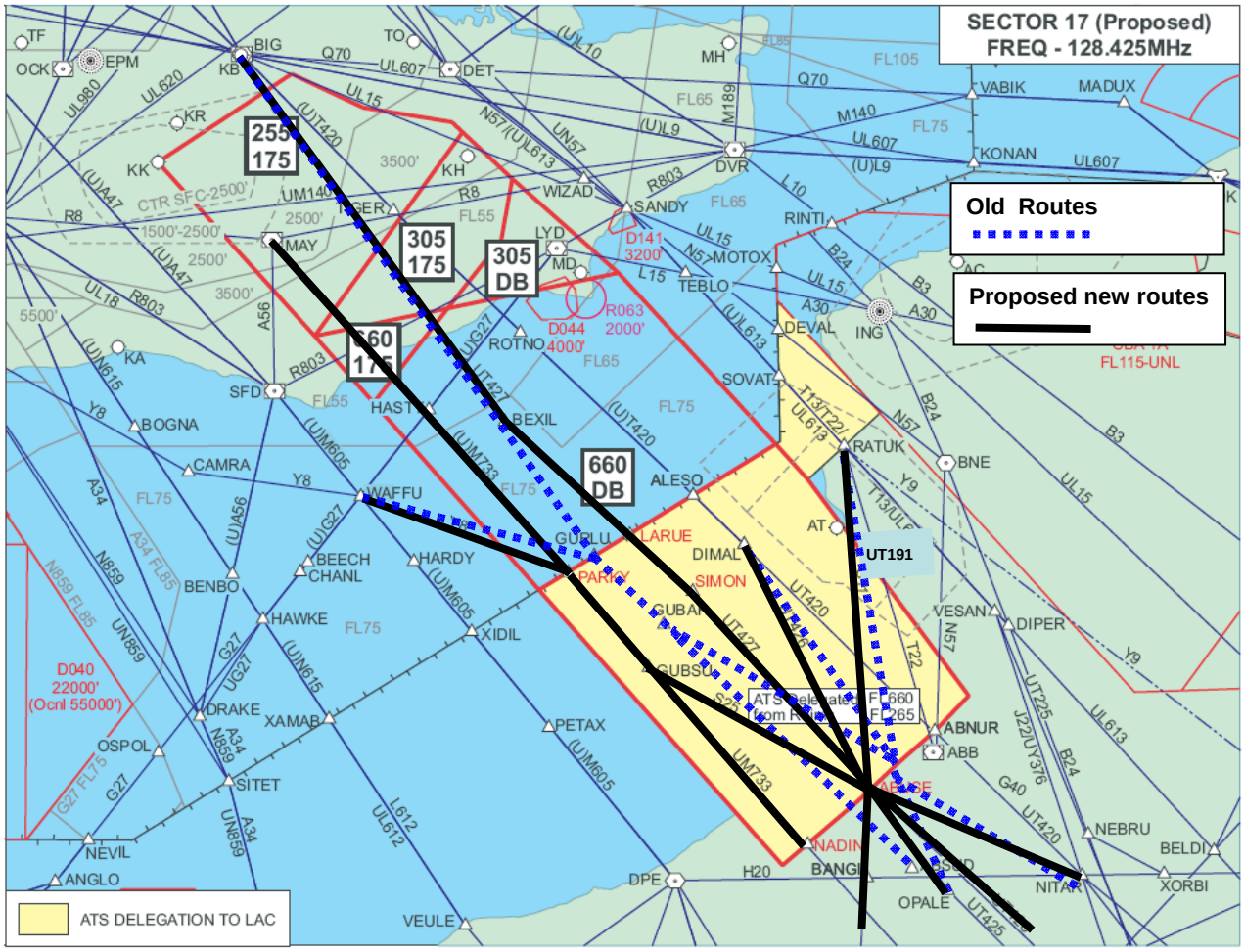
DOVER-LYDD AIRSPACE CHANGE PROPOSAL
DL4 - Reims Interface

STAKEHOLDER CONSULTATION



Executive Summary

This document explains proposed changes which will be requested by NATS, to existing controlled airspace overlying the south coast of England between Eastbourne and Lydd. This document and the website (http://www.nats.co.uk/environment/airspace-developments) contain the information from which you can gain an understanding of the proposal and hence give informed feedback.

This proposal aims to improve the route structure for airways between the London Terminal Area (UK) and Reims Area Control Centre (France). If accepted, the airspace change proposed will enhance safety, reduce delay and provide an environmental benefit from reduced emissions per-aircraft flying through the region.

Two existing routes (U)M733 and Y8 will be modified, and one new route UT427 will be introduced.

The bases and dimensions of the airspace will remain as today, only the routes within the airspace will be changed. At present the use of tactical vectoring results in traffic being dispersed across Sector 17 (S17). The proposed routes will not result in a change to the dispersal of traffic for the portion of the sector over the land.

S17 handles a large proportion of all traffic routing from Europe and beyond, to the UK. In 2010 S17 was used by an average of 35 aircraft per hour during busy periods. Based on NATS traffic forecasts this is forecast to rise to 47 per hour by 2020.

The proposed change would reduce the complexity of interactions between aircraft. This will enable continuous descent approach (CDA) profiles to be achieved; this will result in reduced exhaust emissions per flight through the region. The average reduction is estimated to be 81kg of CO_2 per flight.

This consultation follows a process agreed by the Civil Aviation Authority (CAA) which gives consideration to the nature of this proposed airspace change. In accordance with the guidance (Ref.1), for this change we are consulting aviation stakeholders including the military, airlines, airports, general aviation and sport aviation.

On the basis that the proposed change will yield a net reduction in per-flight CO_2 emissions, and that there are no impacts on noise, LAQ, tranquillity or visual intrusion, there will be no consultation with environmental stakeholders.

The period of consultation commences on 20th September 2010 and closes on 14th December 2010. If the proposal is approved by the CAA, NATS plans to implement the airspace change in November 2011. Please send any comments on the airspace change proposal to:

DL4 Consultation Co-ordinator
NATS, Mailbox 5A,
4000 Parkway, Whiteley, Fareham
Hampshire, PO15 7FL

Email: airspaceconsultation@nats.co.uk
(Subject : DL4 Consultation)

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1. Introduction

1.1 Air travel is integral to the success of the UK economy and has become an important part of modern life; for business or pleasure, more of us are flying more frequently than ever before. More flights mean busier skies, and how we use and manage our airspace is a matter of great responsibility. The expertly controlled passage of aircraft above us ensures safety and keeps aircraft flowing efficiently. The more efficient we can make it, the more we can reduce its impact on the environment. For these reasons, NATS undertakes constant reviews of UK airspace and, when necessary, recommends changes to how it should be managed.

1.2 This consultation document relates to a proposal to change the way in which aircraft fly through the airspace from the south coast of England (between Eastbourne and Lydd) and French airspace to the South (Reims ACC). As the sponsor of this change, NATS is seeking feedback on the proposal before submitting it to the UK airspace regulator, the Civil Aviation Authority (CAA), for consideration. It is the CAA who will decide whether or not the airspace change, that is proposed herein, is introduced.

1.3 This proposal is known as the Dover Lydd 4 (DL4) Airspace Development. The changes focuses on the Dover-Lydd group of ATC sectors which serve aircraft transiting between the UK and Europe. This is part of a series of changes planned in this region. The stages DL 1-3 were changes to NATS internal processes which did not require external consultation. The subsequent change (DL 5) will cover a different geographic area (Dover) and will be subject to a separate airspace change proposal, which will include a separate consultation.

What is NATS?

1.4 NATS is a public/private partnership company which provides air traffic control services to aircraft flying through UK airspace, over the eastern part of the North Atlantic, and at 15 UK airports. Our responsibility is for the safe and efficient management of some of the most complex airspace in the world. In 2009 NATS handled 2.2 million flights carrying more than 200 million passengers.

1.5 Air traffic control services for aircraft travelling between airports are known as 'en route' air traffic control services. We provide en route air traffic services under licence to the CAA. This licence requires us to ensure the provision of a safe service, make the most efficient use of airspace, and be capable of meeting reasonable levels of demand.

1.6 Whilst NATS is responsible for providing a safe and efficient service, we do not control the demand placed upon UK airspace, the numbers of flights or the times of flights. These are determined by the demand for air travel from businesses and the general public, within the Government's aviation policy, and the airspace policy set out by the Directorate of Airspace Policy at the CAA.

1.7 To find out more about NATS go to **www.nats.co.uk**.

Why review the way airspace is managed?

1.8 There are a number of reasons for reviewing the way airspace is managed:

- *Safety.* Our overriding priority is to ensure the safe movement of aircraft. As the skies become busier we review the way airspace is managed to maintain or enhance our high safety standards.

- *Delay.* We are required under our licence from the CAA to be capable of meeting any reasonable level of overall demand. Busier, congested skies lead to flight delays which airspace change proposals are designed to address.
- *Environment.* We recognise the impact of aviation on the environment and a key aim of the airspace change process is to minimize and mitigate that impact wherever possible.

1.9 The DL4 airspace change proposal is the latest in a rolling programme of UK airspace reviews. We make proposals for airspace changes only when we believe they are necessary.

2. The purpose of consultation

2.1 The proposal set out in this document represents, in our view, the optimum balance between the many and often competing needs and requirements of the various groups affected by the management of the Dover/Lydd airspace. This document offers consultees an opportunity to see how NATS has made decisions in relation to the proposal, and to take a view on the proposal as a whole.

2.2 The primary purpose of the consultation exercise is to allow stakeholders to consider the proposal and provide NATS with feedback.

2.3 At the end of the consultation NATS must demonstrate to the CAA that the best balance possible has been achieved between conflicting demands and objectives. The CAA requires that changes are made only "after consultation, when it is clear that an environmental benefit will accrue or where airspace management considerations and the overriding need for safety allow for no practical alternative" (Ref. 1). It is on this basis that the CAA will decide whether or not to approve the proposed change. Our over-riding priority is safety and the DL4 design seeks primarily to assure future safety whilst also seeking efficiency gains and an overall environmental benefit compared to the airspace structure in place today.

2.4 This consultation has been carried out in accordance with guidance provided by the Government and the CAA. (See Ref. 1, Ref. 3, & Appendix E.)

2.5 The consultation exercise is being undertaken on the basis of the DL4 Framework Briefing (Ref 3), the detail of which the CAA has agreed in principle meets the requirements of their airspace change process (Ref 1). This includes the rationale for who should be involved in the consultation for this proposal. Appendix A lists all the aviation stakeholders who have been identified as consultees for this proposal.

2.6 Any matters raised during the consultation period that have not been adequately considered during the development of the proposed design may require NATS to make changes to the proposal. Any such changes may require further consultation.

3. The scope of consultation

Environmental stakeholders

3.1 Consultation with environmental stakeholders is not required in this case. Government guidance (Ref 2) states that "consultation will usually be necessary where the proposed changes concern controlled airspace … at or below a height of 7000ft" above ground level. It also states that "visual intrusion by aircraft above 7000ft may be a consideration in exceptional circumstances, such as over-flight of National Parks and

Areas of Outstanding Natural Beauty (AONBs)". The DL4 proposal does not affect flight profiles below 15,000ft. The airspace does extend over the High Weald AONB, however there are no changes to flight profiles or the distribution of flights over the AONB, and therefore there is no anticipated noise, visual intrusion or tranquillity impact on the AONB resulting from this change.

No new controlled airspace is proposed. Flight profiles over the sea will be improved (between FL280-150). Emissions per flight will be reduced, and flight profiles over the land will not be changed. Hence consultation with environmental stakeholders is not required for this change.

Aviation stakeholders

3.2 Representative groups of airspace users such as the military, general aviation and commercial air transport are included in this consultation. Since this consultation is aimed at aviation experts the language used is technical, and assumes a level of aviation knowledge.

4. What happens next?

4.1 The period of consultation commences on 10th September 2010 and closes on 3rd December 2010, which is a period of 12 weeks.

4.2 You are invited to submit your feedback on the proposal, in writing, by email to airspaceconsultation@nats.co.uk or by mail to the address below. When responding, consultees must specify the grounds for supporting or objecting to the proposal. Feedback in favour of, or objecting to, the proposal without supporting reasons will be reported to the CAA but NATS will not be in a position to consider the merits of the feedback.

4.3 The feedback will be analysed by NATS and summarised in a post-consultation report. This will be made available via the NATS website and notification will be sent to the consultees identified in Appendix A. This report will also update stakeholders on subsequent phases of the development process such as any further consultation required, the submission of a formal proposal to the CAA and its consideration of that proposal, all of which will depend on the outcome of this consultation exercise.

4.4 Details of the consultation exercise will form part of the airspace change proposal that NATS will submit to the CAA for its consideration. Copies of all responses will be provided to the CAA, including any personal information contained in them, except where a response requests otherwise. If the proposal is accepted by the CAA, NATS will implement the airspace change at an appropriate opportunity. Implementation is planned for 17th November 2011.

4.5 This implementation date may be affected by the following:

- the length of time taken by the CAA in reaching its decision;
- the need for any revision of the airspace change proposal identified by the consultation process and any further period of consultation required for such revisions and;
- operational constraints.

4.6 Responses can be made by email to:

airspaceconsultation@nats.co.uk

or by post to:

DL4 Consultation Coordinator
NATS, CTC, Mailbox 5A,
4000 Parkway,

Whiteley, Fareham
Hampshire, PO15 7FL

5. Development Objectives

5.1 Paragraph 1.8 identifies enhanced safety, delay reduction and improved environmental performance as the reasons for changing the way airspace is used. An additional requirement for this project was cross-border harmonisation of the route network. NATS is making the proposed changes in coordination with the the French Air Traffic control authorities (Direction des Services de la Navigation Aérienne (DSNA)), and the proposed routes will link with new routes in French airspace. This section describes how the specific objectives of the DL4 proposal relate to these goals.

5.2 The operational objective of the DL4 proposal is to reduce the complexity of air traffic interactions (see 5.3 below) in the S17 (Lydd) sector. An air traffic control sector is an area of airspace that is managed by a small team of air traffic controllers; each sector team is responsible for the safe and efficient passage of the aircraft flying through it. The limits of S17 are illustrated in red in Figure 1.

5.3 Traffic interactions are situations where air traffic controllers must provide instructions to aircraft to ensure that they are kept safely separated from one another. The more complex the instructions being given, and the greater the number of traffic interactions, the greater the workload that falls on individual pilots and air traffic controllers. Ultimately, this leads to delay because air traffic controllers will limit the number of aircraft in each sector during busy periods to keep traffic interactions in a given sector to a tolerable level, to ensure safety is maintained.

5.4 Air traffic control delay in S17 is not currently a major issue, although during peak times the demand is close to the capacity of 36 flights per hour. Hence if traffic continues to grow as forecast (see Appendix D) this capacity will be exceeded on a more regular basis. This will inevitably result in restrictions being imposed and an increase in delays. The objective is that the proposed development will produce a capacity increase of 10-15% in the S17 sector. It is anticipated that this will provide sufficient additional capacity to meet demand until at least 2014.

Safety

5.5 Safety is always NATS' highest priority. Reducing the complexity of airspace will mean a high level of safety can be maintained as traffic increases, without the need to resort to excessive delay to aircraft and passengers.

Delay

5.6 If the number of flights (air traffic demand) intending to get airborne into a particular air traffic control sector is predicted to exceed the safe capacity of the sector, aircraft on the ground are delayed. This is to ensure that aircraft do not get airborne until such time as the flight can be safely accommodated in the airspace it intends to travel through.

5.7 28,783 minutes of delay (attributable to lack of capacity) were generated by sector 17 during 2009. (see Table 1 below)

Month (2009)	Number of Flights	Capacity En-route Delay (mins)	Weather Delay (mins)
January	10,922	2,587	0
February	10,454	4,959	0
March	12,008	1,226	0
April	12,037	99	0
May	13,850	1,901	5,873
June	13,740	4,533	7,322
July	14,768	6,135	16,146
August	14,571	3,031	0
September	14,068	3,237	0
October	12,825	698	816
November	9,948	0	0
December	10,106	377	0
Total	**149,297**	**28,783**	**30,157**

Table 1 Throughput and delay in S17

5.8 Reducing the complexity of the air traffic system, and introducing more systemisation of traffic flows, will increase the airspace capacity and therefore reduce the delays to aircraft and the hence travelling public.

5.9 It has been assessed by air traffic control experts that this proposal would produce a 10-15% capacity increase in the S17 sector. This means that, during busy periods, more aircraft compared to current numbers, would be able to pass safely through the region without delay.

5.10 Note: a change in capacity does not influence demand. The same number of aircraft will fly between the UK & Europe regardless of whether this change takes place. The capacity does however have a direct relationship on the delays experienced by those flights. If capacity is not increased, more flights will be delayed, and delays will be longer.

Environment

5.11 NATS recognises the impact of aviation on the environment and we consider a range of environmental objectives alongside operational objectives when developing airspace. Of particular relevance to this proposal is the objective of reducing average fuel burn, and CO_2 emissions, per flight.

5.12 When proposing airspace changes, NATS also considers the potential local effects of aviation relating to noise, visual impact and air quality. These local effects generally lessen as the height of proposed change increases. For example, local air quality would not be an issue given the heights associated with this proposal[1]. Noise and visual impact are more difficult to quantify; however, Government guidance suggests these effects do not warrant consultation when the changes affect airspace at 7000ft or higher above the ground, except in exceptional circumstances (see paragraph 3.1). More discussion of environmental impacts is provided later in this document in Sections 8 - 12.

[1] The extent of the effect of aircraft on local air quality is restricted to aircraft movements below 3000ft above ground level.

Other airspace users

5.13 Airspace efficiency means maximising use of the available airspace for the benefit of the overall community of users. NATS' aim in this airspace development has been to secure the most efficient use of airspace and to satisfy the requirements of all airspace users as far as is safe and practical. That means the volume of controlled airspace NATS seeks to secure for use by aircraft under its control is the minimum required to maintain a safe and efficient air traffic service. The volume of controlled airspace is not proposed to change as a result of this proposal. However the redesign of the routes within the airspace in question should result in more efficient use of the airspace.

6. Proposed airspace changes in relation to existing airspace

Existing Airspace

6.1 FIGURE 1 below shows the existing airspace in the area under consideration in this proposal (Sector 17, which is marked in red). The dimensions and base of the sector, and the extent of controlled airspace, will not change as a result of this proposal. The area coloured yellow is within the French FIR but is delegated to NATS by Paris/Reims ACC. The majority of the changes proposed herein are over the English Channel.

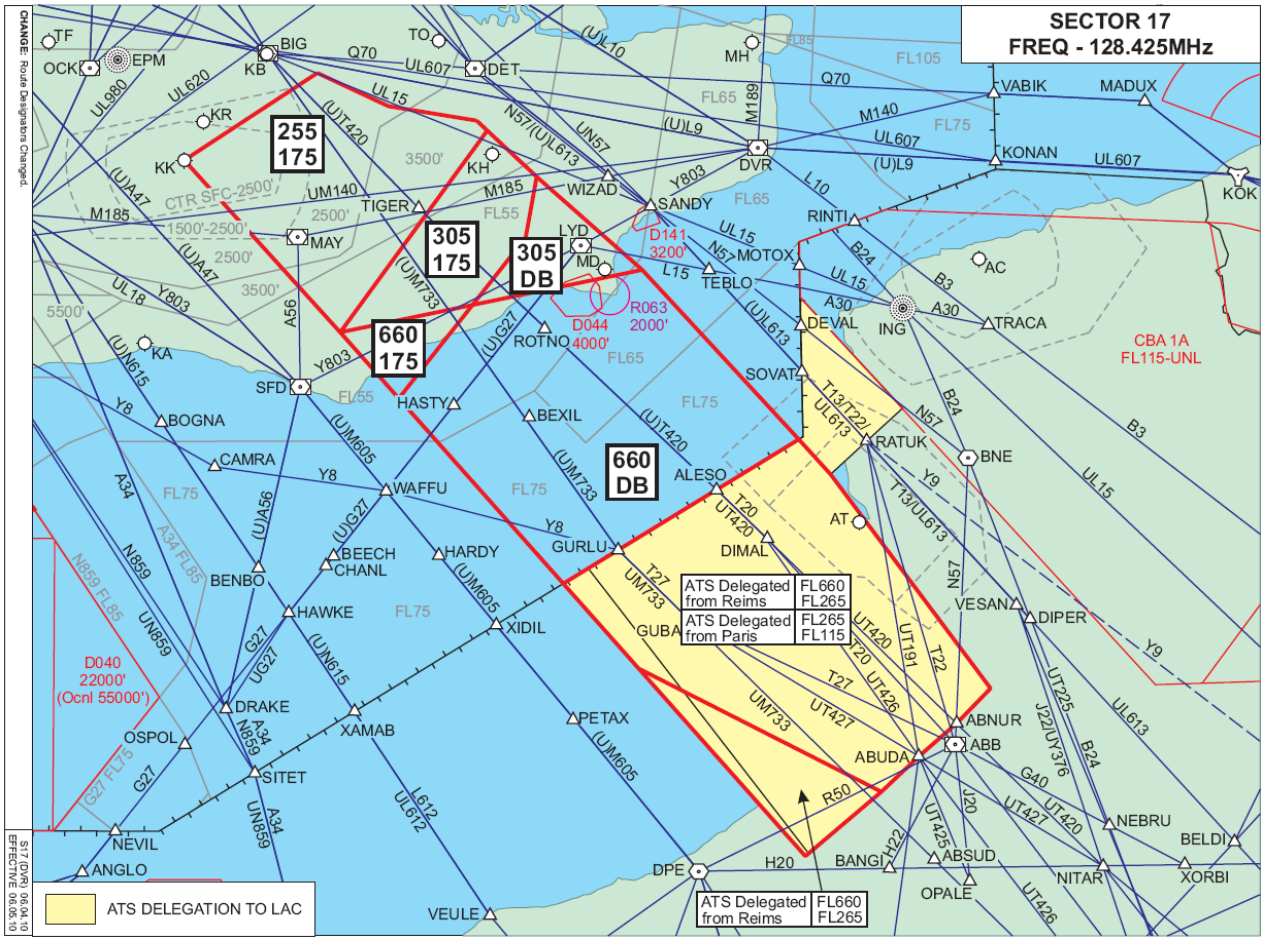


Figure 1: Existing airspace

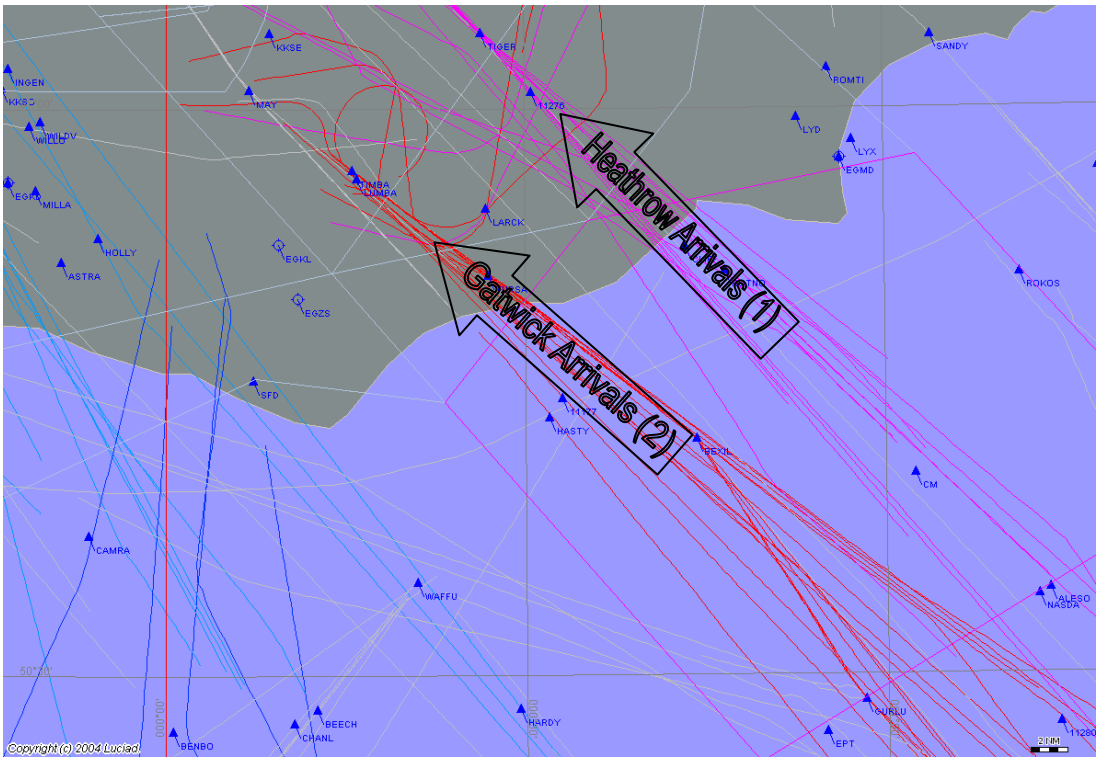
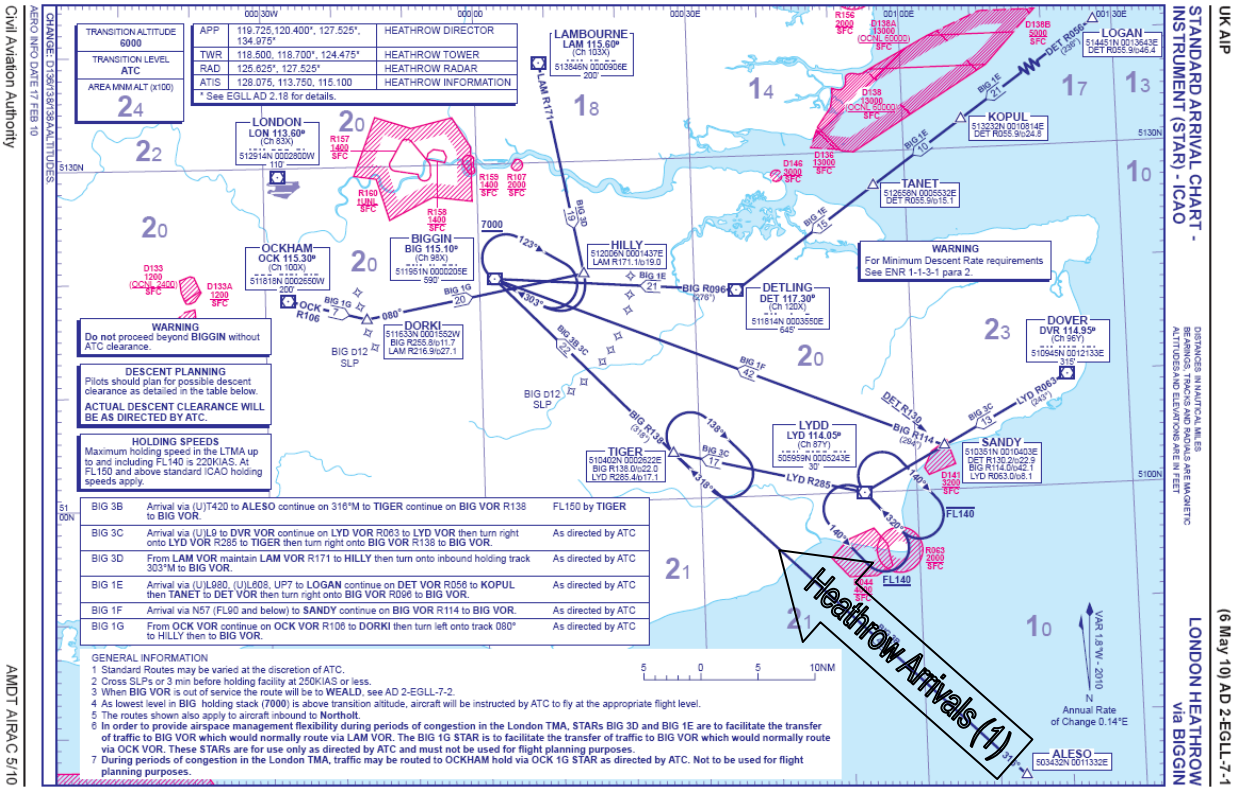


Figure 2: Current day trajectories (typical day, 2 hours FL100-245)

6.2 FIGURE 2 shows typical trajectories of the aircraft flows within S17. The inbound traffic is currently divided into two principal flows. The Heathrow inbounds are positioned to the North as they join the BIG 3B STAR (see FIGURE 3). Gatwick arrivals are positioned parallel to the southwest to join the TIMBA 2B STAR[2] (see FIGURE 4).



[2] Note the designation of the TIMBA STAR is changing due to changes unrelated to this proposal.

Figure 3: Heathrow BIG 3B STAR (EGLL arrivals via ALESO)

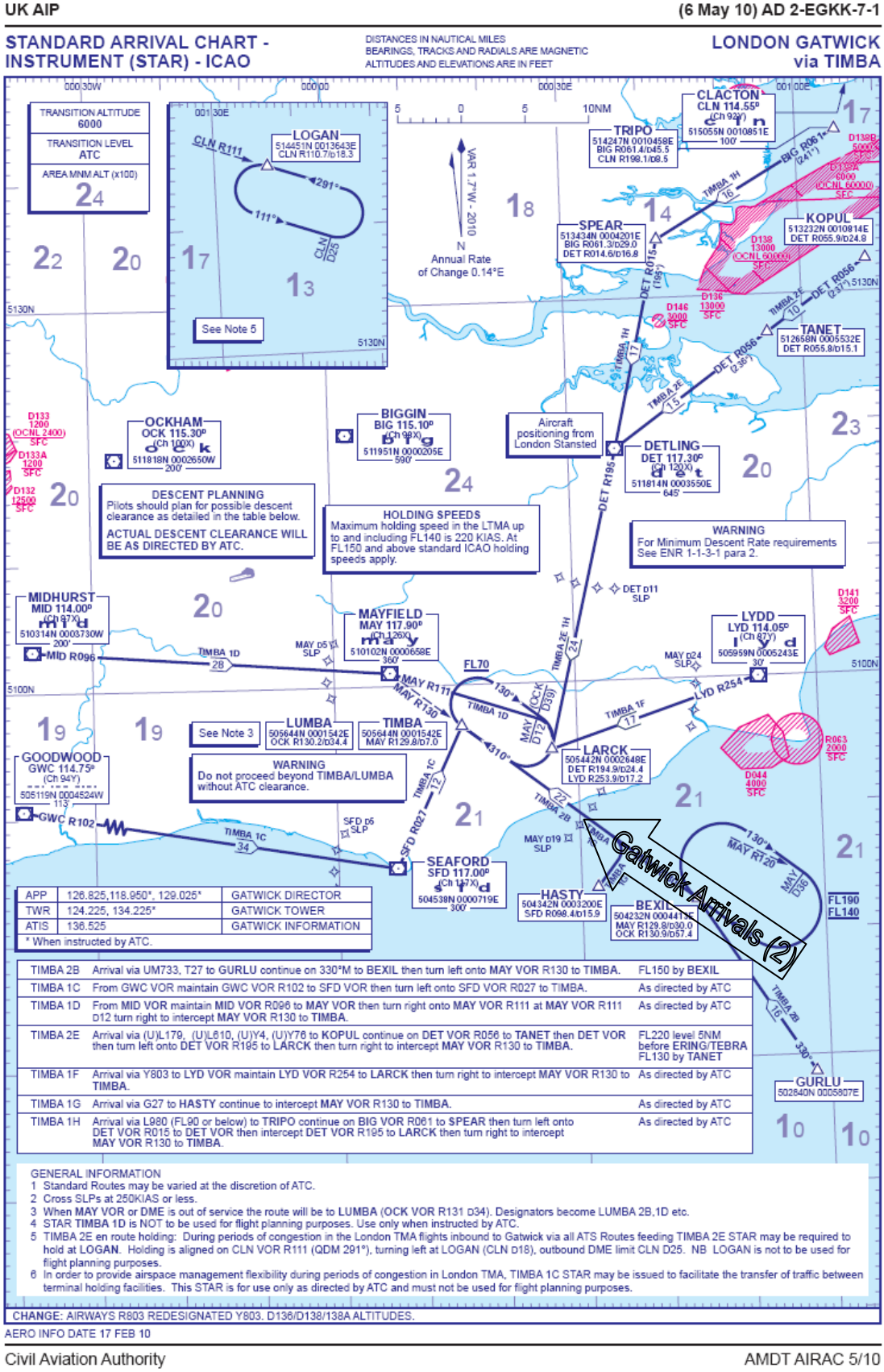


Figure 4: Gatwick TIMBA 2B STAR (EGKK arrivals via BEXIL)

Proposed airspace

6.3 FIGURE 5 shows the proposed route structure.

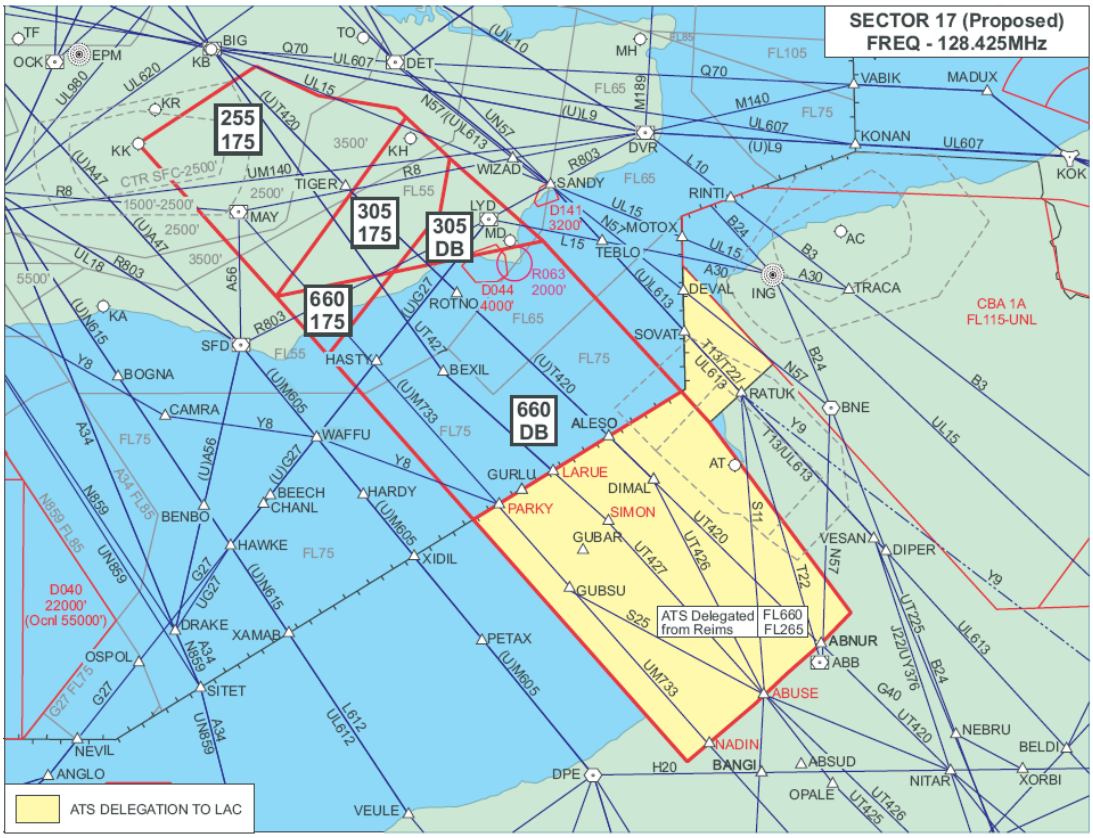


Figure 5: Proposed airspace

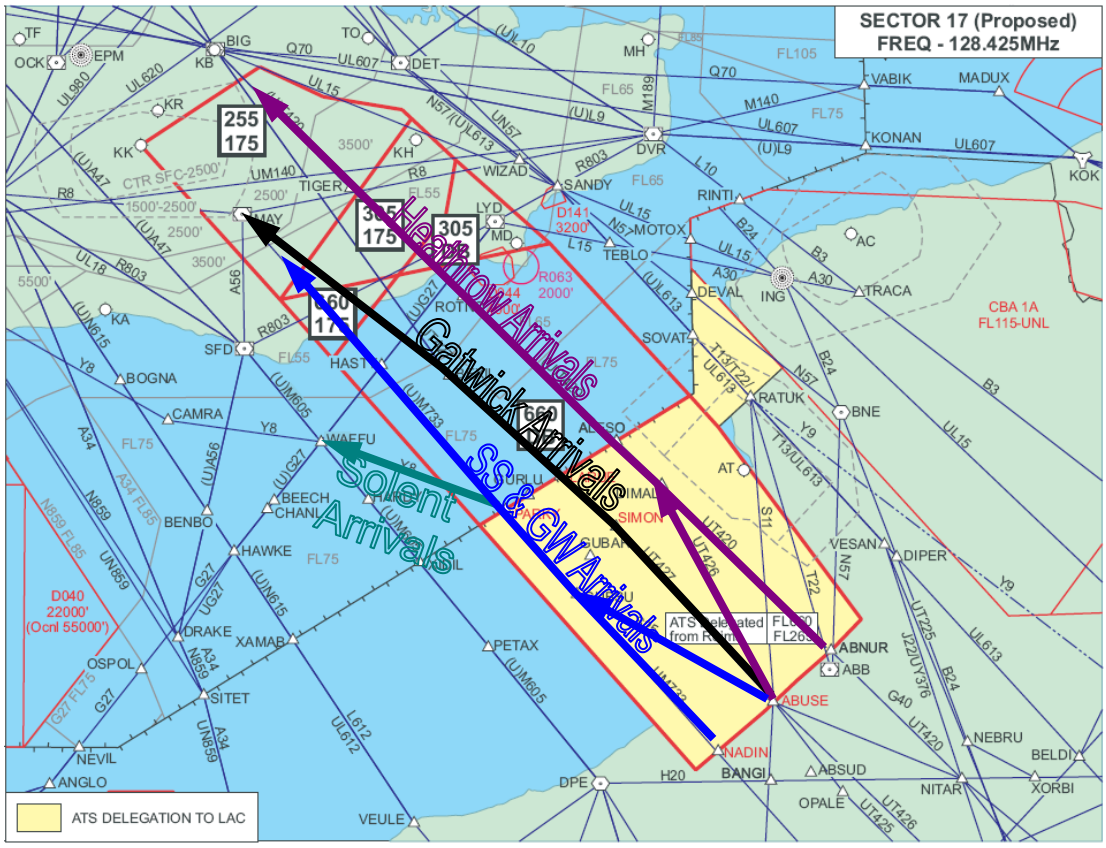


Figure 6: Proposed Traffic Flows - flight planned.

6.4 Figure 6 shows the how proposed traffic flows will be flight planned using the new routes.

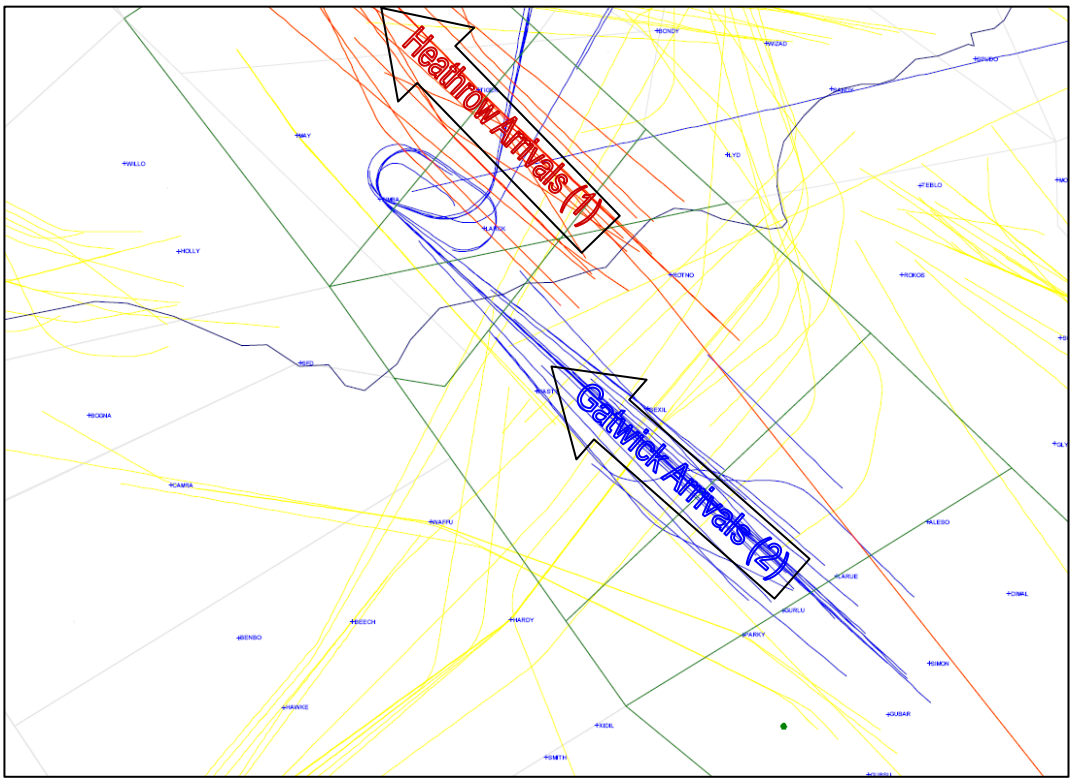


Figure 7: Proposed Traffic Flows – tactical vectoring

6.5 Figure 7 shows a plot from one of the real-time simulations[3] performed in support of the DL4 project. This shows that traffic will be tactically vectored (as it is currently). The intention however is that the amount of tactical vectoring will be reduced, which will reduce controller's workload. Hence the traffic flows over the sea will tend to be more concentrated along the route centrelines. ATC will continue to use the whole extent of the airspace hence traffic will be dispersed across the extent of the airspace between the routes.

6.6 If the flows of traffic are separated using segregated routes, and the controllers have to intervene less frequently, their workload is reduced. Workload in turn determines the number of aircraft that a sector can handle safely. Reducing the number and complexity of these interactions enables the sector to handle more aircraft safely.

6.7 The BIG 3B and the TIMBA 3B STARS, will not be changed by this development, hence the traffic on these STARS will fly as per today. The pattern of traffic over the land will hence be as per today.

[3] A "Real time simulation" is where the new airspace, routes and traffic are simulated and these are controlled by real controllers in real time. i.e. the new airspace arrangements are tested by the people who will control them.

6.8 The change to track mileage for each of the affected routes is given in Table 2 below.

Route	Overall Distance (Nm)	Change in Distance (Nm)	% Change
KOPOR – MAY	126	0.45	0.36%
KOPOR – MAY (via NITAR)	130	-4.4	-3.38%
NITAR – BIG	120	1.2	1.00%
KOPOR – MAY (via ABUDA)	128	-1.46	-1.14%
KOPOR - WAFFU	105	-0.23	-0.22%

Table 2: Change to track mileage.

6.9 Table 2 shows how the route mileages are changed by the proposed changes. All route segments are analysed using a common start and end point for current and proposed routes. For full details see Ref. 4.

Design options

6.10 Numerous design options were considered in the development of the airspace design. The design as proposed in this document is the result of analysis undertaken by NATS and initial consultation with stakeholders.

6.11 Initially a "do nothing" option was considered. This was rejected because the forecast air traffic demand in the region is growing and if nothing is done this will grow to be higher than the available capacity of the airspace system, and as such air traffic would be subject to increasing delay (see paragraph 5.6). NATS' licence requirement is to make the most efficient use of airspace and be capable of meeting reasonable levels of demand (see paragraph 1.5). Doing nothing would mean that delay through the region would increase significantly as demand increases and would not meet this license requirement.

6.12 The DL4 airspace change is part of the larger Dover Lydd development. This programme improves the way air traffic control works within the existing controlled airspace (rather than seeking extensions to controlled airspace). This has involved reviewing current air traffic control procedures associated with this airspace, and seeking to develop new tools to help air traffic controllers manage complex traffic flows.

6.13 Local environmental considerations have been taken into account. In particular, segregating the flows and improving the descent profiles of the traffic, was a key environmental consideration.

6.14 The expectations of stakeholders with regard to climate change were also considered in the development of this proposal. NATS is committed to reducing the emissions per aircraft within the UK as a whole, as part of the Sustainable Aviation initiative (see www.sustainableaviation.co.uk for more details). We are committed to supporting the ACARE (Advisory Council for Aeronautics Research in Europe) targets and through our own environmental strategy attach high priority to reducing CO_2 emissions by an average of 10% per flight by 2020. Ensuring that the proposal would enable reduced fuel burn per aircraft is a key requirement.

7. Traffic forecasts

7.1 Figure 8 shows the number of flights flight planned via S17 waypoints at present. The waypoints indicated are shown in Figure 1). On average approximately 380 flights per day used S17 in June 2010.

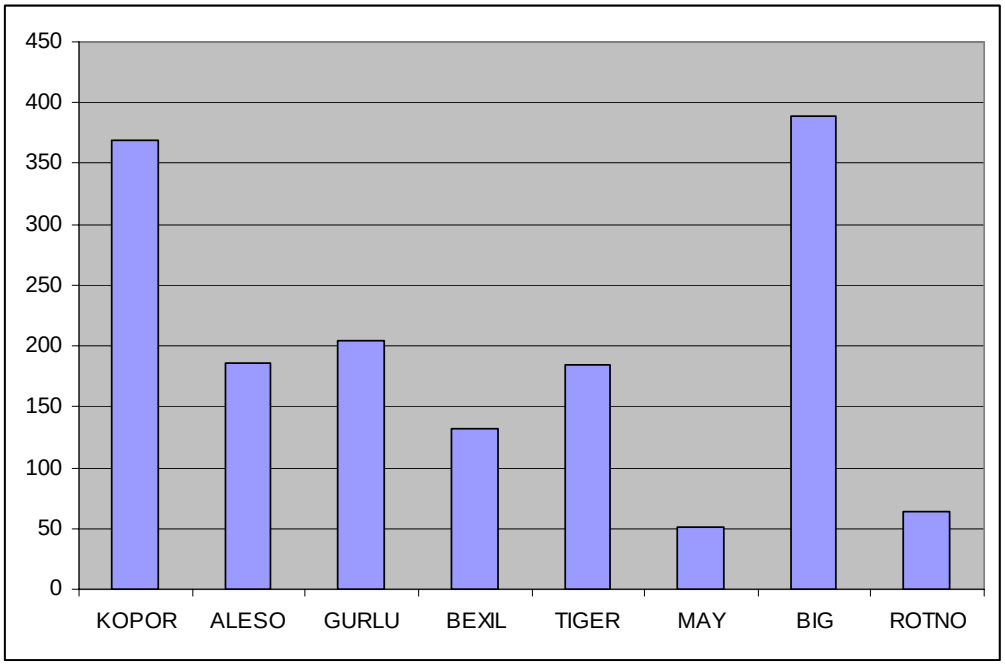


Figure 8: Average daily number of flights using S17

7.2 Table 3 below shows statistics for current and forecast usage of the proposed airspace. The peak hour flows are provided. Although averages are more indicative of usage on a regular basis, these figures do not illustrate the potential peaks in usage that can occur; a maximum hourly figure is therefore also presented to illustrate the most aircraft that may use the proposed airspace in a given hour. This data has been generated through analysis of traffic flows through the region in June 2010 These June 2010 figures have been grown according to forecast growth rates presented in Appendix D to obtain the forecast for 2015.

Waypoint	Current		2015	
	Ave /day	Peak hour	Ave /day	Peak hour
KOPOR	370	49	436	58
ALESO	185	23	218	27
GURLU	204	25	240	29
BEXIL	131	16	155	19
TIGER	185	21	218	25
MAY	52	11	61	13
BIG	388	40	457	47
ROTNO	64	10	76	12

Table 3: Number of flights (current and forecast) passing waypoints.

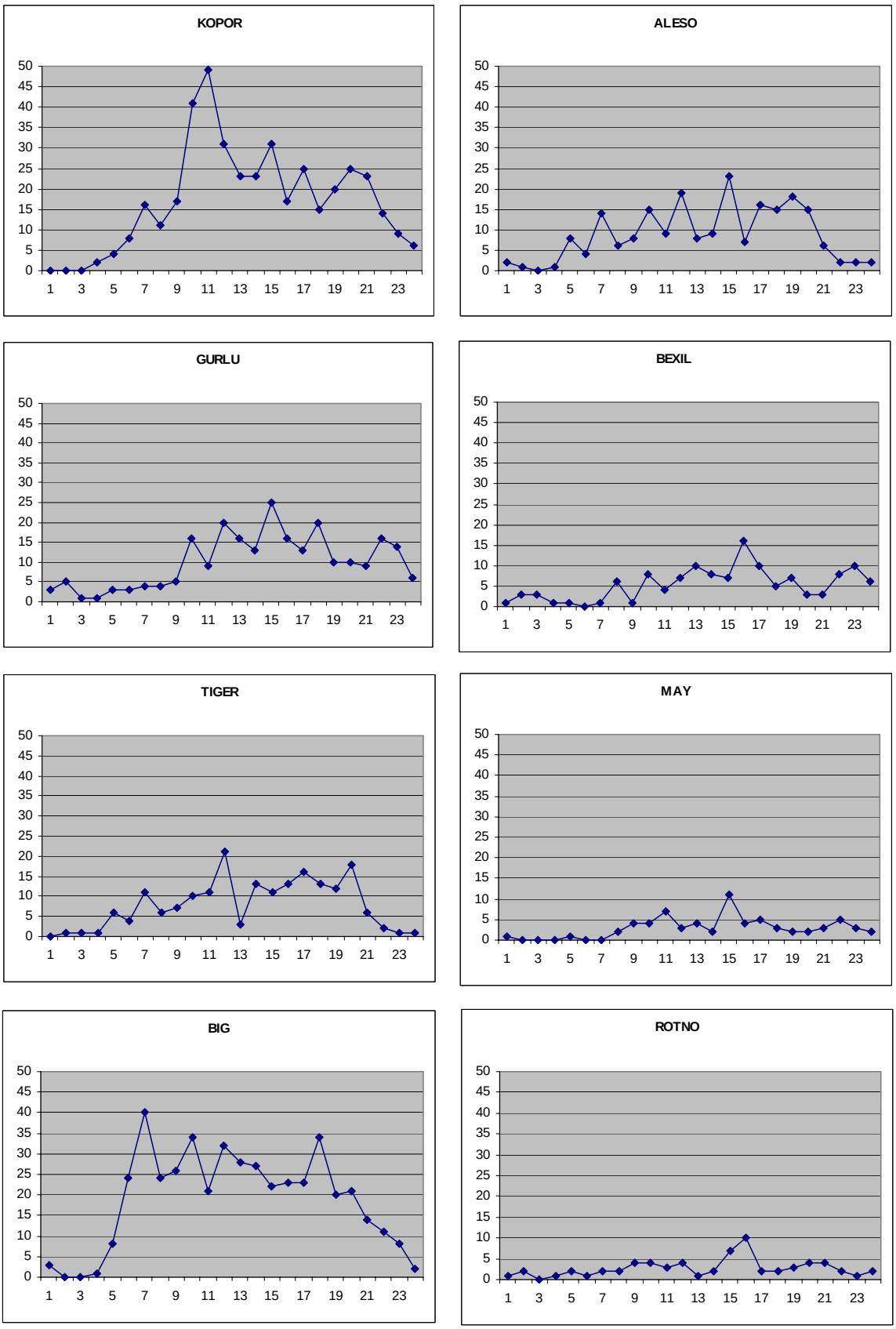


Figure 9: Hourly traffic profiles

7.3 Figure 9 shows typical hourly traffic profiles for the current route structure for each waypoint. These are selected from the busiest day for each waypoint during June 2010.

7.4 Implementation of this proposal would not affect air traffic demand, and the traffic listed in Table 1 would still be expected to fly whether or not the proposal was implemented. The proposal would, however, affect where aircraft fly and the amount of delay they incur.

8. Environmental effects: exhaust emissions and fuel burn

8.1 NATS takes the environmental impact of exhaust emissions into consideration when evaluating airspace designs, and has sought to ensure the proposed design meets the objective of reducing CO_2 emissions per flight.

8.2 Analysis of fuel burn and emissions has been undertaken using a specialist model designed to estimate comparative levels of fuel burn for the proposed routes versus the existing ones. This modelling shows that overall the proposed changes are expected to reduce CO_2 emissions by 4757 tonnes per annum[4] (4.39% reduction). Table 4 shows a detailed breakdown of the modelling results, and shows how the proposed changes affect the various traffic flows.

[4] There is a direct correlation between fuel burn and CO_2 emissions, hence the percentage changes quoted for CO_2 emissions are also valid for fuel burn.

			UK Airspace				French Airspace				Total				
Route	Modelled Type	Num of Modelled Aircraft Types	Total Current CO2 (Tonnes)	Total Proposed CO2 (Tonnes)	Δ CO2 (Tonnes)	% Δ CO2	Total Current CO2 (Tonnes)	Total Proposed CO2 (Tonnes)	Δ CO2 (Tonnes)	% Δ CO2	Total Current CO2 (Tonnes)	Total Proposed CO2 (Tonnes)	Δ CO2 (Tonnes)	Δ CO2 /flight (kg)	% Δ CO2
KOPOR to MAY Over-flights	MD11	215	677	366	-311	-46.0	823	1,012	189	23.0	1,500	1,377	-122	-567.6	-8.14
	F100	438	337	175	-162	-48.0	399	506	106	26.7	736	681	-55	-126.1	-7.50
	C550	2,999	626	322	-305	-48.7	658	805	146	22.2	1,285	1,126	-159	-52.9	-12.34
	BE20	221	26	14	-12	-46.4	37	47	9	25.3	63	61	-3	-11.7	-4.06
	B752	133	229	113	-117	-50.9	256	318	62	24.2	485	430	-55	-411.2	-11.28
	B738	9,556	10,385	5,963	-4,422	-42.6	11,346	13,201	1,854	16.3	21,731	19,164	-2,567	-268.7	-11.81
	A319	5,226	5,023	2,853	-2,170	-43.2	5,676	6,713	1,037	18.3	10,700	9,566	-1,133	-216.9	-10.59
	A306	507	1,119	573	-546	-48.8	1,274	1,573	299	23.5	2,393	2,146	-247	-486.8	-10.32
KOPOR to MAY via NITAR - Gatwick Inbounds	F100	97	70	72	1	1.7	93	85	-7	-7.9	163	157	-6	-63.2	-3.76
	B752	653	970	978	8	0.8	1,302	1,209	-93	-7.1	2,272	2,187	-85	-130.5	-3.75
	B734	1,972	2,068	2,085	17	0.8	2,635	2,461	-174	-6.6	4,703	4,546	-157	-79.8	-3.34
	A319	4,388	4,104	4,174	70	1.7	5,061	4,684	-377	-7.4	9,165	8,858	-307	-70.0	-3.35
	A306	351	704	710	6	0.8	924	859	-65	-7.0	1,628	1,569	-59	-168.5	-3.63
NITAR to BIG	L101	174	363	354	-9	-2.5	450	468	18	4.1	813	822	9	54.5	1.17
	F100	1,199	801	782	-19	-2.4	961	1,001	40	4.1	1,762	1,782	20	17.0	1.16
	DH8D	2,756	1,223	1,192	-31	-2.5	1,693	1,763	70	4.1	2,916	2,955	39	14.2	1.34
	CL60	1,508	546	530	-16	-2.9	594	619	24	4.1	1,141	1,149	9	5.7	0.75
	BE20	1,136	127	124	-3	-2.6	166	173	7	4.1	294	297	4	3.1	1.20
	B752	1,955	2,684	2,618	-66	-2.5	3,264	3,398	134	4.1	5,947	6,016	68	35.0	1.15
	B738	5,637	5,252	5,144	-108	-2.1	5,430	5,653	223	4.1	10,682	10,797	115	20.4	1.08
	AT45	373	119	117	-2	-1.9	116	121	5	4.1	235	237	2	6.7	1.06
	A319	5,106	4,235	4,143	-92	-2.2	4,598	4,787	189	4.1	8,833	8,930	97	19.0	1.10
	A30B	230	430	420	-10	-2.3	486	506	20	4.1	916	926	10	44.1	1.11
KOPOR to MAY via ABUDA - Gatwick Inbounds	F100	48	36	37	1	1.7	42	41	-2	-4.1	79	78	-1	-23.7	-1.44
	B752	326	499	509	10	2.0	606	582	-24	-4.0	1,106	1,092	-14	-43.2	-1.27
	B734	986	1,073	1,092	19	1.8	1,226	1,181	-45	-3.7	2,299	2,273	-26	-26.3	-1.13
	A319	2,194	2,163	2,199	36	1.7	2,317	2,230	-87	-3.8	4,480	4,429	-51	-23.3	-1.14
	A306	175	364	370	7	1.8	428	412	-16	-3.8	792	782	-10	-55.7	-1.23
KOPOR to WAFFU	C550	2,576	434	397	-37	-8.5	1,052	1,071	19	1.8	1,486	1,469	-17	-6.8	-1.17
	DH8D	1,248	351	321	-30	-8.5	745	768	23	3.1	1,096	1,089	-7	-5.4	-0.62
	CL60	2,552	838	767	-71	-8.5	2,101	2,149	48	2.3	2,939	2,916	-23	-9.0	-0.79
	B763	34	63	58	-5	-8.5	146	150	4	2.6	209	207	-2	-46.3	-0.75
	B752	13	19	17	-2	-8.5	44	45	1	2.6	63	62	0	-37.0	-0.77
	B738	757	673	616	-57	-8.5	1,576	1,616	40	2.5	2,249	2,232	-17	-22.2	-0.75
	AT45	629	103	94	-9	-8.5	262	268	6	2.5	364	362	-2	-3.5	-0.61
	A319	284	222	203	-19	-8.5	520	533	13	2.6	742	737	-5	-19.1	-0.73
Overall			48,956	40,501	-8,454	-17.3	59,308	63,006	3,697	6.2	108,264	103,507	-4,757		-4.39

Table 4: Expected change in CO_2 emissions (all 2009 traffic) for UK and French airspace

8.3 Table 4 shows in detail the impact of the proposed route changes on the modelled routes. The aircraft types selected are representative of the aircraft using the routes. (E.g. all light business jets were approximated to C550). The emissions analysis demonstrates that most significant benefit is an 11.8% reduction in CO_2 emissions per flight for B738 KOPOR-MAY over-flights. This results in a reduction of 2567 tonnes of CO_2 for this type/route. The most penal combination is the B738 NITAR-BIG which shows an increase of 115 tonnes of CO_2 [5] (1.08%).

8.4 Overall, the modelling shows that there is a reduction in emissions of 4.4% in the Dover Lydd sectors due to the proposed changes. This gives an average of 81Kg of CO_2 per flight, or 4750 tonnes per annum.

9. Environmental effects: noise

9.1 Due to the nature and altitude of the changes proposed (changes are above FL115 and there are no changes to flight profiles over land) no noise analysis has been undertaken.

10. Environmental effects: visual intrusion

10.1 As noted in previous consultations by the CAA (Ref 4) there is no agreed definition for visual intrusion. For the purposes of this consultation document, visual intrusion is taken to relate to an individual's ability to detect the presence of aircraft (this interpretation is intentionally broad and does not indicate the degree to which the presence of aircraft is intrusive or causes offence).

10.2 Under current arrangements aircraft will already be visible from most locations beneath the proposed airspace. The patterns of flights over land will not change as a result of this proposal, hence there will be no change to the visual intrusion.

11. Environmental effects: tranquillity.

11.1 In previous consultations the CAA has accepted that measurement of aircraft noise in relation to tranquillity is relatively undeveloped and that no universally accepted metrics or measuring methodology exist (Ref 4).

11.2 It is appreciated that the High Weald AONB which lies beneath the areas being considered, is a tranquil area. The patterns of flights over the AONB will not change as a result of this proposal, hence there will be no change to the tranquillity of the AONB.

[5] Emissions estimates from the emissions model are subject to the accuracy of the underlying data on aircraft performance and fuel flow inaccuracies. The data used was Base of Aircraft Data (BADA) version 3.6 provided by Eurocontrol. The BADA source data does not contain any information regarding the accuracy of each of the 91 aircraft types modelled, and studies conducted by NATS have shown that variability in accuracy is high. Since aircraft performance data has not been available to validate all 91 aircraft modelled in BADA 3.6, and the small-scale studies undertaken to date suggest that the accuracy is not systematic, it is recommended that the absolute figures produced here are used only to inform a comparative study and may not exactly reflect actual operational CO_2 emissions for any given aircraft.

12. Local Air Quality

12.1 Due to atmospheric mixing, aircraft emissions at altitudes above 3000 ft above ground level do not have any impact on the air quality at ground level[6]. The altitude of the changes proposed, are all above 3000ft. Hence no assessment of local air quality has been performed for this proposed change.

12.2 Overall the changes proposed in this proposal would result in a reduction in emissions per flight for aircraft transiting the region. (See section 8)

13. Impact on aviation stakeholders

13.1 The changes to the Air Traffic Service (ATS) routes being sought by this airspace development are described in Table 5. This table is aimed specifically at aviation stakeholders and therefore introduces technical language where necessary to describe the proposed classification and procedural arrangements for the airspace.

13.2 This change has been motivated by the need to improve the DL4 interface between London Area Control Centre and Reims Area Control and so the primary changes are to en route airspace. The changes interface with Standard Terminal Arrival Routes (STARs) for Gatwick and Heathrow airports, however the STARs themselves will not change.

13.3 No new holds are proposed by this airspace change. Holding arrangements will remain as per current operations.

13.4 NATS Swanwick London Area Control Centre would be the controlling authority for all of the proposed routes within UK airspace as detailed in Table 5.

[6] Recent research suggests that this may be a conservative assumption.

Table 5: Proposed change to the airspace structure (see also Figure 6)

Description of change	NATS justification	Impact on airspace users not controlled by NATS
(U)M733 a permanent uni-directional Lower/Upper Air Route from NADIN - MAY. B-RNAV within extant Class A airspace below FL195, extant Class C above FL195.	This route is intended for northbound traffic inbound to Stansted and Luton via NADIN, GUBSU, PARKY, MAY. Establishing a dedicated route will enable this traffic to flight plan this route. In turn this provides network management benefits though reduced controller intervention and accurate prediction of ATC sector throughput.	There is no impact on MOD and general aviation operations in this airspace. The proposed route is contained entirely within existing controlled airspace.
(U)T427 A new permanent uni-directional Lower/Upper Air Route from ABUSE - BIG. B-RNAV within extant Class A airspace below FL195, extant Class C above FL195.	This route is intended for northbound traffic inbound to Gatwick, Bristol, Cardiff, Brize Norton etc via ABUSE, SIMON, LARUE, BEXIL, BIG. Establishing a dedicated route will enable this traffic to flight plan this route. In turn this provides network management benefits though reduced controller intervention and accurate prediction of ATC sector throughput.	There is no impact on MOD and general aviation operations in this airspace. The proposed route is contained entirely within existing controlled airspace.
Y8 a permanent uni-directional Lower Air Route from PARKY - WAFFU. B-RNAV within extant Class A airspace below FL195.	This route is intended for northwest-bound traffic inbound to Southampton and Bournemouth etc via PARKY, WAFFU. Establishing a dedicated route will enable this traffic to flight plan this route. In turn this provides network management benefits though reduced controller intervention and accurate prediction of ATC sector throughput.	There is no impact on MOD and general aviation operations in this airspace. The proposed route is contained entirely within existing controlled airspace.
S13, S25, UT426, UT191 Link routes realigned to accommodate HOP move.	These are link routes within the French FIR (region of airspace delegated to NATS). These changes are required to accommodate the realignment resulting from changing the hand-over point from ABUDA to ABUSE (2nm SW). Included here for info only.	There is no impact on MOD and general aviation operations in this airspace. The proposed route is contained entirely within existing controlled airspace.

14. Next steps

14.1 We request that you consider the proposal and provide a written response to us. In accordance with the CAA airspace change process (Ref 1), a period of 12 weeks is allowed for stakeholder consultation, but where possible an earlier response to this proposal would be appreciated so that any issues arising may be addressed as soon as possible. The closing date for replies associated with consultation issues is 3rd December 2010.

14.2 We request that you reply to this consultation even if you have no objection to the proposal.

14.3 Responses to this consultation will be collated and a summary will be circulated to the CAA and participating stakeholders once the consultation has closed. Any matters raised during the consultation period that have not been adequately considered during the development of the proposed design may require NATS to make changes to the proposal. Any such changes may require further consultation as determined by the CAA.

14.4 If and when NATS is satisfied, having considered the consultation responses, that the design achieves the appropriate balance between all the stakeholder requirements, a formal airspace change proposal will be submitted to the CAA for consideration as per the airspace change process (Ref 1). This will include a full record of all feedback from this consultation.

14.5 Responses and feedback should be sent to the address below:

DL4 Consultation Co-ordinator
NATS
CTC Mailbox 5A,
4000 Parkway, Whiteley, Fareham
Hampshire, PO15 7FL

14.6 Comments regarding NATS' compliance with the consultation process as set out in the CAA's guidelines for airspace change process (Ref 1) should be directed to the CAA at:

Head of Business Management
Directorate of Airspace Policy
CAA House
45-59 Kingsway
London
WC2B 6TE
E-mail: businessmanagement@dap.caa.co.uk

15. References

Links to the references below are available on the consultation website:
http://www.nats.co.uk/DL4consultation

1. CAP 725, CAA Guidance On The Application Of The Airspace Change Process, March 2007, CAA Directorate of Airspace Policy

2. Guidance To The Civil Aviation Authority On Environmental Objectives Relating To The Exercise Of Its Air Navigation Functions, January 2002, Department for Transport, Local Government and the Regions

3. DL4 Dover Lydd Development, record of agreements following framework briefing with dap:
   NATS REF 4115/RPT/06 Issue 2, May 2010, NATS

4. DL4 Dover Lydd Development: Emissions Assessment.
   ISSUE 1, Sept 2010 NATS ref OA1058

Appendix A: List of Stakeholders

NATMAC (National Air Traffic Management Advisory Committee)
Airport Operators Association (AOA)
Aviation Environment Federation
AOPA UK
British Airways
BAe Systems
British Airline Pilots Association (BALPA)
British Air Transport Association (BATA)
British Balloon & Airship Club (BBAC)
British Business & General Aviation Association (BBGA)
British Gliding Association (BGA)
British Hang Gliding & Paragliding Association (BHPA)
British Microlight Aircraft Association (BMAA)
British Parachute Association (BPA)
British Airports Authority (BAA)
British Gliding Association (BGA)
British Helicopter Advisory Board (BHAB)
British Helicopter Association (BHA)
CAA Safety & Regulation Group (SRG)
MOD ATC Flying
MOD DASC
Easyjet
European UAV Systems Centre Ltd
Guild of Air Pilots & Air Navigators (GAPAN)
General Aviation Safety Council (GASCo)
Guild of Air Traffic Control Officers (GATCO)
Helicopter Club of Great Britain (HCGB)
Heavy Airlines
HQ 3AF, RAF Mildenhall
HQ DAAvn
Light Airlines
Popular Flying Association (PFA)
PPL/IR Europe
Royal Aero Club (RAeC)
RAF HQ AIR
UK Airprox Board (UKAB)
UKFSC

Appendix B: Overview of Structure and Operation of UK Airspace[7]

The airspace over the UK is a national asset and finite resource. The safe and efficient utilisation of our airspace is vital to both the UK economy and national defence. Accordingly, it is essential that UK airspace be provided, as far as possible, for the benefit of all users.

In simple terms, UK airspace, from ground level to approximately 66,000ft, is categorised as being either 'Controlled Airspace' or 'Uncontrolled Airspace':

Controlled airspace is established for the protection of aircraft during the various phases of flight and to facilitate a safe and expeditious flow of air traffic. Any aircraft operating within controlled airspace require an Air Traffic Control (ATC) clearance and must comply with the instructions issued. Controlled airspace is therefore, in most cases, a 'known environment', i.e. all traffic is known to the ATC system.

Commercial, passenger-carrying aircraft operate almost exclusively inside controlled airspace. Controlled airspace can be divided into 5 main types:

- Control Zones, which extend from ground level and surrounding major airports
- Control Areas, which do not extend down to the ground but have base levels between approximately 2000 and 5000ft above the ground
- Airways, which are corridors of controlled airspace that form the main routes connecting major airports and are a form of Control Area
- Terminal Control Areas, which are larger Control Areas established around groups of airports where several airways converge
- Upper Airspace that comprises all UK airspace from FL245 (24,500ft) upwards.

Whilst within controlled airspace standard routes are published as a template for planning purposes, Air Traffic Controllers may use the full lateral and vertical extent of this protective airspace. In fact, the ability for controllers to tactically position aircraft is essential in ensuring the most effective flow of traffic, placing the safe separation and sequencing of aircraft above all other considerations. Consequently, aircraft will not necessarily follow exactly the same flight paths. However, the closer aircraft are to the airport of arrival or departure the less flexibility exists to adapt their flight profiles. For example, an aircraft 5 miles from touchdown needs to be aligned with the runway and therefore is likely to be in exactly the same piece of sky that the aircraft ahead occupied. The further from touchdown, the more variation in positioning is likely to exist because of the requirement to achieve the safe separation in the sequencing of arriving aircraft.

Only the controlled airspace established in the immediate vicinity of major airports extends down to the ground. As indicated previously, most areas of controlled airspace have base levels of several thousand feet above the surface.

[7] Text from Directorate of Airspace Policy Environmental Information Sheet – Number 3
web address - www.caa.co.uk/default.aspx?catid=7&pagetype=68&gid=295

Detailed maps and charts depicting the UK's airspace structure can be purchased from several commercial outlets.

Uncontrolled airspace: the airspace outside controlled airspace extends from ground level to 19,500ft or to the base of controlled airspace.

Although 'uncontrolled', pilots can request a range of Air Traffic Services (ATS) within such airspace from a variety of civil and military ATS providers. These services range from the mere provision of information to a radar service in which controllers provide sequencing and separation instructions.

Uncontrolled airspace is airspace within which receipt of an ATS, whilst often available, is not an absolute requirement. Pilots can operate without talking to ATC and without a specific air traffic clearance. They therefore fly on a 'see and avoid' basis such that they can determine their routes according to their own requirements. Such activity is subject to compliance with the basic Rules of the Air Regulations and any weather, airspace, pilot or aircraft licensing limitation. The majority of military, instructional and recreational flying takes place in uncontrolled airspace.

ATC Organisation: Responsibility for the provision of ATC services in the UK lies with both civil and military service providers, that will provide a service to both civil and military aircraft within their areas of responsibilities. For the most part and in very general terms, activity inside controlled airspace is managed by NATS (Enroute) plc, whose operation is regulated by the Civil Aviation Authority. Much of NATS activity is conducted from 2 control centres:

- **NATS Swanwick (Area Control and Terminal Control):** from where the flow of traffic in UK airspace south of 55 degrees North (over England and Wales) in the Upper Airspace, along the Airways system and within the high levels of Control Areas is managed; also from where the flow of traffic inbound to and outbound from the major airports in the South East of England is managed.
- **NATS Prestwick (Scottish and Oceanic Area Control Centre):** from where the flow of traffic in UK airspace north of 55 degrees North (over Scotland) in the Upper Airspace, along the Airways system and within the high levels of Control Areas is managed. The control of traffic bound to/from the major airports in the Manchester region is also managed from Prestwick Centre.

Appendix C: A Brief Outline of Air Traffic Control Principles

Introduction

The UK contains many large airports each of which generates significant volumes of air traffic. As a result the UK is recognised as having some of the most complex airspace structures and procedures in order to ensure the safe passage of aircraft flying through its airspace.

Air Traffic Control (ATC) is a service provided to afford a safe, orderly and expeditious flow of air traffic. The vast majority of commercial airliners and other large aircraft plan their routes along Air Traffic Service (ATS) routes. These routes are protected by volumes of controlled airspace in which the position, height and intentions of aircraft are both known and controlled by ATC.

The details of each flight's proposed route form an individual "Flight Plan" that is used by aircraft operators to advise ATC of the proposed route to be flown between departure and destination airports.

Controlled Airspace and ATS Routes

Further out from an airfield aircraft are generally at higher altitudes or levels whilst they climb to, or descend from, their cruising flight levels. This permits the controlled airspace to be arranged in steps thereby allowing other (typically non-commercial) aircraft that are not in receipt of an ATC service to operate freely in uncontrolled airspace below or laterally clear of the ATS route.

ATS routes are themselves surrounded by volumes of controlled airspace which must extend a minimum of 5 nautical miles either side of the route centreline. These are established to protect aircraft during the en-route phase of flight. Large Control Areas are established in certain areas that contain many ATS routes.

Aircraft wishing to operate within controlled airspace must submit a flight plan and gain a clearance to enter from an ATC unit. On entering controlled airspace aircraft must obey all ATC instructions and maintain radio contact.

An aircraft flying within controlled airspace will therefore be operating within a known environment in which the Air Traffic Controller can safely separate it from all other aircraft operating within the controlled airspace. So long as an aircraft is flying within controlled airspace, it will also remain safely separated from aircraft flying freely outside of the controlled airspace environment.

Uncontrolled Airspace

Controlled airspace is delineated by a specified boundary and outside of this boundary the airspace is known as uncontrolled airspace. Within uncontrolled airspace aircraft operate with relative freedom without being in receipt of any Air Traffic Control Service and therefore are operating in what is sometimes referred to as an "Unknown" environment, i.e. the intended flight profile of aircraft is unknown. Aircraft routinely operating within uncontrolled airspace include light general aviation aircraft, military aircraft, helicopters, hot air balloons and gliders.

Wherever possible, commercial passenger aircraft operate within the confines of controlled airspace for the protection that this environment affords compared to operating within an uncontrolled and unknown environment. However, some airports, due to the small volumes of commercial air traffic operating from them, are not protected by controlled airspace.

Route Centrelines and 'Vectoring'

The centreline of an ATS route is generally defined by navigational beacons or known positions called fixes. Aircraft navigate between these beacons and fixes when following ATS routes (see Figure C1 depicting an example of a simplified airspace structure).

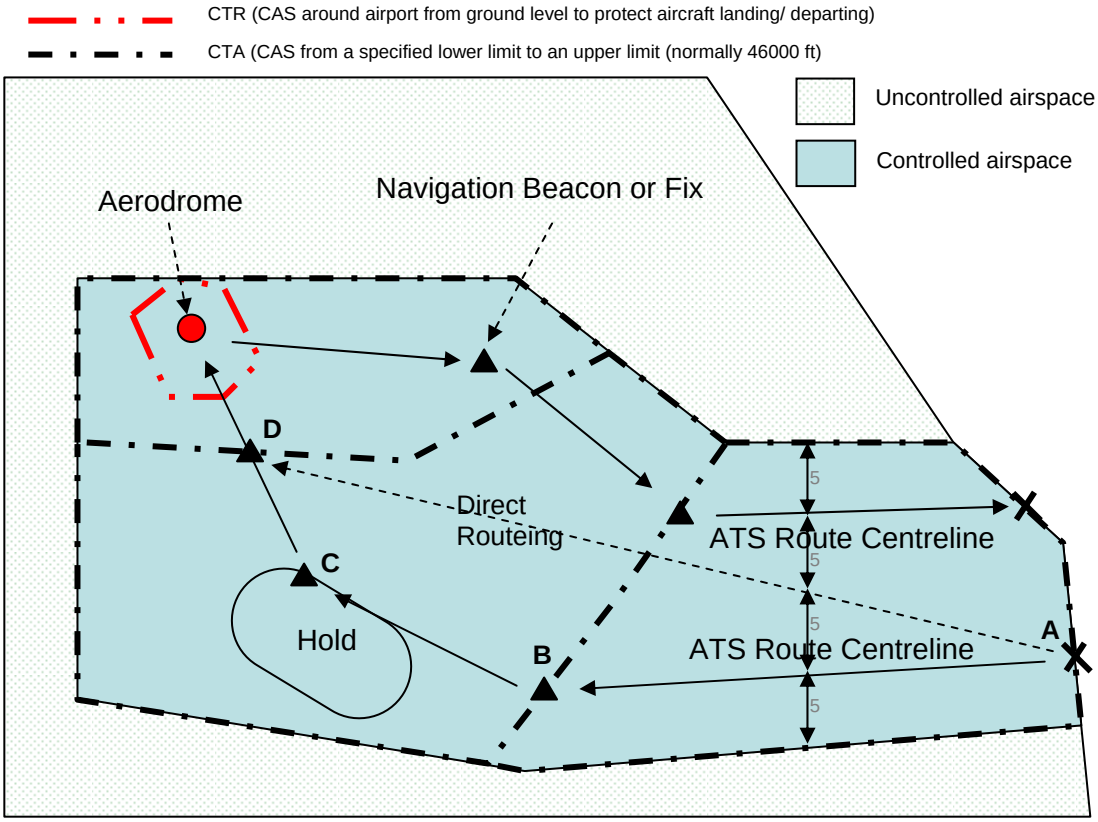


Figure C1 Simplified example airspace structure.

Although aircraft flight-plan their routes by reference to these ATS Route centrelines, aircraft are still deemed to be on the route as long as they remain within 5 nautical miles of its centreline. The controlled airspace associated with an ATS route extends a minimum 5 nautical miles either side of the promulgated route centreline. This is to allow for any navigation inaccuracies by the aeroplane and to provide space for ATC to separate any conflicting traffic using radar (i.e. by directing aircraft onto separated tracks within the boundaries of controlled airspace). Each aircraft files a flight plan setting out the route it plans to follow (such as shown in Figure D1 from point A to B to C to D). However, in order to provide a safe and efficient service, ATC may direct aircraft to take a more direct route anywhere within controlled airspace e.g. straight from A to D. This may reduce the distance that has to be flown to reach the destination. ATC may also direct aircraft off a

route to ensure separation is maintained from other traffic, by instructing them to fly a magnetic heading (referred to as “vectoring”).

ATC separate aircraft both vertically and horizontally. The vertical separation applied between aircraft in controlled airspace is a minimum of 1000ft. The minimum horizontal separation between aircraft separated by less than 1000ft vertically is 3 nautical miles. Within a large portion of UK airspace this 3nm minimum lateral radar separation is increased to 5 nautical miles due to the radar systems we employ.

Although Airspace Change Proposals define new and revised ATS routes by their centrelines it should be noted that these must be supported by a minimum of 5 nautical miles of controlled airspace either side of the centreline and between specific lower and upper limits. This is because aircraft can be directed anywhere within the full extent of established controlled airspace, and not just along the promulgated ATS route centreline.

Airspace Definitions (Altitudes and Flight Levels)

Volumes of controlled airspace are generally defined by specifying a lateral boundary and vertical extent.

Vertical boundaries may be defined in either altitude (in feet) or Flight Levels (FLs). Note that one FL relates to 100ft, i.e. FL70 equates to 7000ft. Altitudes are generally used to define the height of an aircraft in the lower volumes of airspace (generally operating below 6000ft in controlled airspace in the UK) as it is the most effective unit to use to determine aircraft position relative to the ground, therefore enabling an aircraft to avoid high ground etc. Flight Levels are generally used in higher volumes of airspace (generally operating above 6000ft in controlled airspace in the UK) where the vertical separation of one aircraft relative to another aircraft is more important compared to their heights above ground.

The difference in the units is because altitudes (in feet) are affected by variations in local atmospheric pressure, whereas FLs are based upon a universal unit of pressure (1013 Millibars) that is unrelated to local atmospheric conditions. This means that all aircraft equipment should agree on where FL100 is, as all aircraft flying at Flight Levels will set a common datum of 1013Mbs on their barometric altimeter. This common view of aircraft level enables more efficient and consistent vertical separation.

It should be noted that as Flight Levels do not take into account local atmospheric pressure, they do not represent a fixed reference point above the ground, therefore depending on the actual local pressure in any area an aircraft at a given Flight Level may seem to be slightly higher or lower in the sky (although such variation would not usually be noticeable to an observer viewing from the ground).

Appendix D: NATS Traffic Growth Forecasts

Total UK Flights

Table D1, shows the low, base and high case, traffic growth forecasts for UK traffic for the years up to 2030. These forecasts are produced by NATS Forecasting and Business Information Unit and represent the most likely growth of air traffic based on reasonable assumptions of continued growth in passenger/freight demand, which take account of Government policy on the future of air transport. These forecasts were prepared in January 2010. Figures for previous years (in grey) are actuals. The figures shown are total flights in UK airspace in thousands.

The traffic forecasts presented in the main body of this report are based on the base case forecast growth rate.

The implementation of this proposal would not affect the overall growth of air traffic demand.

Low case

Calendar Years	Flights (000s)	% GR
2000	2,009	
2001	2,023	0.7%
2002	2,001	-1.1%
2003	2,078	3.9%
2004	2,180	4.9%
2005	2,305	5.7%
2006	2,386	3.5%
2007	2,471	3.6%
2008	2,434	-1.5%
2009	2,200	-9.6%
2010	2,104	-4.4%
2011	2,121	0.8%
2012	2,168	2.2%
2013	2,260	4.2%
2014	2,317	2.5%
2015	2,374	2.5%
2016	2,431	2.4%
2017	2,491	2.5%
2018	2,535	1.7%
2019	2,575	1.6%
2020	2,613	1.5%
2021	2,650	1.4%
2022	2,689	1.5%
2023	2,730	1.5%
2024	2,772	1.5%
2025	2,817	1.6%
2026	2,859	1.5%
2027	2,905	1.6%
2028	2,950	1.6%
2029	2,998	1.6%
2030	3,051	1.8%

Base Case

Calendar Years	Flights (000s)	% GR
2000	2,009	
2001	2,023	0.7%
2002	2,001	-1.1%
2003	2,078	3.9%
2004	2,180	4.9%
2005	2,305	5.7%
2006	2,386	3.5%
2007	2,471	3.6%
2008	2,434	-1.5%
2009	2,200	-9.6%
2010	2,229	1.3%
2011	2,299	3.1%
2012	2,380	3.5%
2013	2,454	3.1%
2014	2,522	2.7%
2015	2,592	2.8%
2016	2,663	2.7%
2017	2,733	2.6%
2018	2,793	2.2%
2019	2,850	2.0%
2020	2,954	3.7%
2021	3,033	2.7%
2022	3,107	2.4%
2023	3,177	2.3%
2024	3,252	2.3%
2025	3,333	2.5%
2026	3,409	2.3%
2027	3,485	2.2%
2028	3,564	2.3%
2029	3,643	2.2%
2030	3,723	2.2%

High Case

Calendar Years	Flights (000s)	% GR
2000	2,009	
2001	2,023	0.7%
2002	2,001	-1.1%
2003	2,078	3.9%
2004	2,180	4.9%
2005	2,305	5.7%
2006	2,386	3.5%
2007	2,471	3.6%
2008	2,434	-1.5%
2009	2,200	-9.6%
2010	2,355	7.0%
2011	2,480	5.3%
2012	2,563	3.3%
2013	2,623	2.3%
2014	2,710	3.3%
2015	2,803	3.4%
2016	2,893	3.2%
2017	2,978	3.0%
2018	3,048	2.3%
2019	3,147	3.3%
2020	3,281	4.3%
2021	3,411	4.0%
2022	3,530	3.5%
2023	3,638	3.1%
2024	3,751	3.1%
2025	3,861	2.9%
2026	3,977	3.0%
2027	4,092	2.9%
2028	4,206	2.8%
2029	4,321	2.7%
2030	4,448	2.9%

Table D1: Traffic forecasts

Appendix E: Cabinet Office Code of Practice on Consultation

Text from Cabinet Office Code of Practice on Consultation
web address - http://www.bis.gov.uk/files/file47158.pdf

The seven consultation criteria are:

1. When to consult
Formal consultation should take place at a stage when there is scope to influence the policy outcome.
2. Duration of consultation exercises
Consultations should normally last for at least 12 weeks with consideration given to longer timescales where feasible and sensible.
3. Clarity of scope and impact
Consultation documents should be clear about the consultation process, what is being proposed, the scope to influence and the expected costs and benefits of the proposals.
4. Accessibility of consultation exercises
Consultation exercises should be designed to be accessible to, and clearly targeted at, those people the exercise is intended to reach.
5. The burden of consultation
Keeping the burden of consultation to a minimum is essential if consultations are to be effective and if consultees' buy-in to the process is to be obtained.
6. Responsiveness of consultation exercises
Consultation responses should be analysed carefully and clear feedback should be provided to participants following the consultation.
7. Capacity to consult
Officials running consultations should seek guidance in how to run an effective consultation exercise and share what they have learned from the experience.