Second UK State Consultation on a Harmonised Transition Altitude (TA)
QUESTIONS FOR INDUSTRY STAKEHOLDERS

Introduction

Across the UK, a harmonised Transition Altitude (TA) of 18,000ft is proposed designed to enhance efficiency, both inside and outside controlled airspace, through standardisation of airspace and altimeter setting procedures. A harmonised TA of 18,000ft would enable future safety, environmental and economic benefits to be realised through improvements to the vertical profiles of aircraft arrivals and departures in the London and Scottish FIRs. It would also serve as a platform for future airspace and operating concepts through programmes such as Single European Sky (SES), SES Air Traffic Management Research (SESAR), Future Airspace Strategy (FAS) and the UK/Ireland Functional Airspace Block (FAB).

The First UK TA Consultation

The CAA first consulted on a harmonised TA in early 2012.

Responses to the consultation were generally supportive of a higher TA, however further safety work and a more detailed Concept of Operations (CONOPs), was needed so that the technical issues could be addressed in more detail before the final level of the TA could be confirmed.

The Second UK TA Consultation (this consultation)

Following an extensive series of simulations, workshops and engagement meetings with a variety of stakeholders, the CONOPs has reached a good level of maturity and is considered sufficiently robust to enable second consultation.

Implementation of an 18,000ft TA is part of the UK Future Airspace Stratergy and the consultation will be based on the contents of the CONOPs and the supporting Safety Analysis.

The consultation also asks for feedback from stakeholders regarding the general costs of implementation. This consultation is based on the contents of that CONOPs and supporting information in the TA Consultation Pack.

This consultation is aimed at aviation industry stakeholders and invites them to:

- Read the on-line TA document set as described above;
- Review the list of Commonly Asked Questions and Answers if anything in the document set is not clear
- Provide responses to this list of Questions to Industry Stakeholders, giving as much relevant information as possible to inform the decision on a harmonised TA at 18,000ft.
- Respond to the consultation by completing the on-line response tool https://www.surveymonkey.com/r/transitionaltitude or by using the other methods described in CAA Information Notice IN 2015/104.
- Please note that when using the on-line response tool you will need to complete your response to this consultation in one session. It is not possible to exit the survey and return later to where you finished.
- We recommend that you download these Questions for Industry Stakeholders and prepare your response before completing the on-line response tool.

What to expect

- The survey contains closed questions (i.e. Yes/No or multiple choice options) and open ones where you can enter detailed answers. You can copy text from a Word document into the response areas if you need to.
- Please note that comment boxes allow a maximum of 2000 characters.

- As far as possible questions are organised so they are relevant to specific audiences (e.g. ANSPs, Aircraft Operators etc).

Closing date

- This consultation is due to close at **1600 on Wednesday 24 February 2016**.

Second UK State Consultation on a Harmonised Transition Altitude (TA)
QUESTIONS FOR INDUSTRY STAKEHOLDERS

Please include any estimates of financial costs and benefits in £ Sterling

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
A TA of 18,000ft will inevitably involve significant changes. These changes might include: • Manpower changes • Training costs • Evaluation of change • Rules and procedural changes • Policy changes • Education and awareness training • Update of training materials • Post project evaluation • Feedback mechanisms	**Having assessed the scope of the changes that the TA will bring, please rate your understanding (or that of your organisation) of the business requirements needed to implement an 18,000ft TA. (BEA 1)**	○ Fully understand requirements and detailed evaluation complete ○ Fully understand requirements and making good progress on detailed evaluation ○ Have a good understanding of requirements and have started detailed evaluation ○ Have a broad overview but have not progressed to detailed evaluation ○ Other (comments box)
The State Project would like Air Navigation Service Providers (ANSPs) to provide feedback on the cost impact upon their organisation associated with change to the Transition Altitude. Items to consider may include: • Changes to the ATC equipment required • Changes to staff numbers • Review and, if necessary, redesign of Instrument Flight Procedures • Changes to procedures for QNH source selection • Review of Flight Information Services (FIS) requirements • Review of Areas of Air Traffic Services (ATS) delegation and associated Letters of Agreement/ Memorandums of Understanding • Review of changes to communication and coordination procedures due to changes in the agreed levels between Area Control and Terminal Control sectors • Review of changes to communication and coordination procedures for crossing international boundaries • Review of changes to Air Traffic Management procedures between ATS units and ANSPs • Updating of documentation; costs may include: • Updating aeronautical documentation • Drafting changes to charts (IFR/VFR), AIP and e-AIP updates and textual supplements • Preparing and sending NOTAMs • Preparing and sending Aeronautical Information Notices (AICs) • Preparing and sending Notifications/Information Notices to	**In the period up to the TA change, what is the forecast cost to your organisation of any changes required as a consequence of a change in the TA? (BEA 2)**	○ No financial cost ○ Less than £5000 ○ £5000 - £10,000 ○ £10,000 - £20,000 ○ £20,000 - £50,000 ○ £50,000 - £100,000 ○ £100,000 - £250,000 ○ £250,000 - £500,000 ○ More than £500,000 (comments box)

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
customers some time ahead of implementation NOTAMs • Changes to Operational Systems and software; costs may include: • The existing display function Human Machine Interface (HMI) and software of the surveillance data processing system (RDPS) • The existing display function Human Machine Interface (HMI) and software of the flight plan processing system (FDPS) • Integration of your RDPS and FDPS • Integration with the RDPS and FDPS of neighbouring States • The navigation database • The QNH display system • Hardware and operational software to retrieve selected QNH sources (e.g. MET sources for QNH) • Updating/enabling your operational systems to report changes in QNH automatically. • Communications systems following new procedures associated with changing the TA • Necessary updates and changes to training systems and software following a change in the TA • Maintenance costs of systems and software (increase or decrease) • Updating system and software documentation • Training; costs may include: • Training operational staff in QNH setting procedures and changes to ATC procedures • Setting up and performing necessary simulations for training in the airspace redesign, system and software and related procedural changes • Costs of reviewing and updating training material • Safety assessments of elements affected by the change in the TA; costs may include assessment of systems, airspace design, procedure design, etc • System and software changes • Preparation and execution of simulations to validate the airspace design, system and software and related procedural changes		
Having considered the information contained in the Consultation Pack: The State Project would like Air Navigation Service Providers (ANSPs) to provide feedback on any benefits to their organisation associated with change to the Transition Altitude. Items to consider may include: • Changes to the ATC equipment required • Changes to staff numbers • Review and, if necessary, redesign of Instrument Flight Procedures • Changes to procedures for QNH source selection • Review of Flight Information Services (FIS) requirements • Review of delegated Air Traffic Services (ATS) and associated Letters of Agreement/ Memorandums of Understanding • Review of changes to communication and coordination procedures due to changes in the agreed levels between Area	**In the period following the TA change, what are the forecast benefits to your organisation of any changes required as a consequence of a change in the TA? (BEA 3)**	(Free text box)

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
Control and Terminal Control sectors • Review of changes to communication and coordination procedures for crossing international boundaries • Review of changes to Air Traffic Management procedures between ATS units and ANSPs • Updating of documentation; costs may include: • Updating aeronautical documentation • Drafting changes to charts (IFR/VFR), AIP and e-AIP updates and textual supplements • Preparing and sending NOTAMs • Preparing and sending Aeronautical Information Notices (AICs) • Preparing and sending Notifications/Information Notices to customers some time ahead of implementation NOTAMs • Changes to Operational Systems and software; costs may include: • The existing display function Human Machine Interface (HMI) and software of the surveillance data processing system (RDPS) • The existing display function Human Machine Interface (HMI) and software of the flight plan processing system (FDPS) • Integration of your RDPS and FDPS • Integration with the RDPS and FDPS of neighbouring States • The navigation database • The QNH display system • Hardware and operational software to retrieve selected QNH sources (e.g. MET sources for QNH) • Updating/enabling your operational systems to report changes in QNH automatically. • Communications systems following new procedures associated with changing the TA • Necessary updates and changes to training systems and software following a change in the TA • Maintenance costs of systems and software (increase or decrease) • Updating system and software documentation • Training; costs may include: • Training operational staff in QNH setting procedures and changes to ATC procedures • Setting up and performing necessary simulations for training in the airspace redesign, system and software and related procedural changes • Costs of reviewing and updating training material • Safety assessments of elements affected by the change in the TA; costs may include assessment of systems, airspace design, procedure design, etc • System and software changes • Preparation and execution of simulations to validate the airspace design, system and software and related procedural changes Having considered the information contained in the Consultation Pack:		

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
	What on-going costs do you or your organisation anticipate after implementation? This includes costs associated with airspace redesign brought about by a change in the TA. (BEA 4)	○ Cost Year 1 ○ Cost Year 2 ○ Costs Years 3-6 Cost bands: No financial cost Less than £5000 £5,000 - £10,000 £10,000 - £20,000 £20,000 - £50,000 £50,000 - £100,000 £100,000 - £250,000 £250,000 - £500,000 More than £500,000 (please provide details)
	What future benefit(s) do you or your organisation anticipate after implementation as a consequence of a change in the TA? This includes any benefits realised through the redesign of airspace to enable improved vertical profiles of aircraft arrivals and departures. (BEA 5)	(Free text box)
The State Project would like aircraft operators to provide feedback on the costs of changes associated with change to the Transition Altitude. Items to consider may include: ○ System and software changes ○ Updating the on-board computer software (flight planning) and/or hardware ○ Changes to Aircraft Operator Certificate (AOC) ground systems ○ Loss of revenue due to aircraft being taken out of service to perform software installation and technology updates. *(As changes to the technology are mostly performed in relation to a maintenance check, only the additional time needed to install the software and technology update should be considered, not the full maintenance check cost).* ○ Change in costs of services from Data Service Providers (DSPs) and Flight Briefing Services (FBS) ○ Acquiring updated charts ○ Review and redesign of flight operating procedures (SOPs) and flight manuals ○ Training flight deck and other staff for QNH and other TA related flight operating procedures Having considered the information contained in the Consultation Pack:	**What is the forecast cost to you or your organisation for changes as a consequence of a change to the TA? (BEA 6)**	○ Cost Year 1 ○ Cost Year ○ Cost Years 3-6 Cost bands: No financial cost Less than £5000 £5,000 - £10,000 £10,000 - £20,000 £20,000 - £50,000 £50,000 - £100,000 £100,000 - £250,000 £250,000 - £500,000 More than £500,000 (please provide details)

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
	Do you or your organisation agree or disagree with the proposed positions of the Altimeter Setting Region (ASR) boundary lines? (GEN 8)	○ Agree ○ Disagree ○ Not applicable
	Do you or your organisation agree or disagree with the proposed names of the Altimeter Setting Regions (ASRs)? (GEN 9)	○ Agree ○ Disagree ○ Not applicable
With reference to the document supporting the format of the Altimeter Setting Region (ASR) bulletin which details the proposed move from Regional Pressure Setting (RPS) regions based on a forecast QNH to ASRs based on an actual QNH:	**Which of the proposed methods of communicating Altimeter Setting Region (ASR) data best suits your operation? (GEN 10.1)**	○ The RPS data provisioned by the FOUK70 Met Office bulletin via the Aeronautical Fixed Telecommunications Network (AFTN) will be discontinued in the future. However, for a short period of time post the ASR bulletin introduction the FOUK70 will be revised or modified to provision ASR data. ○ The ASR bulletin will be provisioned by an Extensible Markup Language (XML) message over the Aeronautical Message Handling System (AMHS). ○ The ASR bulletin (map, pressures and warnings, etc) will be available via a web based XML service over the Internet. ○ Not applicable (comments box)
	With reference to the Altimeter Setting Region (ASR) bulletin format, what will be the impact to your operation in terms of cost? GEN 10.2)	○ Cost Year 1 ○ Cost Year 2 ○ Cost Years 3-6 Cost bands: No financial cost Less than £5000 £5,000 - £10,000 £10,000 - £20,000 £20,000 - £50,000 £50,000 - £100,000 £100,000 - £250,000 £250,000 - £500,000 More than £500,000 (please provide details)
	GEN 10.3 **With reference to the Altimeter Setting Region (ASR) bulletin format, how long would it take to implement this within your organisation? (GEN 10.3)**	○ 3 to 6 months ○ 6 to 9 months ○ 9 to 12 months ○ 12 to 18 months ○ 18 to 24 months ○ If greater than 24 months please specify (Provide comments box)

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
The State Project would like aircraft operators to provide feedback on the potential effects of the difference in atmospheric pressure that may be experienced when crossing Altimeter Setting Region (ASR) and Flight Information Region (FIR) boundaries in Class G airspace.	**Do you or your organisation agree or disagree with the proposed procedures associated with the expected magnitude and frequency of pressure differentials at ASR boundaries within the UK and the methodology prescribed to manage such differences? (GEN 11.1)**	○ Agree ○ Disagree ○ Not applicable (comments box)
	Do you or your organisation agree or disagree with the proposed management of Class G international FIR boundary crossings? (GEN 11.2)	○ Agree ○ Disagree ○ Not applicable (comments box)
As part of the project to raise the TA to 18,000ft, the State is considering the validity of the current Control Area (CTA) naming policy. This could involve renaming some CTAs so that all CTAs associated with an aerodrome will be named after that aerodrome and altitudes within the CTA will be based on that aerodrome's QNH, e.g. 'Stansted CTA'. All CTAs not associated with an aerodrome and which will therefore be based on the relevant Altimeter Setting Region (ASR) QNH will have a name which does not reflect the name of an aerodrome e.g. 'Cotswold CTA'. It is believed that such a proposal would only affect the naming of the Solent CTA and the definition and naming of the airspace around Belfast; namely the Belfast CTA/TMA and the Strangford CTA.	**Is a review of the CTA naming policy a worthwhile project for the State to pursue? (GEN 12)**	○ Very worthwhile ○ Worthwhile ○ Not worthwhile ○ Not sure (comments box)
In the new environment of an 18,000ft TA, altitudes in Control Zones (CTRs) and Control Areas (CTAs) which are associated with an aerodrome will be based on the aerodrome QNH, whereas in other CTAs, TMAs, airways etc altitudes will be based on the Altimeter Setting Region (ASR) QNH. The State Project believes that it would be useful to be able to depict this on charts.	**How would you like this difference to be shown on the charts? (GEN 13)**	(Free text box)
	Do you or your organisation agree or disagree with the proposed management of the interfaces between airfield QNH and ASR QNH or between airport and en-route airspace connectivity? (GEN 14)	○ Agree ○ Disagree ○ Not applicable (Provide comments box)
.	**Do you or your organisation agree or disagree with the proposed move to the common European method of the use of actual pressures every 30 minutes? (GEN 15)**	○ Agree ○ Disagree ○ Not applicable (comments box

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
	Do you or your organisation agree or disagree with the proposed method of ensuring terrain and obstacle clearance whilst using either an Altimeter Setting Region (ASR) or airfield derived pressure datum? (GEN 16)	○ Agree ○ Disagree ○ Not applicable (comments box)
	Do you or your organisation agree or disagree with the proposed methodology to ensure the safe underflight or overflight of airspace reservations (such as danger areas) in Class G airspace)? (GEN 17)	○ Agree ○ Disagree ○ Not applicable (comments box)
The State Project would like all Air Navigation Service Providers (ANSPs) and aircraft operators to provide feedback on any RTF phraseology improvements which could be made under an 18,000 ft TA.	**If there was room for improvement of RTF phraseology within the UK, what would you or your organisation propose? (GEN18)**	(Free text box)
	Do you or your organisation agree or disagree with the proposed management of the UK's 18,000ft TA and the Class C DFL 195? (GEN 19)	○ Agree ○ Disagree ○ Not applicable (comments box)
	What is your position or the position of your organisation on the flight crew cockpit workload under the proposed Concept of Operations (CONOPs)? (GEN 20)	○ Reduced cockpit workload ○ No significant change ○ Acceptable increase in cockpit workload ○ Unacceptable increase in cockpit workload ○ Not applicable (comments box)
	Do you or your organisation agree or disagree with the proposed Nominal Vertical Separation Minima concept? (GEN 21)	Agree ○ Disagree ○ Not applicable (comments box)
	With reference to the issues described in paragraphs 26 to 30 of the Nominal Vertical Separation Minima Safety Report, does your organisation believe that a raised TA would result in reduced airspace containment for its Instrument Flight Procedures? (GEN 22)	○ Yes ○ No ○ Not yet fully assessed ○ Not applicable (comments box)

Descriptor text	Question text and reference	Response option Multiple choice/Rating/ranking (e.g.1 to 5; Agree – Disagree)
	Bearing in mind your financial plans or the financial plans of your organisation, when would you or your organisation prefer a raised TA to be implemented? (GEN 23)	○ b) 2018-2020 ○ c) 2021-2022 ○ d) 2023-2024 ○ e) 2025-2026 (comments box)
	From the time that the CAA announces its decision to implement an 18,000ft TA, how many months would you or your organisation require to implement the changes necessary? (GEN 24)	○ 3 to 6 months ○ 6 to 9 months ○ 9 to12 months ○ 12 to 18 months ○ 18 to 24 months ○ Greater than 24 months (please give details) (comments box)