Safety and Airspace Regulation Group

Future Safety

Change proposals for Class E airspace ATS procedures: Consultation report

CAP1800

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1. Introduction

1.1 On 14 September 2018, the Civil Aviation Authority (CAA) launched a consultation on proposed changes to Air Traffic Service (ATS) procedures in Class E airspace. The consultation sought industry comment on four change options and several issues for consideration by stakeholders and ended on 9 November 2018. Stakeholder comments were examined in detail by the CAA, leading it to refine its preferred option.

1. 2 The purpose of this report is to inform industry of the outcomes of the consultation and of the way forward to refine ATS procedures in Class E airspace.

2. Consultation

2.1 Conduct of the Consultation

2.1.1 The consultation targeted airspace users as well as Air Navigation Service Providers (ANSPs) who would likely be affected by the proposed changes in service provision principles. Consequently, the consultation was open to members of the CAA's National Air Traffic Management Advisory Committee (NATMAC) plus a small number of ANSPs who provide ATS in airspace adjacent to extant volumes of Class E airspace. In total forty-seven stakeholders were consulted, with responses received from fourteen. A list of consultees is at Appendix A.

2.2 Options Presented

2.2.1 Four proposed options were presented:

(a) Option A - Do nothing.

(b) Option B - Return to pre-2014 Class E ATS provision principles

(c) Option C - Adopt ICAO Class E airspace ATS provision principles without modification and assume that all unknown traffic within Class E airspace are operating in accordance with VFR.

(d) Option D - Redefine Class E ATS provision principles and implement VFR and IFR conspicuity codes.

Option D was the CAA's preferred option.

2.2.2 Comments from the consultation were examined in detail by CAA staff, which led the CAA to refine its preferred option. In addition, post-consultation correspondence with members of the Air Traffic Control Procedures Working Group (ATCPWG) led to further refinements.

2.3 Consultation Response Analysis

2.3.1 Fourteen stakeholders responded directly to the consultation, nine of which were NATMAC members; the remaining five represented three different stakeholder groups. A breakdown of the nature of respondents is at Figure 1.

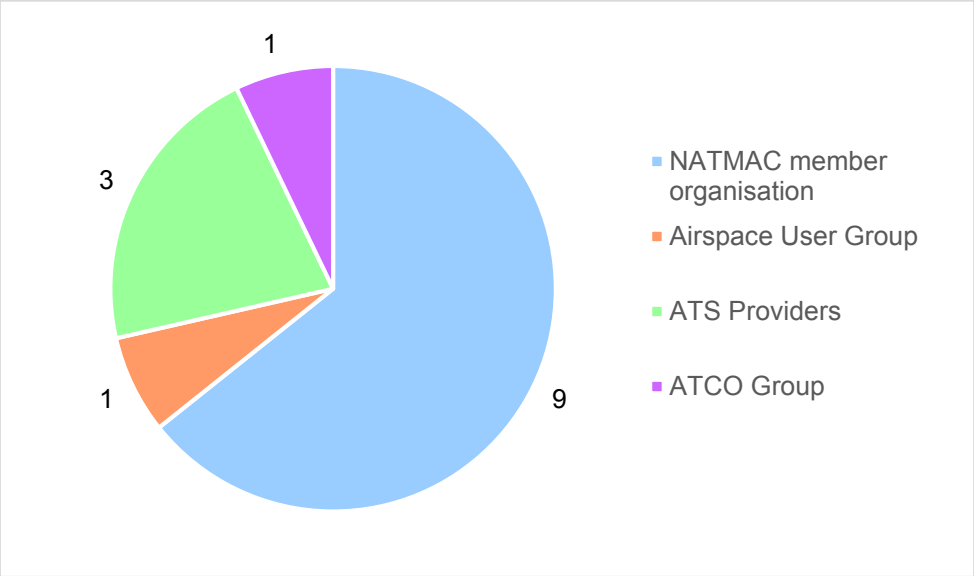


Figure 1: Consultation respondents by group

2.3.2 Of the fourteen stakeholders who responded, four either did not express a preference for any of the four proposed options or propose an alternative option. Of the ten stakeholders who expressed a preference, option C received the greatest level of support, option D received the second highest level of support, option A was supported by one stakeholder and option B was not supported. A breakdown of the support for each proposed option and support according to the nature of respondent is at Figure 2.

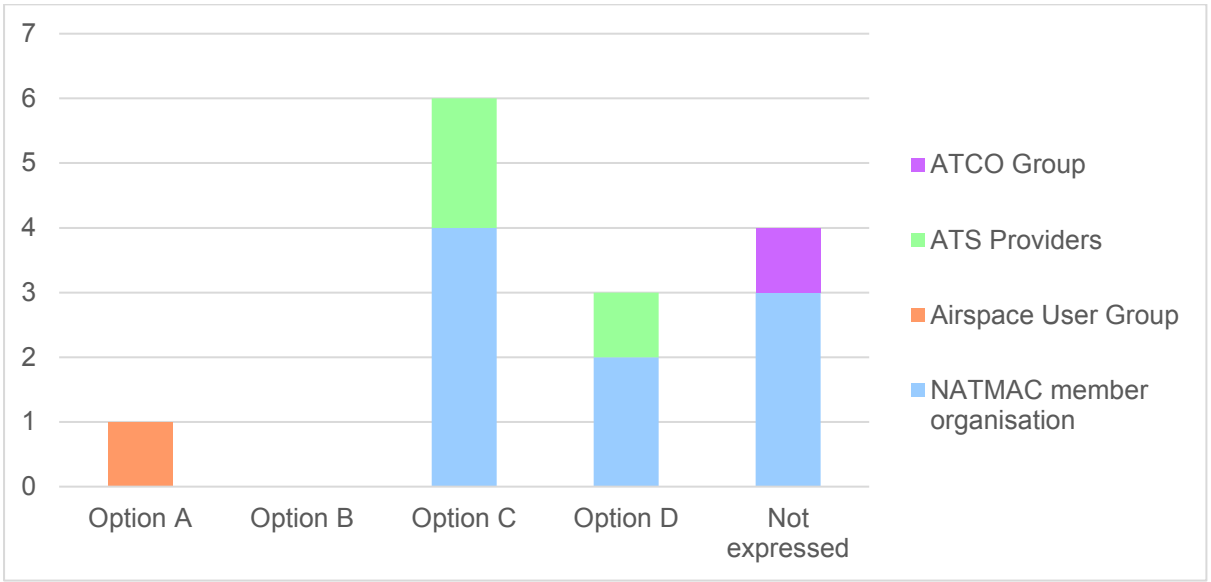


Figure 2: Support for each option

2.3.3 Although option D received less support than option C, the proposal within option D to implement VFR and IFR conspicuity codes was generally supported. A breakdown of the support for the implementation of a VFR conspicuity code is at Figure 3 and the breakdown of the support for the implementation of an IFR conspicuity code is at Figure 4.

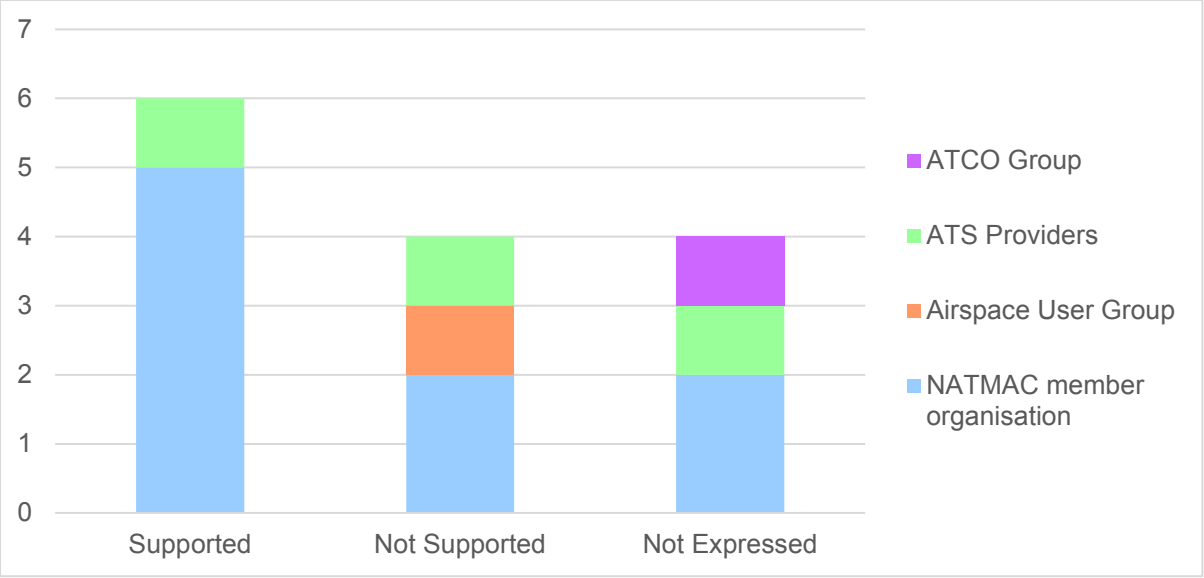


Figure 3: Support for implementing a VFR conspicuity code

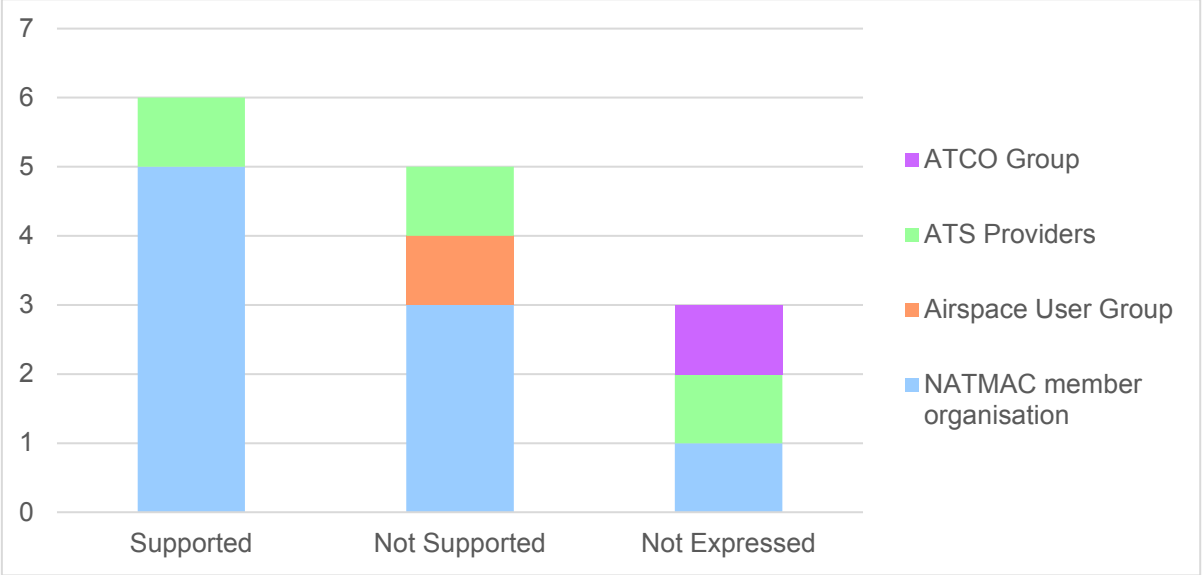


Figure 4: Support for implementing an IFR conspicuity code

2.4 Key issues and themes

2.4.1 Stakeholder comment not only highlighted stakeholder preference but several additional key issues and themes. Consultation responses were grouped together into key issues and themes and are summarised as follows:

(a) Four stakeholders expressed concern over the lack of a Class F replacement airspace change Post Implementation Review (PIR) to support the consultation document. However, the absence of the PIR should not prevent the inefficiencies being experienced by ANSPs from being resolved.

(b) Several ANSPs sought clarity over the number of ANSPs that may provide ATS within any given Class E airspace structure. As with any notified controlled airspace, there would be a notified controlling authority. Other ANSPs may provide ATS within a Class E airspace structure in accordance with the CAA's policy statement 'ATS Provision within Controlled Airspace by Units not Notified as the Controlling Authority'.

(c) Two stakeholders commented on potential inconsistencies between within UK FIS and ICAO's FIS provision requirements for Class E airspace. Any inconsistencies that might exist will be considered as part of the implementation of Regulation (EU) 2017/373[1] Annex IV (Part-ATS) 'Phase 2'[2]. The CAA is not seeking to amend UK FIS as part of the Class E ATS procedures review. However, to ensure there are no inconsistencies between CAP 493 Manual of Air Traffic Services – Part 1 (MATS Pt 1) and CAP 774 UK Flight Information Services, the detail of UK FIS within the MATS Pt 1 will be replaced with appropriate cross-references to CAP 774.

(d) One stakeholder asserted that pilots are largely unaware of the airspace classification in which their aircraft is flying and that this lack of knowledge does not adversely influence safety. However, airspace classification directly influences the provision of Air Traffic Services and pilot responsibilities. In exercising the privileges of their licence, pilots are obliged to know their responsibilities, which in turn requires them to know when their responsibilities change according to the airspace classification within which they fly. If the assertion that pilots are largely unaware of the airspace classification in which

[1] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011.

[2] 'Phase 2' is the CAA's description of EASA rulemaking proposals contained within Notice of Proposed Amendment 2016-09 Requirements for air traffic services (RMT.0464) and subsequently Opinion No 03/2018.

they fly, then Option C exposed controlled IFR flights within Class E airspace to greater risk than Option D.

(f) One response indicated that there might be confusion amongst pilots in understanding their responsibility to comply with Visual Meteorological Conditions (VMC) when conducting flights in accordance with Visual Flight Rules (VFR). However, in exercising the privileges of their licence pilots are obliged to maintained VMC when operating in accordance with VFR. Pilots conducting flight in less than VMC cannot be VFR and more importantly, their ability to detect and avoid other aircraft will be reduced. Option D enables pilots – through the use of SSR conspicuity codes - to declare the flight rules under which their flight is being conducted, which in turn enables Air Traffic Control Officers (ATCOs) to provide the appropriate level of Air Traffic Control Service (ATCS) to IFR flights within Class E airspace. Pilots of aircraft who are not operating in accordance with VFR must not select the proposed VFR conspicuity code.

(g) The majority of stakeholders supported option C over the CAA's preferred option D. However, given that option C requires the adoption of an operational assumption that all unknown aircraft with Class E airspace are operating in accordance with VFR and considering stakeholder opinions expressed in points (e) and (f) above, the CAA remains of the opinion that option D together with material to remind pilots of their responsibilities is operationally preferable. favourable.

(h) Whilst stakeholders indicated their general support for the implementation of VFR and IFR conspicuity codes, an ANSP highlighted that significant ATS system modification will be required to support this change. The associated timescales will necessarily delay the implementation of VFR and IFR conspicuity, therefore a phased approach will be required to refine Class E ATS procedures.

(i) ANSP stakeholder comments indicated that the interpretation and application of extant Class E ATS procedures ignore the operational efficiency that can be obtained when Class E airspace is additionally notified as TMZ airspace.

3. Introduction of refined Class E ATS procedures

3.1 Following the analysis of stakeholder comments, the CAA believes Option D remains the most appropriate way forward. However, given its dependency upon ATS system modification, Option D will need to be implemented in two stages, as follows:

Phase 1: Amendment of MATS Pt 1 UK FIS-related content.

Phase 2: Introduction of amended Class E ATS provision principles together the implementation of VFR and IFR conspicuity codes.

3.2 Phase 1 does not require the amendment of the UK Aeronautical Information Publication (UK AIP); rather CAP 493 The Manual of Air Traffic Services Part 1 (MATS Pt 1) will be amended through the issue of a Supplementary Instruction as described in paragraph 2.4.1(d). This Supplementary Instruction will be published in May 2019 and will include a 60-day notice period ahead of implementation. Appendix B contains the planned 'phase 1' changes to MATS Pt 1.

3.3 Phase 2 requires the coordination of several workstreams. One of the most significant is the amendment of ATS systems and due to the scheduling of this activity amongst other system upgrade activities, ATS systems are unlikely to support the adoption of VFR and IFR conspicuity codes until the end of the first quarter of 2020. The extent of these changes to the UK AIP, MATS Pt 1 and CAP 413 Radiotelephony Manual are contained within Appendixes C, D and E. These amendments will be published with a double-AIRAC notice period prior to the date on which ATS systems will support these changes.

3.5 No additional publication measures will be needed for phase 1, however, it will be necessary to undertake an additional awareness campaign to support phase 2. Awareness means considered to date include:

(i) An Aeronautical Information Circular (AIC);

(ii) CAA 'Clued Up' magazine;

(iii) CAA website (www.caa.co.uk);

(iv) Airspace and Safety Initiative website (www.airspacesafety.com);

(v) CAA Skywise;

4. Changes from version 1 of this report

4.1 Version 1.1 of this report introduces a change to ENR 1.4 paragraph 2.5.1.2 contained within Appendix C.

Appendix A: Comment Response Document

The following taxonomy has been applied to the Comment Response Document:

(a) **Accepted** — CAA agrees with the comment and any proposed amendment is wholly transferred to the revised text.

(b) **Partially accepted** — CAA either agrees partially with the comment or agrees with it but the proposed amendment is only partially transferred to the revised text.

(c) **Noted** — CAA acknowledges the comment but no change to the existing text is considered necessary.

(d) **Not accepted** — The comment or proposed amendment is not shared by CAA.

Commentor:	**All Party Parliamentary Group on General Aviation**
Page number:	All
Paragraph number:	All
Comment:	The consultation on Class E Airspace is another example of the 'fragmented' approach (to Airspace) which is causing confusion. Please would you convey to those concerned that it would be sensible to adopt a 'Do Nothing' Policy until the overall Airspace Management Strategy has been completed. Incidentally, the Class E comment response document seeks to avoid the necessary Impact Assessment by the owners of this CAA initiative. If you give me the name of the individual I should be happy to make the point as the CRD also does not enable an appropriate 'general' reply.
Justification:	Fragmented approach to airspace
Proposed text:	Not applicable
CAA response:	Noted: This consultation is concerned with how the CAA seeks to refine ATS procedures in existing Class E airspace. Ultimately, we want to reduce any operational burdens on both the users of Class E airspace and air navigation service providers whilst refining and clarifying the use of specific SSR codes. Given the narrow parameters of this engagement, we limited our engagement to those with a technical interest in the matter, including members of NATMAC.

	This consultation is unrelated to the Airspace Modernisation Strategy.

Commentor:	**The Honourable Company of Air Pilots**
Page number:	All
Paragraph number:	All
Comment:	The regulation of an international activity should be international. Where ICAO provisions are not deemed correct for national application, the national authority should seek to change ICAO provisions rather than to implement national variations.
Justification:	Deviating from the ICAO guidelines forces non-UK users to learn and apply different techniques and understanding. This is a challenge for pilots and organisations that operate internationally and increases the likelihood of human factor errors within aviation.
Proposed text:	In each instance of a proposal at variance to ICAO standard the document should describe: a. The expected impact of that non-conformity on international users. b. An explanation of the safety benefit gained by not following ICAO standards. c. An explanation of the action being taken to persuade ICAO to adopt a similar change.
CAA response:	Noted: With exception of implementing VFR cruising levels within Class E airspace, which is long-standing UK policy, the CAA's preferred option is consistent with the range of options permitted within ICAO's standards and recommend practices, and also with SERA.5005(g) 'Visual flight rules'.

Commentor:	**UKAB**
Page number:	18
Paragraph number:	5.3.4.4
Comment:	Option C is discounted purely due to the risk of an infringing IFR aircraft being assumed by the controller to be VMC (and therefore

	not called to other IFR traffic) when it might be IMC. It seems to me that discounting an option because of someone breaching another rule (i.e. infringing and not being VMC) is not a particularly sound basis for rule making (it's a bit like saying 'cars shouldn't drive on the motorway because someone else might drive dangerously and crash into them). What needs to be done is to stop the infringing rather than change the rules (or not adopt them) just in case. Probably need to come up with a stronger case for discounting this option, or weight it up against the other potential options in a more analytical way.
Justification:	
Proposed text:	
CAA response:	Not accepted: The focus of the paper is to ensure controlled IFR flights in Class E airspace are provided with an air traffic control service that is compliant with the ICAO Annex 11/SERA.6001 airspace classification system. Airspace infringements can and unfortunately do occur, and I various airspace classifications. Option C is not preferred - as it does not offer a solution to detect infringements and in particular those that pose the greatest potential risk.

Commentor:	**UKAB**
Page number:	19
Paragraph number:	5.3.5.4
Comment:	Another disadvantage of Option D is the potential for TCAS interactions between squawking VFR traffic and IFR traffic with TCAS. By mandating all aircraft squawk, there is considerable potential for VFR aircraft flight vectors to impinge on TCAS envelopes causing TCAS RAs and increased Airprox incidents. We have already seen this in Class E airspace where squawking VFR traffic with rapidly changing altitudes, or simply applying VFR separation criteria, have caused TCAS RAs and Airprox in commercial IFR traffic. So an unintended consequence of TMZ status in Class E will be an increase in Airprox notifications, commercial aircraft being forced to respond to TCAS RAs, and potential 'laddering' of TCAS alerts as aircraft respond to RAs (which will potentially considerably reduce safety and increase

	controller workload). Whilst this risk may be acceptable, it needs to be highlighted in the disadvantages so that it is properly considered and understood when evaluating preferred Class E options.
Justification:	
Proposed text:	
CAA response:	Noted: The issues raised are not specifically related to Class E airspace or Class E + TMZ airspace. There are distinct benefits of electronic conspicuity and the ACAS II Resolution Advisory phenomena is not unique to Class E. The ATM system is not predicated on safety nets, however increased electronic conspicuity is considered to enhance ATM efficiency and safety. SERA.13001 details the 'operation of an SSR transponder' within controlled and uncontrolled airspace, whereas a TMZ ensures an electronic conspicuity-rich environment as far as practicable. The CAA's Policy for Radio Mandatory Zones and Transponder Mandatory Zones outlines TMZ transponder carriage requirements together with access arrangements for pilots in aircraft without a serviceable transponder.

Commentor:	**UKAB**
Page number:	n/a
Paragraph number:	n/a
Comment:	I don't think that the overall analysis of options is particularly robust. Whilst a statement on advantages and disadvantages is useful, normally there are some common stated criteria that options are judged and scored against. As it reads, the paper could be criticised for the author cherry-picking those aspects that suit the argument for Option D rather than a proper analytical assessment. As a starting point I'd suggest you use the ICAO objectives for ATS as stated in para 5.2.1 on page 13 as 4 criteria that each option is scored against: i.e. suitability in 'prevent collisions between aircraft'; 'expedite and maintain an orderly flow of air traffic'; 'provide advice and information useful for the safe and efficient conduct of flight'; and 'notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required'. The last one is a bit moot, but

	there may be other criteria such as: 'efficient provision of ATC service'; 'clarity of RTF phraseology'; and 'commonality with ICAO procedures' in recognition of the discussion points made by the author in Section 4.
Justification:	
Proposed text:	
CAA response:	Noted: The objectives for ATS must be considered within the context of the airspace classification under consideration. Consultation document appendices B and C contain references to how the UK satisfies the associated ICAO / SERA requirements for Class E airspace.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	1
Paragraph number:	Executive Summary, Paragraph 1, Last Sentence.
Comment:	Where did the idea of 'uncertainty' over flight rules derive from and is it relevant in the 'Executive Summary', especially as the word 'uncertainty' does not appear elsewhere within this document?
Justification:	Class E responsibility is clear; aircraft operating VFR are to avoid IFR aircraft. Any aircraft not under the control of the ANSP responsible for the Class E airspace should be VFR. There should be no 'uncertainty' over the flight rules employed as all aircraft not under the control of the ANSP responsible for that area of Class E airspace should be VFR unless it is believed that the aircraft is lost and/or has inadvertently penetrated CAS.
Proposed text:	N/A
CAA response:	Not accepted: As the UK does not prohibit autonomous IFR flight in Class G airspace, unless additional measures are established to enable a pilot to indicate which flight rules are being followed there is no means through which a controller can detect, with certainty, whether an 'unknown' aircraft within Class E airspace is operating in accordance with VFR or an infringement operating in accordance with IFR. See consultation document paragraph 5.3.5.2.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	1
Paragraph number:	Executive Summary, Paragraph 2, Option C.
Comment:	The UK CAA has stated an aspiration for the UK airspace structure to become more ICAO-compliant; therefore, Option C is the correct option to choose. That said, there is no reason that standard ICAO Class E rules could not be applied but within the addition of a TMZ to some areas of Class E within which the rules for the TMZ include the transponder options suggested here of A7000 for VFR (together with a UK change of A2000 also meaning uncontrolled IFR in Class G as well as crossing a FIR boundary).
Justification:	Option C is the only option that fully meets ICAO requirements. Option D adds additional safety mitigation that, whilst sensible, will add a potential difference to other States application of Class E rules. It would be better to adopt standard ICAO rules and add additional measures, such as A7000 for VFR, by using other items from the airspace toolbox such as the TMZ.
Proposed text:	N/A.
CAA response:	Not accepted: The CAA's preferred option (Option D) is constructed using a 'toolbox' approach by selecting measures permitted by ICAO / SERA, whereas Option C introduces an operational assumption that all unknown aircraft within Class E airspace are operating in accordance with VFR, when this might not necessarily be correct on every occasion, which the majority of Europeans States with Class E airspace do not have to consider. A7000 is defined for the purposes of VFR conspicuity by the following European States: 1 - Austria: ENR 1.6 Paragraph 3.1.2 2 - Czech Republic: ENR 1.6 Paragraph 1.6.2.4.3 3 - Denmark: ENR 1.6 Paragraph 1.6 Paragraph 2.1 c. 4 - France: ENR 1.6 Paragraph 1.6.2 b) 5 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.2 6 - Netherlands: ENR 1.6 Paragraph 2.1.1 d. 7 - Poland: ENR 1.6 Paragraph 15.3

	8 - Portugal: ENR 1.6 Paragraph 1.6.5.6 9 - Romania: ENR 1.6 Paragraph 2.2.2 10 - Slovenia: ENR 1.6 Paragraph 2.4.1 A2000 is also used for IFR conspicuity within: 1 - Denmark: ENR 1.6 Paragraph 2.1 c. 2 - France: ENR 1.6 Paragraph 1.6.2 a) 3 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.1 4 - Poland: ENR 1.6 Paragraph 15.2 5 - Romania: ENR 1.6 Paragraph 2.2.1 6 - Slovenia: ENR 1.6 Paragraph 2.4.1 In addition, SERA.13001 details the 'operation of an SSR transponder' within controlled and uncontrolled airspace whereas a TMZ ensures an electronic conspicuity-rich environment as far as practicable. The CAA's Policy for Radio Mandatory Zones and Transponder Mandatory Zones outlines TMZ transponder carriage requirements together with access arrangements for pilots in aircraft without a serviceable transponder.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	1
Paragraph number:	Executive Summary, Paragraph 2, Option D.
Comment:	This is the CAA's preferred option but this option has risks. What if an aircraft's pilot 'forgets' to select the required VFR or IFR conspicuity code? What does another ANSP use when controlling IFR or VFR aircraft in the vicinity of an area of Class E? Can another ANSP provide an ATS within an area delegated to a particular ANSP (this could impact the military or other ANSPs located close to the Class E airspace)? In all cases, an authorised ANSP for provision of ATS within a particular area of Class E should have priority and all other aircraft either uncontrolled VFR or under an ATS from another ANSP would have to give way unless coordination had been agreed.

Justification:	Option C is the preferred Option to maintain as close to ICAO as possible. Should ICAO move towards conspicuity codes, then the proposed regulation should change towards any ICAO modification. It would be better to adopt standard ICAO rules and add additional measures, such as A7000 for VFR, by using other by using other items from the airspace toolbox such as the TMZ.
Proposed text:	N/A.
CAA response:	Not accepted: In response to question 1: The purpose of introducing VFR and IFR conspicuity codes is to enable the pilot to indicate the flight rules he / she is complying with. If the pilot is operating in accordance with VFR but makes an incorrect transponder selection, the controller providing the ATS to controlled IFR flights will avoid the 'unknown' aircraft because it will be assumed to be an IFR infringement. Option D enables better exploitation of the benefits of electronic conspicuity. In response to question 2: Extant procedures apply. The remainder is outside the scope of this consultation.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	5
Paragraph number:	2.1.2
Comment:	Stakeholders are asked to consider an assessment of the impacts of this proposed amendment to Class E airspace procedures, on their procedures and operations; however, in parallel there is a consultation on FISOs that could impact in the future but there is no mention of the consultation on FISOs (or even 'FISO') within this consultation on Class E airspace procedures.
Justification:	Alignment of consultations where there is potential impact.
Proposed text:	N/A.
CAA response:	Not accepted: The scope of this engagement was limited to changes to ATS service provision principles to volumes of Class E airspace currently established. All affected stakeholders have been approached as part of this engagement.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	5
Paragraph number:	2.3.1
Comment:	Why only an 8-week consultation?
Justification:	With the parallel FISO consultation, it may have been useful to link these two consultations together with a statement on EU 2017/373 and potential future airspace change requirements to meet this regulation that may mean that the amount of Class E airspace within the UK could increase and affect more stakeholders.
Proposed text:	N/A.
CAA response:	Noted: These are separate issues and the 8-week consultation period was considered appropriate due to the narrow scope of the subject matter.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	13
Paragraph number:	5.1.2
Comment:	Does ICAO state that unknown aircraft are to be separated?
Justification:	This appears to be solely a MATS Part 1 requirement. Where did this MATS Part 1 requirement come from and why? Is the safety information available to be reviewed as the change proposed for Class E may be equally valid for other airspace classifications within the UK, or if the safety-related evidence is rigorous it would provide the evidence for no change in Class E? Where the safety evidence for the MATS Part 1 statement that “unknown aircraft are to be separated” is valid, it should be equally applied to all UK CAS; where there is no safety-related evidence, it should be reviewed for all UK CAS.
Proposed text:	N/A.
CAA response:	Noted: The requirement to separate controlled IFR flights from unknown aircraft is applied equally to all controlled airspace

	classifications see MATS Part 1, Section 1, Chapter 6, Paragraph 15.1 through 15.6. This separation requirement enables the UK to satisfy the objectives of the ATS as stated within ICAO Annex 11.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	17
Paragraph number:	5.3.3.4
Comment:	What validity is the 'significant concern'?
Justification:	If there is no safety-related evidence from other States with ANSPs that operate Class E, the UK should consider reviewing the retention requirement anyway.
Proposed text:	N/A.
CAA response:	Not accepted: The majority of European states permit IFR flight within Class G airspace. However, the volume of Class G airspace established in each state is variable. For example, in the remainder of core Europe and by volume, the amount of Class G tends to be less than that established within the UK. In addition, of those States have established Class E airspace, the majority additionally define A7000 as 'VFR conspicuity' and a number also use A2000 for IFR conspicuity.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	17
Paragraph number:	5.3.3.5
Comment:	The ATS procedures within MATS Part 1 regarding "unknown aircraft are to be separated" should be reviewed and unless there is valid safety-related evidence, it should be removed as a procedure to be followed from all CAS.
Justification:	Unless other ICAO States have similar procedures and safety-related justification, it would not make sense for the UK to continue to hold a difference in this area.
Proposed text:	N/A.

CAA response:	Noted: The requirement to separate controlled IFR flights from unknown aircraft is applied equally to all controlled airspace classifications: see MATS Part 1, Section 1, Chapter 6, Paragraph 15.1 through 15.6. This separation requirement enables the UK to satisfy the objectives of the ATS as stated within ICAO Annex 11.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	17
Paragraph number:	5.3.3.5
Comment:	Notwithstanding that we do not agree with Option B (unless there is valid safety-related evidence for the MATS Part 1 entry regarding “unknown aircraft are to be separated”), we suspect that the ‘rejection’ reason for this option of “These ATS procedures require the establishment of large expanses of Class E airspace to facilitate the provision of separation” may have to be reviewed.
Justification:	Whilst the amount of Class E today is limited, it is probable that to meet EU 2017/373 Annex IV Part-ATS requirements (and the UK CAA’s stated intent to become more ICAO-compliant), the whole of the current UK Class G airspace structure will have to be reviewed and, potentially, much greater amounts of Class E CAS established.
Proposed text:	N/A.
CAA response:	Noted.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	17
Paragraph number:	5.3.4.2
Comment:	If the MATS Part 1 statement regarding “unknown aircraft are to be separated” is wrong for Class E, it should be also incorrect for all other CAS classifications equally.
Justification:	Consistent approach across CAS.
Proposed text:	N/A.

CAA response:	Not accepted: The requirement to separate controlled IFR flights from unknown aircraft is applied equally to all controlled airspace classifications see MATS Part 1, Section 1, Chapter 6, Paragraph 15.1 through 15.6. This separation requirement enables the UK to satisfy the objectives of the ATS as stated within ICAO Annex 11.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	18
Paragraph number:	5.3.4.4
Comment:	The following assumption should not be made without evidencing the risk for ANSPs and operators to review: "that all unknown aircraft entering Class E airspace are operating in accordance with VFR, which might not be correct on every occasion. This assumption generates a mid-air collision risk when an IFR aircraft infringes Class E airspace in IMC and traffic information is not passed to the pilot of a conflicting controlled IFR flight" So how great is this risk? Can you provide the safety-related information for us to review? Why do other ICAO States operate this procedure, presumable safely, today? How do other ICAO States regulate in this area?
Justification:	We need to understand the level of risk of before a judgement can be effectively made. If other ICAO States are operating to the ICAO rules for Class E, presumably they operate safely otherwise there would be more reports of incidents or accidents between IFR and VFR aircraft operating within Class E?
Proposed text:	N/A.
CAA response:	Noted: Extant arrangements do not readily facilitate the gathering of data to quantify this risk for the following reasons: (i) extant conspicuity codes are not defined as either VFR conspicuity or IFR conspicuity; (ii) not all Class E airspace is additionally notified as TMZ; and (iii) not all airspace infringements are successfully traced to determine the flight rules employed.

	However, of those States have established Class E airspace, the majority additionally define A7000 as 'VFR conspicuity' and a number also use A2000 for IFR conspicuity.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	18
Paragraph number:	5.3.5.1 (i)
Comment:	Whilst not mandated by ICAO, all Class E airspace could be notified as a TMZ, as this would increase safety. Where a non-transponding aircraft requires entry, this could be arranged through the ANSP that is delegated with responsibility for ATS provision within the Class E airspace and such aircraft would be under their control and/or approval.
Justification:	It would be better to adopt standard ICAO rules and add additional measures, such as A7000 for VFR, by using by using other items from the airspace toolbox such as the TMZ. A notified TMZ coincident with Class E would increase safety.
Proposed text:	N/A.
CAA response:	Noted.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	18
Paragraph number:	5.3.5.1 (ii)
Comment:	We would be content for this change as we believe that all CAS should be promulgated as TMZ. Where a non-transponding aircraft required access, arrangements would be made through the responsible ANSP.
Justification:	Traffic levels and safety concerns require a more 'known' environment that a TMZ would provide. This would not differ greatly from ICAO as a TMZ is part of the toolbox for airspace design that could be used. It would be better to adopt standard ICAO rules and add additional measures, such as A7000 for VFR, by using other items from the airspace toolbox such as the TMZ.

Proposed text:	N/A.
CAA response:	Noted.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	18
Paragraph number:	5.3.5.1 (iii)
Comment:	A2000 is presumably being established solely to provide controllers an indication that a non-controlled IFR aircraft has inadvertently penetrated the Class E airspace? Is there available evidence of the number of non-controlled IFR aircraft that are currently flying in Class G? Our belief is that most aircraft flying IFR seek an ATS so the risk should be very small.
Justification:	There is probably an equal or greater risk of the aircraft pilot forgetting to select A2000 when flying IFR without an ATS in Class G.
Proposed text:	
CAA response:	Noted: Extant arrangements do not readily facilitate the gathering of data to quantify this risk for the following reasons: (i) extant conspicuity codes are not defined as either VFR conspicuity or IFR conspicuity; (ii) not all Class E airspace is additionally notified as TMZ; and (iii) not all airspace infringements are successfully traced to determine the flight rules employed. However, of those States have established Class E airspace, the majority additionally define A7000 as 'VFR conspicuity' and a number also use A2000 for IFR conspicuity.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	18
Paragraph number:	5.3.5.1 (iv)

Comment:	Unless frequency monitoring is to be mandated, how does this proposal change anything?
Justification:	A standard approach should be applied across all airspace and not all ANSPs use Frequency Monitoring Codes.
Proposed text:	N/A.
CAA response:	Not accepted: Airspace users might not necessarily operate in accordance with VFR when using a Frequency Monitoring Code (FMC). Additionally, notifying an FMC for the purpose of 'VFR flight within Class E airspace' provides the ANSP with certainty that the pilot is operating in accordance with VFR within Class E airspace. However, if a pilot was flying in accordance with IFR using an FMC within Class G but needed to continue his flight into Class E airspace, the pilot would need to obtain an IFR clearance prior to entry.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	19
Paragraph number:	5.3.5.1 (v)
Comment:	A0024 has a specific meaning and the nature of the task would suggest that such transponding aircraft should have priority.
Justification:	Within Class E, the A0024 aircraft should be under an ATS from the controlling ANSP and given priority over other aircraft within the area where possible. A0024 also identifies the type of task being undertaken to other agencies. Most operators of aircraft on such tasks would normally prefer to be under an ATS and the task could be undertaken under IFR.
Proposed text:	N/A.
CAA response:	Noted: A0024 will not now be considered for dual purpose, it will remain for conspicuity purposes without reference to flight rules.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	19
Paragraph number:	5.3.5.2

Comment:	If, by logic, a threat is perceived from both uncontrolled IFR (A2000), that may have inadvertently penetrated Class E, and from VFR (A7000), there is a greater risk that an aircraft flying under VFR will not observe an IFR aircraft in time to avoid it. So why are these additionally transponding mitigation measures believed to be required?
Justification:	There is equally a risk of a VFR aircraft operating in Class E not observing an IFR aircraft and avoiding it.
Proposed text:	N/A.
CAA response:	Not accepted: The purpose of redefining A7000 as 'VFR conspicuity' and using A2000 for 'IFR conspicuity', is to enable a controller providing an ATS within Class E airspace, additionally notified as TMZ, to provide an air traffic control service to IFR flights that aligns as close as possible with ICAO / SERA requirements. Pilots of VFR flights who intend to operate within Class E airspace additionally notified as TMZ have the following options: (i) if available, select a Frequency Monitoring Code and operate autonomously; or (ii) select A7000 and operate autonomously; or (iii) if without a serviceable transponder, obtain permission to enter the TMZ from the controlling authority notified for the volume of airspace under consideration (as per Policy Statement for radio mandatory zone and transponder mandatory zone); or (iv) receive an ATS in accordance with UK FIS, regardless of transponder carriage circumstances. Pilots of VFR flights that have concerns over their ability to see and avoid IFR flights should obtain the best ATS available to assist them mitigate their concerns. Additionally, within Class E airspace that is not TMZ, extant ATS provision principles will be applied.

Commentor:	**Humberside Airport - ANSP Response**

Page number:	19
Paragraph number:	5.3.5.3
Comment:	It is agreed that CAS should all be associated with a TMZ. However, the risk of transponder failure or non-selection of a required SSR code occurring should be assessed to maintain a consistent approach.
Justification:	Increase in safety.
Proposed text:	N/A.
CAA response:	Noted.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	19
Paragraph number:	5.3.5.4
Comment:	If we trust a flight to fly under IFR, we should trust the pilot to know the airspace that the aircraft is being flown in and their additional responsibilities.
Justification:	The ANSP is responsible for separating against IFR and providing information on VFR where necessary.
Proposed text:	N/A.
CAA response:	Noted.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	19
Paragraph number:	5.3.5.4 (i)
Comment:	We do not agree with this approach. The Competent Authority, the CAA, should produce a standard solution for all Class E. Such a solution could be based on comments made by ANSPs during this consultation.
Justification:	There should not be different measures applied for each ANSP in different areas of Class E. Standardisation should be the aim to ensure all operators work to common regulations and procedures,

	preferably to an ICAO-compliant standard to reduce the number of differences across the world.
Proposed text:	N/A.
CAA response:	Noted: Following further consideration of practices within Europe, the following text will be inserted into MATS Part 1, Section 1, Chapter 6: 1B.3 Additionally, pilots of IFR flights must be advised of the change of airspace classification when entering and leaving Class E airspace when the flight is: (1) an unplanned diversion; or (2) no flight plan has been filed at the time a clearance to enter controlled airspace is requested. The associated phraseology is contained within CAP 413.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	20
Paragraph number:	5.3.5.4 (iii)
Comment:	We do not agree with this approach. The Competent Authority, the CAA, should produce a solution for additional training that might be necessary for flights within Class E. Such a solution could be based on comments made by Flight Training Organisations and Aircraft Operators during this consultation.
Justification:	There should not be different measures applied for each Flight Training Organisation and Aircraft Operator for Class E. Standardisation should be the aim to ensure all operators work to common regulations and procedures, preferably to an ICAO-compliant standard to reduce the number of differences across the world.
Proposed text:	N/A.
CAA response:	Not accepted: The purpose of this paragraph was to remind Flight Training Organisations and Aircraft Operators of the need to ensure that all pilots are fully aware of the characteristics of Class E airspace.

Commentor:	Humberside Airport - ANSP Response
Page number:	20
Paragraph number:	5.4.2
Comment:	Why would pilots of IFR flights entering Class E airspace need to be alerted when their aircraft enters and leaves Class E airspace? Pilots should know the airspace they are flying through/within. Is this applied elsewhere across other ICAO States? If it is not applied, why would the UK need to apply such mitigation?
Justification:	Standardisation should be the aim to ensure all operators work to common regulations and procedures, preferably to an ICAO-compliant standard to reduce the number of differences across the world.
Proposed text:	N/A.
CAA response:	Noted: The CAA is aware that in a number of European states pilots are advised when they enter and leave Class E airspace; for example, the Netherlands.

Commentor:	Humberside Airport - ANSP Response
Page number:	21
Paragraph number:	6.5.1
Comment:	The timing for the post-implementation review is agreed.
Justification:	Within three years is an appropriate period to gather sufficient evidence.
Proposed text:	N/A.
CAA response:	Partially accepted: The CAA welcomes Humberside's support in this regard, however, the timing of the post implementation review has yet to be decided.

Commentor:	Humberside Airport - ANSP Response
Page number:	31
Paragraph number:	'(i) 2.5.1.2'

Comment:	Is the intent that other ANSPs who are not responsible for the Class E airspace are to remain clear at all times or could they provide an ATS to VFR aircraft that are transponding that ANSPs allocated SSR codes, especially if the ANSP responsible for that area of Class E does not have the capacity to provide an ATS to VFR aircraft? In addition, is the intent that Frequency Monitoring Code must be assigned to aircraft operating under VFR in Class E?
Justification:	Whilst a code A7000 would clearly identify a VFR aircraft, it may be that the aircraft wishes an ATS but that the ANSP responsible for the Class E airspace is working to capacity. In which case, through a Letter of Agreement (LOA), another ANSP could provide an ATS to VFR aircraft notified to the 'owning' ANSP of the Class E through a specific SSR Code or Codes detailed within an LOA.
Proposed text:	"2.5.1.2 Pilots who wish to operate within Class E airspace in accordance with the VFR without receiving an ATS must display the general VFR conspicuity code A7000 with altitude reporting, or designated Frequency Monitoring Code defined as VFR conspicuity with altitude reporting, where allocated for the area of Class E airspace."
CAA response:	Partially accepted: The proposed text will be adopted to ensure consistency with ENR. 1.6 Paragraph 2.2.5.1. Regarding the questions concerning service delivery, these are outside the scope of this consultation.

Commentor:	**Humberside Airport - ANSP Response**
Page number:	31
Paragraph number:	'(ii) ENR 1.6 paragraph 2.2.5.6 to state which Frequency Monitoring codes are used for 'VFR conspicuity'.
Comment:	Is the intent to mandate that Frequency Monitoring codes are used for 'VFR conspicuity'? If so why, as it is not mandatory to monitor a frequency within Class E airspace in accordance with ICAO rules.
Justification:	It is not mandated that an aircraft operating under VFR within an area of Class E has to monitor a frequency unless the Class E airspace is associated with an RMZ. Standardisation should be the aim to ensure all operators work to common regulations and

	procedures, preferably to an ICAO-compliant standard to reduce the number of differences across the world
Proposed text:	"ENR 1.6 paragraph 2.2.5.6 to state which Frequency Monitoring codes are used for 'VFR conspicuity' where a VFR conspicuity code is published for use."
CAA response:	Partially accepted: The following will be inserted into ENR 1.4: 2.5.1.2 Pilots who wish to operate within Class E airspace in accordance with VFR without receiving an ATS must display either: a) the VFR conspicuity code A7000, with altitude reporting; or b) the Frequency Monitoring Code defined as VFR conspicuity with altitude reporting established for use in that airspace (see ENR 1.6). The proposed text is accepted; however, following further consideration of the intent of the text, the following refinement will be adopted: "ENR 1.6 paragraph 2.2.5.6 to state which Frequency Monitoring codes are used for 'VFR conspicuity within Class E airspace' where a transponder code is notified for such use."

Commentor:	**Humberside Airport - ANSP Response**
Page number:	32
Paragraph number:	'10A.5'
Comment:	Is the MATS Part 1 statement that "unknown aircraft are to be separated" being similarly reviewed for other CAS?
Justification:	If it is considered that there is insufficient safety-related evidence to maintain the MATS Part 1 entry for Class E airspace, this should be equally applicable for other CAS. Where there is no safety-related evidence, the operating methods of other ICAO States should be reviewed. Standardisation should be the aim to ensure all operators work to common regulations and procedures, preferably to an ICAO-compliant standard to reduce the number of differences across the world.

Proposed text:	N/A.
CAA response:	Noted: The requirement to separate controlled IFR flights from unknown aircraft is applied equally to all controlled airspace classifications, see MATS Part 1, Section 1, Chapter 6, Paragraph 15.1 through 15.6. This separation requirement enables the UK to satisfy the objectives of an ATS as stated within ICAO Annex 11 and SERA.7001. As Class E airspace permits autonomous VFR flight, the proposed VFR conspicutity code provides controllers a method of discriminating between 'unknown' IFR flights and 'unknown' VFR flights to enable the proposed amendment to MATS Pt 1 to elevate against VFR flights displaying VFR conspicuity. In airspace classifications A - D, the intentions of all flights must be known; an aircraft displaying the proposed VFR conspicuity code merely indicates the applicable flight rules, the code does not indicate the pilot's intentions.

Commentor:	**BAE Systems Warton**
Page number:	N/A
Paragraph number:	N/A
Comment:	BAE Systems Warton has reviewed the Class E Change Proposals consultation document and supports the CAA's preferred Option D. As the amount of Class E airspace within which Warton has autonomy to operate is low, the impact of any change is considered minimal. However, as the UK seeks to consider the implications of Regulation (EU) 2017/373 - the Air Traffic Management Common Requirements Implementing Regulation (ATM IR), it is worth noting that any change to Class E principles made as part of this consultation may have an unintended impact should there be a requirement for airspace changes as part of Regulation 2017/373.
Justification:	N/A
Proposed text:	N/A
CAA response:	Noted: The CAA welcomes BAE System's support for its preferred option.

Commentor:	**Isle of Man Civil Aviation Administration**
Page number:	18
Paragraph number:	5.3.5
Comment:	Our preferred solution would be **Option C**: Adopt ICAO Class E Airspace ATS provision principles without modification and assume that all unknown traffic within class E airspace is operating in accordance with VFR.
Justification:	As the requirement seems to relate only to mode C transponding traffic, there is obviously a question regarding non-transponding traffic, and traffic which is not reporting a mode C level. If there is no requirement to provide a “gap” in these circumstances, where no level information is available, then why is a gap required where the level is indicated? For unknown mode C transponding aircraft, it would seem that the guidance on “relevant traffic” in CAP774 UK Flight Information Services chapter 3 paragraph 3.5 is appropriate here. This implies that traffic indicating more than 3000ft (even unverified) from the level of the controlled traffic is of no significance, but under the current class E procedures traffic with even greater vertical displacement would require avoiding action. Our preferred **Option C** removes the requirement to provide a “gap” between known IFR and unknown VFR traffic, which clears up this inconsistency and is commensurate with the reduction in workload as is sought. This option also realigns with the ICAO requirements for class E airspace, which makes service provision more transparent to flight crews with the attendant safety benefits. Considering the changes to the conspicuity squawks raises other issues. An aircraft operating in class G is able to change between VFR and IFR to suit their needs and the prevailing weather conditions. Under the proposal this would necessitate a change of squawk between 7000 and 2000 each time the pilot changes flight rules, possibly several times per flight. This obviously leads to significant potential for the incorrect conspicuity squawk being selected at any particular time, including while operating autonomously in class E. This is without considering that pilots may simply be unaware of the change and default to 7000 in all circumstances as they are currently used to doing, which is obviously not fail-safe. There is also an unfair increase in workload

	placed upon flight crews operating outside controlled airspace who have no intention of transiting class E. The disadvantage of **Option C** stated in the consultation document is that it assumes that all unknown aircraft entering class E airspace are operating under VFR and this may not always be the case. However, our issue with **Option D** is that it relies upon the assumption that all unknown aircraft have set the correct VFR or IFR conspicuity squawk and, indeed, this may not always be the case. If **Option C** were to be implemented, the issue of class E infringing IFR traffic could be appropriately resolved by the application of CAP774 UK Flight Information Services Appendix A: Duty of Care which states, inter alia, *"…there is a need for controllers/FISOs to remain free to use their professional judgement to determine the best course of action for them to take for any specific situation…"*. This would be consistent with CAP493 Manual of Air Traffic Services – Part 1 section 1 chapter 1 paragraph 1.2: *"…nothing in this manual prevents controllers from using their discretion and initiative in response to unusual circumstances, which may not be covered by the procedures herein."* In summary the proposed **Option D** seems to be based on lack of trust in IFR aircraft obtaining a clearance to cross or remaining outside class E, but assumes that the mode A squawk of all relevant traffic is set correctly. On balance, taking into account the needs of ANSPs and flight crews, we consider that the adoption of ICAO principles as outlined in **Option C**, bolstered by the duty of care safeguards from the UK FIS principles, would be the most appropriate course of action.
Proposed text:	N/A
CAA response:	Noted: Whilst the assumption that all 'unknown' flights operating within Class E airspace are operating in accordance with VFR is not unreasonable, the possible infringement of Class E airspace by an 'unknown' IFR flight cannot be completely discounted. Therefore, under extant arrangements there is a need to separate controlled IFR flights from all 'unknown' flights by ensuring "radar returns, however presented, are not allowed to merge". The purpose of the proposed VFR conspicutity code (as proposed in option D) provides controllers a method of discriminating between 'unknown'

	IFR flights and 'unknown' VFR flights to enable the proposed amendment to MATS Pt 1 to elevate against VFR flights displaying VFR conspicuity. Use of the word "may" in proposed paragraph 10A.5 is consistent with extant MATS Pt 1, paragraph 10A.4(2) text. Unlike option C, option D enables pilots, through conspicuity codes, to indicate the flight rules being applied at the time. As for pilots not being aware, SERA.2010(b) outlines the pilot's pre-flight action responsibilities. Furthermore, in comparison to option D, option C generates a conflict when considering the objectives of ATS. Option C does not readily enable the controller to discriminate between unknown VFR and unknown IFR flights for determining the extent to which they should apply their professional judgement. In the absence of being able to make this determination, controllers may resort to applying separation against all 'unknown aircraft' i.e. effectively continuing with extant practice (option A) or implementing option B.

Commentor:	**NATS**
Page number:	19
Paragraph number:	5.3.5.3
Comment:	Clarification required that the line "non-transponding unknown aircraft would be deemed to be operating beneath those control areas" does mean that controllers can deem such contacts to be below Class E airspace and therefore no action is required with respect to aircraft within the Class E airspace above.
Justification:	Clarity required that the text in this paragraph is not merely an observation but instead can be translated into an ATC procedure.
Proposed text:	Appropriate MATS Part 2 entry required.
CAA response:	Accepted: MATS Pt 1, Paragraph 10A.5 will be modified and a new 10A.6 and 10A.7 added as follows: 10A.5 Unverified Mode S altitude reporting or Mode C data may be used for separation purposes within controlled airspace as follows:

	(1) for IFR flights within Class A, C and D airspace, and VFR flights within C airspace, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; (2) for IFR within Class E airspace, except against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; and (3) for IFR flights within Class E airspace, against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, wherever practicable, pass traffic information and if requested by the pilot or when deemed necessary by the controller, suggest traffic avoidance advice. **Note:** The procedure in (2) & (3) only applies to Frequency Monitoring codes notified for the purposes of VFR conspicuity. 10A.6 Aircraft that do not meet the published operating requirements for a particular volume of TMZ may be deemed to be operating outside that TMZ unless: (1) the controller has approved such an aircraft to enter TMZ airspace without identifying the aircraft using an appropriate method; or (2) information received indicates that an aircraft is lost or has experienced a radio failure. 10A.7 When suggesting traffic avoidance advice, controllers shall aim to prevent surveillance returns from merging.

Commentor:	**NATS**
Page number:	11
Paragraph number:	4.2

Comment:	The removal of the requirement to advise the pilot of an aircraft operating under IFR when they transition from Class D to Class E and vice versa is a significant workload issue and should be removed for this reason. However, this Option for Change paragraph explains the rationale for having to consider the link between service provision principles and phraseology, but stops short of actually providing any options for phraseology. Does the preferred Option D permit the removal of this undesirable phraseology requirement?
Justification:	Ambiguity.
Proposed text:	
CAA response:	Noted: Following further consideration of practices elsewhere within Europe, the following text will be inserted into MATS Part 1, Section 1, Chapter 6 (and CAP 413 amended accordingly): 1B.3 Additionally, pilots of IFR flights must be advised of the change of airspace classification when entering and leaving Class E airspace when the flight is: (1) an unplanned diversion; or (2) no flight plan has been filed at the time a clearance to enter controlled airspace is requested. The associated phraseology is contained within CAP 413.

Commentor:	**NATS**
Page number:	30
Paragraph number:	Appendix D
Comment:	The dual use of 0024 for two different purposes seems to have the potential for error. For example a controller unaware of a calibration flight taking place in adjacent Class E airspace incorrectly assumes the aircraft to be VFR within Class E.
Justification:	Potential for misinterpretation of the procedure.
Proposed text:	

CAA response:	Accepted: A0024 will not now be amended considered for dual purpose, it will remain for conspicuity purposes without reference to flight rules.

Commentor:	**NATS**
Page number:	
Paragraph number:	
Comment:	A general comment on the proposals: Working through some practical examples of how we would apply the proposed procedure in Option D, concern exists that the SSR code displayed by an unknown aircraft together with the Mode C value will determine the correct course of action. However, there could be a number of different combinations that require a different course of action. This makes it difficult for controllers to remember the correct procedure they should follow in a given situation and increases the potential for inadvertent non-conformance to procedure should they select an incorrect option. For example, when vectoring an IFR aircraft within Class E airspace where the base is base of 4500ft an unknown aircraft is observed displaying 0020 with Mode C of 4000ft. This would need 5000ft vertical separation and the returns don't merge, whereas an aircraft displaying 7000 at 4000ft would be 5000ft and the returns may merge (under paragraph 10A.5).
Justification:	
Proposed text:	
CAA response:	Not accepted: Extant Class E airspace ATS requirements state "… radar returns, however, presented, are not allowed to merge unless the pilot in receipt of traffic information advises that he intends to avoid the other aircraft without ATC assistance." The proposal enables the detection of the flight rules employed by pilots of 'unknown aircraft' equipped with serviceable transponders, which in Class E airspace facilitates the application of ATS service provision principles that are closer aligned with ICAO and SERA requirements. Therefore, within Class E airspace, with exception

	to IFR flights airspace against aircraft displaying VFR conspicuity, radar returns, however presented, are not allowed to merge. Within Class E airspace additionally notified as TMZ, unless a controller has granted permission for a VFR flight that cannot comply with the conditions of the TMZ to enter, all VFR flights within Class E + TMZ airspace operating autonomously will be displaying VFR conspicuity. Autonomous VFR flights in transponder or non-transponder-equipped aircraft may operate within Class E airspace that is not additionally notified as TMZ. In comparison to airspace notified as TMZ, which requires aircraft to comply with the TMZ requirements, unless permission has been granted by the designated ATSU, SERA.13001(a) applies to any aircraft that has a service transponder. The exemplar scenario is analogous to traffic observed in Class G airspace beneath airspace classifications A – D. The ability to detect which flight rules are employed by aircraft observed beneath Class E airspace should not influence the provision of ATS in controlled airspace above. However, in the case of non-transponding returns, unless controlling authority for the airspace has given permission for such aircraft to enter Class E airspace that is also TMZ, non-transponding aircraft should be operating beneath Class E + TMZ airspace. In comparison, within non-TMZ Class E airspace it is not possible to determine whether a non-transponding aircraft is in or beneath it. The following will be added to MATS Pt 1, Section 1, Chapter 6: 10A.6 Aircraft that do not meet the published operating requirements for a particular volume of TMZ may be deemed to be operating outside that TMZ unless: (1) the controller has approved such an aircraft to enter TMZ airspace without identifying the aircraft using an appropriate method; or (2) information received indicates that an aircraft is lost or has experienced a radio failure.

Commentor:	**NATS**
Item	1
Page number:	General
Paragraph number:	General
Comment:	Class E as a suitable airspace classification.
Justification:	NATS does not believe that the CAA decision to impose Class E in UK airspace, particularly within the complex LTMA environment around Farnborough, is an appropriate classification for where safety benefits over Class G airspace are deemed necessary. We believe Class D would be the minimum classification to provide a meaningful safety improvement over Class G airspace. Compliance with the objectives of ATS will result in three separate ATS units operating in the same piece of airspace, and whilst this may be manageable in a known Class D environment, unknown VFR operating in Class E airspace will present unique difficulties in ensuring traffic information on relevant traffic, where passed, is known to all parties as part of any co-ordination. For example during an interaction where Traffic Information/Traffic Avoidance is considered, is it realistic for all such instances to be co-ordinated between the relevant units. At this stage it is determined that such complexity may prohibit all action being co-ordinated between all parties. Class E obligations with respect to the prioritisation of IFR against VFR are subject to workload and as Traffic Information/Traffic Avoidance situations are both transient and unpredictable, these limitations need to be recognised in the Class E rules.
Proposed text:	In order to support CAP1678, clarification is required around delineation of requirements/rules around this complex set of interactions and so NATS requests some guidance from the CAA on the management and prioritisation of mixed VFR/IFR operations where more than one ATSU is providing an ATS in the airspace. As part of this we propose the CAA consider stating that ATS obligations shall be considered in isolation and there should not be a requirement to co-ordinate or communicate individual actions taken. Such guidance is an essential enabler for the successful SMS validation of the new airspace.

CAA response:	Noted: The specific circumstances described in this comment are outside the scope of this consultation.

Commentor:	**NATS**
Item	2
Page number:	34
Paragraph number:	Appendix F
Comment:	The use of an IFR conspicuity code for Class G airspace is supported but further consideration of the use of A2000 is required.
Justification:	Transposition of the source PANS-ATM text into other ICAO documents has not been consistent. Use of the phrases 'absence of ATC instructions' or 'absence of ATC directions' by PANS-OPS & Doc 023 could be interpreted to mean selection of A2000 when there is no ATS i.e. autonomous flight, or, selection of A2000 when there is no instruction within the ATS service relating to code selection. However, the PANS-ATM material is clear that the aircraft is receiving an ATS and therefore the intention is that A2000 is selected when another code has not been prescribed either strategically or tactically. EU SERA.13005 further clarifies that selection of A2000 is where there is no ATS instruction relating to setting a code. This is interpreted to mean the aircraft is receiving an ATS, because in the same rule selection of A7000 indicates that no ATS is being received. The proposal to use A2000 does not appear to conform to the PANS-ATM/SERA rules as these assume the aircraft is in receipt of an ATS, albeit without surveillance. The CAA would need to assess whether its use as proposed enables compliance with SERA.13005. The proposed use of A2000 would be the third use for the code. It is presumed that the CAA has fully captured any negative impacts on the ATM system with simultaneous use and therefore we request this information is provided to Industry to inform any local assessments.

	In NATS system terms, the iTEC / DP-En-Route System utilises A2000 to correlate Oceanic traffic to their onward Flight Plan trajectory, utilising the Mode S call-sign facility to establish the identity and to initiate flight plan retrieval and correlation for that aircraft. This enables trajectory information to be provided in the En-Route environment in the form of Medium and Short-Term Conflict Detection whilst the aircraft is still within the Oceanic environment, thereby providing a seamless transition from one to the other. The implications of introducing a further purpose for the A2000 code within the UK and its subsequent impact upon iTEC/DP-En-Route's trajectory-based assessments and display, would place a consequent requirement for testing and validation of software changes to iTEC/DP-En-Route. Use of the code would need to be assessed by NATS before UK notification.
Proposed text:	The UK Code Allocation Plan contains several code series which are declared as 'Assigned by CAA': 4201-4214, 4301-4305 and 5040-5047. It is suggested that a code within one of these series could be allocated as the IFR conspicuity code as an alternative to A2000.
CAA response:	Partially accepted: The CAA welcomes NATS support for the introduction of an IFR conspicuity code. A2000 is used for IFR conspicuity by several European states: 1 - Denmark *: ENR 1.6 Paragraph 2.1 c. 2 - France *: ENR 1.6 Paragraph 1.6.2 a) 3 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.1 4 - Poland: ENR 1.6 Paragraph 15.2 5 - Romania: ENR 1.6 Paragraph 2.2.1 6 - Slovenia *: ENR 1.6 Paragraph 2.4.1 A7000 is also defined for the purpose of 'VFR conspicuity' by the following states: 1 - Austria *: ENR 1.6 Paragraph 3.1.2 2 - Czech Republic *: ENR 1.6 Paragraph 1.6.2.4.3 3 - Denmark *: ENR 1.6 Paragraph 1.6 Paragraph 2.1 c.

	4 - France *: ENR 1.6 Paragraph 1.6.2 b) 5 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.2 6 - Netherlands *: ENR 1.6 Paragraph 2.1.1 d. 7 - Poland: ENR 1.6 Paragraph 15.3 8 - Portugal: ENR 1.6 Paragraph 1.6.5.6 9 - Romania: ENR 1.6 Paragraph 2.2.2 10 - Slovenia *: ENR 1.6 Paragraph 2.4.1 Note: * denotes States that have established Class E airspace. UK AIP ENR 1.6, Paragraph 2.2.1 will be amended to read as follows: "e) Code 2000. When: (i) entering the United Kingdom airspace from an adjacent region where the operation of transponders has not been required; or (ii) when operating within United Kingdom airspace in accordance with IFR and is either not receiving an ATS or has not received a specific instruction from ATS concerning the setting of the transponder; or (iii) unless instructed otherwise by ATS, Mode S transponder equipped aircraft on the aerodrome surface when under tow, or parked and prior to selecting Off or STDBY" Aircraft being towed or taxing and displaying A2000 has not presented an issue to date and given their low groundspeed and surface level mode C / mode S altitude report, if seen by controllers, they should be able to continue to discriminate between an aircraft on the ground and one that is airborne. Under the CAA's proposals a flight entering UK airspace displaying A2000, would be treated as an 'unknown' IFR flight rather than an 'unknown' VFR flight if a subsequent infringement of Class E airspace were to occur.

	Regarding NATS system issues, the impact of the Class E procedure changes will have to be determined in order to finalise an implementation date.

Commentor:	**NATS**
Item	3
Page number:	30 & 34
Paragraph number:	Appendix F
Comment:	Confusion over the changes required for other Special Purpose codes.
Justification:	A0024 is indicated as the only Special Purpose code to be notified for the purposes of VFR. However, there are other codes falling within the Special Purpose code umbrella, including 'Other Conspicuity Codes', which could be selected whilst within Class E airspace so it is not clear why only A0024 is proposed for notification for VFR only. It follows that A2000 would not be the only code that could be used by an IFR aircraft in Class G and thus has implications for associated ATM rules around its 'unique' use and interpretation in Class E airspace. If it is the CAA's intent to be more aligned with ICAO/EASA rules within Class E then consideration of the flight rules use of other Special Purpose codes is considered necessary. If not addressed, this anomaly may not result in reduced complexity and controller workload, which is the overall intent of the change.
Proposed text:	NATS proposes the following which primarily relate to operations within Class G but have consequent implications for separation rules within Class E airspace. "Except for aircraft in a state of emergency, or during communication failure or unlawful interference situations: a) All Special Purpose Mode A Codes in ENR 1.6, 2.2, but excluding General Conspicuity Codes, shall be deemed to be in use by pilots operating under VFR. The additional purpose of such codes is to convey to ATS providers the intent or activity the pilot is engaged in.

	b) The selection of the IFR conspicuity code shall supersede all other VFR conspicuity requirements and indicates to ATS providers the flight rules under which the pilot is operating. c) Where a pilot has elected to receive an ATS, the provider shall either issue a discrete SSR code or instruct the pilot to select an appropriate VFR, or the IFR conspicuity code, in accordance with the flight rules under which the pilot is operating. d) In all cases the ATS provider shall ensure that the requirements set out within the CAA Policy for ATS Provision within Controlled Airspace by Units not Notified as the Controlling Authority are adhered to.
CAA response:	Not accepted: point a) – does not consider the negative impacts on A7007 and introduces a contradiction to A1000. Noted: point b) – it is unclear what is inferred by "… IFR conspicuity code shall supersede all other VFR conspicuity requirements…". Noted: point c) – the consultation document establishes the concept of VFR and IFR conspicuity codes for use within the UK. Nothing prevents an ANSP from defining discrete codes allocated to a particular ATSU for the purpose of either VFR or IFR conspicuity; however, the ANSP would need to ensure its AIP AD2 entry (and also ENR 1.6) is amended accordingly. Accepted: point d)

Commentor:	**NATS**
Item	4
Page number:	31
Paragraph number:	Appendix D
Comment:	Establishing Frequency Monitoring codes for the purpose of VFR for all future Class E airspaces is restrictive
Justification:	Establishing Frequency Monitoring Codes for the purpose of VFR conspicuity should be considered for use within established Class E airspace, not just at the point a classification change is made from G to E. If the ATSU already has a Frequency Monitoring

	Code in use and the safety benefits are well established, these safety benefits should not just be limited to Class G or at the point a classification change may be made to Class E.
Proposed text:	Revise regulatory material to ensure that the establishment of a Frequency Monitoring Code for the purposes of VFR conspicuity is not just limited to the establishment of new Class E airspace.
CAA response:	Partially accepted: Frequency Monitoring codes (FMC) at present are used within Class G airspace and are for the purpose of 'conspicuity' rather than 'VFR conspicuity' or 'IFR conspicuity'. The proposal intended to enable an ANSP to additionally notify an FMC as 'VFR conspicuity within Class E airspace', which in turn would enable a pilot operating in accordance with VFR to use a single code within Class E and G airspace. If a pilot is using an FMC within Class G and is operating in accordance with IFR but needed to continue his flight into Class E airspace, the pilot would need to obtain an IFR clearance prior to entry. However, those FMCs employed by ATS unit notified as controlling authorities for volumes of Class E airspace would need be additionally notified to indicate that the FMC only applied to 'VFR within Class E airspace' e.g., "**1234** - This code may be used when flying in the vicinity of [Name of aerodrome] and monitoring the [Callsign] Frequency within Class G airspace, and to VFR flights when operating within Class E [Name] CTA - X (etc). Pilots should refer to UK AIP [Name of aerodrome] AD 2.22 – FLIGHT PROCEDURES for further details."

Commentor:	**NATS**
Item	5
Page number:	10 & 19
Paragraph number:	4.1 & 5.3.5.4
Comment:	Requirement to notify a pilot that they are transferring from Class A, C or D airspace into Class E and vice versa.
Justification:	There is no ICAO/SERA requirement to provide such notification, nor to provide notification when entering or leaving controlled

	airspace, and its association with the objectives of ATS appear tenuous. The objectives of preventing collisions between aircraft and providing information for the safe and efficient conduct of flight are already encompassed within the airspace classification and associated flight rules, and this should not necessarily be extended to telling the pilot what he/she/ should already know. The CAA's argument could potentially be extended to telling all pilots to maintain not above 250kts in Class D airspace for the same reason and clearly this level of oversight of basic pilot responsibilities is not supported. The consultation document produces no evidence to support the assertion that this procedure enhances the situational awareness of pilots, so that they can better undertake their responsibilities. And further it appears inconsistent with a core requirement of this change to reduce controller workload for operations within Class E airspace. The requirement to inform a pilot that they are entering Class E was considered a temporary measure when introduced as part of the Class F ADR replacement change in 2014. It should not be considered a permanent requirement to augment a pilot's knowledge in this way. The Farnborough ACP Operational Assessment by the CAA asserted that 'Local Procedures and CAA exemptions *(pending the final CAA Class E Policy)* will need to be developed and implemented to remove the need for controllers to inform IFR aircraft…' The clear inference is that this requirement was expected to be removed by revisions to the Class E policy but this does not appear to be the case. It is suggested that an alternative that could be used by ANSPs to mitigate and thereby reduce the requirement to inform the pilot that they are entering Class E airspace, is publication within the AIP. However, given that all airspace classifications rules and associated charts are already contained within the AIP, it is not clear what other areas of the AIP would be appropriate. We request the CAA provide further information here as this requirement if maintained poses a risk to a successful deployment of the Farnborough changes. Significantly, even though the current requirement to inform pilots when entering Class E Airspace is proposed to be maintained,

	although the phraseology is provided in CAP413, the ATS requirement is not detailed in the current CAP493, and is not included in the planned revision to the document.
Proposed text:	An effective mitigation for this issue would be for the CAA to put in place appropriate measures to ensure that flight planning activities encompass the differing airspace categories through which a flight will progress, and that consequently pilots are aware of the implications of these differing categories of airspace on the conduct of the flight, particularly regarding their collision avoidance responsibilities. This would be part of the CAA's communication plan. Alternatively, the introduction of a IFR conspicuity code to allow for the identification of IFR traffic in Class G removes the issue of which flight rules are being flown by unknown traffic within Class E airspace. Consequently, unless an aircraft squawking the IFR conspicuity code is observed, all other observed traffic within Class E airspace may be considered to be operating under VFR, thereby creating a known flight rule environment for the purposes of providing traffic information. The provision of traffic information inclusive of an optional VFR descriptor e.g. "VFR Traffic left 11o'clock etc.", may act as the reminder to the IFR pilot of the potential conflict and their separation responsibilities. This would obviate the need to advise the IFR pilot every time of the change in classification at the point of entry to and exit from the airspace.
CAA response:	Partially accepted: The CAA welcomes the comment concerning the need for communication activities to remind pilots of their pre-flight briefing responsibilities; this reflects comments within the consultation document. The proposal provided ANSPs with flexibility to determine which flights should be advised of when they enter and leave Class E airspace and which that do not. The CAA is aware that a number of States within Europe advise pilots when they enter and leave Class E airspace. For example, in the Netherlands pilots of aircraft that have flight planned into or out of an aerodrome where the route will take the flight through Class E airspace, are assumed to be aware of the airspace through which they intend to fly. However, in comparison, the pilot of an IFR flight engaging in an unplanned diversion might not necessarily be aware of the classification of the controlled airspace

	through which his / her aircraft will fly. Therefore, Netherlands practice is to advise the pilots of such aircraft of when they enter and leave Class E airspace. SERA.2010(b) outlines pilot responsibilities concerning pre-flight action. Airspace user-directed communication activities are planned to remind pilots of their pre-flight planning responsibilities. These will remind airspace users of the need to refer to current and appropriate aeronautical information, e.g., the AIP, AICs, NOTAMs, etc. In addition, the CAA would expect PPR activities and AIP AD 2 entries to include text that reminds pilots of the existence of Class E airspace.

Commentor:	**NATS**
Item	6
Page number:	18
Paragraph number:	5.5.3.1(i)
Comment:	Not all Class E airspace in the UK is designated as a TMZ.
Justification:	It appears that the procedures associated with Option D are only viable if all current and future portions of Class E airspace within the UK are also designated as a TMZ. Currently Scottish TMA 6 and 7 are not currently designated as TMZs (UK AIP ENR 2.1).
Proposed text:	Confirmation that these portions of the Scottish TMA will be re-designated as Class E+TMZ and that their introduction can be achieved by the planned date for the Class E changes.
CAA response:	Not accepted: The consultation document does not seek to impose TMZs onto all Class E airspace. An ANSP may initiate an ACP to seek notification of airspace as a TMZ.

Commentor:	**NATS**
Item	7
Page number:	19, 32
Paragraph number:	5.3.5.3 & Appendix E

Comment:	Clarity requested on what traffic may be deemed to be operating outside of Class E+TMZ
Justification:	The consultation document sets out that only aircraft operating either Mode A/C or Mode S transponders with pressure-altitude capability are permitted to operate within Class E+TMZ airspace. By inference this means that aircraft not conforming to those requirements are deemed to be outside such airspace. With regards to separation requirements inherent within the proposed changes to CAP493, Section 1, Chapter 6, 10A in Appendix E, it is assumed that these only refer to aircraft which indicate that they are inside controlled airspace. However, the scope of the separation requirements is not sufficiently inclusive so we request clarification on the following: a) Unless positive information has been received that a non-squawking aircraft has entered Class E+TMZ airspace, observed non-squawking aircraft or those equipped with a Mode A transponder only, may be deemed to be operating outside of Class E+TMZ airspace and no traffic information will be provided or for IFR traffic avoidance advice offered. b) For VFR aircraft displaying the new general VFR conspicuity code A7000 with unverified Mode C indicating any level, including beneath Class E+TMZ airspace, just traffic information as deemed necessary by the controller is to be passed c) For IFR aircraft displaying the new IFR conspicuity code A2000, if the unverified Mode C indicates outside Class E+TMZ airspace, there no separation requirement or requirement for traffic information to be passed. The assumption here is that as the aircraft is flying under IFR, a clearance to enter the airspace would be required.
Proposed text:	Additional clarification text in CAP493, Section 1, Chapter 6, 10A.
CAA response:	Partially accepted: Point a) – The proposed amendment to MATS Pt 1 applies to Class E airspace regardless of TMZ status. Extant TMZ provisions allow for pilots of non-compliant aircraft to gain access. Unless positive information suggests otherwise, ANSPs should consider that aircraft that not complying with standard TMZ provisions to

	either be outside the TMZ or infringing the TMZ. The CAA's proposals do not seek to depart from extant TMZ arrangements. Point b) – Controllers should use their professional judgment when observing VFR flights beneath Class E airspace, as these flights may subsequently climb into and operate within Class E airspace as autonomous VFR. The same can occur with Class E airspace additionally notified as TMZ; however, VFR aircraft are expected to comply with the applicable TMZ transponder carriage and operation requirements. Point c) - This scenario is analogous to traffic observed in Class G airspace beneath airspace classifications A – D, i.e. the ability to observe IFR flights beneath Class E airspace (additionally a TMZ or not) should not influence the provision of ATS within the overlying Class E airspace. MATS Pt 1, Section 1, Chapter 7, Paragraph 9.1 states: "Except when aircraft are leaving controlled airspace by descent, controllers should not normally allocate a level to an aircraft which provides less than 500 feet vertical separation above the base of a control area or airway. This will provide some vertical separation from aircraft operating beneath the base of controlled airspace. Similarly, controllers should exercise caution when operating close to the upper vertical limit of a control zone or area where it is not contiguous with further controlled airspace."

Commentor:	**NATS**
Item	8
Page number:	22
Paragraph number:	7.1
Comment:	Robustness of TMZ arrangements
Justification:	NATS is concerned that in busy airspace where Class E+TMZ may be established, particularly where more than one ATSP is providing services in the same airspace, the CAA is continuing to enable aircraft which are not equipped with a fully functioning reporting transponder, by allowing request to ATC to provide access to the airspace. Although the consultation document

	mentions the possibility that approval may be delayed, there needs to be a more rigorous regulatory position in the notified material. Allowing continued access by non-transponding aircraft by regulation, in airspace that is deemed busy or complex enough as to require the protection of controlled airspace for IFR traffic, appears to negate the safety benefit from ACAS. We assume the CAA has carried out an impact assessment on this aspect of the operation of new Class E+TMZ airspace.
Proposed text:	In the SI notifying the airspace, we request the CAA include a statement to the effect that access to notified TMZs by aircraft that do not have Mode S transponders will only be available where ATSUs managing the Class E airspace volume have the declared capacity to ensure traffic information is provided to IFR aircraft on all VFR aircraft.
CAA response:	Not accepted: Paragraph 1: This is no different to extant practice associated with the issue of clearances into airspace classifications A – D and IFR clearances into class E airspace. The consultation does not seek to amend extant TMZ provisions. Paragraph 2: The context of this comment is outside the scope of this consultation.

Commentor:	**NATS**
Item	9
Page number:	18
Paragraph number:	5.3.5.1(ii)
Comment:	A7000 as the General VFR Conspicuity Code.
Justification:	The decision to utilise A7000 as the General VFR Conspicuity Code is a natural follow-on to notifying a IFR Conspicuity Code however this will create serious challenges in Swanwick TC due to the nature of the toolset in use and the inability to construct filters in geographical volumes. Currently Mode A/C data is commonly supressed on non-Approach sectors for A7000 squawking aircraft within the NODE display. This is to prevent excessive clutter on the radar display adversely impacting the safe operation of the sector

	(particularly during the Summer months). To be able to 'filter-in' relevant A7000 traffic inside Class E+TMZ airspace would require a system upgrade at considerable cost. This is unplanned expenditure and at this stage it is not clear whether these changes could be effected before the planned implementation date. This is a risk which needs to be mitigated as part of the required SMS validation process.
Proposed text:	Consideration of a General VFR Class E Conspicuity Code. This requirement might also increase VFR pilot situational awareness of the proximity of encountering IFR traffic when operating in the vicinity of Class E+TMZ airspace.
CAA response:	Noted. Awareness material will be developed and published to support the redefinition of A7000 for the purpose of VFR conspicuity.

Commentor:	**NATS**
Item	10
Page number:	9, 14, 16
Paragraph number:	3.4 Table 2 Traffic Service (TS), Table 4 Page 16 and 5.2.3 (2)
Comment:	Consultation document rationale text re-affirms existing anomalies in both CAP493 and CAP774 regarding the rules around the provision of traffic information for VFR aircraft under a Basic Service (BS) in Class E & G airspace. Citing ICAO/SERA requirements for traffic information within a FIS also highlights a similar inconsistency in the UK application of BS and TS.
Justification:	NATS has identified the following inconsistencies: a) Consultation document Table 2. States that under a BS in Class E airspace, for VFR aircraft "Traffic information provided, as far as practicable, on known traffic and if the BS is enhanced with surveillance, observed relevant traffic". This makes the service almost the same as the TS detailed in the row above, and this appears to contradict CAP774 Basic Service Page 24 Para 2.5 which states "…pilots should not expect any form of traffic information from a controller…" Here there is no apparent distinction between a BS in either Class E or Class G airspace.

	b) Consultation document Table 2. States that for FIS supplemented by surveillance, controllers may provide VFR flights with traffic avoidance advice. Further, CAP493 Section 1, Chapter 6, 1C.5 states that participating VFR flights in class E are provided with either a BS or a TS. However, this is not consistent with CAP774 Basic Service 2.10 which states that deconfliction advice is not provided under a BS and CAP774 Traffic Service 3.6 which states that deconfliction advice is not provided under a TS. c) Consultation document Table 2. States that for VFR flights in Class E airspace, controllers may provide traffic avoidance advice. Firstly, the transposition of PANS-ATM 8.11.1 into GM2 SERA.9002 (a)(1) as a general rule for all aircraft in receipt of a FIS supported by surveillance, is itself inconsistent because the IR that the GM requirement for avoidance advice is derived from, only applies to controlled flights, therefore VFR aircraft in receipt of a FIS in Class E airspace are out of scope. Secondly Table 2 is inconsistent with CAP493 Section1, Chapter 2, 2.1 Table 1, which makes no reference to avoidance advice, but directs the reader to CAP774, where, for VFR traffic receiving a BS, traffic information is not to be given. d) Consultation document Table 4. States that for VFR flights, the purpose of FIS is “To provide VFR flights with traffic information on all flights as far as practical”. This ICAO provision does not specify what type of UK FIS is applicable but for a TS then this would accord with the requirements in CAP774. However, a BS as described in CAP774 Basic Service Para 2.5 would not accord with this ICAO requirement. e) CAP774 Forward 1 & 3. States that BS and TS are applicable within controlled airspace but the sections that describe these services don’t reference this. There is a consequent issue of the description of BS not allowing traffic information. f) CAP774 Basic Service Para 2.8. States “If a controller considers that a definite risk of collision exists, a warning shall be issued to the pilot…”This is a transposition of the SERA rule but as the ICAO/SERA definition of traffic information is directly associated with information

	concerning potential collision hazards, there is an inconsistency between this and the statement in Para 2.5 which states that traffic information is not to be given. g) CAP493 Section 1, Chapter 1, 7.2. Infers that UK FIS only provided in Class G airspace. h) CAP493 Section 1, Chapter 2, 2.1 Table 1. States for Class E airspace traffic information to be passed to VFR flights, as far as practicable, in accordance with the type of UK FIS provided. This appears inconsistent with CAP774 Basic Service Para 2.5. i) CAP493 Section1, Chapter 6, 15.2 Table 5. States that for Class E, VFR flights to receive traffic information under a BS. This appears inconsistent with CAP774 Basic Service Para 2.5. j) CAP493 Section 1, Chapter 6, 1C.5. States that participating VFR flights in class E are provided with either a Basic Service or Traffic Service. Provision of TS appears inconsistent with CAP774 Basic Service Para 2.5. k) CAP493 Section 3, Chapter 1, Table 2. States that for Aerodromes located in Class E airspace traffic information is passed as far as practicable “to VFR flights on other VFR flights”. It is not clear how an aerodrome can be in Class E as ICAO/SERA does not allow Class E to be assigned to a CTR, or whether this only refers to the aerodrome ATS provider which is the controlling authority for the Class E airspace. However with respect to traffic information the table provides for traffic information as far as practicable on VFR flights yet this appears inconsistent with CAP774 Basic Service Para 2.5. l) CAP774 Traffic Service 3.6. States that deconfliction advice is not to be given to aircraft under a TS. Following any traffic information, if requested by the pilot, avoidance advice will normally be given in practice, cognisant of the fact that the ATS provider may not know the pilot’s flight rules at the time. Upgrading to a Deconflcition Service (DS) may take place after the event. However for VFR aircraft in Class E airspace under a TS, the flight rules will be known and after the receipt of traffic information, the pilot may request avoidance advice. A DS cannot be provided, even if requested. The

	requirements for IFR flight in Class E airspace are different from those in Class G airspace so it is not clear what either the pilot or the controller should do in this scenario. In consideration of all the UK FIS rules in the regulatory material, after a few years of Class E operation, it is not clear why, if VFR aircraft do not require a clearance to enter Class E airspace, they should continue to be treated differently from VFR operating in Class G airspace with respect to traffic information. Particularly around the Class E/G airspace boundary e.g. is the rule determining the response to a potential collision hazard based on the airspace location of the participating aircraft or the airspace location of the unknown traffic? We believe a significant workload implication when providing an ATS to VFR aircraft in Class E airspace is being maintained, not helped by extant inconsistencies in the regulatory material.
Proposed text:	Noting the inconsistencies highlighted above, a review should be carried out of all relevant CAP493, CAP774 and CAP413 material, to ensure that there is absolute clarity in the requirements for traffic information and avoidance advice within a BS and/or TS in airspace where these services are provided. This review should also ensure that traffic information is clearly linked to identified collision hazards and that avoidance advice is only given in accordance with the source ICAO material. Additionally reference to a single source of information within one document, rather than replication in each document, would be preferable. As a general comment, it is NATS view that the UK should revert to ICAO FIS and remove UK FIS as it causes unnecessary workload for ATS providers when applying BS & TS in Class E and G airspace. The suite of services as a whole are not properly understood by airspace users, particularly foreign pilots. It is recognised that a review of UK FIS is part of the CAA's longer term Airspace Modernisation activity but we strongly urge the CAA at this stage to address the highlighted inconsistencies before the introduction of new Class E airspace, which is in an area of the UK where IFR/VFR interactions will be especially complex.
CAA response:	Noted: The purpose of this consultation is to refine the air traffic control service provision within Class E airspace, aspects of which generate positive developments for operations within Class G airspace.

	Inconsistencies that might exist within UK FIS are outside the scope of this consultation; however, a review of UK FIS is anticipated as part of the implementation of (EU) 2017/373 – Part ATS 'Phase 2'.

Commentor:	**NATS**
Item	10
Page number:	34
Paragraph number:	Appendix F
Comment:	Procedure for terminating ATS
Justification:	Currently when terminating an ATS or suggesting a pilot free-call another ATS agency, the pilot is normally advised: "Service terminated, squawk 7000". This is referenced in CAP413. If the pilot was in receipt of a Traffic or Basic Service in Class G, the pilot's flight rules may not be known. With the proposed differentiation between IFR and VFR conspicuity, A7000 may not be the correct code to select. Requesting to know the pilot's flight rules before every transfer would be an unwelcome additional task for ATS. CAP413 has references to the General Conspicuity code A7000 but this document has not been proposed for change.
Proposed text:	Suggest the Mode A code is left out of the RTF exchange and leave it to the pilot to select the appropriate code. CAP413 to be amended: "Service terminated, squawk conspicuity".
CAA response:	Accepted: CAP 413 will be amended to reflect the changes.

Commentor:	**NATS**
Item	11
Page number:	General
Paragraph number:	General
Comment:	No procedure for IFR service provision priority over VFR service provision.
Justification:	SERA.9001(c) states: “Where air traffic services units provide both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires. This does not appear to be reflected in the CAP493 sections where the rules for UK FIS provision in Class E airspace are defined. This is an essential element of the Class E rules which provides the high-level direction for the provision of traffic information for VFR traffic ‘where practicable’.
Proposed text:	Amend CAP493 to reflect SERA rule.
CAA response:	Accepted. The following will be added to MATS Pt 1, section 1, chapter 1: “3.2 Where air traffic services units provide both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires (SERA.9001(c)).” Notwithstanding the absence of current MATS PT 1 text, ANSPs should already be complying with SERA.

Commentor:	**NATS**
Item	12
Page number:	General
Paragraph number:	General
Comment:	Implications for UK FIS within Class G Airspace.

Justification:	Adoption of the new IFR Conspicuity Code in Class G airspace indirectly produces a benefit to operations within Class E+TMZ airspace, by clarifying the ATS provider's responsibilities towards IFR flights and autonomous VFR flights. However, as a by-product of the new Class G airspace SSR code rules, the changes would produce a semi-known environment below and above FL100 in respect of the flight rules under which a pilot is operating.
Proposed text:	Review of CAP 774 and its application within Class G airspace for improvements in procedures enabled by being able to identify IFR and VFR traffic.
CAA response:	Noted: Whilst outside the scope of this consultation, the need for UK FIS to be reviewed has been identified as an aspect of UK implementation of (EU) 2017/373: Part-ATS 'Phase 2'.

Commentor:	**NATS**
Item	13
Page number:	21
Paragraph number:	6.1
Comment:	Implementation date concerns
Justification:	The PIR for the Class F ADR replacement activity was undertaken by the CAA in in 2016 and included in the NATS response were identified issues with separation requirements and RTF loadings. The final report was due to be published in May 2016 but as far as NATS is aware this has not happened. Despite NATS pressing the CAA for the conclusion of the PIR to address concerns with the new rules, it is regrettable that the CAA has only now sought Industry views on proposed changes to resolve these issues. We are now faced with an extremely tight implementation timetable, the justification for which has not been explained in the consultation document but nevertheless we assume is to support the implementation of the Farnborough ACP at the end of 2019 (current plan). However this timetable is at risk because of the following issues which have a time element to their resolution

	a) Use of A7000 as the new General VFR conspicuity code requires its display in affected NATS Swanwick TC sectors. This is contrary to the current MOPS for A7000 and will require additional funding for system changes which have not been agreed and programmed. Implementation by March 2019 is not certain, which puts the safe introduction of the new rules at risk. b) Use of A2000 as the new IFR Conspicuity code will require system changes at NATS Prestwick which have not yet been funded and programmed. Implementation by March 2019 is not certain, which puts the safe introduction of the new rules at risk. c) Those NATS units that currently provide an ATS in Class E airspace will need to re-train staff. The new CAP 493 rules are not planned to be published until 27th Jan 2019 (T-60 days) but depending on the final rule set, the training needs assessment may require a plan that may not be able to be completed by the planned O' date. Any other consequential CAP amendments may also require an element of additional training. The CAA is planning to submit the AIP changes to AIS by the 28th Dec 18 and therefore the new rule set should have been finalised by then. Therefore we see no reason why the CAP 493, and other CAP changes, should not be submitted at the same time as the AIP changes. d) To ensure a consistent application of the new Class E rules across the UK, it will be necessary to notify Scottish TMA 6 & 7 as TMZs. We assume the CAA will notify these CTAs through an SI and by the planned implementation date. e) Development of an implementation plan 7 days after the consultation feedback report appears very challenging, considering it may have to factor in any changes to the initial proposals following the consultation.
Proposed text:	In consideration of the issues raised, the CAA is requested to review its planned implementation date to ensure there is no risk to a safe and standardised implementation of the new rules across all current and future providers of ATS in Class E airspace.

	NATS is happy to work straight away with the CAA to resolve any misinterpretations and discuss any modifications to the proposed changes.
CAA response:	Point a): Noted Point b): Noted Point c): Accepted - the CAA recognises the value in coordinating MATS Pt 1 SI publication and AIP change submission. Point d): Not accepted - the consultation document does not seek to impose TMZ status upon all Class E airspace. An ANSP may initiate an airspace change to introduce Class E airspace with or without a TMZ, or add a TMZ to extant Class E airspace. Point e): Noted General note: The CAA welcomes NATS's constructive comments and strongly agrees that safe and standardised implementation of any changes to Class E airspace procedures is essential and will work with stakeholders to ensure this is achieved. The CAA is reviewing its implementation plan in light of stakeholder feedback.

Commentor:	**MOD**
Page number:	N/A
Paragraph number:	N/A
Comment:	Overall, the MOD agrees that the best Option is D. The MOD would also be happy with Option C. As part of the overall modernisation strategy, it is understood that Option A would not be preferred, and the MOD have discounted Option B. We would like to take this opportunity to articulate the following: a. Concerns remain that the additional measures could, if there was further proliferation of pockets of Class E as laid down in your paper, create funnelling of airspace. b. The MOD is keen to ensure that, as is current procedure and in accordance with the current Civ AIP, the limitation of 250KIAS does not apply for MOD aircraft within Class E. c. It is hoped that prior to further Class E airspace approval (as described at Option D), there will be advanced CAA

	guidance for interoperable electronic conspicuity. The MOD consider that the coherent roll out of this, with buy-in from all aviation stakeholders, is key for the modernisation of airspace. d. The MOD believe there is a requirement for the VFR conspicuity squawk allocation to have additions made in the future. Specifically, the squawks 7002 and 7003 may be highlighted for consideration. e. The MOD objects to any requirements for any elements of Class E airspace to have prior permission required. Continual freedom to manoeuvre by MOD assets is vital. However, it is accepted that PPR may be used to negate the requirement for controllers to remind pilots that they are entering/leaving Class E for approaches to certain aerodromes where Class E is highlighted in the AIP.
Justification:	See above
Proposed text:	N/A
CAA response:	The CAA welcomes the MOD's support for the preferred option. Point a): Noted Point b): Noted – The consultation document does not seek to amend extant provisions for military operations within Class E airspace. Point c): Noted Point d): Noted Point e): Not accepted – The consultation document proposed the use of PPR, which applies to an aerodrome rather than airspace, to enable an ANSP to make pilots better aware of the airspace arrangements serving said aerodrome(s). Pilots planning to operate to or from an aerodrome that requires flight within Class E airspace, should be aware of this. This proposal enables an ANSP to reduce the controller's RT workload. PPR is not a requirement for entry into Class E airspace.

Commentor:	**MOD**
Page number:	N/A
Paragraph number:	N/A
Comment:	As there is ongoing work into the implications of Regulation (EU) 2017 373 - the Air Traffic Management Common Requirements Implementing Regulation, the MOD believe that further considerations should be made to the following: a. MOD specific operations, including (not exclusively); RPAS, formation flying (including IFR & VFR splits and/or joins), air-to-air refuelling, low-level flying and abort, high energy manoeuvres and supersonic runs. This may be as simple as an additional paragraph acknowledging MOD freedom of operation. b. Due to potential options for modernisation of airspace, it is considered likely that NERL, RAF(U) Swanwick, CRCs, D&D, MOD Airfields and other airports to be operating simultaneously in the same area of Class E. By use of allocation of squawks, it may be clear who is working the traffic, however, where more than one ATC unit is providing a service to IFR/VFR aircraft – how would it be clear (to other units) which flight rules are being adhered to? It is suggested that local squawk allocations may be too complicated in congested airspace. c. If aircraft were not able to adhere to TMZ/RMZ, who would be the controlling authority to allow entry in to Class E and who would pass TI to other units? Further information on attached document.
Justification:	N/A
Proposed text:	N/A
CAA response:	Point a): Noted Point b): Noted Point c): Noted – The consultation document does not propose that all Class E airspace must also be TMZ. However, for Class E that is also TMZ, pilots in aircraft without a serviceable transponder may obtain permission to enter by obtaining approval from the controlling authority notified for the volume of airspace under

	consideration (as per the SARG Policy Statement for radio mandatory zone and transponder mandatory zone).

Commentor:	**MOD**
Page number:	8 and 10
Paragraph number:	3.11 and 4.2.2-4
Comment:	The MOD do not agree that advising aircraft that they have entered Class E increases controlled workload is justification enough to negate this phraseology.
Justification:	As the MOD operate between Class G and Class E, it is important for distinction to be made. Furthermore, if the pilot was going from Class C to Class E, it would be important to understand whether the aircraft is flying IFR/VFR. The pilot would need to be told entering Class E to understand the implications of separation.
Proposed text:	
CAA response:	Noted.

Commentor:	**MOD**
Page number:	18
Paragraph number:	5.3.5.1 (ii) and Appendix F
Comment:	Confirm that 7002/3 will be considered as VFR conspicuity and operating in accordance with VFR separation.
Justification:	For example, D703 is adjacent to current Class E airspace in Scotland
Proposed text:	Add 7002 and 7003 to the text.
CAA response:	Partially accepted: Inclusion into the table will be considered.

Commentor:	**MOD**
Page number:	19
Paragraph number:	5.3.5.4 (i)

Comment:	The MOD would not support the requirement for prior permission required for their aircraft.
Justification:	Loss of freedom of manoeuvre.
Proposed text:	MOD Exempt from PPR for Class E airspace.
CAA response:	Not accepted: The consultation document proposed the use of PPR, which applies to an aerodrome rather than airspace, to enable an ANSP to make pilots better aware of the airspace arrangements serving said aerodrome(s). Pilots planning to operate to or from an aerodrome that required their flight to operate within Class E airspace, should be aware of this. This proposal enables an ANSP to reduce the controller's RT workload. PPR is not a requirement for entry into Class E airspace.

Commentor:	**MOD**
Page number:	19-20
Paragraph number:	5.3.5.4 (ii) and 6.4
Comment:	Is there a plan for dissemination of information for aviators? Is there evidence that the CAA are content that pilots are aware of the differences?
Justification:	
Proposed text:	
CAA response:	Noted: Consequential changes will be subject to formal aeronautical information changes supported by appropriate awareness activities.

Commentor:	**MOD**
Page number:	22
Paragraph number:	7.2

Comment:	Allowing non-transponding aircraft access to this airspace would concern the MOD. Who would the airspace that MOD would have tactical access to?
Justification:	Passing of relevant traffic information may cause issues, especially in areas of Class E airspace where multiple service providers may be operating. MOD would much rather have consolidated approach for interoperable electronic conspicuity.
Proposed text:	Remove.
CAA response:	Not accepted: This consultation does not propose changes to extant requirements contained within the Policy for Radio Mandatory Zones and Transponder Mandatory Zones, nor the CAA's Policy for ATS Provision Within Controlled Airspace by Units not Notified as the Controlling Authority.

Commentor:	**GATCO**
Page number:	8
Paragraph number:	3.1
Comment:	The Guild agrees with the assessment of NATS that the Class E procedures introduced in 2014 have led to inefficiencies that require remedy.
Justification:	
Proposed text:	
CAA response:	Noted.

Commentor:	**GATCO**
Page number:	13
Paragraph number:	5.2
Comment:	The Guild supports alignment with ICAO wherever possible.

Justification:	The Guild believes that procedures should be harmonised wherever possible such that aircrew encounter the same basic rules worldwide.
Proposed text:	
CAA response:	Noted.

Commentor:	**GATCO**
Page number:	16
Paragraph number:	5.3
Comment:	The Guild generally supports the changes proposed in Option D, although that support is subject to a number of provisos that if not implemented could change the Guild's view at the Post Implementation Review.
Justification:	See below
Proposed text:	
CAA response:	The CAA welcomes the general support for the CAA's preferred option.

Commentor:	**GATCO**
Page number:	18
Paragraph number:	5.3.5
Comment:	The Guild believes that the objective of enabling controllers to identify transponding VFR and IFR traffic using Class E airspace without communicating with ATC is one to be supported and will assist controllers in applying their separation responsibilities.
Justification:	
Proposed text:	
CAA response:	Noted: The CAA welcomes GATCO's support in principle for the VFR and IFR conspicuity code proposals.

Commentor:	**GATCO**
Page number:	18
Paragraph number:	5.3.5.2
Comment:	The Guild also supports access to Class E airspace by non-transponding radio-equipped aircraft, provided two-way communications have been established with ATC prior to entering CAS.
Justification:	
Proposed text:	
CAA response:	Noted: For clarification, this consultation does not propose changes to extant requirements contained within the CAA's policy for Radio Mandatory Zones and Transponder Mandatory Zones.

Commentor:	**GATCO**
Page number:	18
Paragraph number:	5.3.5
Comment:	The Guild does not support the proposed use of A2000 and A0024 as these are well recognised and understood existing SSR codes. The Guild would support the use of other SSR codes for the same purpose as identified in Option D. The Guild has no preference at this stage regarding the choice of those alternative SSR codes.
Justification:	The Guild believes the codes A2000 and A0024 have an already established usage and adding an additional use would cause unnecessary complication.
Proposed text:	
CAA response:	Partly accepted: A0024 will not now be amended considered for dual purpose, it will remain for 'conspicuity' purposes without reference to flight rules.

	With regard to A2000, note that a number of European states use this code for IFR conspicuity: 1 - Denmark: ENR 1.6 Paragraph 2.1 c. 2 - France: ENR 1.6 Paragraph 1.6.2 a) 3 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.1 4 - Poland: ENR 1.6 Paragraph 15.2 5 - Romania: ENR 1.6 Paragraph 2.2.1 6 - Slovenia: ENR 1.6 Paragraph 2.4.1

Commentor:	**GATCO**
Page number:	18
Paragraph number:	5.3.5
Comment:	The Guild also supports any attempts to simplify the requirements to avoid unknown traffic in all classes of airspace, dependant on the level of ATS being provided.
Justification:	
Proposed text:	
CAA response:	Noted.

Commentor:	**GATCO**
Page number:	19
Paragraph number:	5.3.5.4
Comment:	The Guild is concerned that Option D places too much responsibility on the ANSP to mitigate the RTF loading inefficiencies.
Justification:	The Guild believes that any pilot who is not aware of where they are or what Class of airspace they are in is lost and should know. The Guild would support any attempts to educate pilots in this regard about the nuances of flight within Class E airspace in the UK. If adequate assurance exists that pilots are aware of the Class of airspace they are flying through, and understand the application of the rules behind each Class, the Guild does not see a requirement to specifically inform pilots when entering and leaving Class E airspace - over and above the standard requirement to notify pilots when entering and leaving controlled airspace.
Proposed text:	
CAA response:	Noted: Consequential changes will be subject to formal aeronautical information changes supported by appropriate awareness activities. The consultation proposal provides ANSPs with flexibility to determine which flights should be advised of when they enter and leave Class E airspace and which that do not. The CAA is aware that a number of European states require pilots to be advised when they enter and leave Class E airspace; for example, the Netherlands. In the case of aircraft that have flight planned into or out of an aerodrome where the route will take the flight through Class E airspace, it can be argued that pilots should have briefed themselves on their proposed route and should therefore be aware of their airspace through which they intend to fly. In comparison, the pilot of an IFR flight engaging in an unplanned diversion might

	not necessarily be aware of the classification of the controlled airspace through which his / her aircraft will fly.

Commentor:	**GATCO**
Page number:	21
Paragraph number:	6.1
Comment:	Given the multitude of interested parties in this change, the Guild expects the finalised draft MATS Part 1 Supplementary Instruction to be presented to the members of the CAA ATC/RTF Procedures Working Group so that comments can be passed and those comments assessed by the editor of CAP 493. It is accepted by the Guild that this may delay the timescales indicated in the consultation document, but the Guild feels this is an important part of the consultation process in its' own right and should occur.
Justification:	
Proposed text:	
CAA response:	Noted: Comments from stakeholders in this consultation have highlighted that a two-staged implementation process will be needed. The first stage does not require consultation with the ATCPWG or RTFWG. The second stage will need to undergo a brief consultation period with the ATCPWG and RTFPWG. This consultation process will not be for introducing significant changes to the outcome of this consultation, rather ensuring that all interdependencies within the MATS Pt 1 and CAP413 have been appropriately addressed. The CAA will determine how best to elicit the input from both working groups.

Commentor:	**GATCO**
Page number:	21

Paragraph number:	6.1
Comment:	The Guild expects the CAA to work closely with all affected ANSPs to ensure the resultant MATS Part 1 Supplementary Instruction has passed CAA and ANSP hazard analysis procedures prior to implementation, and that ANSP's are given at least 60 days' notice of the effective date of the MATS Part 1 Supplementary Instruction. This is to ensure that all affected ANSPs undertake a training gap analysis of the new procedures and provide the required training or briefing for any identified requirements
Justification:	
Proposed text:	
CAA response:	Accepted: The CAA recognises the value in coordinating MATS Pt 1 SI publication and AIP change submission.

Commentor:	**Prospect ATCOs' Branch Farnborough**
Page number:	9
Paragraph number:	3.4 Table 2 Basic Service (BS) and Table 4 Page 16 and 5.2.3 (2)
Comment:	There are inconsistencies and contradictions between the services detailed in CAP774 and the requirements from those services in Class E airspace. Table 2 of the consultation states that under a BS, for VFR aircraft "Traffic information provided, as far as practicable, on known traffic and if the BS is enhanced with surveillance, observed relevant traffic." This contradicts both the Mats Pt 1 and CAP774 definitions of a Basic Service and actually makes the service the same as a Traffic Service. The contradiction is with CAP774 Page 24 Para 2.5 states "…pilots should not expect any form of traffic information from a controller…" and CAP774 Page 24 Para 2.8 states "If a controller considers that a definite risk of collision exists, a warning shall be issued to the pilot…"

	The table in Mats Pt 1 Section 1, chapter 2, Page 2 details traffic information to be passed, as far as practicable, in accordance with the type of UK FIS. As does Section 1, Chapter 6, Page 3, Para 1C.5. CAP774 only defines one type of service, irrespective of the class of airspace (E or G) Table 4 states that for FIS, "To provide VFR flights with traffic information on all flights as far as practical". It does not specify what type of service, however if it was a Traffic service then this would comply with the requirements. A Basic service as defined by CAP774 would not do this. 5.2.3 (2) states "…collision hazards, to aircraft operating in airspace Classes C, D, E, F and G;" CAP774 Page 24 Para 2.8 "If a controller considers that a definite risk of collision exists, a warning shall be issued to the pilot…" surely fulfils this requirement. So it makes sense that in Class E airspace, VFR aircraft are provided a Basic Service or Traffic Service as per CAP774 definitions, and the requirement to provide traffic information to all flights under a Basic Service in Class E is removed.
Justification:	Contradicting statements in Mats pt 1 and other CAPs can only lead to significant issues and should quite clearly not be allowed to exist. As CAP774 specifically states what can and cannot be done under a Basic Service, and the Mats Pt 1 states that in Class E, VFR flights are provided with services in accordance with the UK FIS as defined by CAP774, then that alone meets the requirements, especially as those services already comply with ICAO and SERA to provide collision hazards.
Proposed text:	Pass traffic information to participating VFR flights in accordance with the type of UK FIS provided.
CAA response:	Noted: The CAA agrees that clarity in Air Traffic Service provision principles is essential. Whilst outside the scope of this consultation, the need for UK FIS to be reviewed has been identified as an aspect of UK implementation of (EU) 2017/373: Part-ATS 'Phase 2'.

Commentor:	**Prospect ATCOs' Branch Farnborough**
Page number:	22
Paragraph number:	7.2
Comment:	While it may be prudent to allow non-transponding aircraft into TMZs in class G airspace through local rules, it would not be so for TMZs in Class E airspace. Allowing non-transponding aircraft to access class E TMZ areas removes the safety net of TCAS, or of a controller knowing whether something is in the Class E TMZ or not as the contact could be assumed to be outside CAS. Situational awareness would be reduced and could introduce unacceptable workload to the controller, especially if more that one ATSU could be operating in the airspace.
Justification:	As above
Proposed text:	For Class E airspace that is additionally notified as TMZ, pilots of aircraft that cannot comply with the TMZ requirements shall remain outside of the TMZ.
CAA response:	Noted: This consultation does not propose changes to extant requirements contained within the Policy Statement for radio mandatory zone and transponder mandatory zone, nor changes to the Policy for ATS Provision within Controlled Airspace by Units not Notified as the Controlling Authority.

Commentor:	**General Aviation Alliance**
Page number:	N/A
Paragraph number:	N/A
Comment:	**Introduction** We note the consultation appears to have had a surprisingly low profile – especially considering the far-reaching implications such airspace policy changes could have. The consultation is also presented in overly technical language, with little effort made to explain to a non-ATM audience what the wider implications of each option would mean in practice. This is particularly relevant to the ongoing discussions around the UK's application of 'Part-ATS' and the potentially increased use of class E airspace this might bring.
Justification:	As above
Proposed text:	N/A
CAA response:	Noted: ATS procedure changes normally undergo consultation with the CAA's Air Traffic Control Procedures Working Group (ATCPWG). On this occasion the CAA decided to consult more widely on its change proposals, hence NATMAC due to its airspace user membership. The subject matter under discussion is inevitably technical in nature, requiring the use of technical language. The consultation focussed on a limited number of ATS delivery issues within a specific airspace classification rather than wholesale change and was not seeking the introduction of a particular airspace classification in any part of the UK FIRs.

Commentor:	**General Aviation Alliance**
Page number:	N/A
Paragraph number:	N/A
Comment:	**Preferred Option** Out of the presented options, the GA Alliance strongly supports Option C. We believe that the ICAO ATM ruleset should be applied in a manner consistent with how it is in most other states. Option C is the only option consistent with this objective. We also believe

	that the perceived risks (and the mitigations to solve them proposed in the other options, including the CAA's preferred option D) are unnecessary and would unreasonably restrict access to class E airspace by aircraft that are not able to transpond a mode S signal. We object to Option D (the CAA's preferred option) because; • It is not in accordance with ICAO SARPs; and • It is not justified for class E to always be notified with a TMZ.
Justification:	As above
Proposed text:	N/A
CAA response:	Not accepted. The majority of European states permit IFR flight within Class G airspace. However, the volume of Class G airspace established in varies within states; the UK arguably has more Class G airspace than neighbouring 'core' European states. In addition, of those States have established Class E airspace, the majority additionally define 7000 as 'VFR conspicuity' (the UK defines 7000 as 'conspicuity'- see UK AIP ENR 1.6 code assignment plan) and a number also use A2000 for 'IFR conspicuity'. The CAA's preferred option (Option D) is constructed using a 'toolbox' approach taking advantage of numerous flexibilities found within ICAO / EU provisions (the former including Annex 2 Rules of the Air and Annex 11 Air Traffic Services, the latter including the SERA regulation (923 of 2012). States may elect to exercise these flexibilities or file Differences to ICAO requirements as they see fit; the UK is no different from any other in this regard. The consultation document does not propose that all Class E airspace must also be TMZ.

Commentor:	**General Aviation Alliance**
Page number:	N/A
Paragraph number:	N/A

Comment:	**Standardisation with ICAO and other States** The consultation largely glosses over the reality that many UK ATM procedures (both existing and proposed), although may be 'consistent' (in the CAA's mind at least) with the 'general objectives' of ICAO and EASA ATM requirements, in practice represent an ATM ruleset that is inconsistent and poorly standardised with most other major aviation states. For the CAA to add yet more UK specific 'mitigations' to the basic class E format would be a mistake and only compound a trend that the GA Alliance would very much like to see reversed. We are also concerned as to the level to which detailed procedures in MATS 1 (which is primarily for the ATM audience and not commonly read by pilots) appear to have an impact on the inherent nature of how the airspace classes are applied. For example: • The original inclusion of class E airspace in the 'long standing' (the use of the phrase in of itself attempting to imply legitimacy) MATS 1 requirement for controllers to apply separation against unknown traffic is contrary to the way class E is specified in ICAO. By definition, Class E will likely have unknown VFR traffic within it and there has never been a requirement for that traffic to be separated from IFR; and • The current requirement that radar returns not be allowed to merge is simply a modification of the requirement above regarding separation – again it has no basis in ICAO. Differences from ICAO requirements should not be 'hidden' in procedures for ATCOs. They should transparent and there should a be greater appreciation of their impact on the wider airspace system – particularly how it is experienced by its users. For many years, across all functional areas of aviation regulation, the CAA has succumbed to the temptation to add UK specific procedures and requirements to address often theoretical hazards or perceived 'gaps' in the ICAO rulesets. While these can seem to be justified in isolation, the cumulative effect of this lack of standardisation on stakeholders (many of whom will have to deal with multiple rulesets regularly, in a way that rule-makers do not) is not adequately considered.

Justification:	As above
Proposed text:	N/A
CAA response:	Not accepted. The CAA's preferred option (Option D) is constructed using a 'toolbox' approach taking advantage of numerous flexibilities found within ICAO / EU provisions (the former including Annex 2 Rules of the Air and Annex 11 Air Traffic Services, the latter including the SERA regulation (923 of 2012). This satisfies ICAO's objectives of the air traffic services to prevent collisions between aircraft, as published in Annex 11 Air traffic services and transposed into Reg (EU) 923/2012 SERA.7001. Neither ICAO nor SERA prescribes how surveillance data is to be used when dealing with 'unknown' aircraft. Option D proposes to apply ICAO Class E provisions between controlled IFR flights and 'unknown aircraft' displaying 'VFR conspicuity'. Otherwise, the surveillance returns of controlled IFR flights, however presented, are not allowed to merge with 'unknown' aircraft that are not displaying VFR conspicuity. States may elect to exercise these flexibilities or file justified Differences to ICAO requirements as they see fit; the UK is no different from any other in this regard. Such Differences are not 'hidden' – see UK AIP GEN 1.7. Similarly, MATS Pt 1 does not 'hide' The change proposals seek to refine current procedures and bring about greater convergence with basic ICAO requirements. However, this must be done safely, and also take the current UK ATS arrangements for Class G airspace into consideration in order to obviate or minimise procedural variations that could place adverse impacts upon IFR and VFR traffic alike. As for other UK ATS arrangements, these are out of scope of this consultation but the need for UK FIS to be reviewed has been identified as an aspect of UK implementation of (EU) 2017/373: Part-ATS 'Phase 2'.

Commentor:	**General Aviation Alliance**
Page number:	N/A
Paragraph number:	N/A
Comment:	**Justification for class E + TMZ** To the knowledge of the GA Alliance, there is no other major aviation state that always notifies Class E airspace with a TMZ by default. We are not saying they should never by notified together (or that such an application would be inconsistent with ICAO), but simply that redefining class E such that it is always accompanied by a TMZ is not something that any other state has found necessary to do. We question why the CAA is so convinced that this should be the preferred option. The application of different airspace tools should be proportionate to the need to mitigate airborne conflict and maintain a safe and orderly flow of traffic – it is not appropriate to apply higher standards than are necessary, since this defeats the need for the utility of the airspace in the first place. So rather than attempting to modify the ICAO airspace ruleset, the CAA should be looking for airspace sponsors to apply ICAO compliant airspace tools that are proportionate to the context and balance the needs of different airspace users. The GA Alliance believes that class E airspace has a legitimate and useful application in many circumstances. For example, GA IFR traffic benefits from a guaranteed air traffic service, but without the need for VFR traffic to communicate with ATC. This represents a useful compromise, but let's not ruin it by applying additional airspace requirements that move the classification away from its intended form in the ICAO ruleset, which is applied to an acceptable level of safely in other states. Please confirm in the consultation response document that any consequences from this consultation by way of changes to equipage requirements in existing Class E, or the introduction of new Class E airspace, must go through a CAP1616 change process.
Justification:	As above
Proposed text:	N/A

CAA response:	Noted. The UK does not notify Class E as TMZ by default, however the CAA recognises the value of increased electronic conspicuity in all airspaces, for example through the possible additional notification of airspace as TMZ. Any such additional notification would need to be fully justified as part of an airspace change proposal. The CAA's preferred option takes a 'toolbox' approach through selecting measures permitted by ICAO and / or SERA. For example: • ICAO DOC 8168 Aircraft Operations Volume 1 Flight Procedures, chapter 1, paragraph 1.1.1 states that, when an aircraft carries a serviceable transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar **(**SSR) is used for ATS purposes (transposed as SERA.13001). • Annex 11 Paragraph 2.27 requires States to establish requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace. • SERA.6005 - Requirements for communications and SSR transponder establishes the TMZ 'tool' in EU law. An example of another European State is Austria, which requires an operational Mode S transponder with altitude reporting to be used within Class E airspace for all powered flight. The consultation document does not propose that all Class E airspace must also be TMZ nor does it seek to additionally notify extant Class E airspace as TMZ.

Commentor:	**Airspace4All ltd**
Page number:	N/A
Paragraph number:	N/A
Comment:	1. **INTRODUCTION**

	1.0 As will be evident from previous correspondence, Airspace4All Ltd has significant issues with this NATMAC consultation. It proposes changes that would reduce access to airspace and introduce significant complexity, when simple and internationally common options are available but not considered. The proposals would “redefine” the nature of Class E airspace contrary to ICAO and EASA standards and the objectives of Airspace4All Ltd programme of work (which is approved by the CAA and others). 1.2 The consultation proposal, if approved, would be a de facto airspace change but it does not follow CAP1616 procedures. The consultation does not reach those airspace users who would be impacted by the decision. If a decision is made in line with the proposal it would pre-empt the outcome of any future consultation on Class E airspace, thus preventing the CAA from being the CAP 1616 decision-maker at the time. This is unacceptable. Although we asked you questions and clarification to facilitate our response, you have failed to reply or even acknowledge those inputs. We have received an automatic receipt of our communication so we know it has been received. This is also unacceptable. The consultation proposal, if approved, would be a de facto airspace change but it does not follow CAP1616 procedures. This is unacceptable. 1.3 The issues set out in the consultation are UK-only procedures, built on top of UK-only procedures, to create a tangled web which makes UK Class E into an area in which separation is provided between IFR and VFR, with more rules and procedures than would be found in Class D. We agree that this increases controller workload but adding even more procedures is most unlikely to resolve that. It is more likely to make UK Class E airspace unworkable; that is perhaps the whole object of the proposed change? Although you have consulted “industry” on these matters, the proposals would have a significant operational and economic cost to GA airspace users and you have not consulted them. You must do so.
Justification:	As above
Proposed text:	N/A

CAA response:	Not accepted. The purpose of the proposed changes is to refine ATS procedures applicable to Class E airspace; they neither seek to reduce access to airspace nor do they introduce complexity. In addition, they do not constitute an airspace change as they do not seek the establishment of Class E airspace, nor add TMZ status to extant Class E. They seek to make clearer particular ATS delivery requirements and to enable greater conspicuity of traffic operating within and adjacent to Class E airspace. The CAA's preferred option (Option D) is constructed using a 'toolbox' approach taking advantage of numerous flexibilities found within ICAO / EU provisions (the former including Annex 2 Rules of the Air and Annex 11 Air Traffic Services, the latter including the SERA regulation (Reg (EU) 923/2012). This satisfies ICAO's objectives of the air traffic services to prevent collisions between aircraft, as published in Annex 11 Air traffic services and transposed into Reg (EU) 923/2012 SERA.7001. Neither ICAO nor SERA prescribes how surveillance data is to be used when dealing with 'unknown' aircraft. ATS procedure changes normally undergo consultation with the CAA's Air Traffic Control Procedures Working Group (ATCPWG). On this occasion the CAA decided to consult more widely on its change proposals, hence NATMAC due to its airspace user membership. The consultation focussed on a limited number of ATS delivery matters within a specific airspace classification rather than wholesale change and was not seeking the introduction of a particular airspace classification in any part of the UK FIRs. As the focus of the consultation is particularly narrow, the CAA believed an eight-week consultation period was appropriate. In addition to taking advantage of numerous flexibilities found within ICAO/EU provisions, the CAA's proposals additionally take into consideration: • ICAO DOC 8168 Aircraft Operations Volume 1 Flight Procedures, chapter 1, paragraph 1.1.1, which states that, when an aircraft carries a serviceable transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside

	airspace where secondary surveillance radar (SSR) is used for ATS purposes (transposed as SERA.13001). • Annex 11 Paragraph 2.27 requires States to establish requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace. • SERA.6005 - Requirements for communications and SSR transponder establishes the TMZ 'tool' in EU law. An example of another European State is Austria, which requires an operational Mode S transponder with altitude reporting to be used within Class E airspace for all powered flight: The consultation document does not propose that all Class E airspace must also be TMZ nor does it seek to additionally notify extant Class E airspace as TMZ. An ANSP may initiate an ACP to introduce Class E airspace with or without a TMZ, or seek to additionally notify extant Class E airspace as a TMZ. States may elect to exercise these flexibilities or file justified Differences to ICAO requirements as they see fit; the UK is no different from any other in this regard. Such Differences are not 'hidden' – see UK AIP GEN 1.7 The change proposals seek to refine current procedures and bring about greater convergence with basic ICAO requirements. However, this must be done safely, and also take the current UK ATS arrangements for Class G airspace into consideration in order to obviate or minimise procedural variations that could place adverse impacts upon IFR and VFR traffic alike. As for other UK ATS arrangements, these are out of scope of this consultation but the need for UK FIS to be reviewed has been identified as an aspect of UK implementation of (EU) 2017/373: Part-ATS 'Phase 2'.

Commentor:	**Airspace4All ltd**
Page number:	N/A
Paragraph number:	N/A

Comment:	2.0 **THE NUB OF THE MATTER** 2.1 It is clear from the consultation that UK controlled airspace has developed away from ICAO classification standards, and from those implemented and proposed in SERA. The UK has done this by implementing ATS procedures which are promulgated to controllers but not to pilots and which have a significant impact on the way airspace is operated. In doing this the UK has built an ATS procedures "Tower of Babel" in which the mismatch and complexity of its directions are so inefficient and cumbersome that more regulations have been built on them, in the expectation that this will resolve the self-generated problems. But they do not. Meanwhile airspace users have become detached from the nature of the airspace in which they fly, often unknowingly. The UK regulator has lost sight of the foundation of aviation procedures and safety; ICAO standards and practices. 2.2 Aviation is an international activity and industry that demands common processes and procedures across national boundaries. Where there are state differences these are declared to ICAO and published in national AIPs so that aircrew know what to expect and how to operate safely in conjunction with other airspace users. The UK has introduced ATS procedures which have the effect of changing the nature and classification of its airspace without declaring a difference to ICAO, so pilots are blissfully unaware of what is going on around them. In this case the rules for operating Class D airspace make it much more like Class C; and those for and proposed for Class E make it more like Class D - but these are not clear to any aircrew, even UK licensed aircrew. 2.3 The proposal would build yet more layers of regulation and differences which would subvert the commonality of airspace and procedures now being introduced by SERA. The logical and correct management solution here is to tear down this "Tower of Babel" and build new, common, ATS regulation that supports and delivers ICAO and SERA procedures and practices and to do so in concert with those who use the airspace.
Justification:	As above
Proposed text:	N/A
CAA response:	Not accepted.

	The purpose of the proposed changes is to refine ATS procedures applicable to Class E airspace. They neither seek to reduce access to airspace nor do they introduce complexity; in addition, they do not constitute an airspace change as they do not seek the establishment of Class E airspace, nor add TMZ status to extant Class E. They seek to make clearer particular ATS delivery requirements and to enable greater conspicuity of traffic operating within and adjacent to Class E airspace. The CAA's preferred option (Option D) is constructed using a 'toolbox' approach taking advantage of numerous flexibilities found within ICAO / EU provisions (the former including Annex 2 Rules of the Air and Annex 11 Air Traffic Services, the latter including the SERA regulation (Reg (EU) 923/2012). This satisfies ICAO's objectives of the air traffic services to prevent collisions between aircraft, as published in Annex 11 Air traffic services and transposed into Reg (EU) 923/2012 SERA.7001. Neither ICAO nor SERA prescribes how surveillance data is to be used when dealing with 'unknown' aircraft. In addition to taking advantage of numerous flexibilities found within ICAO/EU provisions, the CAA's proposals additionally take into consideration: • ICAO DOC 8168 Aircraft Operations Volume 1 Flight Procedures, chapter 1, paragraph 1.1.1, which states that, when an aircraft carries a serviceable transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes (transposed as SERA.13001). • Annex 11 Paragraph 2.27 requires States to establish requirements for carriage and operation of pressure-altitude reporting transponders within defined portions of airspace. • SERA.6005 - Requirements for communications and SSR transponder establishes the TMZ 'tool' in EU law. An example of another European State is Austria, which requires an operational Mode S transponder with altitude reporting to be used within Class E airspace for all powered flight.

	The consultation document does not propose that all Class E airspace must also be TMZ nor does it seek to additionally notify extant Class E airspace as TMZ. An ANSP may initiate an ACP to introduce Class E airspace with or without a TMZ, or seek to add a TMZ to extant Class E airspace. States may elect to exercise these flexibilities or file justified Differences to ICAO requirements as they see fit; the UK is no different from any other in this regard. Such Differences are not 'hidden' – see UK AIP GEN 1.7. The change proposals seek to refine current procedures and bring about greater convergence with basic ICAO requirements. However, this must be done safely, and also take the current UK ATS arrangements for Class G airspace into consideration in order to obviate or minimise procedural variations that could place adverse impacts upon IFR and VFR traffic alike. As for other UK ATS arrangements, these are out of scope of this consultation but the need for UK FIS to be reviewed has been identified as an aspect of UK implementation of (EU) 2017/373: Part-ATS 'Phase 2'.

Commentor:	**Airspace4All ltd**
Page number:	N/A
Paragraph number:	N/A
Comment:	3.0 **CONSULTATION NOT COMPLIANT WITH CAA REGULATION** 3.1 It is evident that this consultation proposes a change to existing Class E airspace and must therefore follow CAP 1616. Moreover, it proposes to establish a TMZ which the CAA's own policy document1 on such changes requires the Airspace Change Process to be followed. Even if this consultation did not propose a change to existing Class E airspace, establishing a CAA policy that all Class E must be a TMZ, a priori, would subvert the ACP decision process and prevent the CAA making a valid and legally defensible decision. For these reasons the consultation should be

	struck out and a proper and public review of the ATS regulations conducted. This is a misuse of an ATS "procedure change" to make a wholesale and widespread change to UK airspace
Justification:	As above
Proposed text:	N/A
CAA response:	Not accepted. ATS procedure changes normally undergo consultation with the CAA's Air Traffic Control Procedures Working Group (ATCPWG). On this occasion the CAA decided to consult more widely on its change proposals, hence NATMAC due to its airspace user membership. The consultation focussed on a limited number of ATS delivery issues within a specific airspace classification rather than wholesale change and was not seeking the introduction of a particular airspace classification in any part of the UK FIRs. It is therefore not an airspace change proposal. As the focus of the consultation is particularly narrow, the CAA believed an eight-week consultation period was appropriate.

Commentor:	**Airspace4All ltd**
Page number:	N/A
Paragraph number:	N/A
Comment:	4.0 **RESPONSES RELATED TO PARAGRAPH REFERENCE** 4.1 The paragraph above sets out Airspace4All Ltd's overall view of this proposal. It should be abandoned and a review commissioned, with airspace users, on the international requirements and the procedures that might deliver that for the future. Meanwhile we offer specific comment on the consultation document using its paragraph numbers as reference.
Justification:	As above
Proposed text:	N/A

CAA response:	Noted.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	1.3
Comment:	**Para 1.3 - PIR Not Conducted** Although the Class F decision letter signed by Mark Swan stated that a PIR would be conducted 12 months from the decision date and the results published, no such PIR has ever been conducted. This consultation refers to comments from NATS related to that but the text carefully avoids actually saying those were part of a PIR. Clearly they were not and no input has been taken from airspace users. It is unclear what “inefficiencies” were reported by NATS but they are not stated in this consultation. This is the basis of the entire proposal but it is not disclosed or evidenced. It must be. The original “evidence from NATS on which this is based must be disclosed
Justification:	As above
Proposed text:	N/A
CAA response:	Noted.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	2.1.2
Comment:	4.3 **Para 2.1.2 Impact on Class E Airspace Procedures** It is disingenuous of the authors to direct their interest solely to those ATS Staff operating the procedures when the greater affect is actually on the airspace users impacted by the proposed change. With the introduction of Part ATS it is possible that large swathes of Class E airspace to be established and an additional requirement for Mode S transponders would exclude all foot launched aircraft (hang and paragliders) of which some 7000 were

	in use at the last count. Moreover some 2000 gliders would be excluded. Any suggestion that such aircraft could be given a clearance is not tenable because, except for crossing narrow strips of Class E, none of these aircraft can follow a clearance so cannot accept one. Of course, the nature of some future Class E airspace may demand a TMZ but that would need to be decided on an evidence-based assessment of traffic levels and risk. These things are notably absent from this consultation which relates entirely to how cumbersome certain existing procedures are said to be to air traffic controllers. The proposal does not consider airspace users at all and is not evidence-based
Justification:	As above
Proposed text:	N/A
CAA response:	Noted: The consultation focused on specific aspects of Air Traffic Service provision within Class E airspace with the intention of introducing efficiencies that would benefit both ATS providers and airspace users alike, for example, through the application of more efficient electronic conspicuity arrangements. The consultation document does not propose that all Class E airspace must also be TMZ. Furthermore, the consultation document does not propose changes to the non-transponder aircraft TMZ access provisions detailed within Policy Statement for radio mandatory zone and transponder mandatory zone. The potential impacts of (EU) 2017/373 Annex IV Part-ATS are outside of the scope of this consultation.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	2.4.1
Comment:	4.4 **Para 2.4.1 Consideration of ATM Inefficiencies** The response requirement demonstrates that the authors have given no consideration to the impact on airspace users. They should recognise that the airspace is not there just for the benefit

	of ATS controllers. Indeed, it is not there for their benefit at all; they are there to serve the airspace user.
Justification:	
Proposed text:	
CAA response:	Noted: The focus of the paper is to ensure controlled IFR flights in Class E airspace are provided with an air traffic control service that is compliant with ICAO / SERA airspace classification system. Airspace infringements can and unfortunately do occur, and for this reason Option D is the CAA's preferred option because it enables the detection of airspace infringements that potentially pose the greatest risk The consultation document does not propose that all Class E airspace must also be TMZ. However, for Class E that is also TMZ, aircraft without a serviceable transponder may still be flown in such airspace in accordance with the non-transponder access provisions in the CAA's Policy Statement for radio mandatory zone and transponder mandatory zone.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	3.1
Comment:	4.5 **Para 3.1 NATS PIR** The proposal highlights a signed statement by Mark Swan in the Class F decision letter that a PIR would be conducted and published when this has not been delivered. It is disgraceful that the CAA now relies on a NATS document, that has not been published or detailed, in the consultation. Clearly NATS (you do not say but we presume this is NERL) has a commercial interest in the cost of its operational delivery and for some time has said that it will only control Class A airspace. It is unsurprising that they might say that controlling Class E airspace is unsustainable. Without access to this document and ability to question the conclusions in the wider FIR context, we must reject everything that builds on it.

	The whole basis for this proposal is the internal review by NATS about inefficiency. You do not disclose this document Please provide a copy of this document within 7 days of this submission so that we can consider our further actions
Justification:	
Proposed text:	
CAA response:	Noted.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	3.4 and Table 2
Comment:	There is no international requirement to advise pilots when they enter of leave Class E airspace. As far as we can tell this does not happen anywhere else in the World. As such, pilots are unaware of this UK difference in procedure - even UK pilots - because it is not in the UK AIP. We have recently provided the Airspace Regulator with a note of an extended RTF exchange demonstrating that pilots have no idea why they are being given such messages and do not know what is expected of them. Such confusion is very bad for air safety and must be removed. The requirement for controllers to advise pilots entering and leaving Class E airspace should be deleted The requirement that radar returns must not be allowed to merge is, de facto, separation. Thus, the UK requires separation between IFR and VFR flights in Class E airspace. Such “secret” and undeclared difference is unacceptable. The requirement for controllers to prevent radar returns merging should be deleted and replaced with the requirements of ICAO and SERA
Justification:	
Proposed text:	
CAA response:	Noted.

	The requirement to advise pilots of IFR flights of entering and leaving Class E airspace is not unique to the UK. Such calls occur in the Netherlands when an IFR flight carries out an unplanned diversion and the flight passes through Class E airspace. The requirement that radar returns must not be allowed to merge satisfies ICAO's objectives of the air traffic services to prevent collisions between aircraft, as published in Annex 11 Air traffic services and transposed into Reg (EU) 923/2012 SERA.7001. Neither ICAO nor SERA prescribes how surveillance data is to be used when dealing with 'unknown' aircraft, hence States must determine appropriate procedures. The change proposals seek to refine current procedures and bring about greater convergence with basic ICAO requirements; the proposed radiotelephony procedures have been modified to reflect consultation feedback.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	3.5
Comment:	**Para 3.5 Matters Raised By NATS** This paragraph confirms the headline issues raised by NATS but does not provide evidence of relevance or importance. Without that information we must reject the proposal.
Justification:	
Proposed text:	
CAA response:	Noted.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	4.1.4
Comment:	**Para 4.1.4 Requirement For RTF Announcements** This section of the paper develops that in para 3.4 and Table 2. Although you recognise that there is no international requirement

	to advise pilots entering or leaving Class E you say you do this to alert pilots to the change in ATS services. We believe this does not happen anywhere else in the World so, rather than providing pilots with some information useful for the safe conduct of the flight, it just creates confusion. Moreover, this often occurs during departure or arrival which are often cited as being “critical stages of flight” therefore such confusion increases risk to commercial flights. The whole of the German FIR is Class E below FL100 (variations in Alpine regions) down to 1000ft agl but commercial pilots from around the World are largely unaware of this classification and manage their aircraft in a standard way. Similarly, pilots flying to other States are almost universally unaware of the classification of the airspace they are flying in, even into and out of Class G. This is UK gold plating; is unnecessary and is out of step with international practice. It increases controller workload in a phase of flight which demands appropriate controller attention on more important matters. It confuses pilots, is a flight safety hazard and should be removed.
Justification:	
Proposed text:	
CAA response:	Not accepted. If the assertion that pilots are largely unaware of the airspace classification is correct, then it stands to reason that pilots would not be aware of their changing responsibilities as their flight progresses through different airspace classifications. The inference that this lack of pilot knowledge has no demonstrable effect on safety does not consider action initiated by controllers or mitigating measures implemented by ATS providers. Indeed, any such lack of knowledge should not be tolerated as it has the potential to create not resolve safety issues.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	4.2.2

Comment:	4.9 **Para 4.2.2 Options For Change** The statements listing the avoidance criteria for Class E and other controlled airspace are different, but both are in conflict with international standards. Removal of the provisions and a fresh evidence based regulatory start would resolve this. It seems that the only process considered in the document is to build more regulation on top of existing, but inefficient regulation. This must be removed and a fresh and clean start made based on evidence and data.
Justification:	
Proposed text:	
CAA response:	Not accepted. Unlike other controlled airspace classifications Class E airspace is a controlled IFR and an uncontrolled VFR environment. Extant Class E ATS provision requirements seek to reduce the risk to controlled IFR flights generated by an IFR flight infringing Class E airspace. They satisfy ICAO's objectives of the air traffic services to prevent collisions between aircraft, as published in Annex 11 Air traffic services and transposed into Reg (EU) 923/2012 SERA.7001. Neither ICAO nor SERA prescribes how surveillance data is to be used when dealing with 'unknown' aircraft, hence States must determine appropriate procedures. Option D introduces the ability to detect VFR flights, which in turn enables controllers to apply ATS provision principles that are closer aligned with ICAO/SERA.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.1.2 / 3
Comment:	4.10 **Para 5.1.2/3 Confirmation That UK Procedures Do Not Comply With ICAO Or EASA Procedures** Although these paragraphs make statements that the UK requires separation between unknown traffic, it is clear that the UK requires IFR traffic to be separated from all other traffic which includes VFR

	traffic. However, para 5.1.3 says the regulation avoids the provision of separation against aircraft operating autonomously under VFR but that is a clear contradiction because of the requirement that radar returns are not allowed to merge.
Justification:	
Proposed text:	
CAA response:	Not accepted: The CAA's proposals seek to establish a methodology to determine which flight rules aircraft are operating in accordance with, which in turn would enable the amendment of service provision principles for Class E airspace. The proposed amendment to air traffic control service provision principles will be: 10A.5 Unverified Mode S altitude reporting or Mode C data may be used for separation purposes within controlled airspace as follows: (1) for IFR flights within Class A-D airspace, and VFR flights within Class B and C airspace, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; (2) for IFR within Class E airspace, except against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; and (3) for IFR flights within Class E airspace, against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, wherever practicable, pass traffic information and if requested by the pilot or when deemed necessary by the controller, suggest traffic avoidance advice. **Note:** The procedure in (2) & (3) only applies to Frequency Monitoring codes notified for the purposes of VFR conspicuity.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	Table 4
Comment:	**Table 4 - ICAO and SERA Requirements** Table 4 confirms that the UK has added requirements not included in ICAO or SERA. Aircraft operating worldwide in Class E airspace expect to be given traffic information on VFR aircraft, where available, but the UK requires that IFR aircraft be given instructions to avoid them even if they are displaying a squawk that indicates a clear level difference. There is nothing in any aeronautical information that tells pilots this is going to happen, they expect to be given traffic information unless they request something else. MATS Part 1 is not issued to pilots. Clearly this does not "avoid the application of separation against aircraft operating VFR" contrary to para 5.1.3. Para 5.2.5 states this unequivocally. The UK must comply with ICAO and SERA standards in regard to separation requirements. This proposal should implement that as its basis for regulation
Justification:	
Proposed text:	
CAA response:	Not accepted: For clarification the requirement for the passing of traffic information within Class E airspace is "… as far as is practical", rather than "where available"; see ICAO Annex 11, chapter 2, Paragraph 2.6.1 / (EU) 923/2012 SERA.6001(e). In addition, the requirement to provide "… a course of avoiding action …" is on also with the condition "…whenever practicable…"; see ICAO Doc 4444 PANS-ATM, chapter 8, paragraph 8.8.2.1(a) / (EU) 923 /2012 as amended by (EU) 2016/1185 SERA.7002(a)(1). At present ENR 1.4 does not explain that traffic avoidance advice will be provided when requested; this deficiency will be addressed as part of the proposed changes with this consultation. Regarding MATS Pt 1, at present it states the following: "in Class E airspace radar returns, however presented, are not allowed to merge unless the pilot in receipt of traffic information

	advises that he intends to avoid the other aircraft without ATC assistance." The rationale behind this text is based on the fact the unknown aircraft within Class E airspace should be operating in accordance with VFR, but this might not necessarily be the case and at present there is no by which a pilot of an unknown aircraft to indicate the flight rules with which he / she is complying. In addition, if the unknown aircraft is operating in accordance with IFR, the controller cannot be assured that the any associated altitude data is accurate. With the introduction of distinct VFR and IFR conspicuity codes, the controller will have greater certainty over the flight rules complied with by pilots of unknown aircraft and more appropriate provisions can be applied to unknown aircraft according to their flight rules. The proposed amendment to the above is as follows: "10A.5 Unverified Mode S altitude reporting or Mode C data may be used for separation purposes within controlled airspace as follows: (1) for IFR flights within Class A-D airspace, and VFR flights within Class B and C airspace, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; (2) for IFR within Class E airspace, except against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; and (3) for IFR flights within Class E airspace, against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, wherever practicable, pass traffic information and if requested by the pilot or when deemed necessary by the controller, suggest traffic avoidance advice.

	Note: The procedure in (2) & (3) only applies to Frequency Monitoring codes notified for the purposes of VFR conspicuity."

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.2.5 / 6 and Table 4
Comment:	4.12 **Para 5.2.5/6 and Table 4** There is a major logic failure between the discussions in 5.2.5 to 5.2.7 and Table 4. The ICAO and SERA requirements include that "whenever practical, pilots of controlled flights are informed of unknown aircraft and if the pilot so requests avoiding action suggested" but then Table 4 takes a leap and says the avoiding action must be provided in the form of control, cutting out the pilot request. Clearly this increases pilot and controller workload and is a procedure unknown to pilots. The UK must align its ATS procedures with the airspace requirements of ICAO and SERA. It must not embellish them with UK procedures that are not known to pilots
Justification:	
Proposed text:	
CAA response:	Partially accepted. The CAA agrees that ATS procedures must be so aligned, subject to national Differences where these are justified. As autonomous IFR flight is permitted within UK Class G airspace, extant Class E ATS provisions seek to reduce the risk to IFR traffic generated by an IFR flight inadvertently infringing Class E airspace. Option D introduces the ability to discriminate between VFR and IFR flights, which in turn enables controllers to apply ATS provision principles that converge with ICAO/SERA.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.3.1
Comment:	5.1 **Para 5.3.1 Option A: Do Nothing** We do not know what the “historic safety concerns” are because these are not stated in the consultation. If they are to be referenced here they must be stated. We agree that the UK-only regulations applied to Class E airspace are inappropriate and inefficient, but we also note that they are not published in a way that enables pilots to know they exist. The current arrangements must go.
Justification:	
Proposed text:	
CAA response:	Noted. The inability to determine which flight rules are being followed by unknown aircraft has driven the requirements within MATS Pt 1. Prior to Class F being changed to Class E, Option B was applied to Class E airspace.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.3.2
Comment:	5.2 **Para 5.3.2 Option B: return to pre-2014 ATS provisions** We agree that this option would be a significant departure from ICAO and SERA procedures.
Justification:	
Proposed text:	
CAA response:	Accepted.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.3.4
Comment:	**Para 5.3.4 Option C: Adopt ICAO Class E airspace ATS provision principles without modification and assume that all unknown traffic within Class E airspace are operating in accordance with VFR** We support this option but in a somewhat different format. The principle issue is the assumption that an aircraft which is not transponding or one which is showing the general conspicuity code 7000 might be an IFR aircraft which has entered the Class E airspace without clearance: 5.3.1 Clearly, an aircraft flying VFR cannot infringe Class E airspace whether it carries a transponder or not. But the UK does not implement the ICAO VFR conspicuity code. 5.3.2 The UK **general** conspicuity code 7000 is yet another UK divergence from ICAO where it is defined as a **VFR** conspicuity code. Many, if not most GA transponders have this code automatically available and labelled **VFR** on the control panel. Most GA pilots believe that this a VFR code. Germany changed to 7000 as its VFR code in 2007. The UK must change this UK-only and pointless difference to ICAO and remove the anomaly. 5.3.3 ICAO does not specify a general **IFR** conspicuity code but many states do. Canada 1000, Australia 1200 or 2000 and so on. The UK could adopt such a code immediately and press ICAO to define a common code for international use. 5.3.4 Taken together, removing the UK only and pointless differences to international standards would remove the issue of identifying IFR aircraft infringing Class E. Removing regulation is better than piling more regulation on top of that. Within this option is the potential to satisfy the real needs of airspace management in Class E whilst meeting the needs and capabilities of all airspace users The rationalisation of conspicuity codes and the removal of non-standard UK ATS procedures would be required

	5.3.5 On a general principle of the CAA delivering data-rich, evidence-based regulation, if the CAA believes that there is any risk to IFR traffic in Class E of collision with infringing traffic being flown IFR (and IMC) then that risk must be identified and quantified. There is no previous mention of this in the document and no evidence is adduced. It appears to be an imagined risk with a large and expensive set of regulations proposed to solve it. They would generate further complexity, inefficiency and unquantified further risks. Quotation from Europe Air Sports: Fear is the worst driver for rule makers, whether their background is legal or expertise: It leads inescapably to the accumulation of more and more detailed rules to cover outcomes of frightened imagination. Risk analysis is the recommended driver as it sticks with reality
Justification:	
Proposed text:	
CAA response:	Noted. ICAO's Annex 2, 11 or PANS-ATM etcdoes not define A7000 for the purpose of VFR conspicuity or A2000 for the purposes of IFR conspicuity. ICAO EUR DOC 023 (an EUR regional publication) defines these as follows: "Code 2000 shall be used by flight crews in the absence of any Air Traffic Control (ATC) instructions or regional agreements unless the conditions for the use of codes: 7000, 7500, 7600 and 7700 apply."; and "Code 7000 shall be used by flight crews not receiving ATS service in order to improve detection of suitably equipped aircraft in areas specified by States, unless otherwise instructed by ATS." However, many European States define A7000 for the purposes of VFR conspicuity and several European States also use A2000 for IFR conspicuity because of the additional utility and clarity it provides to ATS. The adoption of these practices also enables the

	UK to similarly benefit as well as facilitate greater harmonisation, especially with several neighbouring States.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.3.5
Comment:	5.4 **Para 5.3.5 Option D: Redefine Class E ATS provision principles and implement VFR and IFR conspicuity codes**. At this point in the consultation a host of proposed regulations and significant airspace changes are introduced. None has been discussed in the body of the paper and none has evidence to support them. This is unacceptable in change management. 5.4.1 Para 5.3.5.1: It is unacceptable to propose a blanket change adding a TMZ requirement to Class E airspace as that would require a CAP 1616 process. It would pre-decide all future Class E ACPs and prevent the CAA from exercising its statutory duties. It would change part of the Scottish TMA without due CAP 1616 process. As a result of this the present consultation must be withdrawn. The wholesale change of Class E airspace to Class E + TMZ requires CAP1616 process for both existing and future airspace. A pre-existing policy on this would prevent the CAA from exercising its statutory duties on airspace changes The consultation and proposal must be withdrawn The gamut of additional regulation proposed in this section have not been costed, compared or analysed as to their operational effect. They include: **(i) Class E should be notified as a TMZ and VFR flights must display a VFR conspicuity code** There needs to be full analysis of the impact of this proposal. For example, the approximate 7000 foot-launched aircraft cannot be fitted with a transponder and fitting in a majority of gliders would be uneconomic because of the EASA airworthiness regulations.

	Moreover, the removal of the UK differences listed under option C above would render this proposal unnecessary. **(ii) A7000 would become a VFR conspicuity code** We agree that the UK should abandon its difference and align with this ICAO definition **(iii) Establish an IFR conspicuity code** We agree that A2000 as an IFR conspicuity code (as in Australia) or some other common code is appropriate for all airspace. We propose that ICAO be pressed to make such a code common. **(iv) Redefine Monitoring Codes** We do not understand what this means. A monitoring code is quite different to a conspicuity code and neither Appendix D or F informs us on that. This is not discussed anywhere in the body of the consultation document. The use of monitoring codes is inexorably linked with a requirement to monitor a specified ATS frequency but this is not discussed or analysed anywhere in the consultation. Many airspace users need to be on particular frequencies for safety or operational reasons. For example gliders wave soaring need to be on a common frequency and must be able to communicate directly with each other for operational reasons and to prevent collisions. But that is something that is not allowable on an ATS frequency. The introduction of monitoring codes as a general requirement must be properly consulted and considered. **(v) Amend the Special Purpose Code A0024 (Radar Flight Evaluation / Calibration) for the purpose of VFR conspicuity when it is used within Class E airspace** This is madness. You have just proposed a VFR code of A7000 to facilitate identification in Class E. That can only be delivered by Mode S which will provide a level - therefore defining aircraft which are in Class E and those below (or above) it. You now want another UK only code of A0024 for VFR flight in Class E. The explanation in this paragraph is a completely circular argument and must be disregarded. We do not agree with this proposal.
Justification:	

Proposed text:	
CAA response:	Noted: The consultation document does not propose that all Class E airspace must also be TMZ. Rather, it remains that an ANSP may initiate an airspace change proposal to seek additional notification of airspace as a TMZ. For Class E that is also TMZ, aircraft without a serviceable transponder may still be flown in such airspace in accordance with the non-transponder access provisions in the CAA's Policy Statement for radio mandatory zone and transponder mandatory zone. Paragraph (i): Noted Paragraph (ii): Noted - The CAA welcomes support from Airpsace4All Ltd. Paragraph (iii): Noted - The CAA welcomes support from Airpsace4All Ltd. Paragraph (iv): Not accepted – The consultation document proposes an ANSP's ability to redefine a Frequency Monitoring Codes (FMC) who are the controlling authority for Class E airspace, with or without TMZ, for the purpose of extending its use for class E airspace, i.e. 'VFR conspicuity within Class E airspace'. This would enable pilots displaying the FMC to operate within Class G and Class E airspace without the need of changing the transponder code to A7000 to gain access to Class E airspace. The concept of defining 'special purpose codes' for the purpose of 'VFR conspicuity within Class E' further increases the electronic conspicuity of such aircraft. Paragraph (v): Accepted – A0024 will not now be considered for dual purpose, it will remain for 'conspicuity' purposes without reference to flight rules.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	
Comment:	5.5 **Para 5.3.5.2 and onward - Consideration of the options**

	Again, we find a completely false logic in the discussion. Previously it was argued that an aircraft in Class E with no transponder code might be IFR and infringing. To solve this you propose to make all aircraft carry transponders and use VFR or IFR codes. But an aircraft flying IFR properly (perhaps on an IFR flight plan) is unlikely not to obtain a clearance and is unlikely to present an infringement risk. An aircraft flying VFR and using a VFR code could still enter IMC and therefore infringe. But you would now expect controllers to believe that any such aircraft are actually flying in accordance with the VFR when they are not. This is not logical. The huge effort of additional regulations, changes to airspace categories and the plethora of directions to controllers would have achieved nothing. We do not agree with this proposal. We argue that removal of the UK-only regulations and the splitting VFR and IFR codes would achieve the same result without the blanket requirements of a TMZ. This section goes on to require dissemination of all these rules to pilots when they are principally matters for ATC controllers and there is no mechanism for such dissemination to pilots. The authors of the proposal need to look at the issues from the viewpoint of the airspace user rather than from that of a narrow ATS regulator.
Justification:	
Proposed text:	
CAA response:	Partially accepted: The consultation document does not propose that all Class E airspace must also be TMZ. However, for Class E that is also TMZ, pilots in aircraft without a serviceable transponder may obtain permission to enter by obtaining approval from the controlling authority notified for the volume of airspace under consideration (as per Policy Statement for radio mandatory zone and transponder mandatory zone). A flight conducted in meteorological conditions less than VMC is in IMC and therefore cannot be VFR; autonomous IFR flight within Class E airspace is not permitted. More importantly, the pilot's ability to see and avoid collisions will naturally be reduced. In these circumstances, option C (Airspace4all Ltd's preferred choice)

	would not mitigate the Mid-Air Collision (MAC) risk for controlled IFR flights in Class E airspace. Pilots are expected to conduct their flights in accordance with the privileges of their licence and and compliance with the rules of the air. The CAA's preferred option (option D) enables pilots to indicate the flight rules they are employing, which removes the operational assumption that all unknown flights are operating in accordance with VFR, which might not be true on every occasion.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	5.4
Comment:	6.0 **Para 5.4** Preferred option D does not align with international obligations and standards. It adds yet more UK differences and moves further away from what pilots (both GA and commercial) understand. The adoption of common VFR and IFR conspicuity codes would be a sensible general change. The proposal for blanket TMZ in Class E is contrary to CAA directions. As a result of these proposals controller workload would go up not down. The proposal would not provide detection of Class E infringing IFR aircraft. Elsewhere in the World, pilots are not alerted when entering or leaving Class E. This is a UK-only ATS regulation which is not common to ICAO, SERA or other States and is unknown to pilots. It is unsurprising that this regulation causes confusion and increases controller workload. Airspace4All Ltd cannot support the preferred option because it is illogical, at odds with international requirements, would not achieve the objectives of the proposal and would seriously damage future access to airspace for non-commercial airspace users
Justification:	

Proposed text:	
CAA response:	Not accepted. The CAA's preferred option (Option D) is constructed using a 'toolbox' approach though selecting measures permitted by ICAO / SERA, whereas Option C introduces an operational assumption that the majority of Europeans States with Class E airspace do not have to consider. A7000 is defined by the following European States for the purpose of VFR conspicuity: 1 - Austria: ENR 1.6 Paragraph 3.1.2 2 - Czech Republic: ENR 1.6 Paragraph 1.6.2.4.3 3 - Denmark: ENR 1.6 Paragraph 1.6 Paragraph 2.1 c. 4 - France: ENR 1.6 Paragraph 1.6.2 b) 5 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.2 6 - Netherlands: ENR 1.6 Paragraph 2.1.1 d. 7 - Poland: ENR 1.6 Paragraph 15.3 8 - Portugal: ENR 1.6 Paragraph 1.6.5.6 9 - Romania: ENR 1.6 Paragraph 2.2.2 10 - Slovenia: ENR 1.6 Paragraph 2.4.1 A2000 is also used for IFR conspicuity, within: 1 - Denmark: ENR 1.6 Paragraph 2.1 c. 2 - France: ENR 1.6 Paragraph 1.6.2 a) 3 - Greece: ENR 1.6 Paragraph 1.6.6.2.2.1 4 - Poland: ENR 1.6 Paragraph 15.2 5 - Romania: ENR 1.6 Paragraph 2.2.1 6 - Slovenia: ENR 1.6 Paragraph 2.4.1 In addition, SERA.13001 details the 'operation of an SSR transponder' within controlled and uncontrolled airspace whereas a TMZ ensures an electronic conspicuity-rich environment as far as practicable. The CAA's Policy Statement for radio mandatory zone and transponder mandatory zone outlines TMZ transponder

	carriage requirements together with access arrangements for pilots in aircraft without a serviceable transponder.

Commentor:	**Airspace4All ltd**
Page number:	
Paragraph number:	
Comment:	**CONCLUSION** 7.0 Airspace4All Ltd recognises that the current UK ATS rules for the operational of Class E airspace are founded on a dislike and fear of airspace which is open to uncontrolled traffic. The proposed rules would create an airspace which does not comply with ICAO or SERA standards, is inefficient, complex, misunderstood and generates workload for controllers and aircrew alike. Safety standards would be reduced. Whilst we disagree absolutely with the proposal and the way it has been presented, we believe it now offers an opportunity to standardise UK airspace for the benefit of all users. We propose that this consultation be withdrawn and the CAA engages with users to develop an evidence-based and data rich proposal from Option C as a basis.
Justification:	
Proposed text:	
CAA response:	Noted.

Commentor:	**British Gliding Association (Scotland)**
Page number:	18
Paragraph number:	5.3.5.1 (i)
Comment:	Buried within this rather complex (for the layman) document seemingly relating to fine detail of ATC procedures is a proposal for an airspace change – making all Class E also TMZ. Most Class E in the UK is already TMZ but this proposal includes changing the remaining non-TMZ Class E into TMZ. The relevant airspace is on the northern edges of the Scottish CTA and in close proximity to a

	very busy gliding site at Portmoak / Scottish Gliding Centre. If this airspace were to become TMZ it would severely impact gliding operations from this site. In any case, CAA has a procedure for ACP and it should be followed. This proposal seems a clear breach of CAA's own policies and procedures.
Justification:	CAA should follow its own procedures and not attempt to introduce airspace change by stealth.
Proposed text:	Remove any proposals for airspace change and run a separate ACP in accordance with CAP 1616. In fact the levels of IFR traffic within this fairly small chunk of Class E are minimal and a sensible outcome would be to return this airspace to Class G.
CAA response:	Not accepted: The consultation document is not proposing changes to extant non-TMZ Class E airspace nor does it propose that all Class E airspace must be TMZ. Paragraph 5.3.5.1 (i) states "Class E airspace *should* also be further notified as TMZ.". As per the CAA's extant Policy Statement for radio mandatory zone and transponder mandatory zone, paragraph 3.1, TMZs are to be established for overriding safety reasons in accordance with the Airspace Change Process.

Commentor:	**HIAL**
Page number:	17
Paragraph number:	5.3.4.2 10A4 (3) MATS Part 1 should have specific text inserted with reference to Class E+
Comment:	**Option C** CAA should adopt the position taken by ICAO in relation to Class E
Justification:	Standard application of airspace classifications and service delivery/responsibility
Proposed text:	10A.4 Addition: Except:

	(3) In Class E where IFR aircraft under a Radar Control Service will be separated from known IFR flights and traffic information on known VFR traffic will be provided where practical. NOTE: When an identified controlled IFR flight is observed to be on a conflicting path with an unknown aircraft, deemed by the controller to constitute a hazard, the pilot of the controlled flight shall whenever practicable: (a) be informed of the unknown aircraft and if the pilot requests or if in the opinion of the controller the situation warrants then avoiding action shall be suggested and (b) be notified when the conflict no longer exists. No separation of VFR flights from VFR Traffic information will be provided only where practical
CAA response:	Not accepted: Option C assumes all unknown traffic is operating in accordance with VFR, which might not necessarily be correct on every occasion, hence the CAA's preference for option D.

Appendix B: Phase one - Class E procedure refinement within the MATS Pt 1

MATS Pt 1, section 1, chapter 1:

The insertion of a new paragraph 3.2 as follows:

3.2 Where air traffic services units provide both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires (SERA.9001(c)).

MATS Pt 1, section 1, chapter 2:

2. Classification of Airspace

2.1 The classification of the airspace within a FIR determines the flight rules which apply and the minimum services that are to be provided (SERA.6001). These are summarised below.

Table 1: Classifications of Airspace Established in the UK FIRs

Class	Flight Rules	Aircraft Requirements	Minimum Services by ATC Unit
A	IFR only	ATC clearance before entry. Comply with ATC instructions.	Separate all aircraft from each other.
C	IFR and VFR	ATC clearance before entry. Comply with ATC instructions.	(a) Separate IFR flights from other IFR and VFR flights; (b) Separate VFR flights from IFR flights; (c) Pass traffic information to VFR flights on other VFR flights and give traffic avoidance advice if requested.
D	IFR and VFR	ATC clearance before entry. Comply with ATC instructions.	(a) Separate IFR flights from other IFR flights; (b) Pass traffic information to IFR flights and SVFR flights on VFR flights and give traffic avoidance advice when requested; (c) Pass traffic information to VFR flights on all other flights and provide traffic avoidance advice when requested.

E	IFR and VFR	IFR flights to obtain ATC clearance before entry and comply with ATC instructions. VFR flights do not require clearance.	(a) Separate IFR flights from other IFR flights; (b) to IFR flights: wherever practicable, pass traffic information and if requested by the pilot or when deemed necessary by the controller, suggest traffic avoidance advice on participating and non-participating VFR flights; (c) to VFR flights: provide traffic information in accordance with CAP 774 – UK Flight Information Services).
G	IFR and VFR	None.	None.

Note 1: Airspace Classes A, C, D and E are controlled airspace.

Note 2: Class E airways are notified as Transponder Mandatory Zone (TMZ).

Note 3: When the controller considers that more immediate action is required by the pilot, traffic avoidance advice may be passed by ATC before traffic information.

2.2 Notwithstanding the minimum service requirements associated with each airspace classification, traffic information shall be passed, and traffic avoidance advice given to aircraft on any occasion that a controller considers it necessary in the interests of safety.

MATS Pt 1, section 1, chapter 6

1C.5 Participating VFR flights in Class E airspace shall not be provided with an Air Traffic Control Service, but one of the following types of UK FIS (see CAP 774 – UK Flight Information Services):

(1) Basic Service; or

(2) Traffic Service.

1D.1 Surveillance services provided within Class G airspace (Deconfliction Service and Traffic Service) are detailed in CAP 774 – UK Flight Information Services.

10A.6 Aircraft that do not meet the published operating requirements for a particular volume of TMZ may be deemed to be operating outside that TMZ unless:

(1) information received indicates that an aircraft is lost or has experienced a radio failure; or

(2) the controller has approved such an aircraft to enter TMZ airspace without identifying the aircraft using an appropriate method.

14B.1 Within Class G airspace, regardless of the service being provided, pilots are ultimately responsible for terrain clearance. However, terrain requirements pertaining to level allocations and the provision of vectors are specified within the conditions of the services as detailed within CAP 774 – UK Flight Information Services.

15.2 The action to be taken by controllers when they observe an unknown aircraft, which they consider to be in unsafe proximity to traffic receiving an ATS varies according to the airspace classification in which the event takes place as follows:

Table 5:

Class	Action to be taken by the Controller
A	If surveillance derived or other information indicates that an aircraft is making an unauthorised penetration of the airspace, is lost, or has experienced radio failure, flights shall be given traffic avoidance advice and traffic information shall be passed.
C & D	If surveillance derived, or other information, indicates that an aircraft is making an unauthorized penetration of the airspace, is lost, or has experienced radio failure: IFR flights shall be given traffic avoidance advice and traffic information shall be passed. VFR and SVFR flights shall be given traffic information and if requested by the pilot or when deemed necessary by the controller, traffic avoidance advice shall be suggested; see note 1.
E	Pass traffic information unless the controller's primary function of sequencing and separating IFR flights is likely to be compromised. IFR flights shall be given traffic avoidance advice if surveillance derived or other information indicates that an aircraft is lost, or has experienced a radio failure. IFR flights, whenever practicable, shall be given traffic information and if requested by the pilot or when deemed necessary by the

	controller, traffic avoidance advice shall be suggested on non-participating VFR flights; and Participating VFR flights shall be given traffic information in accordance with CAP 774 – UK Flight Information Services.
G	Flights receiving either the Deconfliction Service or Procedural Service shall be given traffic information and deconfliction advice in accordance with CAP 774 – UK Flight Information Services; see note 2, and Flights receiving either the Traffic Service or Basic Service shall be given traffic information in accordance with CAP 774 – UK Flight Information Services.

Note 1: When providing traffic avoiding advice, controllers shall remind pilots of their responsibility to remain clear of cloud with the surface in sight.

Note 2: When the controller considers that more immediate action is required by the pilot, traffic avoidance advice may be passed by ATC before traffic information.

18B. Outside Controlled Airspace

18B.1 In the event of clutter being present on the situational display controllers should consider the nature and extent of the clutter and if necessary take the following actions:

(1) For aircraft in receipt of a Deconfliction Service or Traffic Service, controllers should inform the pilot of the extent of the clutter and where practicable offer a reroute. However, this may not be possible due to traffic density, airspace availability and/or the requirement to follow specific arrival or departure tracks. The extent of such a reroute should where possible aim to achieve the planned lateral deconfliction minima from the observed clutter. However, it may still be necessary to reduce traffic information, and if applicable deconfliction advice, from the direction of the clutter as detailed within CAP 774 – UK Flight Information Services.

(2) For aircraft in receipt of a Traffic Service, and those aircraft under a Deconfliction Service that are not rerouted as above, controllers shall inform pilots of a reduction in traffic information/deconfliction advice as detailed within CAP 774 – UK Flight Information Services. If the controller cannot maintain aircraft identity, the service shall be terminated.

(3) For all surveillance services, in order to maintain track identity of aircraft being vectored to final approach, if re-routing around the clutter is not practicable for the reasons specified above, an alternative type of approach may need to be conducted.

MATS Pt 1, section 1, chapter 12:

Delete

MATS Pt 1, section 3, chapter 1:

1. Provision of Services

1.1 Approach Control Services within the UK FIRs comprise surveillance and non-surveillance-based ATS. The type of ATS to be provided depends on the classification of airspace within which the aircraft is flying as tabulated below:

Table 1:

Class	Services Provided	Remarks
A, C & D	Air Traffic Control Service with or without surveillance; and Alerting Service.	Aircraft are required to comply with air traffic control instructions.
E	Air Traffic Control Service with or without surveillance to IFR flights and Alerting Service; and Traffic Service or Basic Service and Alerting Service provided to participating VFR flights.	Participating VFR flights shall not be provided with an Air Traffic Control Service, but UK FIS in accordance with CAP 774 – UK Flight Information Services.
G	Procedural Service; or Deconfliction Service; or Traffic Service; or Basic Service; and Alerting Service.	Participating flights receive UK FIS in accordance with CAP 774 – UK Flight Information Services.

1A.3 Participating VFR flights in Class E airspace shall, subject to controller workload, be provided with either Traffic Service or Basic Service in accordance with CAP 774 – UK Flight Information Services.

Paragraph 2A.1 relocated to section 1, chapter 2, paragraph 2.2.

Paragraph 2A.2 including table 2 deleted as this is a replication of section 1, chapter 2, paragraph 2 – Classification of airspace.

MATS Pt 1, section 4, chapter 1:

1. Provision of Services

1.1 Area Control Services within the UK FIRs comprise surveillance and non-surveillance-based ATS in airspace not under the jurisdiction of an approach or aerodrome control unit.

1.2 The type of service to be provided will depend on the class of airspace within which the aircraft is flying as tabulated below:

Table 1:

Class	Services Provided	Remarks
A, C & D	Air Traffic Control Service with or without surveillance; and Alerting Service.	Aircraft are required to comply with air traffic control instructions.
E	Air Traffic Control Service with or without surveillance to IFR flights and Alerting Service; and Traffic Service or Basic Service provided, and Alerting Service to participating VFR flights.	Participating VFR flights shall not be provided with an Air Traffic Control Service, but UK FIS in accordance with CAP 774 – UK Flight Information Services.
G	Procedural Service; or Deconfliction Service; or Traffic Service; or Basic Service; and Alerting Service.	Participating flights receive UK FIS in accordance with CAP 774 – UK Flight Information Services.

Appendix C: Phase two - Class E procedure refinement within the Aeronautical Information Publication

UK AIP ENR 1.4, Paragraph 2.5

2.5 Class E – Controlled Airspace

	IFR	VFR
Service	Air Traffic Control Service.	Traffic information in accordance with UK FIS (Basic Service or Traffic Service) – see ENR 1.1, ENR 1.6 and Civil Aviation Publication (CAP) 774 – UK Flight Information Services.
Separation	Separation provided between IFR flights by ATC. Traffic information provided on VFR flights as far as practicable. Traffic avoidance advice will be provided when requested **(See Note 3)**.	None. However, pilots are encouraged to contact ATC and comply with instructions.
ATC Rules	Flight Plan required; **(See Note 1 and 2)** ATC clearance required; Radio Communications required; ATC instructions are mandatory.	None.
VMC Minima	Not applicable.	**At or above FL 100:** 8 km flight visibility 1500 m horizontal and 1000 ft vertical distance from cloud; **Below FL 100:** 5 km flight visibility 1500 m horizontal and 1000 ft vertical distance from cloud;
Speed Limitation	**Below FL 100:** 250 kt IAS; **OR** Lower when published in procedures or instructed by ATC.	

Note 1: *In certain circumstances, Flight Plan requirements may be satisfied by passing flight details on RTF (detailed at ENR 1.10).*

Note 2: *Pilot of IFR flights will be advised of when they enter and leave Class E airspace if the flight is an unplanned diversion or no flight plan has been filed prior to requesting a clearance to enter controlled airspace.*

Note 3: *Pilots must consider the need for Traffic Avoidance Advice upon receipt of traffic information. Pilots who require Traffic Avoidance Advice must make a corresponding request as soon as is practicable.*

UK AIP ENR 1.4:

2.5.1.2 Pilots of VFR flights who wish to operate without receiving an ATS within class E airspace in an aircraft with a serviceable transponder, or within class E airspace additionally notified as TMZ must display either:

a) the VFR conspicuity code A7000, with altitude reporting; or

b) the Frequency Monitoring Code defined as VFR conspicuity with altitude reporting established for use in that airspace (see ENR 1.6).

UK AIP ENR 1.6:

2.2.1 e) Code 2000. When:

(i) entering the United Kingdom airspace from an adjacent region where the operation of transponders has not been required; or

(ii) when operating within United Kingdom airspace in accordance with IFR and is either not receiving an ATS or has not received a specific instruction from ATS concerning the setting of the transponder; or

(iii) unless instructed otherwise by ATS, Mode S transponder equipped aircraft on the aerodrome surface when under tow, or parked and prior to selecting Off or STDBY.

2.2.2.1.3 Types:

*7000 – VFR conspicuity code: when operating within United Kingdom airspace in accordance with VFR and have not received a specific instruction from ATC concerning the setting of the transponder

*2000 – IFR conspicuity code: when operating within United Kingdom airspace in accordance with IFR and have not received a specific instruction from ATC concerning the setting of the transponder.

Appendix D: Phase two - Class E procedure refinement within the MATS Pt 1

MATS Pt 1, Section 1, Chapter 6:

The insertion of a new 1B.3 as follows:

1B. Type of Surveillance Service

1B.1 The airspace within which the aircraft is flying determines the type of surveillance service available, as shown in the table below.

Table 1:

Types of Airspace	Surveillance Service
Controlled Airspace	Radar Control Service
Outside Controlled Airspace	Deconfliction Service; or Traffic Service

1B.2 Pilots must be advised if a service commences, terminates or changes when:

(1) outside controlled airspace;

(2) entering controlled airspace, except when entering controlled airspace in connection with an IFR flight holding in Class E airspace in accordance with paragraph 1B.5 below;

(3) changing from IFR to VFR or VFR to IFR within Class E airspace;

(4) VFR flights entering Class C or D airspace from Class E airspace, or VFR flights leaving Class C or D airspace to enter Class E airspace;

(5) leaving controlled airspace:

(a) unless pilots are provided with advance notice in accordance with paragraph 1B.4 below; or

(b) except when leaving controlled airspace in connection with an IFR flight holding in Class E airspace in accordance with paragraph 1B.5 below.

1B.3 Additionally, pilots of IFR flights must be advised of the change of airspace classification when entering and leaving Class E airspace when the flight is:

(1) an unplanned diversion; or

(2) no flight plan has been filed at the time a clearance to enter controlled airspace is requested.

The associated phraseology is contained within CAP 413.

1B.4 For flights leaving controlled airspace controllers should provide pilots with advance notice of:

(1) the lateral or vertical point at which the aircraft will leave controlled airspace. Such notice should be provided between 5-10 nm or 3000-6000 ft prior to the boundary of controlled airspace;

(2) the type of ATS that will subsequently be provided, unless the aircraft is coordinated and transferred to another ATS unit before crossing the boundary of controlled airspace.

1B.5 IFR airborne holding might not be fully contained within the lateral boundaries of Class E airspace. Controllers are not required to advise pilots of such flights on the changes of ATS provided as they leave or enter Class E airspace. However, the controller shall provide either a Deconfliction Service, or Procedural Service, depending on the availability of ATS surveillance, for the portion of IFR flight in Class G airspace. Controllers are only required to advise pilots when a Procedural Service will be provided as pilots assume, unless otherwise advised, that the type of UK FIS they will receive will be a Deconfliction Service.

MATS Part 1, Section 1, Chapter 6:

10A.4 Aircraft Under Radar Control Service. If the intentions of verified Mode S altitude reporting or Mode C transponding aircraft are not known the minimum separation is for:

(1) IFR flights within Class A, C-E airspace, must be increased to 5000 feet, or alternative approved minima within MATS Part 2; and

(2) VFR flights within Class C airspace, must be increased to 5000 feet, or alternative approved minima within MATS Part 2.

10A.5 Unverified Mode S altitude reporting or Mode C data may be used for separation purposes within controlled airspace as follows:

(1) for IFR flights within Class A, C and D airspace, and VFR flights within Class C airspace, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge;

(2) for IFR within Class E airspace, except against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, a minimum vertical separation of 5,000 feet, or an alternative approved minima within MATS Part 2, and surveillance returns however presented are not allowed to merge; and

(3) for IFR flights within Class E airspace, against aircraft displaying VFR conspicuity or a Frequency Monitoring Code, wherever practicable, pass traffic information and if requested by the pilot or when deemed necessary by the controller, suggest traffic avoidance advice.

Note: The procedure in (2) & (3) only applies to Frequency Monitoring codes notified for the purposes of VFR within Class E airspace.

10A.6 Aircraft that do not meet the published operating requirements for a particular volume of TMZ may be deemed to be operating outside that TMZ unless:

(1) the controller has approved such an aircraft to enter TMZ airspace without identifying the aircraft using an appropriate method; or

(2) information received indicates that an aircraft is lost or has experienced a radio failure.

10A.7 When suggesting traffic avoidance advice, controllers shall aim to prevent surveillance returns from merging.

10A.8 For aircraft receiving a Deconfliction Service, refer to CAP 774, chapter 4, paragraph 4.10.

15.2 The action to be taken by controllers when they observe an unknown aircraft, which they consider to be in unsafe proximity to traffic receiving an ATS varies according to the airspace classification in which the event takes place as follows:

Table 5:

Class	Action to be taken by the Controller
A	If surveillance derived or other information indicates that an aircraft is making an unauthorised penetration of the airspace, is lost, or has experienced radio failure, flights shall be given traffic avoidance advice and traffic information shall be passed.
C	If surveillance derived or other information indicates that an aircraft is making an unauthorized penetration of the airspace, is lost, or has experienced radio failure: IFR flights shall be given traffic avoidance advice and traffic information shall be passed. VFR flights shall be given traffic information and if requested by the pilot or when deemed necessary by the controller, traffic avoidance advice shall be suggested.
D	If surveillance derived, or other information, indicates that an aircraft is making an unauthorized penetration of the airspace, is lost, or has experienced radio failure: IFR flights shall be given traffic avoidance advice and traffic information shall be passed. VFR and SVFR flights shall be given traffic information and if requested by the pilot or when deemed necessary by the controller, traffic avoidance advice shall be suggested; see note 1.
E	Pass traffic information unless the controller's primary function of sequencing and separating IFR flights is likely to be compromised. IFR flights shall be given traffic avoidance advice if surveillance derived or other information indicates that an aircraft is lost, or has

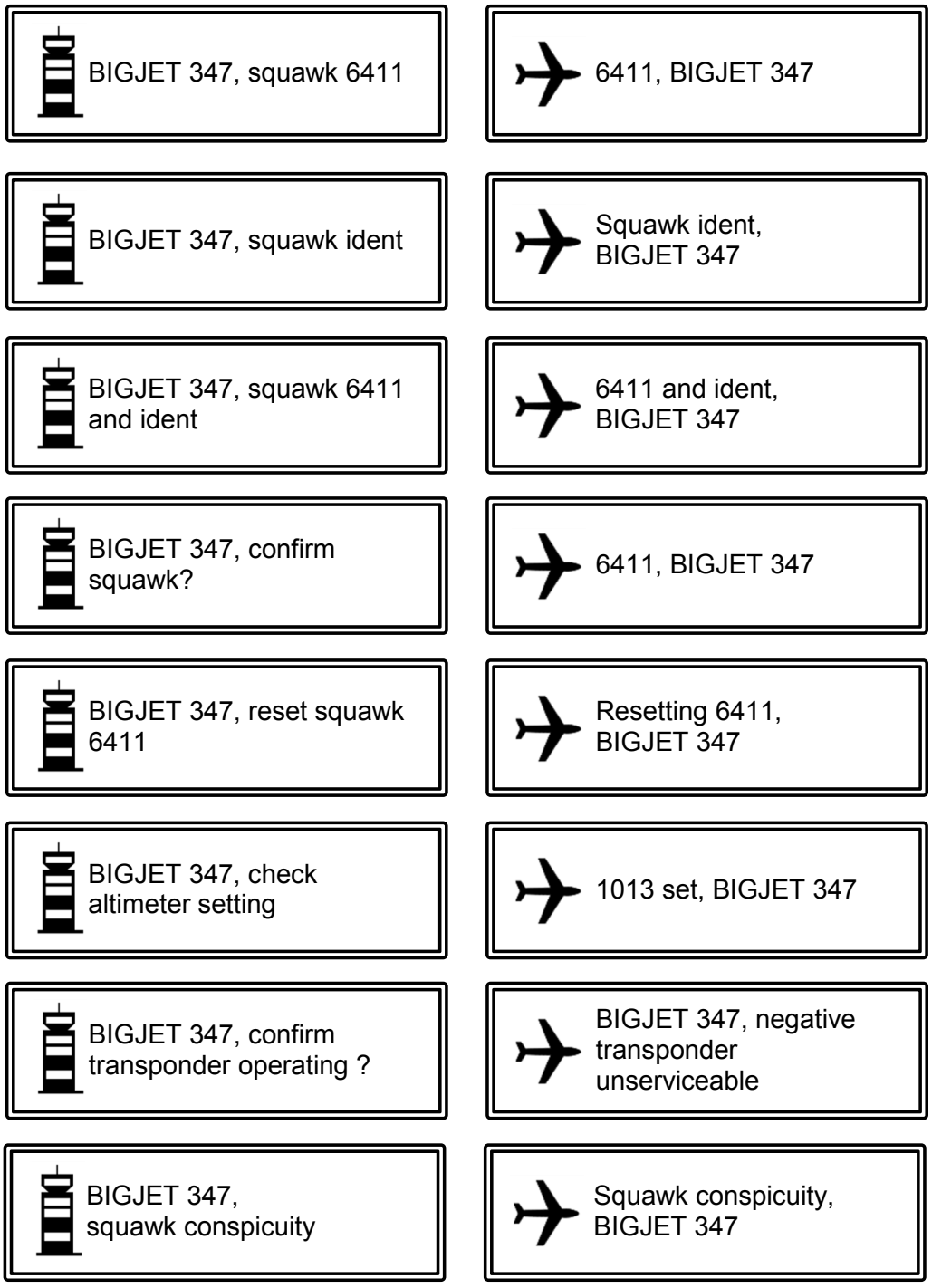
	experienced a radio failure, or an aircraft operating in accordance with IFR infringes Class E airspace. IFR flights, whenever practicable, shall be given traffic information and if requested by the pilot or when deemed necessary by the controller, traffic avoidance advice shall be suggested on non-participating VFR flights; and Participating VFR flights shall be given traffic information in accordance with CAP 774 – UK Flight Information Services.
G	Flights receiving either the Deconfliction Service or Procedural Service shall be given traffic information and deconfliction advice in accordance with CAP 774 – UK Flight Information Services; see note 2, and Flights receiving either the Traffic Service or Basic Service shall be given traffic information in accordance with CAP 774 – UK Flight Information Services.

Note 1: When providing traffic avoiding advice, controllers shall remind pilots of their responsibility to remain clear of cloud with the surface in sight.

Note 2: When the controller considers that more immediate action is required by the pilot, traffic avoidance advice may be passed by ATC before traffic information.

Appendix E: Phase two - Class E procedure refinement within the Radiotelephony Manual (CAP 413)

5.9 The pilot must respond to SSR instructions, reading back specific settings.



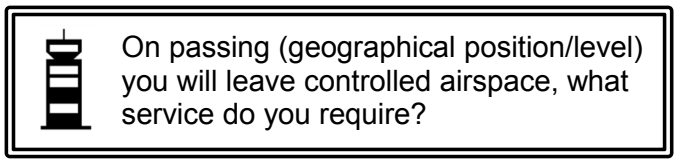
Note: Conspicuity codes are listed in the UK AIP ENR 1.6 paragraph 2.2.2.1.3

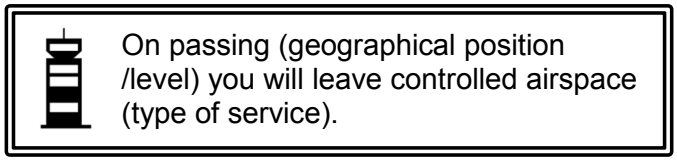
5.12 Pilots must be advised if a service commences, terminates or changes when:

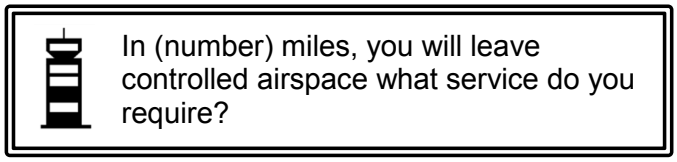
1. outside controlled airspace;
2. entering controlled airspace;
3. leaving controlled airspace, unless pilots are provided with advance notice as follows:

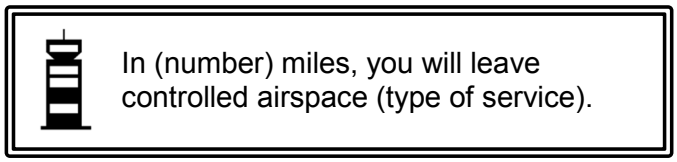
   a) The lateral or vertical point at which the aircraft will leave controlled airspace. Such notice should be provided between 5-10 NM or 3,000-6,000 ft prior to the boundary of controlled airspace.

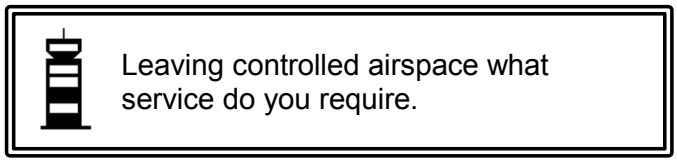
   b) The type of ATS that will subsequently be provided, unless the aircraft is co- ordinated and transferred to another ATS unit before crossing the boundary of controlled airspace.

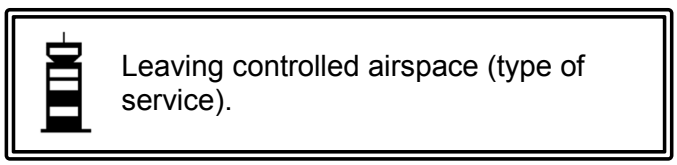








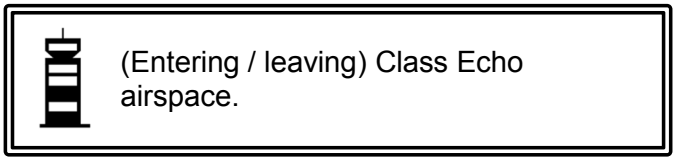


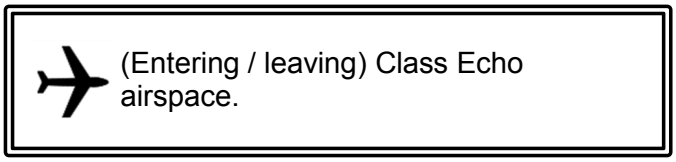


Additionally, pilots of IFR flights will be advised when they enter or leave Class E airspace in the following circumstances:

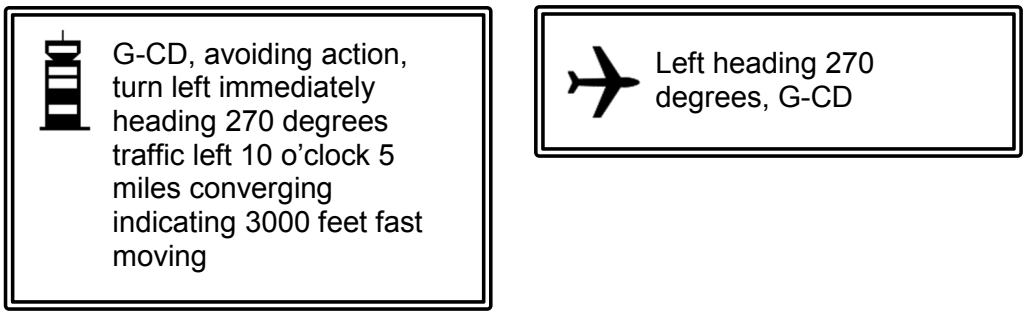
a) when the flight is an unplanned diversion;

b) when no flight plan has been filed at the time a clearance to enter controlled airspace is requested.

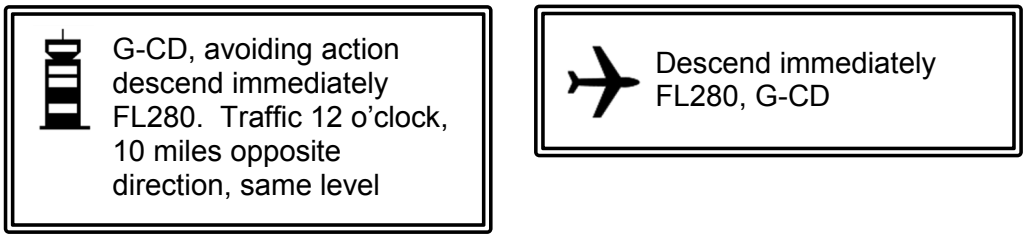




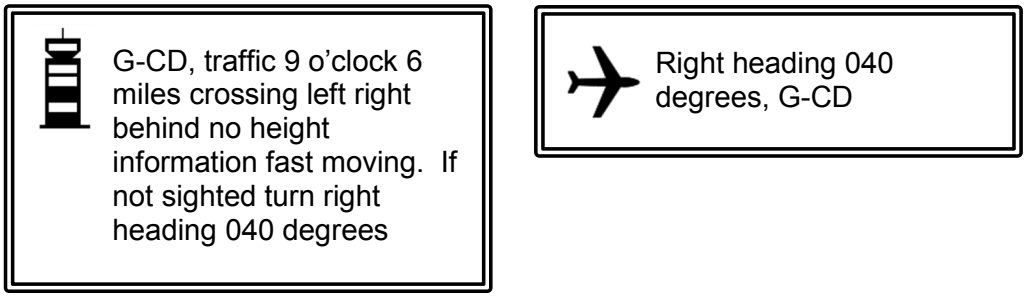
5.27 Avoiding action is given as follows:



or



or



or in Class E airspace when traffic avoidance advice is requested by a pilot following receipt of traffic information