Friday, or the day preceding a PH, 1600 - 0830 UTC Monday, or the day after a PH, inclusive

**Figure 3: Current Hours of Operation of Airspace Blocks**

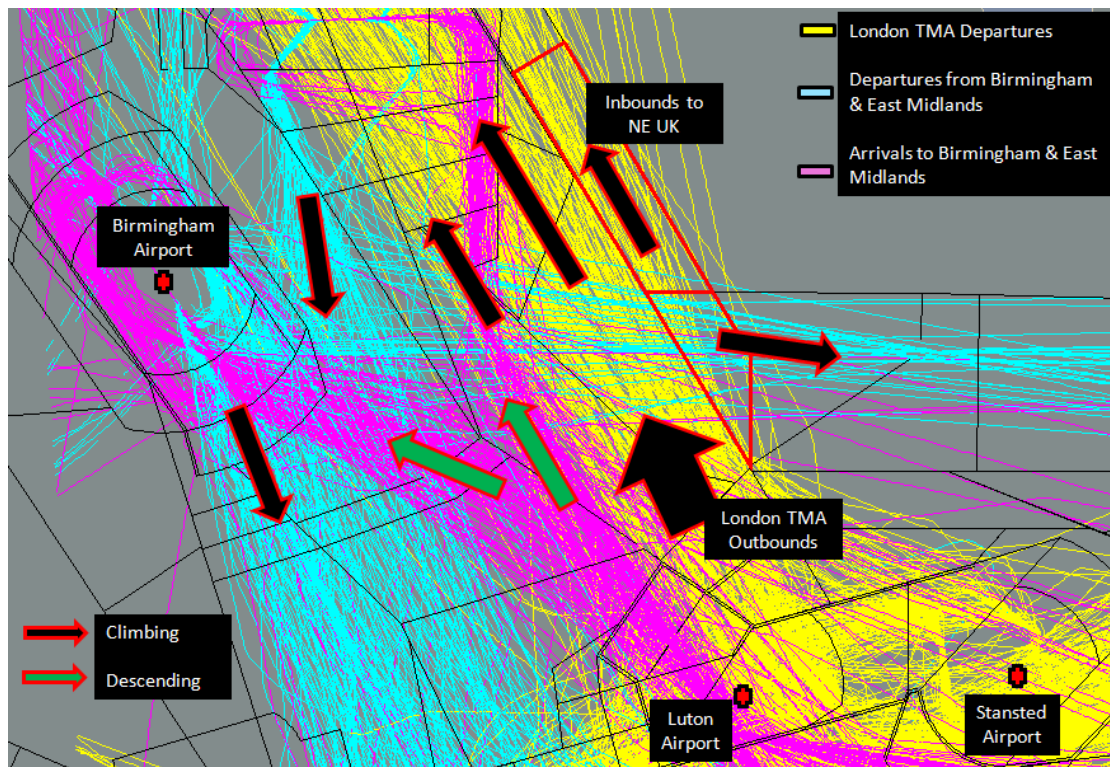
The Airspace is currently Class C and this proposal does not intend to change the classification of this airspace. The base levels of the airspace will remain as today - FL115 for Block A and FL145 for Block B. The proposal would allow NATS controllers to deconflict aircraft tracks by routing an increased number of aircraft through this airspace. Aircraft will normally be significantly higher than the base levels before entering the airspace (see figure 6).

## Why the Need for Change?

NATS air traffic control operations are defined by peaks and troughs in the volumes of aircraft wishing to transit through UK airspace sectors. These peaks are determined by the schedules of the aircraft carriers arriving and departing UK airports. It is during these busy periods that NATS would make maximum use of the extra airspace being available and it is during some of these periods that NATS is currently restricted from using it.

### Control Operations

There are two traffic streams in particular which are affected by this airspace: London TMA departures and Midlands (Birmingham and East Midlands) departures. The London TMA outbounds heading north (as illustrated in Figure 4) are affected by the Midlands departures crossing left to right and climbing, by the Midlands inbounds heading in the opposite direction, descending and by each other.



**Figure 4: Position of Aircraft Streams**

When the airspace is not available, aircraft bound for UK airports in the north east, track to the east of the airway, pass through the Midlands departures and arrivals and then track northwest again to remain inside of controlled airspace, before being turned back to the east by the receiving Area Control sectors, after passing FL195. If several aircraft, bound for the north east are parallel across the airway or are trailing one another, the second and third aircraft are often stopped off at a level below the lead aircraft. This is maintained until the receiving AC sectors can climb and turn the lead aircraft, in order to maintaining separation.

This is further complicated by the requirement of the receiving Area Control sectors to work with 5nm separation whilst London Terminal Control, who are delivering the aircraft, work to 3nm separation. Achieving this increased separation can be problematic across the current airway width and again often leads to stop-offs for some northbound aircraft. A similar issue affects the Midlands departures as they can be held down or kept high by streams of northbound traffic. These interactions can be made more complex with traffic that is flying at an intermediate level transiting the Midlands sectors.

Use of the additional N601 airspace blocks would facilitate improved continuous climbs for London TMA northbound traffic and continuous climbs and descents for

Midlands traffic. This would be achieved by enabling northbound departures bound for the north east of the UK to move to the east side of N601 early, spreading the traffic across the airway thus enabling crossovers of climbing and descending flights. This action also allows for traffic flying at intermediate levels to be more easily deconflicted from the TMA and Midlands departures. This will enable the Midlands sector to issue climb instructions sooner than is currently possible.

A wider airway will also enable the required 5nm separation prior to handover to the AC sectors to be achieved sooner and without the need to stop-off in-trail aircraft, at a level below. The sooner an aircraft is transferred to the AC sectors the more likely it is to continue its climb and to receive a direct routing after passing FL195.

#### *Airspace Schedules*

Broadly speaking the airspace is available to NATS, on weekends, from late afternoon Friday, to early Monday morning, all year round. During the summer (May to August), Monday to Thursday, it is available from late afternoon through to early morning whilst for the rest of the year (September to April) it is available Monday to Thursday, from midnight through to early morning.

If this availability is compared to Figure 5, detailing the London TMA departure times, the major peaks from 9.30am to 11.30am and again from 1.30pm to 3.30pm are outside of the hours in which NATS can utilise this additional airspace. Although not illustrated, the peak times for Birmingham and East Midlands arrivals and departures follow a similar pattern and are similarly affected. In order to enable more of the benefits detailed above, Civil access to this airspace, H24, is essential.

#### **Environmental Impact**

It is anticipated that the provision of the additional airspace will allow those London departures which are travelling to destinations in the north east of England and Scotland to be positioned to the east of airway N601, thus placing them on the 'correct' side of the airway and improving their presentation to the receiving AC sectors.

This will ease airspace congestion north of Luton airport which should facilitate continuous climbs for London TMA departures and continuous climbs and descents for Birmingham and East Midlands airport departures and arrivals. Northbound flights should also be handed to the receiving AC sectors sooner, where they should then be climbed higher, sooner and may receive a more direct routing as they pass through FL195.

These are assumed benefits, based upon input from NATS operational experts and are a consequence of decongesting the airspace. NATS does not propose to measure the benefits of such improvements in terms of CO<sub>2</sub> and/or fuel reduction but will seek assurance post-implementation that the stated operational improvements have been facilitated.

#### **Impact on other airspace users**

Currently this Class C airspace is either designated for military use, with the Military as the controlling authority, or it is designated for civil use and NATS are the controlling authority. At no time is the airspace available for uncontrolled access for other airspace users. This proposal does not intend to change the current access rights to any party other than the Military, who are in agreement with the proposed change.

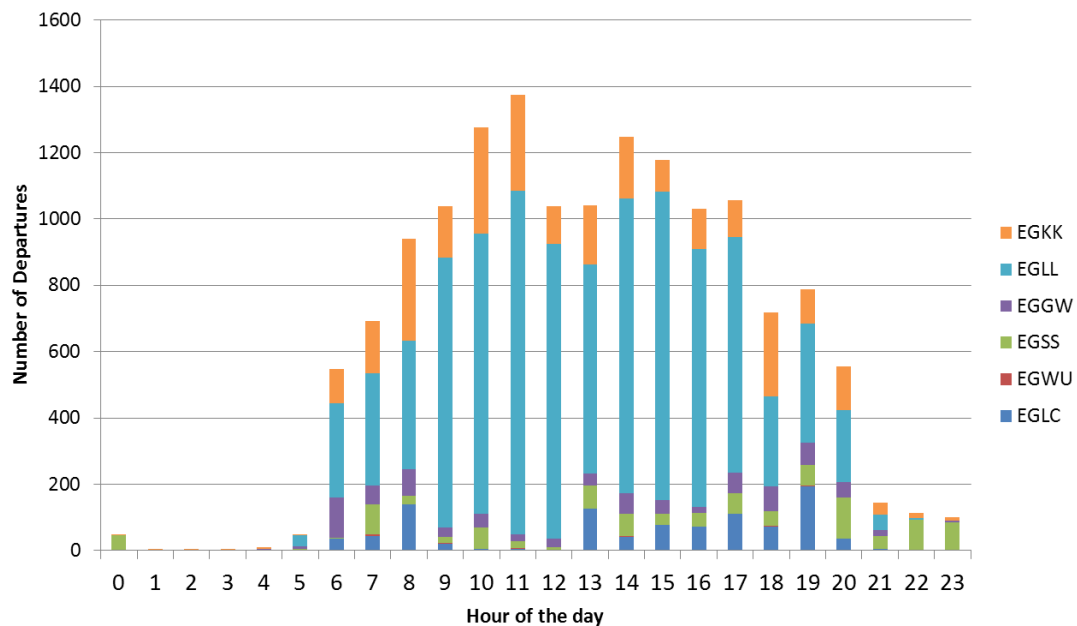
The assumption of the project is that this proposal will not disadvantage any other airspace users due to the current restrictions to access which exist for the

airspace. The known users of the airspace consist of either civil commercial traffic or military aircraft. The Military have stated that they no longer require regular access to the airspace and are content to request and coordinate entry on an individual aircraft basis. Civil commercial traffic will continue to have access to the airspace but with no restrictions on the times of availability.

## Traffic Volumes, Dispersion & Flight Levels

### Traffic Volume

Access is proposed for Civil Aircraft under the control of NATS, 24 hours a day. However current traffic patterns make it likely that there will be core times of the day when the airspace will be most utilised, whilst at night it is likely to be used very little. Figure 5 below illustrates departures from London airports over a two month period (July & August 2011) heading north through the TC Midlands Sectors. The peaks in traffic are clearly illustrated.



**Figure 5: London TC Departures by Airport & Time of Day**

The total number of aircraft which could utilise the N601 extension is given in Table 1 below. Those aircraft departing the London airports<sup>1</sup> of Heathrow, Northolt, Luton, Stansted and Gatwick are filtered to leave only those which are inbound to airports in the north east of the UK – Aberdeen, Edinburgh, Doncaster, Newcastle and Teeside and which are of an aircraft type which could reasonably use the airspace. This gives a total number of aircraft across 2011<sup>2</sup> of 20,341.

This total is further broken down by taking account of those departures which could have used the airspace with its current availability (i.e. by time of day when the airspace was not under the control of the military). This gives a final figure of civil aircraft which could additionally have used the airspace, were it available H24 in 2011.

<sup>1</sup> Northolt figures are subsumed into the Heathrow final traffic count due to their limited numbers

<sup>2</sup> 2011 traffic figures are used to avoid anomalies created by the 2012 London Olympics

<b>London Airports</b>	<b>% of Total Departures by Airport</b>	<b>Figures</b>	<b>% of extra a/c able to Benefit from H24 Access</b>	<b>Number of a/c able to benefit</b>
EGGW	14%	2817	44%	1240
EGLC	9%	1790	41%	734
EGLL	58%	11802	49%	5783
EGSS	19%	3932	42%	1651
<b>Total</b>	<b>100%</b>	<b>20341</b>		<b>9408</b>

**Table 1: Traffic Numbers by Percentage**

*Traffic Dispersion*

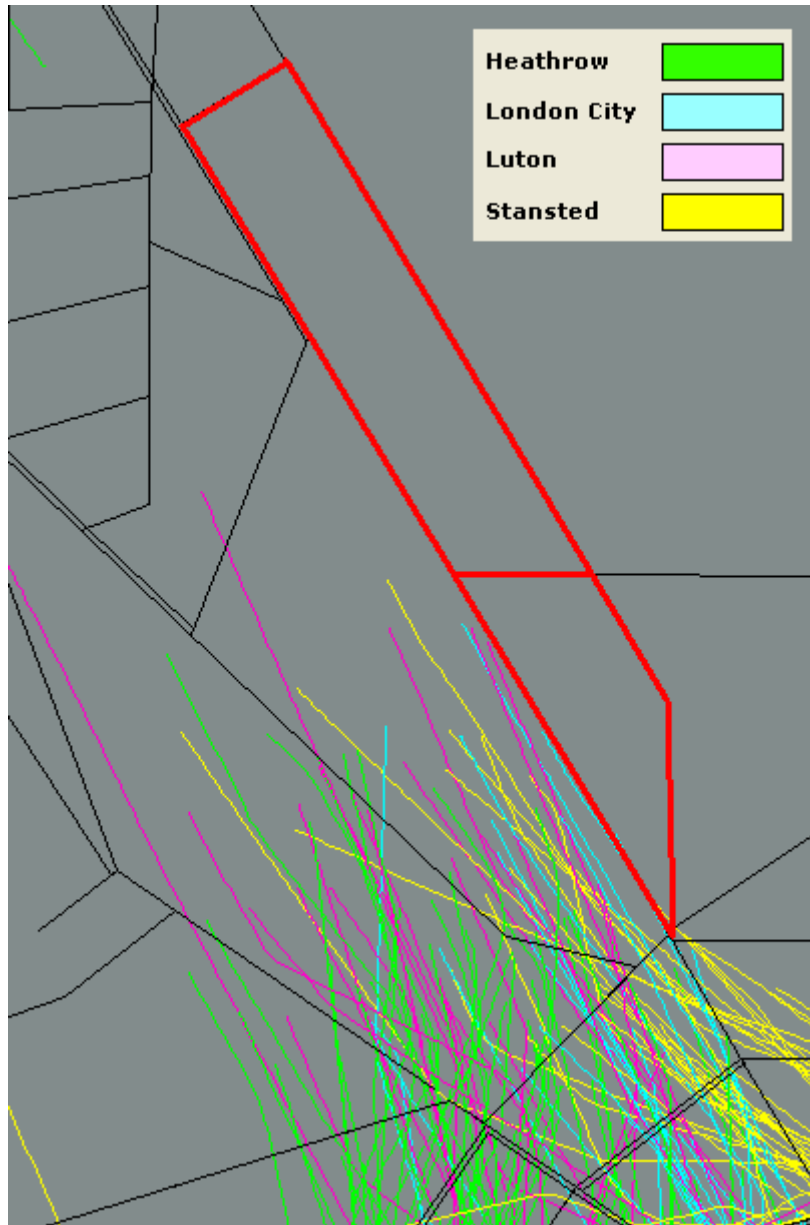
It is anticipated that the provision of the additional airspace will allow those London departures which are travelling to destinations in the north east of England and Scotland (total numbers given in Table 1) to be positioned to the east of airway N601, thus placing them on the 'correct' side of the airway and improving their presentation to the receiving AC sectors.

These flights should be better deconflicted against other London northbound transits (which will be placed on the spine of the airway) and against aircraft descending into or departing from East Midlands and Birmingham airports.

*Flight Levels*

Current tracks and flight levels are illustrated in Figure 6 below which shows departures from Heathrow, Stansted, Luton and London City airports for one week in June 2012, filtered to show aircraft passing through FL165. This demonstrates that the majority of aircraft will enter Block B at FL145+ with a smaller number making use of Block A and its base of FL115.

Aircraft can also be seen moving to the east side of the airway and tracking along the western edge of the N601 additional airspace blocks. With an H24 change many of them could transit through this new airspace for airports in the north east of the UK, as described earlier.



**Figure 6: Departures from EGLL, EGSS, EGGW & EGLC Passing FL165**

**In summary**

- No change to lateral extent of current airspace
- No change to vertical extent of current airspace
- No change to the base levels of the current airspace
- Increased access times for civil commercial traffic
- Removal of reserved access times for military use
- Likely increased dispersal of existing aircraft tracks

### **Consultation process**

The consultation is to run from **7<sup>th</sup> May 2013** to **30<sup>th</sup> July 2013**. This is to enable NATS to achieve an implementation date of 12<sup>th</sup> December 2013, in order to realise the benefits associated with this change as quickly as possible.

The CAA has agreed to this period of consultation and the major stakeholder of the airspace, the MOD, has already been consulted and is supportive of the change.

We request that you consider the above and reply to indicate whether your organisation supports, objects to or has no objection to the proposal.

In the case of either Support or Objection, please provide your basis for that view, so that your opinions can be considered in the on-going development of this proposal.

Please provide your email response to: [AirspaceConsultation@NATS.co.uk](mailto:AirspaceConsultation@NATS.co.uk)

Kind Regards,  
NATS Airspace Consultation Team

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When responding please use the text below:

#### **Airway N601: Revision to Controlling Authority, Response**

I am responding on behalf of [organisation] and we:

- **DO NOT OBJECT to**
- **SUPPORT** [Please state reasons for your support]
- **OBJECT to** [Please state reasons for your objection]

[Delete as applicable]

The Airway N601 Revision to opening Times proposal, as detailed above.