

Transition Altitude (TA) Consultation Commonly Asked Questions & Answers

<p>Why am I being consulted?</p>	<p>A harmonised Transition Altitude (TA) of 18,000ft is proposed with the intention of enhancing efficiency, both inside and outside controlled airspace, through standardisation of airspace and altimeter setting procedures. As an aviation stakeholder the State is aware that you might be affected by this change and therefore you are being invited to provide comment and feedback on the proposal.</p>
<p>Why does the current system have to change?</p>	<p>This is a desire from the UK Future Airspace Strategy (FAS) which is the CAA's strategic framework for UK airspace. Its aim is to provide a policy structure to enable a modernised air traffic management system that provides safe, efficient airspace, that has the capacity to meet reasonable demand, balances the needs of all users and mitigates the impact on the environment.</p>
<p>Why do you need to raise the TA?</p>	<p>We currently have three different TA values in the UK Flight Information Regions and these were set according to airspace requirements at a time when the performance was very different to that of modern day aircraft. The different values can cause confusion to pilots and some controlled airspace incursions are likely to be attributable to the current outdated TA system. Modern aircraft and systems mean we can now design airspace to give efficiencies by allowing aircraft to climb or descend continuously, without intermediate levelling off, particularly at lower levels. This is very difficult to achieve with the current low TAs, especially in a busy airspace environment.</p>
<p>This proposal will mean that pilots flying below 18,000ft could be on different pressure settings. How will safety be impacted by the raising of the TA?</p>	<p>Within Controlled Airspace, ATC will manage the altimeter settings of aircraft to ensure that flights remain separated. The State TA Project acknowledges that this task will have implications for controller workload and it is working to develop further procedural, technological and phraseology mitigations. Within Class G airspace today, aircraft operate with a multitude of altimeter settings and the primary means of avoiding airborne conflict is "see and avoid". This will not change following the implementation of a raised TA; however, the State TA Project has developed guidance for the use of an ASR QNH and Aerodrome QNH which may see a reduction in the variety of altimeter settings in use within Class G airspace. In order to mitigate some of the effects of increased controller and flight crew workload, the State TA Project has developed the concept of nominal Vertical Separation Minima (VSM). Further details are available in the Nominal VSM Final Safety Report, which is accessible via a hyperlink from the Consultation Overview Document.</p>

<p>Why is the TA level not being consulted on?</p>	<p>The TA level is not being consulted on as this was done in the previous TA consultation in 2012. Feedback from that consultation led to the decision to adopt a TA of 18,000ft.</p>
<p>Why 18,000ft?</p>	<p>When deciding to adopt a TA of 18,000ft, the Future Airspace Strategy Deployment Steering Group (FASDSG) took account of feedback from the UK's first TA consultation in which two-thirds of responses indicated a preference for change. Additionally, for the commercial aviation industry, the preference was for the TA to be as high as possible so that the requirement for aircrew to select a different QNH is taken away from the busy time immediately after take-off or when preparing to land. The TA project has undertaken a considerable amount of work to identify the preferred level for the TA and 18,000ft appears to provide the optimal operational balance. All altitudes in lower airspace up to the value of the new TA will be available for use, making the busy TMA working environment much more predictable than the current system. A TA of 18,000ft also gives the greatest flexibility for 'future-proofing' requirements for airspace design.</p>
<p>Why didn't you align the TA with the Divisional Flight Level (FL195)?</p>	<p>Whilst the UK was considering which level to choose as its TA, the European Aviation Safety Agency (EASA) formed the Harmonised European Transition Altitude (HETA) Group to consider whether or not to legislate for one of three options to be adopted across Europe. The UK needed to make a decision on its TA before a final decision was made by EASA/HETA and this is one of the reasons why it decided to opt for 18,000ft. The Divisional Flight Level (FL195) was not one of the options under consideration by EASA/HETA and therefore the UK risked having to change its TA a second time if it chose an option which was not being considered at a European level. Further details are available in the introduction to the Joint Concept of Operations (CONOPs), which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>As a commercial turboprop pilot I routinely cruise above the current TA but below FL180, therefore I only need to select 1013.2 hPa for the cruise phase of flight. Changing to a TA of 18,000ft means that I'll have to change QNH several times on route. How will this be beneficial to me?</p>	<p>The TA project recognises that not all stakeholders will benefit from a raised TA, however a higher TA will enable more efficient flight, with more continuous climbs and descents, particularly in congested TMA airspace. The benefits of a more efficient airspace system mean that considerable improvements can be made in fuel burn and therefore also environmental impact. For turboprop flights within CAS, the TA project has ensured that most of the UK is covered by only five Altimeter Setting Regions (ASRs) to keep the number of QNH changes to a minimum.</p>

How will you assure safe separation of crossing traffic between controlled and uncontrolled airspace?	The TA CONOPs includes procedures to ensure the safety of crossing traffic in relation to traffic operating in the airways system. Procedures will also ensure that crossing traffic operating between controlled and uncontrolled airspace will remain separated from all known traffic which could potentially be in conflict, even if operating on a different QNH. Controllers will therefore ensure that crossing traffic remains separated from all known traffic at all times.
How will this change affect the calculation of the Transition Level?	This change does not affect the calculation of the Transition Level. However, a recent ICAO amendment means that the Transition Level is now calculated as the lowest Flight Level which provides at least 1000ft separation above the Transition Altitude.
My unit's location doesn't need the TA raised so why are we being asked to change?	In the interests of commonality of operation across the UK FIR a harmonised TA is preferable. Operations between agencies will be with a common reference and with the introduction of actual QNHs, co-ordinations should be more relevant.
How has the CAA worked with stakeholders?	As well as liaising jointly with NATS and the MOD, the CAA has undertaken an extensive programme of engagement with aviation stakeholders, both national and international, to make them aware of the TA project and the likely impact it may have on them. Details of the stakeholder engagement process are available as an annex to the Consultation Overview Document.
What are the UK's neighbouring States doing about it?	Although arrangements have not been finalised at this stage, the UK has engaged with all its neighbouring States to advise them of the UK's plans and to work together to manage cross border operations, both inside and outside controlled airspace. Details of the stakeholder engagement process are available as an annex to the Consultation Overview Document.
What happens if a stakeholder query requires consideration of the impact on the project at a Functional Airspace Block (FAB) level?	The UK and Ireland have been in constant contact regarding all elements of the TA project. Should a response require the input of both countries as elements of the same FAB, the query will be considered jointly by the National Supervisory Authorities (NSAs), Air Navigation Service Providers (ANSPs) and/or Military of both countries before a response is given.
What is the rest of Europe doing about it?	EASA established a HETA Rulemaking Group to determine whether or not to regulate on the issue of a harmonised TA across Europe and if so, at what level. The HETA Group determined there should be no regulatory intervention, although EASA should issue guidance to States wishing to change their TAs in the future. Further details are available in the TA Consultation Overview document.

When will a final decision be made on implementation of the 18,000ft TA for the UK?	A final decision on the implementation date of an 18,000ft TA will not be made until after this TA Consultation is completed and a TA Consultation Report has been published. This document will be completed during the Spring of 2016 and this will enable the CAA to plan the way forward for the project, including the determination of an implementation date.
When will the change take place?	A decision will not be taken on an implementation date until after this consultation has been completed. The CAA will make a decision as to when would be the most appropriate date for implementation taking account of the results of this consultation and allowing sufficient time for stakeholders to prepare.
How much time will I have to prepare for the change?	Following responses from consultation, the TA project will ensure that stakeholders have sufficient time to prepare for implementation. The CAA would therefore appreciate any feedback from stakeholders regarding a timeline which would enable them to fulfil all the requirements of the project.
As an aerodrome/Air Navigation Service Provider (ANSP), who will pay for the changes I have to make to my systems and documents and for the training I need to provide to my staff?	The costs associated with the training needs of staff and any updates to systems and documentation will have to be borne by the aerodrome or ANSP concerned. The exception to this is for changes to IFP plates which can be amended by AIS without the need for an Approved Procedure Designer to review them. The statement on IFP chart changes is available as an annex to the Consultation Overview Document.
As an aerodrome/ANSP, what is the effect on my promulgated aerodrome instrument procedures and AIP entries?	There is a requirement to amend a significant number of charts, including all SID/STAR/IAP/SMAC charts, to reflect the new TA. In many instances this will simply involve amendment of the local TA annotation at the top of the chart and any background levels on the chart. In these instances AIS will be requested to make an administrative change to the chart with no cost to the aerodrome/ANSP. However, for charts where the procedure involves IFP design level restrictions, such as SIDs which end at a Flight Level, the IFP will need to be reviewed by an Approved Procedure Designer (APD) to ensure that the gradient is still correct and changes of this nature will be subject to the usual charges. The statement on IFP chart changes is available as an annex to the Consultation Overview Document.

<p>I'm at a regional airport and have connectivity with the en-route controlled airspace structure. How will my interface with the en-route ANSP be effected?</p>	<p>In the same way as today, the interface between the en-route and airport ANSPs will be the subject of a letter of agreement between those organisations, derived through their own internal SMS process and subject to oversight by the CAA. However, the joint Project has proposed a concept which could be adopted by ANSPs where the airport (or group of airports) defines a maximum level to which an aerodrome QNH will be utilised, and the en-route ANSP defines a lowest level to which they can operate which will ensure that a minimum of 1000ft separation is maintained against aircraft operating on the aerodrome QNH. Details of the concepts for the management of the interfaces between aerodrome and ASR QNHs are available as an annex to the Consultation Overview Document.</p>
<p>Why does the new Altimeter Setting Region (ASR) system rely on actual QNH rather than the lowest forecast QNH?</p>	<p>The Regional Pressure Setting (RPS) is based on the lowest forecast pressure anywhere within an ASR over the period of an hour. A further buffer is then added to ensure that use of the RPS in relation to terrain clearance or overflight of airspace reservations will guarantee that a pilot is never any lower than he/she believes themselves to be. However, when flying under CAS, use of the RPS could lead to inadvertent infringement and therefore, under these circumstances, pilots are recommended to utilise the QNH of an adjacent aerodrome. Historical evidence shows that there can be a large difference between the RPS and a local aerodrome pressure, whereas this difference is likely to be much less between the ASR QNH which is based on actual data, and the QNH of an aerodrome within that ASR.</p>
<p>Why is the Regional Pressure Setting (RPS) being taken away?</p>	<p>See above answer. Additionally, currently the UK is unique within Europe in continuing to utilise forecast pressures. Also the TA Project has had several requests, particularly from the GA community, to replace the forecast RPS with an actual pressure setting. For all these reasons, the TA Project has decided to adopt data based on actual rather than forecast pressures.</p>
<p>Why do we need Altimeter Setting Regions (ASRs) at all?</p>	<p>At an early stage in the project, the TA project team determined that ASRs would be necessary to enable their ANSPs to ensure separation between the aircraft for which they are responsible. Subsequently, the design of ASRs was adapted to ensure that ASR boundaries were consistent regardless of the type of airspace. Whilst it is recognised that operators outside CAS will not necessarily use the ASR QNH, it was felt important for en route traffic to have the option to apply an appropriate pressure datum, especially when the QNH from an adjacent aerodrome is not available.</p>

<p>Why doesn't the Altimeter Setting Region (ASR) QNH take account of QNH changes in a Special Weather Report (SPECI), the same as the source aerodrome QNH would?</p>	<p>ASR QNHs will normally only be issued at half hourly intervals so as to reduce the impact on pilots and controllers of extra RTF calls to update it as a result of a Local Special Report or 'SPECI'. However, on the rare occasions that an aerodrome QNH changes by 2hPa within a half hour period, the relevant ASR QNH <u>will</u> be updated and pilots will be advised of the new value. Further details are available in paragraph 5.20 of the State Safety Assurance Report which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>Why is the Altimeter Setting Region (ASR) not named after the source of the QNH?</p>	<p>An aerodrome QNH is derived from the aerodrome METAR, however this can be updated by a Local Special Report or 'SPECI'. As it is not proposed to routinely use SPECIs to update the ASR QNH, there was the potential for a difference to exist between the aerodrome QNH and the associated ASR QNH. Therefore, to avoid confusion, the project developed a set of principles to provide guidance on ASR naming. Further details are available in paragraph 5.26 of the State Safety Assurance Report which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>Why have those names been picked for the Altimeter Setting Regions (ASRs)?</p>	<p>Generally, the names chosen for ASRs have some form of link with the geographical area which they encompass. In the North Sea however, the Nominated Altimeter Setting Aerodromes or Stations (NASAS) are based on a number of offshore installations and therefore the names in these instances are derived from the names of the installations. Further details are available in paragraph 5.29 of the State Safety Assurance Report which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>My unit's area of responsibility straddles more than one Altimeter Setting Region (ASR); how can I get the ASR boundary lines changed to reflect my operations?</p>	<p>Whilst the CAA will consider any reasonable requests for ASR boundary changes as part of the consultation, it should be noted that the location of an ASR boundary will not prevent a unit from using another pressure value, such as the aerodrome QNH, within its area of operations if this is more appropriate than the ASR QNH.</p>
<p>How will I get to know what the latest Altimeter Setting Region (ASR) values are?</p>	<p>An ASR bulletin containing the altimeter setting value for each ASR will be issued every 30 minutes.</p>
<p>When the forecast is indicating that pressure will be changing rapidly, what information will be available to update pilots and controllers?</p>	<p>A highlight will be included in the half-hourly Altimeter Setting Region (ASR) bulletin which will indicate when the variance between the Nominated Altimeter Setting Aerodrome or Station (NASAS) and the rest of the ASR is 6hPa or more.</p>

<p>Will an alert be provided when there is: i) a change of 2hPa during a half hour period ii) a large pressure gradient across an ASR iii) very low pressure which means that FL200 will not be separated from 18,000ft?</p>	<p>The half-hourly ASR bulletin will highlight the following:</p> <ul style="list-style-type: none"> i) At the NASAS, when a change of 2hPa or more is forecast to take place in the next 30 minutes. ii) When the variance between the NASAS and the rest of the ASR is 6hPa or more. iii) When the pressure forecast at the NASAS is less than 959hPa.
<p>In Class G airspace I regularly fly a considerable distance from the across my region; will it be possible to use the QNH from local aerodromes closer by?</p>	<p>Yes, in Class G airspace the pressure of local aerodromes can be used when flying en route. Once 40nm from the aerodrome, it is recommended that the pressure is updated to that of a closer aerodrome. Further details are available in the Joint Concept of Operations (CONOPs), paragraph 7.3 (b to d) which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>What happens if a METAR is not provided from one of the Nominated Altimeter Setting Aerodromes or Stations (NASAS)?</p>	<p>The Met Office will provide a forecast for each NASAS; if a METAR is not provided this value will be inserted into the ASR bulletin instead.</p>
<p>Which QNH will be used to define the base of CAS and the tops of Danger Areas? How will the use of the Altimeter Setting Region (ASR) QNH affect the vertical definition of airspace reservations?</p>	<p>The promulgated ASR QNH will be the altimeter setting value used to define the upper and lower boundaries of en route CAS below the TA including TMAs and some CTAs ; however, the upper and lower boundaries of CTRs and CTAs associated with an aerodrome will be based on the aerodrome QNH of the controlling authority. The tops of Danger Areas will continue to be defined above mean sea level and the TA CONOPs provides guidance on how to avoid infringement when utilising either the ASR QNH or the QNH of an adjacent aerodrome. Further details are available in paragraph 5.7 and chapters 7 and 8 of the TA CONOPs and in paragraphs 5.42c and 5.42d of the State Safety Assurance Report, both of which are accessible via hyperlinks from the Consultation Overview Document.</p>
<p>As an Air Navigation Service Provider (ANSP), how will I get my pressure datum?</p>	<p>Support for current communications will be withdrawn over the next 2-3 years which will mean that the existing AFTN system will need to be upgraded to the Aeronautical Message Handling System (AMHS). This will allow a wider range of bulletins to be distributed with a more varied character set including Extensible Markup Language (XML). The XML dataset will allow a variety of methods of querying the data which will allow this information to be used in systems more easily. Where existing systems have not been upgraded, these will need to be supplied with an alternative method of displaying the information. This could be a replacement bulletin to the current FOUK70, but this would be limited in content and assurance.</p>

<p>Why are the MOD using a Low Flying Pressure (LFP) and why can't others use this too?</p>	<p>The MOD identified a specific requirement for their pilots to have access to a Lowest Forecast Pressure (LFP), to facilitate terrain separation whilst engaged in low-level flying. This is particularly relevant to sorties which involve travelling over large areas at low level whilst being out of contact with an ATS unit. The TA Project did not consider that this requirement was valid beyond its use within the MOD as it was more likely to be confusing to pilots who will already have to contend with aerodrome QNH and Altimeter Setting Region (ASR) QNH values. Additionally, in liaison with stakeholders, the GA community has repeatedly expressed its preference for the use of actual QNH values rather than forecast values. Further details are available in the State Safety Assurance Report which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>Why don't we define all airspace reservations on the Altimeter Setting Region (ASR) QNH?</p>	<p>In simple terms, its not possible to define all airspace reservations on the ASR QNH datum because of the effects of pressure variance within an ASR. There are a number of factors which affect the degree of pressure variance but key amongst these is distance. Specifically, the distance between the point where the pressure is measured, to the feature that is being overflown; thus, the further you are from the point where the pressure is measured, the greater the likelihood of a difference or 'gradient' between the two pressures and the greater the magnitude of that difference. Unfortunately, typically, there is no means of providing an altimeter setting datum specifically for these reservations. The TA Project has undertaken a significant amount of research into historical meteorological activity and the design of airspace reservations to develop a proposal that was considered acceptable by all stakeholders. The solution proposed by the State Project team is to require flight crews and ATC providers to add a correction to any terrain, vertical obstruction or the depicted top altitude of an airspace reservation, where the upper vertical limit is defined as above mean sea level. The magnitude of this correction is dictated by known variance within an ASR where an ASR QNH value is utilised. Further details are available in the Joint Concept of Operations (CONOPs), which is accessible via a hyperlink from the Consultation Overview Document.</p>
<p>What will be the effect on semi-circular cruising levels in Class G airspace?</p>	<p>There is no effect; where Flight Levels are currently utilised, these will be converted to altitudes, e.g. FL70 will become 7,000ft below the TA.</p>

<p>Why are we allowing nominal vertical separation? How is this safe?</p>	<p>The State Project has undertaken a significant volume of research to define, develop and validate the nominal Vertical Separation Minima (VSM) concept, which is contained within the UK State TA Project Safety Report on Nominal VSM. This report details a conceptual safety argument for the use of nominal VSM, which it is anticipated will be adopted by the CAA and MAA and published within a CAA Policy Statement. However, in simple terms, the application of a QNH tolerance between flights exploits known 'allowances' within the 1,000ft vertical separation minima that was defined by ICAO in 1958 and was designed to take into account known inaccuracies in altimeters, aircraft level keeping etc. The advent of more modern and accurate systems onboard aircraft means that we are able to accept minor altimeter setting variances between flights for short periods of time, in order to reduce workload for pilots and controllers. Air Navigation Service Providers (ANSPs) may utilise nominal VSM; however, they will be required to meet a number of criteria which are detailed within the Safety Report on nominal VSM, and the development of MATS Part 2 procedures will be subject to normal safety assurance and oversight processes. There will be no requirement for ANSPs to duplicate or replicate any of the work contained within the Project Safety Report.</p>
<p>Will there be more controlled airspace as a result of this change?</p>	<p>There will be no additional controlled airspace introduced as a result of the TA Project, however there will be adjustments made to the definition of airspace at and below 18,000ft. Where this airspace is currently defined in Flight Levels, these levels will now be adjusted to the equivalent altitude; i.e. FL100 will change to 10,000ft.</p>
<p>Will new RTF phraseology be required?</p>	<p>No new RTF phraseology will be required to implement a TA of 18,000 ft; however, the State Project acknowledges that, in certain CAS sectors and phases of flight there may be an increase in the RTF load for both pilots and ATS personnel; for example, the increased volume of flights operating on altitudes will see an increased number of lengthy transmissions. The State Project does not believe that there will be a significant effect on RTF load for aerodrome and approach ATS providers. The State Project is working with the CAA to develop proposals on reducing RTF load, specifically regarding RTF messages relating to the transmission of altitudes and heights.</p>
<p>What will the CAA expect ATC units to do as part of implementation?</p>	<p>ATC units will be expected to make themselves fully aware of all elements of the TA project in terms of its likely impact on their operations. ATC units will be expected to ensure that their staff are sufficiently trained and that their systems and documentation are updated and approved prior to implementation. Any requirement to adopt the QNH Tolerance procedures defined in the CONOPs must be supported by a Safety Case and approved beforehand by the CAA.</p>

<p>How will the regulatory process work for airport safety cases?</p>	<p>When the change to the TA requires new unit procedures to be produced, this should be done in accordance with local processes. The procedures and associated safety assurance documentation should then be submitted to the Regional Inspectors as normal.</p>
<p>What will the CAA expect pilots to do as part of implementation?</p>	<p>Pilots will be expected to make themselves fully aware of any elements of the TA project which are likely to impact on their method of operation. They should study the CONOPs to understand the nature of the changes being made, such as the adoption of actual pressure data to replace forecasts and revised procedures for avoidance of CAS and other airspace reservations.</p>
<p>This could be more complicated for GA pilots as they now have to add additional height onto the heights/altitudes indicated on the chart. This could increase the workload in a single pilot aeroplane if there are en-route changes to be made. How do you propose to advise GA pilots of the changes?</p>	<p>The changes will be communicated to all flying schools and clubs by a variety of methods. There will be an Information Notice (IN) to alert stakeholders of the upcoming TA Consultation and an update will be placed on the CAA website. There will also be a specific TA Consultation website containing information relevant to GA pilots as well as other aviation stakeholders. Other methods of communicating the change are also being investigated, including the possibility of providing information regarding the changes in GASCo meetings.</p>
<p>Will the PPL syllabus/exams/training be altered to accommodate these changes?</p>	<p>The PPL syllabus/training and exams will be amended to reflect any changes brought about by a raised TA.</p>