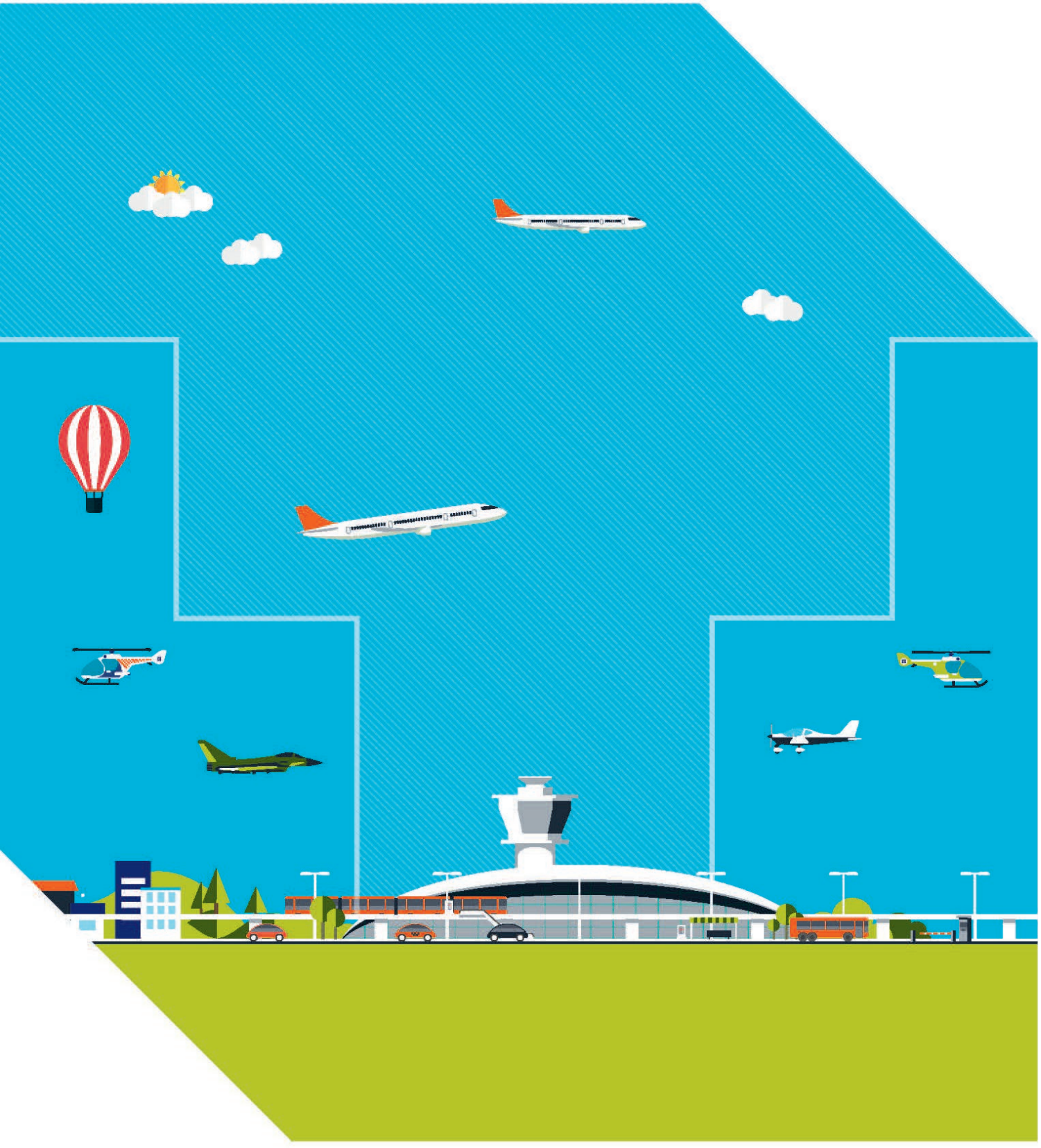
Civil Aviation Authority

Airspace change: consultation on a decision-making process for PPR (planned and permanent redistribution of air traffic) proposals

CAP 1786



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Aviation House

Gatwick Airport South

West Sussex

RH6 0YR

Enquiries regarding the content of this publication should be addressed to airspace.policy@caa.co.uk

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Contents

Summary of this consultation and how to respond

1. In October 2018 the Government gave the CAA a decision-making role for a wholly new category of airspace change. This category is known as a **planned and permanent redistribution of air traffic through changes in air traffic control operational procedure**. We refer to this as PPR for short. Essentially it concerns changes in the way existing airspace is used, rather than changes in the airspace design itself.

2. Our new role follows a change in government policy in 2017/18. The Government decided to plug a gap in the regulatory regime that it identified during a review of its policy on airspace and noise. The Government recognised that whereas changes to airspace design are subject to the airspace change process and are consulted on with relevant stakeholders, changes to air traffic control operational procedures could be implemented without consultation, even where the noise impacts are similar to those of a change in airspace design. In other words, because changes to air traffic control operational procedures alone formed part of an existing, unchanged airspace design, they did not fall within scope of the airspace change process.

3. After consultation, the Government decided that where changes in air traffic control operational procedure lead to a planned, permanent redistribution of air traffic in certain ways, they ought to be subject to:

   - a CAA decision which considers all the section 70 factors in the Transport Act 2000 (see Chapter 2), and
   - a similar process as a change in airspace design.

4. Only PPRs that meet certain criteria will need to go through this approval process. **These are known as 'relevant PPRs'**. Relevant PPRs are the PPRs most likely to have a potential noise impact on the ground. The new process is not required for a PPR implemented before 1 November 2019. Only an air navigation service provider can propose a relevant PPR.

5. The Government has formally directed the CAA to introduce a new process by 1 November 2019 for deciding whether a relevant PPR can be implemented. We also have a role in determining whether something is or is not a relevant PPR. The purpose of this consultation is to seek your views on:

- our proposed principles for a new PPR decision-making process
- our commentary on what changes are likely to fall within the Government's definition of a relevant PPR.

6. The reasons for the new process and how a relevant PPR is defined are not in scope of this consultation, because the CAA has been directed by the Government to introduce this new process. We do, however, include this information as background.

7. **In the interests of simplicity we are referring throughout this document to a 'PPR' and to the 'PPR process'. As noted above, where these references concern the regulatory process, they should be taken to mean 'relevant PPR', i.e. only that type of PPR on which the Government requires a CAA decision.**

8. We have structured this consultation document as follows:

- Chapter 1, the introduction, explains the background to the Government's decision to introduce this new category of airspace change to plug a gap in the regulatory regime that was identified during a review of its policy on airspace and noise.
- Chapter 2 gives the detail on how a PPR and relevant PPR are defined. Only relevant PPRs need to go through a CAA decision-making process. We give a commentary, with examples, of what we would regard as falling within scope of a relevant PPR.
- Chapter 3 explains the considerations the CAA has taken into account in designing proposals for a PPR decision-making process.
- Chapter 4 is guidance to air navigation service providers on a suggested internal process they might use for the identification of a PPR that requires a CAA decision. It also summarises the CAA's role

in determining, at the air navigation service provider's request, whether a given proposal is a PPR that requires a CAA decision.

- Chapter 5 sets out our specific proposals for a new PPR decision-making process, taking into account the considerations in Chapter 3. We have based these proposals on the existing airspace change process, scaling some elements in order to keep the proposed PPR process proportionate. We also propose a scaled process for PPR proposals that are temporary and last no more than six months.
- Chapter 6 concerns the preparations that air navigation service providers should make for the implementation of the final published process on 1 November 2019.
- Chapter 7 sets out next steps.
- Appendix A is a glossary of relevant airspace terms used in this document and more widely
- Appendix B is a CAA-produced consolidated version of the Air Navigation Directions from the Secretary of State to the CAA
- Appendix C is a summary of the current seven-stage airspace change process which is set out in our publication CAP 1616[1]
- Appendix D is an illustrative example of a noise assessment completed by an air navigation service provider as part of a PPR proposal.

What we are consulting on

9. We are seeking your views on:

- the process we propose to adopt for making decisions on PPRs, reflecting government policy and best practice in regulatory decision-making
- our commentary on what changes are likely to fall within the Government's definition of a relevant PPR.

[1] CAP 1616 Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements. www.caa.co.uk/cap1616

What we are not consulting on

10. We are not seeking your views on any of the following:

- the policy on PPRs and relevant PPRs itself – that is government policy, which is not within the direct control of the CAA
- other aspects of government policy, including:
  - the Air Navigation Guidance – the statutory guidance which the Secretary of State gives the CAA on how it should take environmental impacts into account – including policy objectives in respect of people significantly affected by aircraft noise, the concentration, dispersion or alternation of flight paths, or avoidance of tranquil areas
  - the 'noise preferential routes' set by the Secretary of State at Heathrow, Gatwick and Stansted airports for aircraft departures
  - the standard metrics for quantifying the amount and level of noise
- the existing CAP 1616 airspace change process, specific airspace change proposals going through that process, or specific airspace changes that have already happened or that result from airline commercial decisions.

11. Consequently the CAA will disregard elements of responses to this consultation that focus on any of these areas.

Your views are invited

12. This document seeks your views on our proposed principles for the process that we will introduce on 1 November 2019. We aim to design a transparent process that will allow different, sometimes competing, factors to be taken into account, including environmental impacts (in particular aircraft noise) and the interests of passengers and airspace users. We are interested to learn what are the most important elements to you in any new process, bearing mind that the process must be proportionate and reflect government policy.

13. We are allowing eight weeks for responses to the consultation, which we believe is adequate time given that:

- we are not consulting on new policy
- the Department for Transport consulted widely on the policy in 2017 and flagged its introduction with air navigation service providers in 2018
- the CAA gathered initial feedback on the principles of a PPR process during our consultation in 2017 on a revised airspace change process
- the PPR decision-making process we are proposing is based on the existing airspace change process that we introduced after consulting widely
- the CAA held feedback sessions with key stakeholders in January 2019 to hear views about what the new process should look like.

How to respond to this consultation

14. We have sought to make this consultation as accessible as possible by presenting the key points on our dedicated consultation website. The longer document you are reading is for stakeholders wanting more detail. The questions in each case are the same.

15. Please note that the consultation will close at 23.59 on 7 July 2019 and we cannot commit to taking into account comments received after this date. Please let us have your comments by answering the questions at this link. The questions include some multiple choice answers and the opportunity to submit your comments by completing text boxes. Our strong preference is that you complete the online consultation. We understand that some stakeholders prefer not to be constrained by the questions alone and will want to send a self-contained response. While we will accept these submissions, we ask that they are structured around our questions. Otherwise we will not be able to analyse the submissions in the same way that we analyse the online responses.

16. We will assume that all responses can be published on our website. When you complete the online consultation there will be an option for you to hide your identity or refuse publication. (In any event, your email address will not be published.) In the interests of transparency, we hope people will not refuse publication. If you do send us a separate submission and it includes any material that you do not want us to publish, please also send us a redacted version that we can publish. You should be aware that information sent to and therefore held by the CAA is subject to legislation that may require us to disclose it, even if you have asked us not to (such as the Freedom of Information Act and Environmental Information Regulations). Therefore, if you do decide to send information to the CAA but ask that this be withheld from publication via redacted material, please explain why, as this will help us to consider our obligations to disclose or withhold this information should the need arise.

17. There are eight consultation questions, which are listed on the next two pages for ease of reference. They also appear through the document, in the context of information that will help you to respond to them.

18. If you would like to discuss anything about how to respond to the consultation, please email airspace.policy@caa.co.uk.

Next steps

19. We will take your views into account and, where we feel it necessary to do so, make modifications to our proposed PPR process. We then expect to incorporate that process into a third edition of CAP 1616.[2]

[2] CAP 1616 currently has placeholders pending the introduction of this new CAA function. These appear in the section headed 'Planned and permanent redistribution of air traffic' on page 96, which is linked to the tab 'Other categories'.

Consultation questions

GENERAL OBSERVATIONS

Question 1: Overall, what are your views on the CAA's proposed PPR decision-making process?

About right	Minor modifications needed	Significant modifications needed	Don't know

Please explain your answer and provide any other general comments.

IDENTIFYING A 'RELEVANT PPR'

Question 2 (optional): Do you have any comments on the way the CAA is interpreting the definition of a 'relevant PPR'?

Question 3 (optional): The CAA proposes that an air navigation service provider must introduce an internal 'trigger' process alongside its existing safety assessment that will always identify where a proposed change in air traffic control operational procedure is a 'relevant PPR'. Do you agree that this is the most appropriate way for an air navigation service provider to identify when it must follow our proposed PPR process before implementing such a change?

Yes	No	Don't know

Please explain your answer, and whether any specific guidance from the CAA would help.

PROPOSED PPR DECISION-MAKING PROCESS

Question 4: Are there any aspects of the CAP 1616 airspace change process that you think are missing from our proposed PPR process and should be included?

Yes, something more is needed	No	Don't know

If you answered yes, please say what they are and why.

Question 5 (optional): Where a PPR is proposed, can multiple workable options be developed for the change in air traffic control operational procedure, or are the only options either to do the PPR or to do nothing (i.e. a binary choice)? Please answer for each of the three types of relevant PPR.

Type 1	Multiple	Binary	Don't know
Type 2	Multiple	Binary	Don't know
Type 3	Multiple	Binary	Don't know

Please provide any additional comments.

Question 6: Do you agree with our proposal that it is the air navigation service provider which produces a post-implementation report (as to whether the change has had the impacts and benefits predicted) rather than the CAA?

Yes	No, something more is needed	Don't know

Please provide any additional comments.

TEMPORARY CHANGES

Question 7: Do you agree with the CAA's proposal that it would be proportionate to apply a scaled process for a temporary 'relevant PPR' proposal lasting no more than six months?

Yes	No	Don't know

Please provide any additional comments.

IMPLEMENTING THE NEW PROCESS

Question 8 (optional): Is there anything specific that the CAA can do to aid the implementation of our proposed PPR decision-making process?

Chapter 1

Introduction

Summary

- This chapter explains the background to the Government giving the CAA a decision-making role for a new category of airspace change called 'PPR'.
- This plugs a gap in airspace regulation the Government identified in a review of airspace and noise policy.
- We propose that this PPR decision-making process be based on our existing airspace change process.

Airspace

1.1 In its simplest terms, airspace is the portion of the atmosphere controlled by a State above its territory and areas over the sea within which a State is committed by international treaty to provide air navigation services (which include air traffic control). For air traffic control purposes, airspace can be divided into two main categories, controlled and uncontrolled. Aircraft in controlled airspace fly under the positive monitoring and direction of air traffic control to maintain safe distances between them. Uncontrolled airspace typically incorporates areas where aircraft are not identified and managed by air traffic control, although they may request information or a more limited service from air traffic controllers.

1.2 The vast majority of UK commercial flights operate in controlled airspace. The recreational side of General Aviation[3] operates largely in uncontrolled airspace below 6000 feet, alongside a few commercial flights. The military also has significant requirements to use both types of airspace and

[3] The definition of General Aviation varies, and encompasses a wide range of aviation activity from powered parachutes, gliding and ballooning to corporate business jets. In this context examples would be sports, recreational, private transport, business aviation, flight training and air taxis.

occasionally also operates within the confines of segregated training or danger areas.

1.3 Controlled airspace contains a network of corridors, or airways. They link the busy areas of airspace above major airports. At a lower level, control zones are established around each airport. These portions are therefore nearer the ground and closer to population centres. The defined blocks of controlled airspace, and flight procedures and routes within them (such as the standard departure and arrival routes that commercial airlines use to fly in and out of airports) are together part of the overall airspace **design**. This airspace design is published ('notified') in the UK Aeronautical Information Publication.

Airspace change

1.4 Changes to the notified airspace design are proposed by an airspace change sponsor, usually an airport or an air navigation services provider (which includes air traffic control). The CAA, as the UK's independent aviation regulator, has responsibility for deciding whether to approve changes proposed to airspace design.[4]

1.5 For example, changes may be proposed to resolve a safety issue; to accommodate more flights or new infrastructure; to incorporate new technology; to mitigate the effects of aircraft noise or other environmental impacts; to allow aircraft to fly more direct routes; to keep them away from particular areas; to meet the needs of the military; or to comply with international obligations. The CAA requires the change sponsor of any permanent change to the notified airspace design to follow our **airspace change process**. You can find more information about the process in the CAA's guidance document CAP 1616[5] which includes links to relevant

[4] The Secretary of State may decide to call-in a proposed change in order to make the decision instead of the CAA.

[5] CAP 1616 Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements. www.caa.co.uk/cap1616

documents and webpages including airspace change pages on the CAA website.[6] Airspace change proposals going through the CAP 1616 process can be found on our online airspace change portal https://airspacechange.caa.co.uk/.

1.6 Proposed changes to the notified airspace design vary greatly in terms of breadth, complexity and scale of impact on other airspace users and the environment, including people on the ground impacted by noise. They are therefore graded by **Level,** which in turn determines the extent to which the CAP 1616 process is scaled to keep it proportionate to what is proposed.

1.7 Airspace change proposals often reveal differing requirements and conflicting interests between the various groups of stakeholders. Chapter 2 explains the relevant law and policy that govern the CAA's decision in such cases.

PPR – a new category of airspace change

1.8 In October 2018, following an earlier consultation on airspace policy[7], the Government gave the CAA a decision-making role for a wholly new category of airspace change.[8] This category is known as a **planned and permanent redistribution of air traffic through changes in air traffic control operational procedure**. We refer to this as PPR for short.

1.9 As a result there are now three categories of airspace change, as shown in Table 1.1 (the first of which has three sub-categories). You can find more information about these in CAP 1616.

6 www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Airspace-Change/

7 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/588186/uk-airspace-policy-a-framework-for-balanced-decisions-on-the-design-and-use-of-airspace-web-version.pdf

8 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/653801/consultation-response-on-uk-airspace-policy-web-version.pdf

Table 1.1: Categories of airspace change

Category	CAA role	Additional information
Change to the notified airspace design	CAA decision-making role	Permanent change
		Temporary change (usually less than 90 days)
		An airspace trial
Certain changes to air traffic control operational procedure No change to the notified airspace design	CAA decision-making role	From 1 November 2019: PPR – a planned, permanent redistribution of air traffic through changes in air traffic control operational procedure by an air navigation service provider (within the existing published airspace design)
Change to aircraft tracks for other reasons No change to the notified airspace design or air traffic control operational procedure	No CAA decision-making role	Airspace information: transparency about airspace use and aircraft movements A noticeable shift over a period of time in the distribution of flights or aircraft types being flown, caused by a change in airline or airport operations as a result of weather, commercial decisions (such as routes flown or fleet deployment) or changing traffic volumes

1.10 This consultation is about the PPR category, and what the CAA's decision-making process should include. Chapter 2 explains in more detail how a PPR is defined, and which types of PPR require our approval. The remainder of this chapter explains why the Government decided to introduce this new category, and more about the CAA's decision-making role.

Background to the introduction of a decision-making process for PPRs

1.11 As noted above, changes to airspace design (such as blocks of controlled airspace and published flight procedures in the form of Standard Instrument Departure routes and Standard Arrival Routes) are subject to a CAA decision. In contrast, until now, air traffic control operational procedures have (subject to the CAA's safety oversight) been determined solely by the relevant air navigation service provider. Therefore changes to those procedures could cause a redistribution of the tracks taken by aircraft over the ground without either the CAA making a decision (other than on safety grounds) or the air navigation service provider having to consider other factors, such as the environment. The redistribution has come about from the air navigation service provider altering its own internal written procedures, but the airspace design itself has remained unchanged.

Air traffic control operational procedures

1.12 Air navigation service providers regularly amend their air traffic control operational procedures. This may be to implement continuous safety improvements in response to external changes made to the operating environment, to increase capacity in a fixed volume of airspace, to reduce delays, to enable more consistent and expeditious routings for aircraft, or for security reasons. These air traffic control operational procedures overlay the various features of the airspace design while keeping within the design's parameters. The operational procedures are the air navigation service provider's written instructions to its individual air traffic controllers as to how air traffic should be controlled in the portion of airspace for which that air navigation service provider is responsible. Air traffic controllers are continuously making decisions as to how to control individual aircraft. The air traffic control operational procedures form a framework within which each air traffic controller makes those individual aircraft-by-aircraft decisions.

1.13 Consequently the track over the ground taken by a given aircraft is a combined result of the airspace design, the air traffic control operational procedures and the individual expert decision of the air traffic controller on the day.

1.14 An example of an air traffic control operational procedure would be that governing the way an aircraft is controlled between the holding pattern (a pre-determined manoeuvre while the aircraft is awaiting further instructions) and its approach to land. The air traffic control operational procedure may specify, for example, the distance from the runway by which the aircraft must be established and stable on the runway's Instrument Landing System. Although air traffic controllers are still making individual decisions that result in a safe and efficient flow of arriving aircraft, a change to the operational procedure could tend to change where aircraft fly over the ground before landing.

1.15 Another example, in this case affecting aircraft departing from an airport, could be an air traffic control operational procedure that governs which Standard Instrument Departure route is used, or which requires that aircraft be routinely instructed by air traffic controllers to divert from the published departure route in order to better manage the flow of traffic. In both cases these could change where aircraft fly over the ground.

Change in government policy

1.16 After consultation, the Government decided in 2018 that where such changes in air traffic control operational procedure lead to a planned, permanent redistribution of air traffic in certain ways, they ought to be subject to:

- a CAA decision which considers all the section 70 factors in the Transport Act 2000 (see Chapter 2), and
- a similar process as a change in airspace design.

1.17 The Government's decision recognised that whereas changes to airspace design are subject to the airspace change process and are consulted on with relevant stakeholders, air traffic control operational procedure

changes could be implemented without consultation, even where the noise impacts are similar to those of a change in the notified airspace design. In other words, because changes to air traffic control operational procedures alone formed part of an existing, unchanged airspace design, they did not fall within scope of the airspace change process. Such changes could also potentially lead to impacts for airspace users or other airports.

1.18 This change in government policy to plug the identified gap in the regulatory framework resulted in amended Air Navigation Directions from the Secretary of State to the CAA (described below). We understand that the Government will also update its 2017 Air Navigation Guidance to the CAA[9] to make clear that, because of the amended Directions, this guidance will apply to a PPR proposal in the same way as it applies to a proposed change in airspace design.

New Directions to the CAA

1.19 In October 2018 the Secretary of State amended the Air Navigation Directions 2017 with effect from 1 November 2019 to require the CAA to develop and publish procedures, and guidance on such procedures, for the development, consideration and determination of certain types of PPR proposals. A consolidated version of the Directions is reproduced at Appendix B.[10]

1.20 Consequently, from 1 November 2019, an air navigation service provider will need to assess whether a proposal to amend air traffic control operational procedures might lead to a planned and permanent redistribution of air traffic, and if so whether it meets certain criteria set out

9 Air Navigation Guidance 2017: Guidance to the CAA on its environmental objectives when carrying out its air navigation functions, and to the CAA and wider industry on airspace and noise management. https://www.gov.uk/government/publications/uk-air-navigation-guidance-2017

10 The Civil Aviation Authority (Air Navigation) Directions 2017 as amended by The Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018. This consolidated version of the Directions is also on the CAA's website. https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Commercial_industry/Airspace/Airspace_change/2017%20Directions%20as%20amended%20by%202018%20Directions.pdf

in the Directions, in which case it is referred to as a '**relevant PPR**'. These criteria are that the proposed PPR:

- falls within one or more of Types 1, 2 or 3**,** and
- relates to an airport which has a Category C or D (or both) approach landing procedure, and/or established Standard Instrument Departure routes published in the UK Aeronautical Information Publication.

(All these terms are explained in Chapter 2.)

1.21 **Only the subset of PPRs meeting these criteria require prior approval and are therefore in scope of our proposed PPR decision-making process**. In the interests of simplicity we have used the term 'PPR' and 'PPR process' throughout this document on the understanding that the regulatory process is only required for those PPRs meeting these criteria (i.e. relevant PPRs).

1.22 Only an air navigation service provider can propose a relevant PPR.

Basing the proposed PPR decision-making process on that used for proposed changes in airspace design

1.23 The PPR decision-making role the CAA has been given by the Government in the Air Navigation Directions must, like our airspace change decision-making, be carried out in accordance with section 70 of the Transport Act 2000.

1.24 It therefore makes sense to model the proposed PPR decision-making process on the existing process for changes in the notified airspace design, which is set out in CAP 1616, and is familiar both to industry and other stakeholders with an interest in airspace change decisions. The CAP 1616 process is made up of 14 steps in seven stages, with a series of four gateways that must be passed before the proposal can progress any further in the process (see Appendix C). Chapter 5 explains that we propose to scale some elements of the CAP 1616 process from the PPR process in order to keep it proportionate.

1.25 We also propose a scaled process for temporary PPR changes of no more than six months' duration, because although PPR is short for 'planned and permanent', the formal definition of 'permanent' captures any change in written procedures other than a tactical decision on the day.

Chapter 2

What is a 'PPR'?

Summary

- This chapter explains how a PPR and relevant PPR are defined.
- Only relevant PPRs need to go through a CAA decision-making process.
- We give a commentary on what changes are likely to fall within the Government's definition of a relevant PPR.
- The assessment is based on the anticipated outcomes of the proposed change.

Legal framework

Air Navigation Directions

2.1 As noted in Chapter 1, in October 2018 the Government amended The Civil Aviation Authority (Air Navigation) Directions 2017 to give the CAA the **function** to develop and publish a process for prior approval of a relevant PPR and supporting guidance. The amendments take effect on 1 November 2019. A consolidated version is reproduced at Appendix B.

Transport Act 2000

2.2 Section 70 of the Transport Act 2000[11] places the CAA under a general duty in relation to its air navigation functions to exercise those functions so as to maintain a high standard of safety in the provision of air traffic services. That duty is to have priority over the CAA's other duties in this area of work. Noting that priority, the CAA's duty in relation to air navigation is to exercise its functions in the manner it thinks best so that:

11 http://www.legislation.gov.uk/ukpga/2000/38/pdfs/ukpga_20000038_en.pdf

- it secures the most efficient use of airspace consistent with the safe operation of aircraft and the expeditious flow of air traffic
- it satisfies the requirements of operators and owners of all classes of aircraft
- it takes account of the interests of any person (other than an aircraft operator or owner) in relation to the use of any particular airspace or airspace generally
- it takes account of any guidance on environmental objectives given to the CAA by the Secretary of State
- it facilitates the integrated operation of air traffic services provided by or on behalf of the armed forces and other air traffic services
- it takes account of the interests of national security
- it takes account of any international obligations of the UK notified to the CAA by the Secretary of State.

2.3 If in a particular case there is a conflict in the application of the above provisions, in relation to that case the CAA must apply them in the manner it thinks is reasonable having regard to them as a whole. The CAA must also exercise its air navigation functions so as to impose on providers of air traffic services the minimum restrictions which are consistent with the exercise of those functions.

2.4 You can find more information about how the CAA interprets section 70 in Appendix G of CAP 1616.

Air Navigation Guidance 2017

2.5 Section 70(2) of the Transport Act 2000 requires the CAA to take account of any guidance on environmental objectives given to it by the Secretary of State when carrying out its air navigation functions. These functions are set out in the Secretary of State's Air Navigation Directions 2017, as amended in 2018 (see above), made under sections 66(1) and 68 of the Transport Act 2000. Such Air Navigation Guidance was last issued in October 2017.

2.6 The Air Navigation Guidance and Air Navigation Directions issued in October 2017 followed a consultation by the Department for Transport about airspace and noise policy.[12] The Air Navigation Guidance is not just aimed at the CAA. The Government also expects that it will be taken into consideration by the aviation industry. The Air Navigation Guidance also acknowledges the important role which local communities have in the airspace change process.

2.7 Paragraph 16 of the annex to the Directions gives the CAA guidance on its environmental objectives when carrying out its PPR functions under Direction 9A:

"In accordance with section 70(2)(d) of the Transport Act 2000, the CAA should take account of the Air Navigation Guidance 2017 when carrying out its functions under Direction 9A. In particular, the CAA should apply guidance that applies to its function to consider whether to approve permanent airspace changes (Direction 5) to its functions under Direction 9A."

2.8 PPRs are not of course specifically mentioned in the Air Navigation Guidance because the guidance predates the amended Directions giving the CAA the decision-making function on PPRs.

2.9 We discuss the Air Navigation Guidance further in Chapter 3.

What is a PPR?

2.10 Direction 2 defines PPR as a planned and permanent redistribution of air traffic through changes in air traffic control operational procedure. Direction 2 defines 'planned and permanent' as meaning 'other than a day-to-day or at the time decision taken by an air traffic controller or other decision maker'.

12 https://www.gov.uk/government/publications/uk-airspace-policy-a-framework-for-the-design-and-use-of-airspace

What do the Directions require the CAA to do?

2.11 Direction 9A says that:

- the CAA must develop and publish procedures, and guidance on such procedures, for the development, consideration and determination of proposals for relevant PPRs as set out in the annex to the Directions
- these procedures must:
  - be proportionate and reflect published Government policy, and
  - require an air navigation service provider to refer a proposal for a relevant PPR to the CAA for approval before it is implemented
- a PPR proposed by or on behalf of the Ministry of Defence is exempt from these procedures
- the CAA must decide whether to approve a proposal for a relevant PPR in accordance with these procedures and its published strategy and plan for the use of UK airspace[13]
- the CAA may make its approval of a proposal subject to such modifications and conditions as the CAA considers necessary
- the CAA must provide a report to the Secretary of State annually outlining, for each proposal for a relevant PPR referred to it under these procedures, the specific type of the relevant PPR, the relevant airport, and whether it was approved.

2.12 The annex to the Directions gives more information on the definition of a relevant PPR (reproduced below).

What is a 'relevant PPR'?

2.13 Paragraph 1 of the annex to the Directions (interpretation and scope) explains that **relevant PPR** means a proposed PPR which both:

[13] This is a reference to a different requirement in the Directions, which the CAA fulfils through the Airspace Modernisation Strategy, which is set out in CAP 1711. www.caa.co.uk/cap1711

- falls within scope of one or more of **Types 1, 2 or 3**
  1. Lateral shift in flight track of more than a specified distance
  2. Redistribution between Standard Instrument Departure routes
  3. Change to Instrument Landing System joining point (on approach)

and

- relates to an airport which has a Category C or D (or both) approach landing procedure, and/or established Standard Instrument Departure routes published in the UK Aeronautical Information Publication.[14]

2.14 Paragraphs 2 and 3 of the annex to the Directions give additional information on interpretation and scope. Paragraph 2 says that the definition is designed to capture only air traffic control operational procedures that relate to airports at which large commercial air transport and most business jets operate. It does not capture aerodromes or airports used only by small non-commercial aircraft.

2.15 Paragraph 3 goes on to say that changes to air traffic control operational procedures that are planned and permanent will typically be recorded in writing and given as some form of instruction to an air traffic controller. An example would be a change to an air navigation service provider's Manual of Air Traffic Services Part 2. The MATS Part 2 is a locally specific manual owned by air navigation service providers that, in conjunction with the MATS Part 1 published by the CAA, underpins how its air traffic controllers manage aircraft and informs their decisions.[15]

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14 These terms are explained on pages 30–31.

15 The Manual of Air Traffic Services (MATS) contains procedures, instructions and information which are intended to form the basis of air traffic services within the UK. It is published for use by civil air traffic controllers and for the general interest of a wider audience. It is arranged in two parts:

- MATS Part 1 Instructions that apply to all UK Air Traffic Service Units (published by the CAA as CAP 493 www.caa.co.uk/cap493)
- MATS Part 2 Instructions that apply to a particular Air Traffic Service Unit, produced locally and approved by the CAA, amplifying and interpreting, at local level, MATS Part 1 instructions.

Any authorisation required by MATS Part 1 appears in the MATS Part 2.

Who is affected by a 'relevant PPR'?

2.16 We anticipate that the following stakeholders are affected by the proposed PPR process and will therefore have an interest:

- communities affected by aviation noise or other environmental impacts, their representatives, councils and other elected representatives, and bodies with an interest in aviation's environmental impact
- air navigation service providers initiating a change in air traffic control operational procedure which potentially falls within scope of a relevant PPR
- airports to which the change in air traffic control operational procedure is related
- airspace users to the extent that a change in air traffic control operational procedure may affect them, for example airlines, other commercial operators and General Aviation (including sports, recreational, private transport, business aviation, flight training and air taxis); military aircraft are less likely to be affected, and operational procedure changes actually initiated by the military are out of scope of the PPR definition
- air navigation service providers and airports who may be impacted by a change in air traffic control operational procedure at a neighbouring airport
- users of air transport services, i.e. passengers and shippers, to the extent that a change allows the more efficient use of airspace or aircraft.

Identifying a 'relevant PPR'

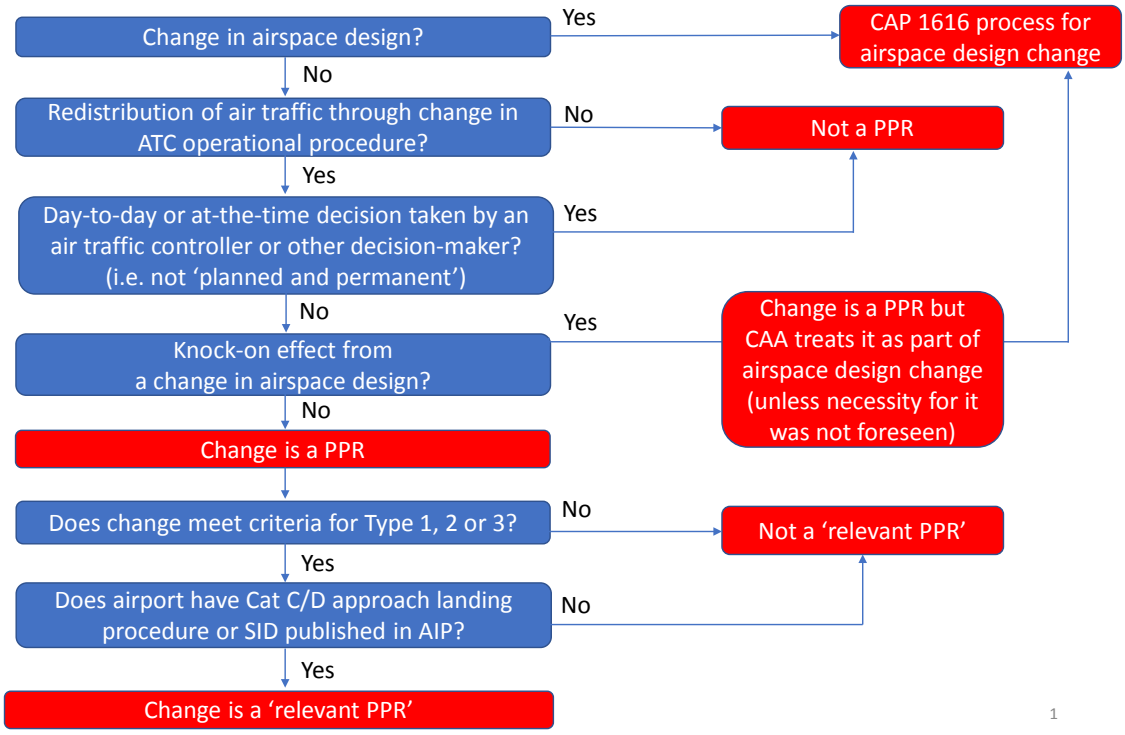
2.17 In the next section we list the airports in scope and we reproduce from the annex to the Directions the definition of the three types of relevant PPR with some explanatory notes and examples. Note that in order to qualify as a relevant PPR, the proposed change concerned must both relate to an airport in scope **and** meet the criteria for one of the three types of relevant

PPR. If it does not, then the change may be a PPR, but it is not a relevant PPR and is therefore not subject to a CAA decision or the proposed decision-making process.

2.18 We are including some preliminary guidance to assist an air navigation service provider in identifying the types of air traffic control procedure changes that might result in a relevant PPR. Where we can, we will expand on this when publishing guidance on the final process later in the year.

2.19 Figure 2.1 illustrates the definition of a relevant PPR – i.e. a change that must go through the CAA's proposed decision-making process – in flow-chart form. Because the air navigation service provider will need to carry out the identification of a relevant PPR, we have included guidance on this essential preliminary process that the air navigation service provider must carry out in order for the PPR process to be initiated with the CAA (see Chapter 4).

Figure 2.1: Definition of a 'relevant PPR'



2.20 Note that in order to be a PPR in the first place, the proposed change must meet the definition of 'planned and permanent' in the Directions (see paragraph 2.10 above). Note also that the CAA will not require a PPR implemented before 1 November 2019 to go through the decision-making process.

Power to determine whether a proposed change is a relevant PPR

2.21 Paragraph 15 of the annex to the Directions says that if there is any doubt about whether a proposed PPR falls within Type 1, 2 or 3, the air navigation service provider, or airport as appropriate, **should consult the CAA**. The CAA will determine whether or not the proposed PPR is a relevant PPR. We will do so by considering the air navigation service provider's own assessment of the proposal and any other additional relevant information that allows us to consider that assessment and to make our determination.

2.22 The CAA's decision-making role is limited to Type 1, 2 or 3 PPRs, the criteria for which are based on anticipated outcomes. Thus we are required to assess, where requested, whether a proposed change in air traffic control operational procedure is anticipated to have the defined outcomes. We will consider the means and validity of the assessment by the air navigation service provider so that we can determine whether its proposal meets the Type 1, 2 or 3 criteria and therefore whether it requires a CAA decision as to whether it can be implemented.

2.23 Where the CAA concludes that an air navigation service provider has properly assessed that its proposal's anticipated outcomes do not meet any of the three criteria, we will confirm that the proposal can be implemented by the air navigation service provider without the need for a CAA PPR decision. **If it transpires that, once the change is implemented, outcomes materialise over time that do in fact meet one or more of the Type 1, 2 or 3 criteria, the validity of the air navigation service provider's implementation of the air traffic control operational procedure is not affected.** The CAA has no statutory function to require the air navigation service provider to go through the

PPR decision-making process retrospectively at that stage. However, if such a case were identifed, the CAA would inform the Department for Transport who would, after careful consideration of the specific case, consider whether further action was needed.

UK airports potentially in scope of a relevant PPR

2.24 Although this is the second of the two criteria for a relevant PPR, it is sensible to consider it first, since it may immediately remove a given change from scope of the proposed process.

2.25 In order to potentially qualify as a relevant PPR, the proposed PPR must relate to an airport which has:

- a Category C or D (or both) approach landing procedure[16], and/or
- established Standard Instrument Departure routes published in the UK Aeronautical Information Publication.[17]

2.26 Of the multiple UK airports with air navigation service providers, all bigger airports are in scope of this definition, and many smaller airports too (Table 2.1). The CAA will regularly publish a list of airports in scope on its website and/or the online airspace change portal.

16 Aircraft approach category is a grouping of aircraft based on the speed at which they approach a runway for landing. Categories C and D typically relate to commercial or military jet aircraft.

17 A Standard Instrument Departure route is a published flight procedure followed by aircraft on an Instrument Flight Rules flightplan immediately after take-off. It is a departure route linking the airport (or a specified runway) with a specified significant point at which the en-route phase of a flight commences.

Table 2.1: UK airports in scope of the 'relevant PPR' definition

UK airports in scope			
Aberdeen	City of Derry	Humberside	Lydd
Belfast City	Cranfield	Inverness	Manchester
Belfast International	Doncaster Sheffield	Islay	Newcastle
Benbecula	Dundee	Kirkwall	Newquay
Biggin Hill	Durham Tees Valley	Leeds Bradford	Norwich
Birmingham	East Midlands	Liverpool	Oxford
Blackpool	Edinburgh	London City	Prestwick
Bournemouth	Exeter	London Gatwick	Scatsta
Bristol	Farnborough	London Heathrow	Southampton
Cambridge	Glasgow	London Luton	Stornoway
Campbeltown	Gloucestershire	London Southend	Sumburgh
Cardiff	Hawarden	London Stansted	Wick
Carlisle			

Notes:
(a) If an airport is not listed, then the PPR process cannot apply to it. However, the list could change over time (the above information was compiled in January 2019).
(b) Although Northolt does have a published SID, it is excluded on the basis that a change proposed by or on behalf of the Ministry of Defence is specifically excluded from the scope of a relevant PPR.

The three 'types' of relevant PPR

2.27 In order to meet the other criterion to qualify as a PPR that requires a CAA decision, the proposed PPR must fall into one of three types, 1, 2 or 3. In each case we begin by reproducing the definitions from the annex to the Directions, and then use examples to illustrate the kind of changes that we expect to be in scope. We welcome comments on our interpretation in this consultation document.

Type 1	**Lateral shift in flight track of more than a specified distance**
Type 2	**Departure routes: redistribution between SIDs**
Type 3	**Change to ILS joining point (on approach)**

Type 1

2.28 In broad terms, a Type 1 PPR occurs where there is a proposed lateral shift in the tracks flown over the ground by a certain distance. The lower the height of the aircraft above ground level, the shorter the lateral shift needs to be for it to qualify as a Type 1.

2.29 The legal definition of a Type 1 is set out in the annex to the Directions. This defines a Type 1 as:

"A PPR which is (or more than one PPR within 24 months whose cumulative effects are) anticipated to result in a lateral shift of aircraft from the pre-existing nominal centre line of the density of flight tracks of at least the horizontal distance shown in the second column of the table below, at the heights shown in the first column of that table –

Height in feet above ground level (agl)	Horizontal distance from the centreline
1000ft	300m
2000ft	500m
3000ft	800m
4000ft	1100m
5000ft	1300m
6000ft	1600m
7000ft	1900m

"

Additional information given in the Directions about Type 1

2.30 The annex to the Directions gives the following additional information about Type 1:

"The figures in the table are based on an approximate correlation to a 3dB change following advice from the CAA.

"The air navigation service provider will need to assess the lateral shift of traffic from the nominal centre of the density of flight tracks[1] to establish whether the expected lateral shift is equal to or greater than that shown in the table above. So a 1350m shift away from the existing centreline at

5000ft agl [above ground level] would be a Type 1 PPR, but not if the shift was 1200m at 5000ft agl. The CAA has discretion to interpolate if the height at which the change is being proposed falls in between those shown in the table above.

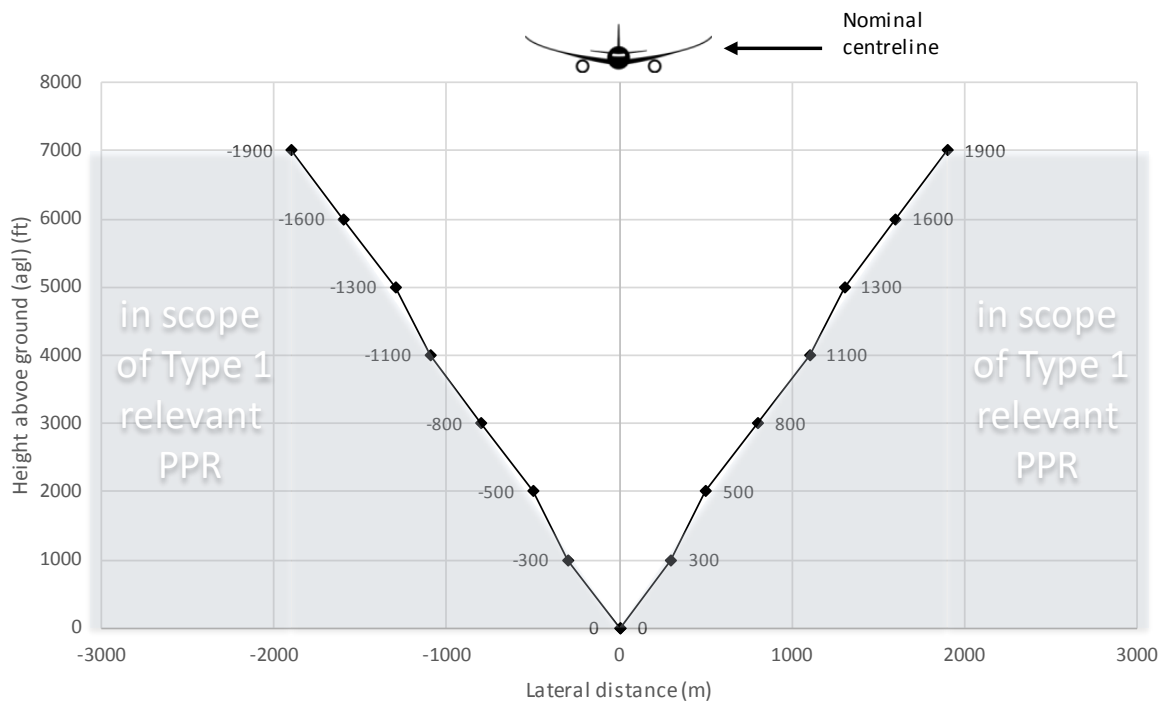
"It is recognised that ANSPs [air navigation service providers] make air traffic control operational changes with the best of intentions and for safety reasons need some flexibility in doing so. At the same time, uncontrolled multiple changes that individually fall below the threshold could have a cumulative impact similar to a single change that does meet the threshold. To mitigate against this possibility, if a change below the threshold is made, any further operational change(s) proposed within 24 months of the first change must be judged against the Type 1 PPR criteria by adding together the lateral shift of each change. Where the cumulative effect of changes made within a rolling 24-month period meets or exceeds the threshold set out in the table above, the change that results in the threshold being met or exceeded will be judged to have met the criteria for a Type 1 PPR and will need to be considered as such. A PPR which has already been approved by the CAA is not to be included in assessing the cumulative effect of any further change."

[1] The nominal centre of the density of flight tracks should where possible be determined or interpreted from radar data, the sample of which should be sufficiently representative (two weeks to one month of data). Where radar data is not readily available, air traffic control expert judgement should be used.

Graphical interpretation of Type 1

2.31 Figure 2.2 shows the CAA's graphical interpretation of the definition of a Type 1 PPR. If the aircraft's anticipated track is shifted by the change in air traffic control operational procedure such that it moves from the nominal centre of the density of flight tracks to a point in the shaded area outside the 'cone', then it is in scope of Type 1.

Figure 2.2: Graphical interpretation of the definition of a Type 1 PPR



Examples of Type 1 – departing aircraft

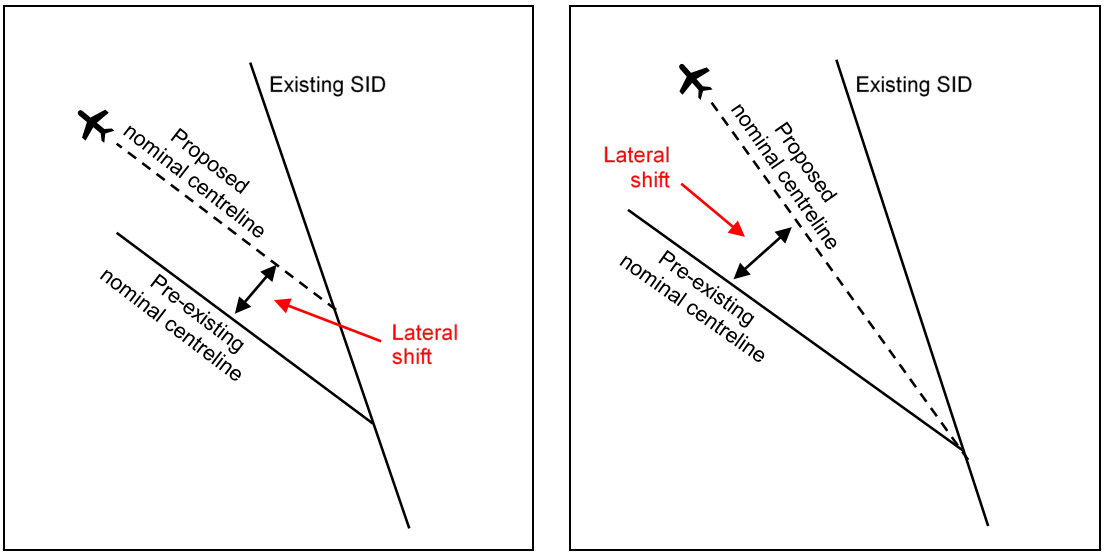
2.32 Two examples where a lateral shift may occur as the result of a permanent change in written air traffic control operational procedure for departing aircraft are:

- where an airport has no Standard Instrument Departure routes, and there is a permanent change in the written procedures used by air traffic control for directing departures
- where aircraft initially depart using a Standard Instrument Departure route, but there is a permanent change in the written procedures used by air traffic control for them to be vectored off that route.

2.33 These examples are illustrative and others will exist. In each example, the change introduced could be that the air traffic control instruction is given at a different altitude to that used previously, or that the instruction is given at the same altitude, but directs the aircraft on to a different compass heading. In the first case, the new flight track will be displaced parallel to the existing nominal flight track. In the second case, the flight track will

begin to diverge from the existing flight track and the deviation will increase with increasing altitude (Figure 2.3). The air navigation service provider will need to ensure that it checks the anticipated lateral shift over the range of relevant altitudes and not just at the point where the air traffic control instruction is issued.

Figure 2.3: Illustrative examples of air traffic control operational procedure changes for departing aircraft that could lead to a Type 1 relevant PPR



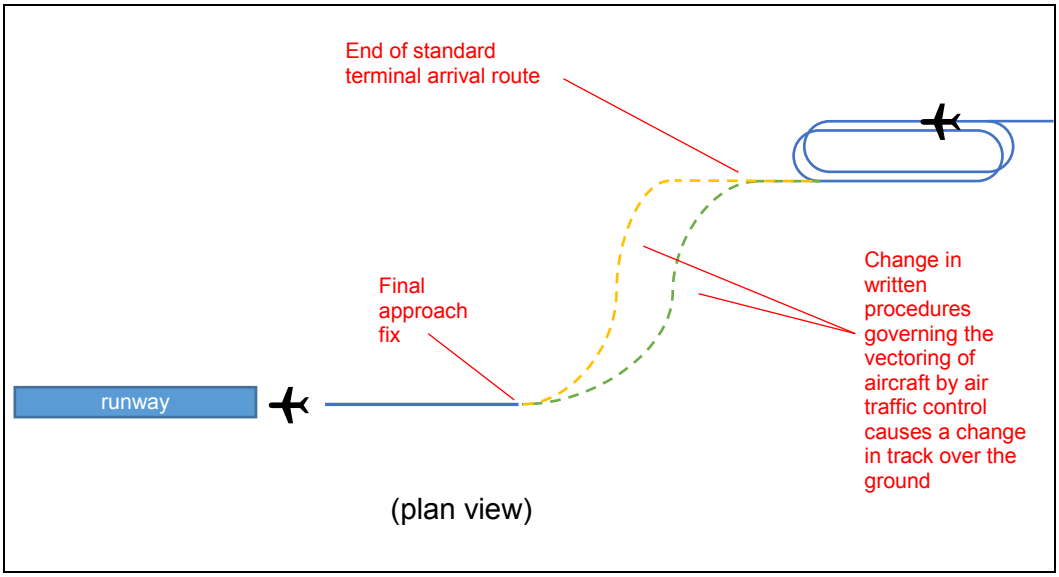
Case 1 (plan view) Case 2 (plan view)

Example of Type 1 – arriving aircraft

2.34 There are no published airspace routes between the end of a Standard Arrival Route and the final approach fix (the point at which the aircraft reaches the final approach to the runway). Instead, aircraft follow the instructions of air traffic control in order to sequence them for landing. A Type 1 PPR could therefore occur as the result of a permanent change in written air traffic control operational procedure that govern these instructions (Figure 2.4).

2.35 In this example, there would be no change to the actual joining point, because if there were, that would fall under the Type 3 category (see below).

Figure 2.4: Illustrative example of an air traffic control operational procedure change for arriving aircraft that could lead to a Type 1 relevant PPR



Observations on Type 1

2.36 Of the three types of PPR, Type 1 is the most difficult for an air navigation service provider to identify.

2.37 To identify a potential Type 1 PPR, an air navigation service provider will need to have a sufficiently well developed proposal to judge whether the proposed air traffic control operational procedure will potentially result in sufficient lateral displacement of flight tracks to bring it within scope. The air navigation service provider will be required to determine the nominal centreline of the existing aircraft tracks and the tracks after implementation of the proposed change, and compare them at all heights below 7000 feet. We recognise that variations in the type and granularity of data to which different air navigation service providers will have access will affect how they carry out this assessment.

Assessing the existing nominal track centreline

- where radar data exists, the air navigation service provider must assess that data to judge the nominal centreline of the existing flight tracks; the CAA will consider the nominal centreline to be the line in

the centre of 90 per cent of the aircraft tracks over the previous year, using a density plot

- if no historic radar data is available, the air navigation service provider must simulate aircraft tracks for the purpose of this assessment
- where radar data is not available and simulation is not possible, the air navigation service provider must make a geometric estimation of current aircraft tracks, demonstrating the underlying assumptions and methodology it has used

Assessing the anticipated tracks after implementation of the proposed change in air traffic control operational procedure

- where a trial of the proposed air traffic control operational procedure has been carried out, we expect an air navigation service provider to use trial radar data to compare with radar data of aircraft tracks before the trial
- where there is no trial data, but an air navigation service provider has simulation data of the proposed air traffic control operational procedure, this must be used to assess the potential change in aircraft tracks
- where neither trial nor simulation data exist, the air navigation service provider must make a geometric estimation of the position of aircraft tracks as a consequence of the proposed air traffic control operational procedure, demonstrating the underlying assumptions and methodology it has used.

2.38 Flight tracks altered by a Type 1 PPR are likely to be above 4000 feet. The definition of a Type 1 PPR means that a change in flight tracks above 7000 feet is out of scope. However, it is important that the air navigation service provider recognises the possibility that a change in air traffic control operational procedures for aircraft above 7000 feet could have a knock-on impact to the flight tracks of aircraft below 7000 feet, and could therefore be in scope of Type 1.

Type 2

2.39 The annex to the Directions defines Type 2 as:

> "A PPR which is anticipated to increase air transport movements using a Standard Instrument Departure (SID) by at least 5000 movements per year as a result of a decision by an airport and/or its ANSP [air navigation service provider] to redistribute air traffic from one SID to another at that airport."

Additional information given in the Directions about Type 2

2.40 The annex to the Directions gives the following additional information about Type 2:

> "Type 2 applies when there has been a conscious decision by the airport and or its ANSP [air navigation service provider] to redistribute existing traffic at the airport.
>
> "Type 2 does not apply to an increase in the number of air transport movements on a SID [Standard Instrument Departure] which is a direct result of changing weather patterns, or airline operations, natural growth, or as a result of agreed (i.e. through the planning system) air transport capacity enhancements at the airport."

Example of Type 2

2.41 As part of the 'LAMP1A' proposal for a change in airspace design, there was a switch of traffic between Standard Instrument Departure routes at Stansted airport.[18] Daytime departing traffic was switched from the 'DVR' route to the 'CLN' route for both runway 04 and runway 22 operations (i.e. aircraft taking off in a northwesterly direction and those taking off in the reciprocal southeasterly direction respectively from Stansted's single runway). The shift affected just over 20,000 air transport movements per year.

[18] https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/ (see Module A).

2.42 This particular case was assessed and approved by the CAA as part of the LAMP1A proposal for a change in airspace design, even though the switch itself did not require a change in procedures published in the Aeronautical Information Publication (i.e. the switch itself was not a change in airspace design). The airspace change sponsor chose to go through the airspace change process voluntarily. Such a change would now be classified as a Type 2 PPR.

Observations on Type 2

2.43 The departure route is generally chosen according to the destination of the flight, but sometimes there are reasons for shifting flights from one pre-existing departure route to another. The threshold of 5000 movements a year means a significant shift is required to qualify as a Type 2 PPR; this represents an average of around 14 departures a day over the course of a year. In the above example, Standard Instrument Departure routes for aircraft departing runway 04 are different from those departing runway 22 and so the affected air transport movements would be counted separately.

2.44 The Directions do not define air transport movements, but this is a recognised industry term. The CAA will follow the definition in CAA airport statistics, which distinguish between aircraft movements and air transport movements as follows:

- **aircraft movements** means any aircraft landings or take-offs at an airport, whether commercial or non-commercial flights; one arrival and one departure are counted as two movements
- **air transport movements** means landings or take-offs of aircraft engaged on the transport of passengers, freight or mail on commercial terms; all scheduled movements, including those operated empty, loaded charter and air taxi movements are included.

Type 3

2.45 The annex to the Directions defines Type 3 as:

"A PPR which results from a significant change to the written specified landing arrangements of aircraft at a UK airport referred to in paragraph 1[19] (or more than one such change within 36 months whose cumulative effects are significant).

2.46 The annex goes on to define two of the terms in that sentence:

- **'change to the published[20] specified landing arrangements':** "means a change to the established minimum, or where applicable maximum, distance of the joining point onto an airport's Instrument Landing System (ILS) or any significant changes to the height at which aircraft must establish onto the ILS"
- **'significant':** "changes to the published[21] minimum joining point at such airports greater than a cumulative total of at least 300 feet vertically or 1 nautical mile horizontally within a rolling 36-month period will be considered as 'significant' and thereby constituting a Type 3 PPR."

Additional information given in the Directions about Type 3

2.47 The annex to the Directions gives the following additional information about Type 3:

"In circumstances where multiple changes made within a 36-month rolling period have the cumulative effect of meeting or exceeding the threshold set out in Type 3, the change that results in the threshold being met or exceeded will be judged to have met the criteria for a Type 3 PPR and will

19 That is, an airport in Table 2.1 in this consultation document.

20 The Directions say 'published', but the CAA reads this as a definition of 'change to the written specified landing arrangements' (which are not published). The Department for Transport is content with the CAA's interpretation.

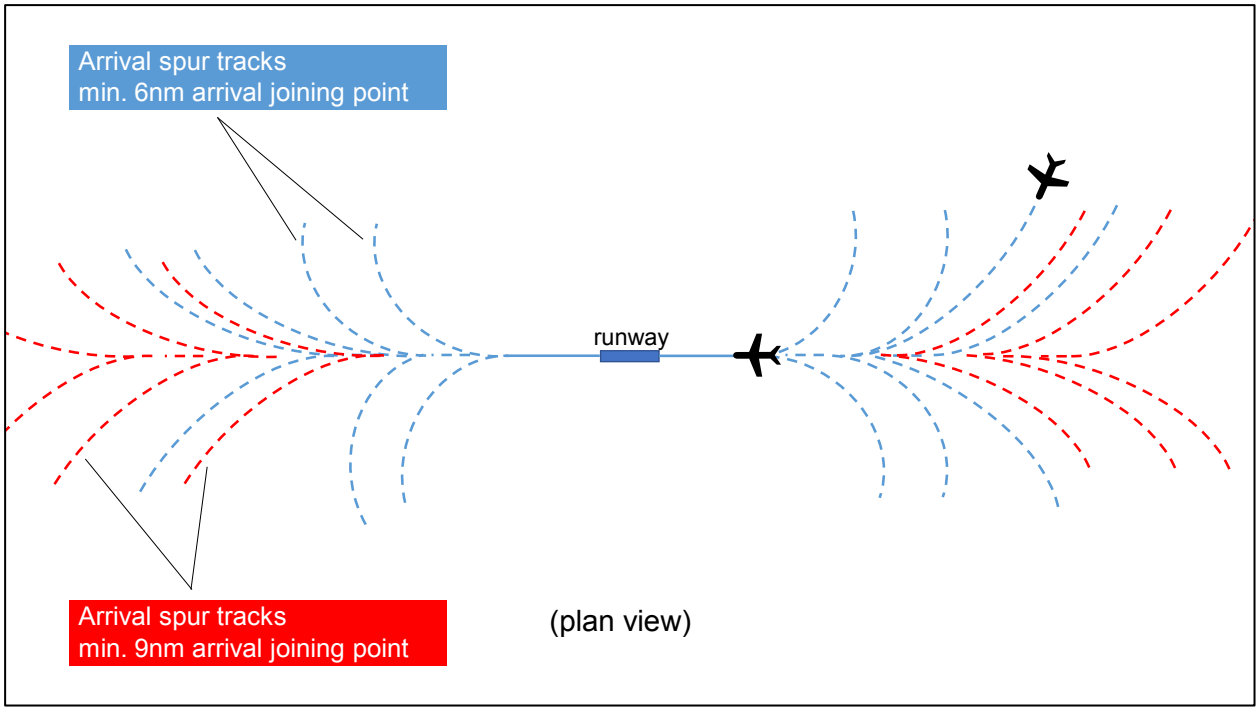
21 Again the Directions use the word 'published', but the CAA reads this as meaning the minimum joining point specified in written instructions such as MATS Part 2 (which are not published). The Department for Transport is content with the CAA's interpretation.

need to be considered as such. A PPR which has already been approved by the CAA is not included in assessing the cumulative effect of any further change."

Type 3 example: effect of ILS joining point change at an airport

2.48 This example assumes a change in the point at which aircraft join the Instrument Landing System. Figure 2.5 shows how this might affect some illustrative flight tracks of arriving aircraft at a generic regional UK airport, if the joining point is moved from a minimum of six nautical miles from the runway (tracks in blue) to a minimum of nine nautical miles (tracks in red). Note that the 'swathe' covered by the tracks has moved outwards relative to the runway.

Figure 2.5: Illustrative example of an air traffic control operational procedure change causing a shift in ILS joining point that could lead to a Type 3 relevant PPR



Notes: Not to scale. nm = nautical miles.

Observations on Type 3

2.49 As noted in the Type 1 'arrivals' example, there are often no published routes between the end of the Standard Arrival Route (the

‘holds’) and the final approach fix, meaning that this is a change in written procedures but not in the flight procedures published in the Aeronautical Information Publication. It is therefore not a change in airspace design.

Chapter 3

Considerations in designing a PPR decision-making process

Summary

- This chapter explains the considerations the CAA has taken into account in designing proposals for a PPR decision-making process, in particular the Government's air navigation guidance to the CAA.
- We also need to consider how to address urgent or temporary changes, and how to scale the process to keep it proportionate.

Introduction

3.1 As explained in Chapter 2, the need for an PPR decision-making process arose from the Government's decision to plug a policy gap in the regulatory framework for airspace change. A change to air traffic control operational procedure can lead to aircraft flying different tracks over the ground with a consequent environmental impact, in particular aircraft noise experienced by those on the ground. It can also lead to impacts for airspace users or other airports.

3.2 The PPR decision-making role the CAA has been given by the Government in the Air Navigation Directions must, like our airspace change decision-making, be carried out in accordance with section 70 of the Transport Act 2000.

3.3 With this in mind, we believe that it makes sense to model our proposed PPR decision-making process on the existing process for changes in airspace design, which is set out in CAP 1616.

3.4 The rationale for this approach is:

- that the noise impacts could, in some cases, be as significant as those arising from a major change in airspace design, and therefore

the same needs for clarity, transparency and early and full engagement with affected stakeholders apply

- that the CAP 1616 process is familiar to airports, air navigation service providers and impacted stakeholders
- that the CAP 1616 process is based on the same law and policy on which the PPR policy must be based, and on the same best-practice regulatory principles of transparency, evidence and engagement
- that it removes the administrative burden of designing and running a completely different process when industry is telling us that the number of PPR proposals each year is unlikely to exceed 20 and could even be in single figures.

3.5 That said, the Aviation Minister expressed a clear wish for the CAA's PPR process to be appropriate and proportionate.[22] A PPR is unlikely to be as broad or as complex as many of the changes in airspace design that go through the CAP 1616 process.

3.6 Furthermore, our early engagement with key stakeholders about the development of a PPR decision-making process revealed a common plea for as simple and short a process as possible, consistent with achieving the objectives. We were specifically asked by a range of stakeholders, including those representing communities, not to apply all aspects of the 14 steps of the full 'Level 1' airspace change process. Different ideas were put forward as to how we might tailor the process to reflect the characteristics of a relevant PPR, for example by targeting consultation on those potentially affected and shortening some of the more time-consuming elements.

Applying the Air Navigation Guidance to a relevant PPR

3.7 Direction 9A(2) of the Air Navigation Directions requires that the CAA's decision-making process for relevant PPRs must be proportionate and

[22] Letter of 18 October 2018 from Baroness Sugg to Richard Moriarty, Chief Executive of the CAA regarding the amendment to The Civil Aviation Authority (Air Navigation) Directions 2017.

reflect published Government policy. Paragraph 16 of the annex to the Directions (Guidance to CAA on its environmental objectives when carrying out its functions under Direction 9A) says that in accordance with section 70(2)(d) of the Transport Act 2000[23], the CAA should take account of the Air Navigation Guidance 2017[24] when carrying out its PPR functions, and that in particular, the CAA should apply to its PPR functions the guidance that applies to its (existing) function to consider whether to approve permanent changes in airspace design.

3.8 **Key points that the Air Navigation Guidance requires the CAA to include in the PPR decision-making process are as follows** (paragraph numbers are references to the Air Navigation Guidance):

- **The CAA is expected to produce an environmental statement when approving a relevant PPR** (paragraph 2.4). To ensure that our decisions are transparent, this statement should verify that all environmental factors have been considered in line with relevant government policy in the Air Navigation Guidance.
- **The CAA must require air navigation service providers proposing a relevant PPR to develop and consider options to meet their objectives, and to proportionately appraise the expected impacts of the different options.** The CAA is expected to ensure that this options appraisal is undertaken appropriately and in line with government policy (paragraph 2.5), and to provide guidance on the options appraisal methodology. To ensure a consistent and transparent assessment of these options (in terms of health impacts associated with noise, and potentially for other impacts, where possible) the appraisal must follow WebTAG, which is a series of guides and spreadsheet tools based on up-to-date evidence

23 This part of section 70(2) says: "The CAA must exercise its air navigation functions in the manner it thinks best calculated […] (d) to take account of any guidance on environmental objectives given to the CAA by the Secretary of State after the coming into force of this section."

24 Air Navigation Guidance 2017: Guidance to the CAA on its environmental objectives when carrying out its air navigation functions, and to the CAA and wider industry on airspace and noise management. https://www.gov.uk/government/publications/uk-air-navigation-guidance-2017

following the principles of HM Treasury's Green Book (paragraph 2.6). The options appraisal should be proportionate to the impacts and available evidence (paragraph 2.7).

- **The CAA must ensure the air navigation service provider has carried out appropriate engagement**. The level of engagement, up to and including formal consultation, should take account of the scale and impact of the change, as determined by the options appraisal (paragraph 2.8). The method, form and extent of the consultation will vary depending on the circumstances and expected impacts of each case (paragraph 2.9) taking account of the Air Navigation Guidance and in particular the altitude-based priorities (paragraphs 3.2 and 3.3).
- **The consultation process should be extensive where there is potential for a significant impact on the likely level of noise disturbance**, for example a proposal to move a low-level route and its associated impacts to a different geographical location or concentrate it within a particular region. Some changes might have no significant environmental impact and therefore might require little or no consultation with stakeholders[25] (paragraph 2.9).

3.9 The Air Navigation Guidance (paragraph 2.3) says that in exercising our air navigation functions (which will soon include the PPR decision-making process), the CAA must take account of any best-practice guidance which the Independent Commission on Civil Aviation Noise (ICCAN) may publish on aspects of aviation noise.[26]

Urgent national security or safety-critical changes

3.10 It is essential that where there is an urgent, overriding national security or safety consideration, a change in air traffic control operational procedure is

[25] In this context, this only means stakeholders interested in environmental impacts – other stakeholders may need to be consulted.

[26] At present, ICCAN has yet to produce any guidance. See paragraphs 3.38 to 3.42 of the Air Navigation Guidance for more information about the role the Government envisages for ICCAN.

implemented as soon as possible. The Department for Transport is of the same view, as are other stakeholders who have provided early feedback about the form our proposed PPR decision-making process might take. Currently in such cases an air navigation service provider would implement a Temporary Operating Instruction immediately, subject to assessment through its safety management system, and submit it to the CAA.

3.11 Our understanding is that safety-critical changes could be more prevalent for PPR proposals than for changes in airspace design, because the driver for a change in air traffic control operational procedure is often to maintain safety standards, perhaps in reaction to some external change.

3.12 We will take account of these considerations in our proposed PPR process and ensure that national security or safety-critical changes can be implemented without delay, but without undermining the process overall.

Scaling the decision-making process

3.13 As noted above, the Directions to the CAA require that the PPR decision-making process we introduce be proportionate. We are therefore designing it to be flexible enough to be scalable to accommodate different types of proposal. By scalable, we mean that not all PPR proposals necessarily need to be subjected to each and every element of the new process. Proposals may vary considerably in their impact. The requirements on air navigation service providers should be greatest for those changes that are anticipated to have the greatest impact on others. The CAA will always be clear about the process we expect the air navigation service provider to follow prior to our decision.

3.14 The scope of a relevant PPR is limited by the criteria set out in the Directions, as described in Chapter 2. We therefore know that any proposal for a relevant PPR will affect traffic patterns below 7000 feet and could have a potential noise impact. This broadly equates to a ‘Level 1’ airspace change proposal as described in CAP 1616. However, the

definition of Level 1 for an airspace change proposal is confined to those that have the potential to alter traffic patterns below 7,000 feet over an inhabited area, whereas a relevant PPR is defined such that it could also include uninhabited areas (such as over the sea). The PPR decision-making process must therefore allow for such cases to be treated proportionately, which will be determined by the CAA after the initial discussion of the proposal with the air navigation service provider (Step 1A).

3.15 The number of stakeholders potentially affected by a proposed PPR change will determine how extensive a consultation must be. This is the same principle as applies throughout the CAP 1616 airspace change process, which requires change sponsors to develop a consultation strategy that ensures they are targeting the right audience, communicating in a way that suits that audience and giving them the opportunity to make informative, valuable contributions to the proposal's development.

3.16 An air navigation service provider is required by the Directions (because the Directions require the Air Navigation Guidance to be applied to relevant PPR proposals) to undertake an options appraisal. This evidence base determines the scope of the impact, and should be used by the air navigation service provider when it develops its consultation strategy. This further builds in a general principle of scaling into the process. For example, an airport with less traffic will have lesser impacts, and an airport with fewer local communities will have fewer people to make aware of the consultation. This in turn reduces the resources required to run the consultation.

3.17 Our understanding is that there may be certain air traffic control operational procedure changes which solely affect smaller General Aviation aircraft (such as sports, recreational and private flying) but which could potentially be in scope of the definition of a relevant PPR. Where the number of movements affected is small, the CAA would expect to scale the requirements for the PPR process significantly.

Temporary PPRs

3.18 Temporary changes to airspace design are defined in the Government's Air Navigation Guidance and Directions to the CAA as lasting not more than 90 days other than in exceptional circumstances. They warrant their own scaled process in CAP 1616, based on paragraphs 2.12 to 2.14 of the Air Navigation Guidance. However, the Directions do not make any specific provision for temporary PPR changes (the Air Navigation Guidance predates the introduction of the PPR process). Although PPR is short for 'planned and permanent', the Directions define 'planned and permanent' as meaning 'other than a day-to-day or at the time decision taken by an air traffic controller or other decision maker'. Therefore even a temporary change in air traffic control operational procedure could be a relevant PPR if it is a written procedure, no matter how short its proposed duration.

3.19 In our view it would not be proportionate, however, to require the full decision-making process for a relevant PPR that is temporary and will last no more than six months, for example while a ground navigation aid is temporarily out of service because of planned maintenance. Nor would it be consistent with CAP 1616 and the Air Navigation Guidance in respect of a temporary change in airspace design. We therefore propose to scale the PPR decision-making process significantly for such changes, which we explain in Chapter 5.

Airspace trials

3.20 There is already in place a decision-making process for the trial of an air traffic control operational procedure, and therefore there is no need for us to introduce anything new.[27] In other words, a proposed trial of a PPR is already required to follow the process for airspace trials set out in CAP 1616 on pages 91 to 93.

[27] See the definition of 'airspace trial' in Direction 2 of the Air Navigation Directions.

Chapter 4

Identifying a relevant PPR

Summary

- This chapter provides guidance to air navigation service providers on a suggested internal process for the identification of a relevant PPR.
- It also notes the CAA's role in determining, at the air navigation service provider's request, whether a given proposal is a relevant PPR.

The need for an identification stage

4.1 A PPR is created through a change in air traffic control operational procedure, which is initiated by the air navigation service provider, recorded in writing and given as some form of instruction to an air traffic controller. For example, where it is recorded in an internal, unpublished locally specific procedures document known as MATS Part 2. In contrast, an airspace change proposal is created by a proposed change to the features of airspace design that are required to be published in the Aeronautical Information Publication. The Aeronautical Information Publication sets out the airspace design, is owned by the CAA, and our approval must be obtained for us to change it.

4.2 Consequently, at present (i.e. prior to the CAA being given this new PPR function):

- only the air navigation service provider knows that an air traffic control operational procedure change is under consideration
- the CAA does not control whether or not such a change is adopted (other than on safety grounds).

4.3 Once the new PPR function takes effect:

- it is still only the air navigation service provider that knows that an air traffic control operational procedure change is under consideration
- the CAA will have a decision-making role for certain operational procedure changes
- therefore the air navigation service provider needs to establish very early on whether a CAA decision is required before a given air traffic control operational procedure change can be implemented.

4.4 The stakeholder feedback we have received so far confirms that the identification of a relevant PPR in the first place is therefore a key precursor to the PPR decision-making process. **Only if the air navigation service provider has an internal procedure in place will it be able to identify the need for a given change to go through the PPR process and be approved by the CAA before implementation.** It is therefore essential that all air navigation service providers potentially in scope of PPR introduce such an internal procedure, and do so as soon as possible (see Chapter 6).

4.5 We are therefore proposing to introduce guidance for air navigation service providers about their procedures. This procedure is internal to the air navigation service provider and ensures that a relevant PPR is not implemented without CAA approval. It comes before the regulatory decision-making process itself.

Integration with the existing safety assurance process

4.6 Underlying this need to identify a relevant PPR is the existing process for safety assurance of any procedure change. This is achieved through the air navigation service provider's safety management system, which is already subject to the CAA's safety oversight. All air traffic control operational procedure changes – which will be much wider than those in scope of a PPR – are documented in either a Temporary Operating Instruction or a Supplementary Instruction. These are both submitted to

the CAA, but approval prior to implementation is not a requirement for all. The Temporary Operating Instruction is used to implement a temporary change, generally for up to six months, although some may be for longer. A Supplementary Instruction is used for a more permanent change to MATS Part 2 or its equivalent, into which it is eventually incorporated in periodic updates.

4.7 As noted in Chapter 1, an air navigation service provider (sometimes at the behest of the airport contracting it) is constantly seeking ways to improve the efficiency and safety of its operation, often through incremental changes. The challenge is for an air navigation service provider's internal processes and staff skillset to have been developed sufficiently so as to ensure that at the same time as putting an intended change through its safety management system, it also has the necessary capability to include a 'PPR check'.[28]

4.8 The introduction of the PPR decision-making process does not alter the continuing requirements for submitting a Temporary Operating Instruction or a Supplementary Instruction, which remain in place.

Introducing a PPR check: trigger process

4.9 This PPR check by the air navigation service provider will:

- identify any change that has the potential to alter traffic patterns
- automatically trigger an assessment of any such change to establish whether it meets the criteria for a relevant PPR, by modelling the anticipated geometric change in the track taken over the ground.

4.10 Where a change does meet those criteria, the air navigation service provider must:

[28] Clearly the air navigation service provider does not want to put through the PPR process a change that would be in contradiction to its safety management system. The exact sequence is a matter for the air navigation service provider, but we anticipate making appropriate amendments to CAP 670 ATS Safety Requirements (the CAA document which sets out the safety regulatory framework and requirements associated with the provision of an air traffic service).

- initiate the CAA decision-making process, a draft of which is being consulted on in this document, rather than moving straight from the safety management system to implementation
- consider at this very early stage what options there are that would meet the objective of the change
- consider who is potentially impacted by those options, including those on the ground
- integrate these steps with its existing safety management system and interaction with the CAA such that there is no duplication, i.e. safety assurance forms part of the PPR process.

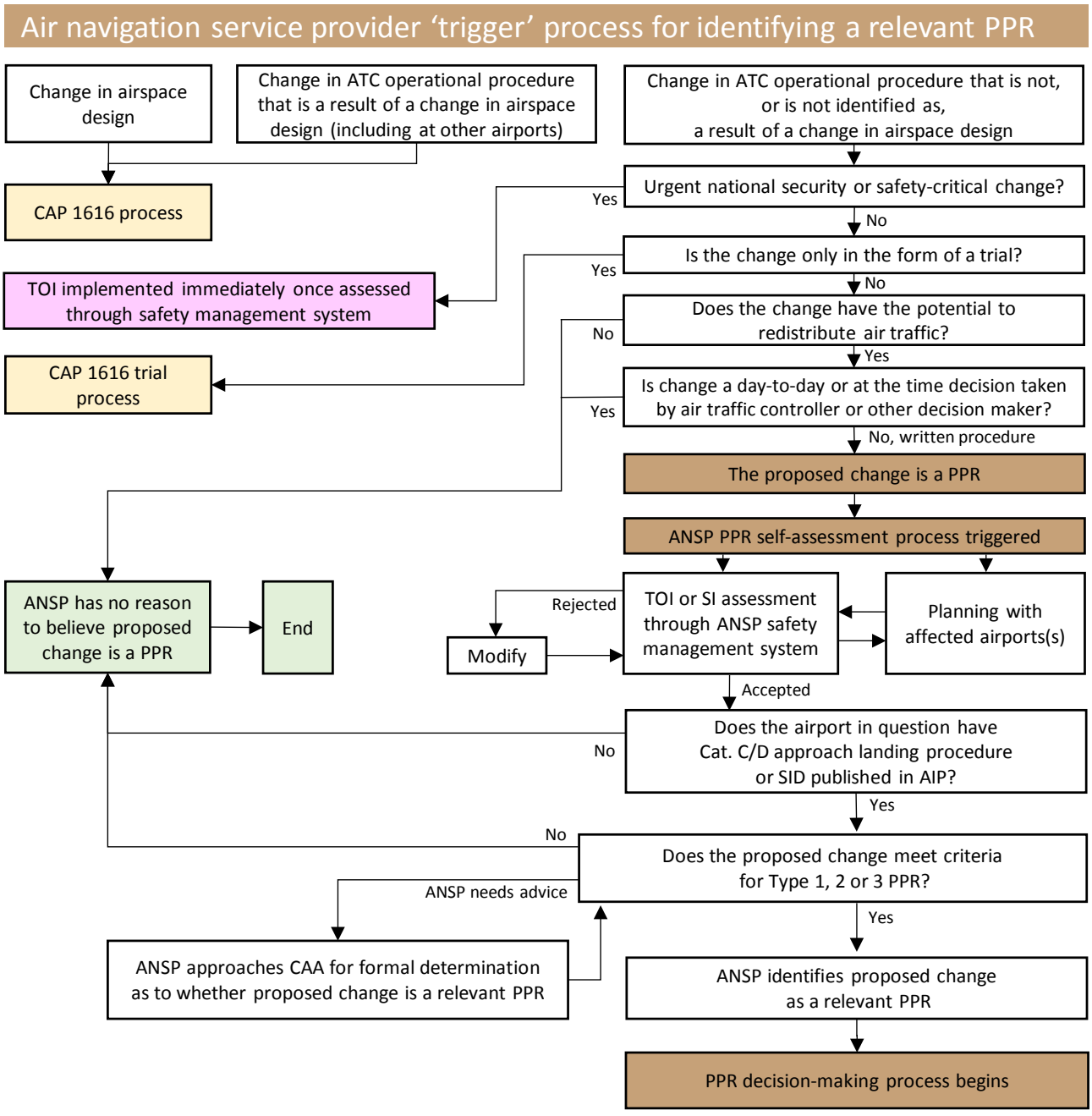
4.11 This may require a change of culture for the air navigation service provider, which will be more used to considering only the operational implications of the change. The air navigation service provider must not rely on the CAA's oversight. It must be the air navigation service provider that identifies a change as a relevant PPR. Indeed the Directions actually require this of the CAA's process.[29]

4.12 The air navigation service provider should recognise that **a proposed Temporary Operating Instruction (i.e. of limited duration) could still give rise to a relevant PPR**. As Chapter 3 explains, although PPR stands for 'planned and permanent', this really means any change in the form of written-down procedures, and does not exclude temporary changes.

4.13 Figure 4.1 is a flow chart showing how we anticipate this internal 'trigger' process might work for the air navigation service provider.

[29] Direction 9A(2)(b) states that our decision-making process must require an air navigation service provider to refer a proposal for a PPR to the CAA for approval before it is implemented.

Figure 4.1: Air navigation service provider 'trigger' process for identifying a relevant PPR



Consulting the CAA as to whether a PPR is a relevant PPR

4.14 As noted in Chapter 2, paragraph 15 of the annex to the Directions gives the CAA a power to determine whether a proposed change is a relevant PPR. It says that if there is any doubt about whether a proposed PPR falls within Type 1, 2 or 3, the air navigation service provider, or airport as

appropriate, should consult the CAA. The CAA's decision will determine whether or not the proposed PPR is a relevant PPR.

4.15 This will clearly require the air navigation service provider to share modelling work etc with the CAA explaining the change, including anticipated tracks that aircraft will fly over the ground (for example, as described in more detail in our observations on page 37). We may also require other additional information that allows us to consider the air navigation service provider's assessment and to make our determination.

Chapter 5

CAA proposals for a PPR decision-making process

Summary

- This chapter sets out our specific proposals for a PPR decision-making process, taking into account the considerations in Chapter 3.
- We have based these proposals on the existing airspace change process, since many of the considerations are the same as those for changes to airspace design that have a potential noise impact on the ground.
- We have however scaled some elements in order to keep the proposed PPR process proportionate.

Introduction

5.1 This chapter sets out the CAA's proposed PPR decision-making process.

5.2 As described in Chapter 4, the process is only initiated after an air navigation service provider's own embedded internal process – possibly as part of its existing safety management system – has identified a change in air traffic control operational procedure as a relevant PPR that requires approval before it can be implemented (a 'trigger' mechanism). This is not part of the proposed regulatory process, because it is the air navigation service provider which 'owns' changes to its written procedures. However, when in doubt, the air navigation service provider can approach the CAA for a determination as to whether a given PPR proposal is a relevant PPR (see paragraph 15 of the annex to the Air Navigation Directions).

The proposed regulatory process – Stages 1 to 7

5.3 When an air navigation service provider identifies a proposed change to its air traffic control operational procedures as a relevant PPR, it will need to initiate the first step of the PPR process. This is for it to submit a Statement of Need to the CAA, following which the CAA will have a discussion with the air navigation service provider, if necessary in the form of a meeting. This will give the air navigation service provider the reassurance it needs that the proposal is being regarded as a relevant PPR and confirm the process that the CAA expects the air navigation service provider to follow.

5.4 More detail on our proposed PPR decision-making process is set out in Table 5.1 below. The table does not attempt to include all the detail, which is available in CAP 1616, but rather to highlight where the differences lie between the proposed PPR process and the CAP 1616 process on which it is based.

Table 5.1: Proposed decision-making process for a relevant PPR

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
Starting point: the air navigation service provider has identified a change in air traffic control operational procedure as a relevant PPR (see Chapter 4). Note: subject to compliance with the air navigation service provider's safety management system, an urgent national security or safety-critical PPR can be implemented on a temporary basis without going through this process (see paragraph 5.8 below).	
Stage 1 **Assess requirement**	**Description:** The air navigation service provider prepares a Statement of Need setting out what issue or opportunity it is seeking to address. In particular the CAA will be expecting to see, even at this early stage, evidence and analysis for the conclusion that the proposal is expected to meet the criteria for a relevant PPR. Having reviewed this material, the CAA will hold a discussion with the air navigation service provider, if necessary in the form of a meeting, to agree whether the PPR process must be followed, and if so, indicative timelines. The CAA can also decide how the PPR process that the air navigation service provider must follow can be scaled appropriate to the type of change.
	Comments: The PPR process will not have formal scaling categories like Level 1 and Level 2, because the definition of a relevant PPR is already drawn quite narrowly and only changes with the potential to alter traffic patterns below 7000 feet will be in scope. However, it is possible for a relevant PPR not to impact an inhabited area, for example, where the change is over the sea. In the airspace change process, such a proposal would be likely to be scaled as a 'Level 2', which significantly reduces the consultation requirements. The annex to the Air Navigation Directions states that the definition of a relevant PPR is designed to capture only air traffic control operational procedures that relate to airports at which large commercial air transport and most business jets operate. It does not capture aerodromes or airports used only by small non-commercial aircraft. However, we are aware that there could be changes in scope of a relevant PPR at these airports which solely affect a few movements of lighter General Aviation aircraft (such as sports, recreational and private flying). We would welcome feedback on this possibility. Where the anticipated impact is low, we will discuss appropriate scaling of such proposals, for example for the options development and consultation stages.

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
	We do not see any need for the air navigation service provider to develop design principles for a PPR. Although the objective of a given PPR might be achieved through different options, it seems unlikely that deciding between those options would be aided by drawing up design principles. At the decision stage it will need to provide the CAA with its rationale for choosing one or more particular options.
Comments: There is no 'Define' gateway in the PPR process. There are only three types of PPR that require approval, and these are very specifically defined. Therefore the scope for designing a solution, or for choosing between different options, is limited.	
Stage 2 **Step 2A Options development**	**Description:** The air navigation service provider develops one or more options that address the Statement of Need.
	Comments: Each of the three types of PPR could, in theory, have different options for addressing a particular issue or opportunity that needs resolving. For example, the number of movements shifted from one existing departure route to another (Type 2) or the exact positioning of the ILS joining point (Type 3). The CAA would expect the air navigation service provider to begin with a list of as many options as possible. That said, we recognise that a change in air traffic control operational procedure is quite different from a change in airspace structure or instrument flight procedures, in that it may not be practical or credible to pursue different options. In some cases there may be only one option. The air navigation service provider should not shortlist options for the sake of it, but it must be completely transparent in its reasoning as to what and why options have been discounted. The air navigation service provider must however consider whether it is possible for traffic to be directed any differently creating different impacts locally. The air navigation service provider will need to consider whether early engagement with affected stakeholders would be useful. In the case of a high-impact change, the CAA will encourage the consultation at Step 3C to have been informed by such engagement. Communities have stressed to us the importance of there being 'no surprises' arising from a PPR, so early engagement could be useful to signal ahead of formal consultation that there is a potential change in the pipeline. The smaller the potential impact of the change, the more likely that the CAA will agree that early engagement might be confined to

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
	information provision while the finer details are being worked out, or that there is no need for early engagement.
Stage 2 **Step 2B Options appraisal**	**Description:** The air navigation service provider appraises each option, even if there is only one, to understand the impact, both positive and negative, including a qualitative assessment of the potential safety implications. The options appraisal uses the iterative process set out in CAP 1616. If the air navigation service provider identifies a number of options, it needs to carry out an 'Initial' options appraisal at Step 2B (which should, as a minimum, contain qualitative assessment of the different options). If there are only one or two genuine options, then the air navigation service provider, with the CAA's agreement, does not need to complete Step 2B and instead progresses to the consultation stage (Step 3A).
	Comments: It is a requirement of the Air Navigation Guidance that the air navigation service provider carries out an options appraisal. Where there is only one option, this would be a comparison with the status quo.
Comments: There is no 'Develop and assess' gateway in the PPR process. As noted above, the PPR process is likely to be simpler than a change in airspace design. The CAA therefore sees the 'Assess and consult' gateway after Step 3B as providing an adequate check and reassurance that the PPR process has been followed from Stage 1 up to that point. Currently, from a safety assurance perspective, the air navigation service provider will make its own internal assessment of proposed changes through its internal safety management system, with the CAA providing overall safety regulatory oversight. While the new process will inevitably add some additional burden on the air navigation service provider, we hope that this will minimise that burden for these early pre-consultation stages, by building on the existing safety assessment arrangements.	
Stage 3 **Step 3A Consultation preparation**	**Description:** The air navigation service provider plans its consultation strategy, and prepares associated consultation documents and the 'Full' options appraisal with more detailed quantitative evidence for its chosen option(s) than the earlier 'Initial' options appraisal, if carried out.
	Comments: The extent of the consultation will tend to be self-scaling according to the impact of the change and those affected. While the accepted standard is for the consultation to

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
	last for 12 weeks, the CAA will consider a shorter period where the air navigation service provider presents a case based on: • the impact of the change • the audience map and impacted groups • factors outside its control, such as legal constraints • technical or operational constraints.
Stage 3 **Step 3B Consultation approval**	**Description:** The CAA reviews and where appropriate approves the consultation strategy and associated consultation documents.
	Comments: This is to ensure these meet best-practice guidance, for example that the consultation is comprehensive, the materials clear and appropriate, and the questions unbiased.
ASSESS AND CONSULT Gateway	**Description:** The CAA will check that the necessary process has been followed up to this point, and that all necessary documentation has been produced and published where appropriate. In order for the CAA to sign-off the 'Assess and consult' gateway, the air navigation service provider must have: ▪ produced a Statement of Need and the CAA must have determined that the proposal is (a) a relevant PPR and (b) an appropriate means of solving the issue the air navigation service provider is seeking to address ▪ discussed the PPR proposal with the CAA ▪ agreed the proposed process and timescales with the CAA (which the CAA will have published) ▪ produced an 'Initial' (if applicable) and 'Full' options appraisal including safety implications ▪ produced a consultation strategy and appropriate and effective consultation documents and supporting materials and the CAA must have completed an assessment of the options appraisal and published a statement that this and the consultation strategy and associated documents are satisfactory. We have assumed a similar gateway procedure as CAP 1616. The CAA commits to internal gateway meetings according to a published schedule, with deadlines for air navigation service providers to submit the required documents in advance agreed on a case-by-case basis.

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
Stage 3 **Step 3C Commence consultation**	**Description:** The air navigation service provider implements its consultation strategy and publishes its consultation.
	Comments: After review by the CAA at Step 3B and sign-off at the 'Consult' gateway, the air navigation service provider must include the options appraisal in the package of documents on which it consults at Step 3C. This allows those being consulted to see the potential impacts of different options and provide more information or comment.
Stage 3 **Step 3D Collate and review responses**	**Description:** Consultation responses are collated, reviewed and categorised.
	Comments: The air navigation service provider must review the responses and categorise them into those that present information that may lead to a change in the PPR proposal and those that could not, including those raising issues which are outside its control (such as government policy).
Stage 4 **Step 4A Update design**	**Description:** The air navigation service provider considers the consultation responses, identifies any consequent amendments to the PPR proposal, and updates the options appraisal to take account of any revised impacts of those amendments, submitting these to the CAA for review.
	Comments: The air navigation service provider needs to be transparent in showing how it has taken account of consultation feedback. This may include selecting one option over another, if more than one was consulted on. If the options appraisal reveals that the impact of the PPR proposal is fundamentally different to that previously anticipated, the air navigation service provider must discuss with the CAA whether it must undertake a second consultation.
Stage 4 **Step 4B Submit PPR proposal to CAA**	**Description:** The air navigation service provider prepares the formal proposal using a standard format including safety, operational, environmental and consultation assessments, drawing from the earlier outputs in the process. The air navigation service provider submits its PPR proposal to the CAA. This is in addition to the air navigation service provider fulfilling existing change management obligations such as submission of form SRG 1430 to the CAA 30 days before proposed implementation.

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
Stage 5 **Step 5A CAA assessment**	**Description:** The CAA reviews and assesses the proposal. We may require minor changes to the proposal. This will include a proportionate safety review by the CAA of every air traffic control operational change that is within scope of a Type 1, 2 or 3 PPR. We complete assessments to inform and provide guidance to the CAA decision-maker.
	Comments: In general, the CAA proposes to take the same approach as set out in Appendix G of CAP 1616, which sets out the CAA's decision criteria and how we apply the factors in section 70 of the Transport Act 2000. We do not propose to include in the PPR process a Public Evidence Session, which forms part of the process for a Level 1 airspace change proposal in order to give stakeholders other than the proposer the opportunity to provide the CAA decision-maker with their views on the proposal directly in a public forum. Our view is that because a PPR will be a very specific proposal for an air traffic control operational procedure change, it would be disproportionate to hold a Public Evidence Session.
Stage 5 **Step 5B CAA decision**	**Description:** The CAA decides whether to approve or reject the proposal.
	Comments: Like an airspace change proposal, there is no mechanism to appeal our decision, other than judicial review. Unlike an airspace change proposal, a PPR proposal cannot be called-in by the Secretary of State, because no provision for this is made in the Directions to the CAA. Unlike a Level 1 airspace change proposal, we do not propose that the CAA would seek comments on a draft of our final decision.

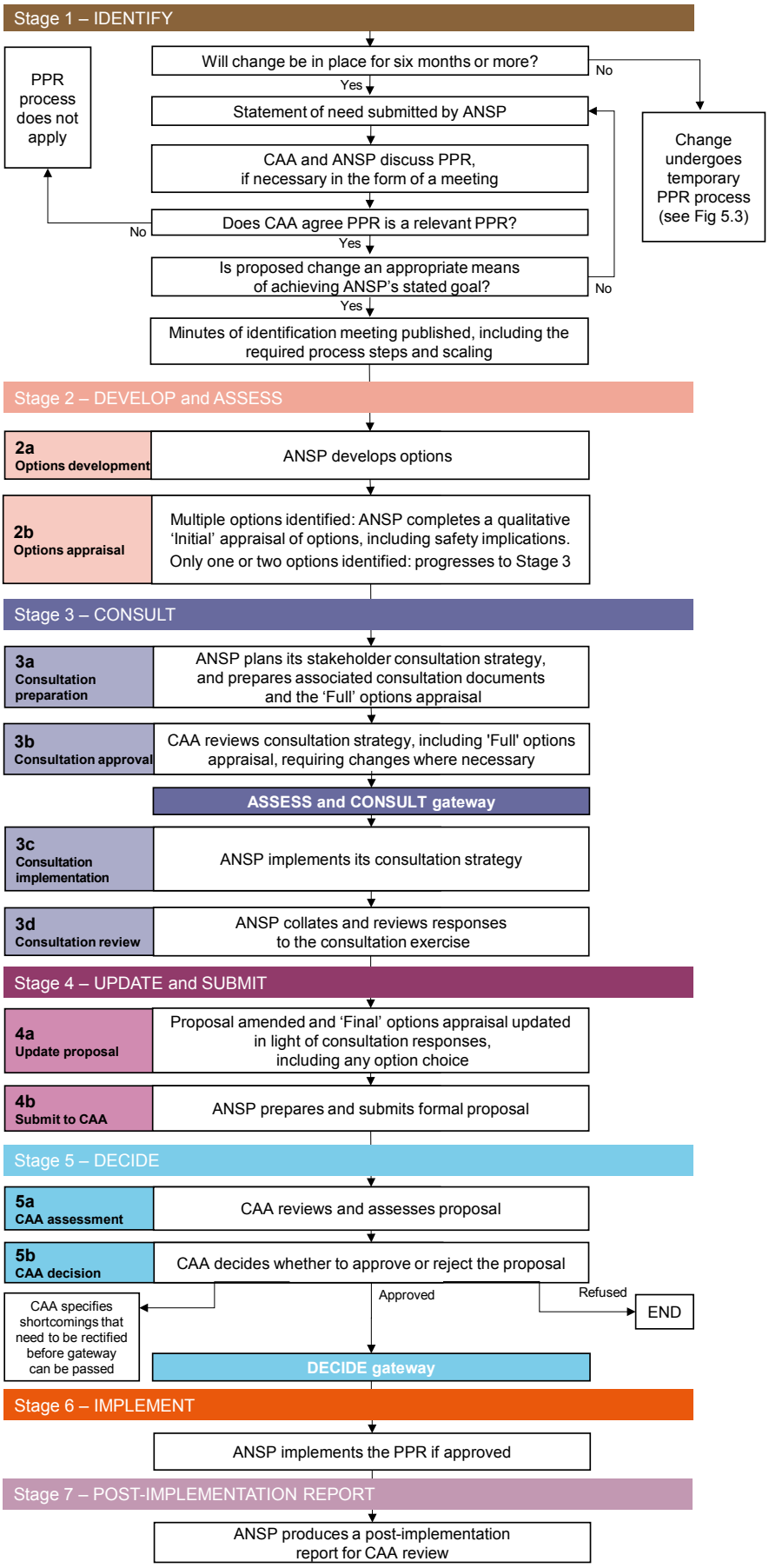
Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
DECIDE Gateway	**Description:** The CAA will check that the necessary process has been followed up to this point, and that all necessary documentation has been produced and published where appropriate. In order for the CAA to sign-off the 'Decide' gateway, the air navigation service provider must have: ▪ submitted a final proposal including a 'Final' options appraisal, revised in the light of consultation responses ▪ incorporated any technical changes to the proposal that the CAA identifies and approval must have been given in a decision by the CAA based on its assessment of the 'Final' options appraisal, and the CAA's safety review and environmental, operational and consultation assessments (as described on pages 66–67 of CAP 1616), including whether the proposal has been adequately consulted on by the air navigation service provider, and how it has categorised consultation feedback and responded to it. The PPR proposal cannot be implemented if the CAA does not approve it.
Stage 6 **Implement**	**Description:** If approved by the CAA, the air navigation service provider implements the proposed change.
	Comments: The change is set out in a Supplementary Instruction for eventual incorporation in the air navigation service provider's permanent written procedures such as MATS Part 2, or in a Temporary Operating Instruction. These documents are not published, so the air navigation service provider must also specify how it will notify affected stakeholder groups about the ultimate outcome of the consultation and the CAA's decision. All that may be needed is a reference to the online portal where the decision has been published. This will form one of the conditions of the CAA decision.
Stage 7 **Post-implementation report**	**Description:** As soon as the change is implemented, the air navigation service provider will be reviewing how it is performing. 12 months after implementation, the air navigation service provider will be required to produce and publish a report setting out how the PPR change has performed. This will follow a CAA template. It will include a summary of any complaints received and whether anticipated impacts and benefits of the PPR change that was approved have in practice been delivered. If there is evidence that they have not, the CAA will require the

Proposed decision-making process for a relevant PPR (based on CAP 1616 process except where noted)	
	air navigation service provider to investigate why, so the CAA can determine whether further action is needed. However, implementation of the proposed PPR will not be conditional on the outcome of the post-implementation report.
	Comments: Our view is that a post-implementation report by the air navigation service provider is an important part of the process. However, given the specific nature of a PPR proposal, the report is unlikely to be as extensive as a post-implementation review required for a significant airspace change proposal. A proportionate approach would therefore be for the CAA to confine itself to a high-level review of the air navigation service provider's report.

Flow diagram of the proposed regulatory process

5.5 Figure 5.1 overleaf shows a flow diagram of the proposed decision-making process for a relevant PPR.

Figure 5.1: Proposed decision-making process for a relevant PPR



Question 1: Overall, what are your views on the CAA's proposed PPR decision-making process?

About right	Minor modifications needed	Significant modifications needed	Don't know

Please explain your answer and provide any other general comments.

Question 2 (optional): Do you have any comments on the way the CAA is interpreting the definition of a 'relevant PPR'?

Question 3 (optional): The CAA proposes that an air navigation service provider must introduce an internal 'trigger' process alongside its existing safety assessment that will always identify where a proposed change in air traffic control operational procedure is a 'relevant PPR'. Do you agree that this is the most appropriate way for an air navigation service provider to identify when it must follow our proposed PPR process before implementing such a change?

Yes	No	Don't know

Please explain your answer, and whether any specific guidance from the CAA would help.

Question 4: Are there any aspects of the CAP 1616 airspace change process that you think are missing from our proposed PPR process and should be included?

Yes, something more is needed	No	Don't know

If you answered yes, please say what they are and why.

Question 5 (optional): Where a PPR is proposed, can multiple workable options be developed for the change in air traffic control operational procedure, or are the only options either to do the PPR or to do nothing (i.e. a binary choice)? Please answer for each of the three types of relevant PPR.

Type 1	Multiple	Binary	Don't know
Type 2	Multiple	Binary	Don't know
Type 3	Multiple	Binary	Don't know

Please provide any additional comments.

Question 6: Do you agree with our proposal that it is the air navigation service provider which produces a post-implementation report (as to whether the change has had the impacts and benefits predicted) rather than the CAA?

Yes	No, something more is needed	Don't know

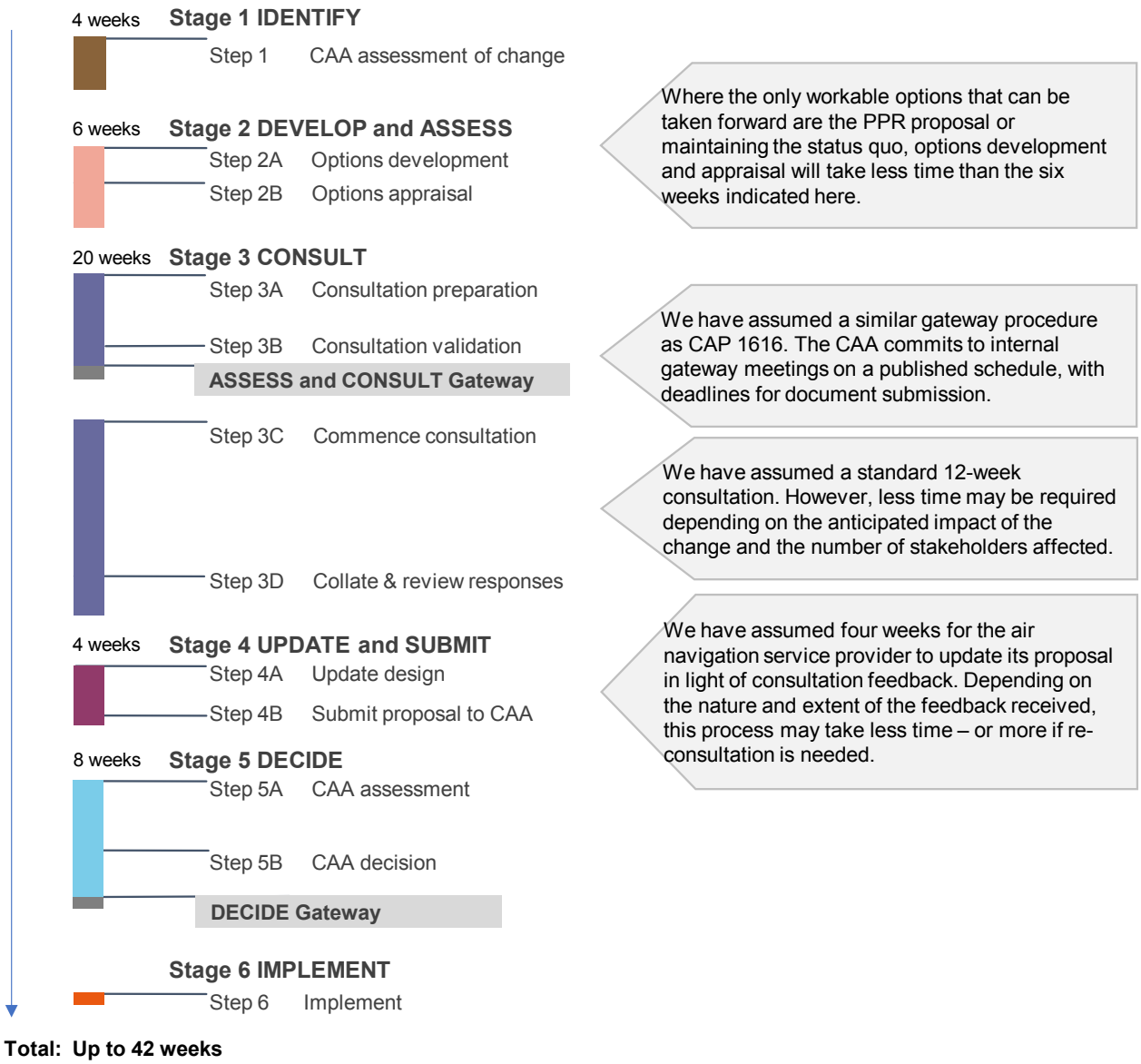
Please provide any additional comments.

Timescales

5.6 Figure 5.2 shows an illustrative timeline for the PPR decision-making process. Because this is a new type of decision, we have had no experience with a PPR proposal, so we have relied on our experience with the airspace change process. The 42 weeks we have estimated for a typical PPR proposal to go through the proposed process compares with 110 weeks in the equivalent diagram on page 29 of CAP 1616 for an airspace change proposal. It is therefore considerably shorter. This is because we are proposing to scale some elements of the CAP 1616 process, and because a PPR proposal will generally be much more specific than many airspace change proposals, with fewer design options.

5.7 The illustrative timeline in Figure 5.2 follows the colour coding for each stage from Figure 5.1. The time taken for each stage could vary considerably depending on the complexity of the change, the options available to address the issue or opportunity, and the potential impacts. These factors will determine the preparatory work required, the extent of the options appraisal, the duration and breadth of the consultation, and how quickly a solution can be developed that takes consultees' views into account. The timeline should therefore be read with this in mind, i.e. the process could be considerably shorter than 42 weeks, or potentially longer.

Figure 5.2: Illustrative timeline for the PPR decision-making process



Urgent safety-critical or national security changes

5.8 As noted in Chapter 3, it is essential that where there is an overriding safety or national security consideration, that a change in air traffic control operational procedure is implemented as soon as possible. Such changes would not therefore follow the PPR decision-making process we propose in this chapter. Subject to assessment through its safety management system, an air navigation service provider would implement a Temporary Operating Instruction immediately and submit it in the usual way to the CAA.[30]

5.9 However, the air navigation service provider will still need to identify whether such a change falls in scope of a relevant PPR, in which case it would be required to follow the appropriate PPR process. If this seems likely, we propose that the air navigation service provider would:

- notify the CAA's Airspace Regulation team within five working days of the Temporary Operating Instruction being issued
- submit a Statement of Need to the CAA within four weeks of the Temporary Operating Instruction being issued.

Proposals which meet the criteria for more than one type of relevant PPR

5.10 We recognise that some proposals may take the form of a package of air traffic control operational procedure changes. In such cases we will consider the package of PPR proposals together as one proposal.

5.11 Since our proposed process is the same for each type of relevant PPR, it will make no difference if a proposal meets the criteria for more than one type of PPR.

[30] The change management process for air navigation service providers is set out on the CAA's website. https://www.caa.co.uk/Commercial-industry/Airspace/Air-traffic-control/Air-navigation-services/Certification-and-designation/Change-management-and-change-notification-process/

Relevant PPR caused by a change in airspace design or other knock-on effects

5.12 As indicated at the top of the flow diagram in Figure 5.1, where a proposed change in airspace design creates a change in air traffic control operational procedure which is within scope of the definition of a relevant PPR, the changes must be regarded together as a package and will form part of the proposal for airspace design change. The sponsor of the airspace design change must identify the impacts on other aviation stakeholders (specifically, that is airspace users, air navigation service providers and airports only) and engage with them early on as part of the CAP 1616 process (as well as formal consultation later on). We would therefore expect the airport or air navigation service provider experiencing the PPR change to be involved as part of the airspace design change proposal.

5.13 We envisage the same approach should a need for a relevant PPR (probably a lateral-shift, Type 1 change) be created by another relevant PPR proposed by a neighbouring air navigation service provider. The latter must identify the impacts on other aviation stakeholders early on and engage with them as part of the PPR process such that the changes are presented to the CAA as a package.

5.14 There would be no value in running separate decision-making processes in parallel for such inter-related proposals. As well as practical considerations, from an environmental perspective, the sponsor and the CAA would run the risk of not assessing the cumulative effects of the proposed changes.

5.15 Having said that, some early feedback on PPRs has suggested to us that not all PPRs generated in this way might become apparent immediately. A change elsewhere may have knock-on effects that requires changes in air traffic control operational procedure at a different airport and therefore potentially by a different air navigation service provider. We cannot cover every eventuality in this document, but our proposal would be to take a pragmatic approach and to cover this in our final guidance material as best

we can. We welcome observations on how this issue might be managed effectively.

Trials of a PPR change

5.16 Some air traffic control operational procedure changes will be trialled before being implemented permanently. As explained in Chapter 3, the process for such trials already exists and is the same as for a trial of an airspace design. The CAA is therefore making no new proposals for PPR trials.

Temporary PPR changes

5.17 As explained in Chapter 3, the Directions make no specific provision for temporary PPR changes, but to keep the process proportionate, we propose to treat any relevant PPR with a duration of no more than six months as temporary, and to apply a scaled process.[31] The Department for Transport is content with this approach.

5.18 We have proposed a six-month period, rather than the 90-day limit defining a temporary airspace design change. This is because there are more likely to be instances of longer than 90 days where, for example, a ground navigation aid is temporarily out of service because of planned maintenance, causing a shift in tracks over the ground. We do not feel that it would be proportionate to apply the full process to such changes. Six months would also align better with the current Temporary Operating Instructions an air navigation service provider uses to implement a temporary change in air traffic control operational procedure (see Chapter 4).

[31] Type 1 and Type 3 PPRs do not have any temporal element; the criteria in the Directions are based on changes in the tracks flown by aircraft over the ground, so a temporary change is a possibility. A Type 2 PPR requires a shift of 5000 movements in a year, which is more likely to exclude a PPR change lasting not more than six months.

5.19 After the temporary period has expired, the operational procedures would revert back to their original form. We also propose that in exceptional circumstances the CAA may agree to the extension of a temporary change. However, a proposal to extend a temporary change must not be seen by an air navigation service provider as a means of avoiding the full PPR process, which would normally be required for a change of more than six months' duration.

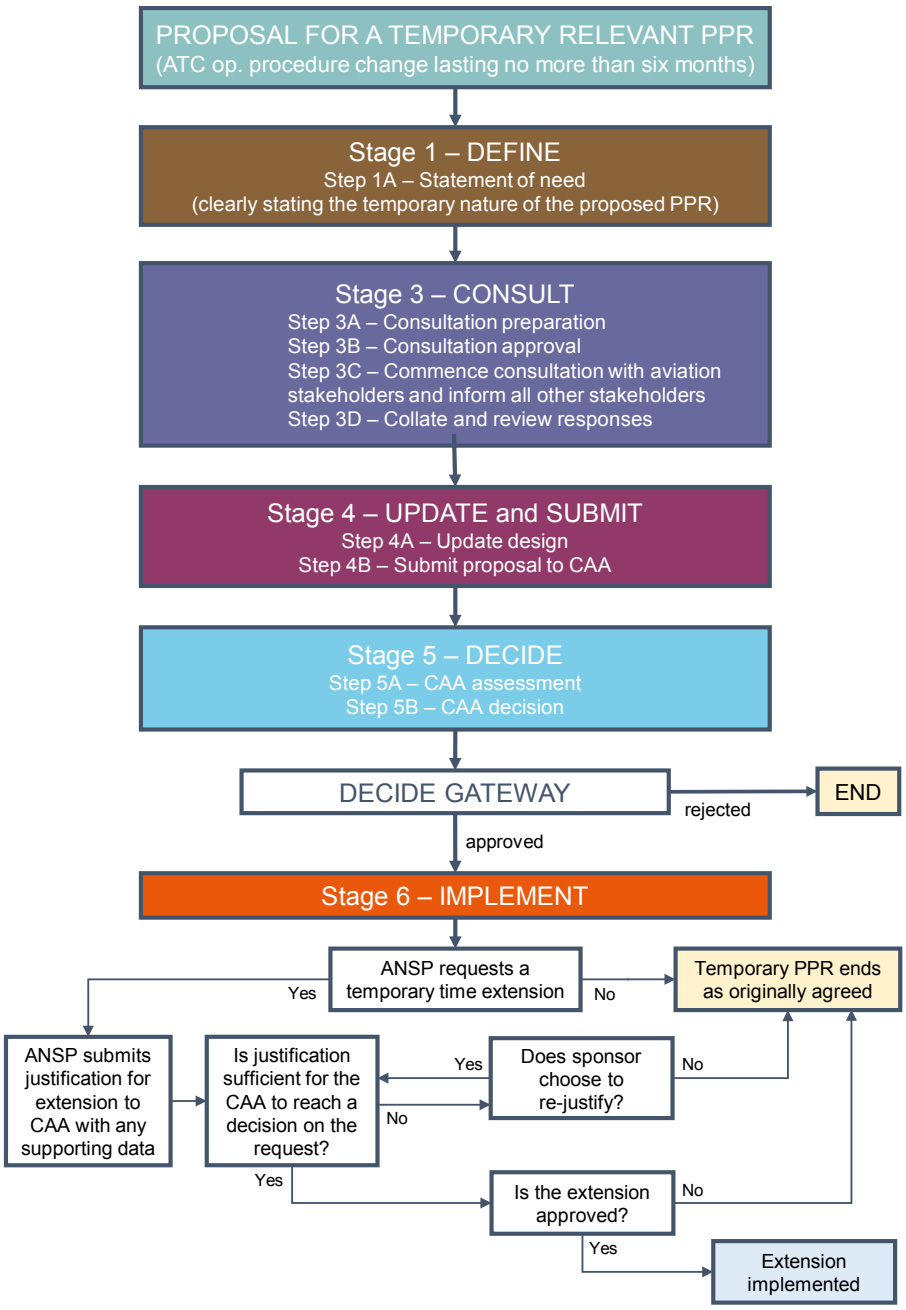
5.20 Basing this largely on the CAP 1616 process for temporary airspace changes, we propose that the process for a temporary PPR:

- omits the options development and options appraisal steps (while retaining the safety assessment)
- requires formal consultation only of aviation stakeholders (specifically, that is airspace users, air navigation service providers and airports only)
- requires that communities and other stakeholders are kept informed about the change (following the guidance in CAP 1616[32])
- requires the air navigation service provider, while the temporary change is in operation, to undertake regular engagement with stakeholders and to collate, monitor and report to the CAA on the level and contents of complaints during its operation.

5.21 Figure 5.3 shows a flowchart of the proposed process for a temporary relevant PPR.

[32] Which itself takes into account the Government's Air Navigation Guidance.

Figure 5.3: Proposed decision-making process for a temporary relevant PPR



Question 7: Do you agree with the CAA's proposal that it would be proportionate to apply a scaled process for a temporary 'relevant PPR' proposal lasting no more than six months?

Yes	No	Don't know

Please provide any additional comments.

Airspace change online portal

5.22 Currently air traffic control operational procedure changes are notified using an online form submitted to the CAA for the purposes of safety oversight, and separate from the airspace change process. This online form is not published.

5.23 The CAA envisages all relevant PPR proposals eventually being published on the existing online airspace change portal, where airspace changes are submitted and monitored, stakeholder comments can be made and viewed, and relevant documentation such as CAA decisions and gateway sign-offs can be viewed.

5.24 This will require the modification of the online portal (as well as the associated forms, templates and supporting guidance material). Because the PPR process is entirely new, and because we are at present consulting on what the process will look like without knowing the outcome, we will not have time to modify the airspace change portal in time for implementation of the process in November 2019. We will however endeavour to make the necessary modifications, subject to the considerations noted below, as soon as we can thereafter. In the interim, we will publish material on the CAA website for maximum transparency.

5.25 Our plans to modify the portal are subject to there being no unforeseen technical obstacles arising during the IT development work, and also to the modification being achievable at reasonable cost relative to the likely number of PPR proposals.

Chapter 6

Implementation of the PPR process

Summary

- This chapter concerns the preparations that air navigation service providers should make for the implementation of the proposed process on 1 November 2019.

Legal position

6.1 Direction 9A of the Air Navigation Directions 2017 (as amended) takes effect 1 November 2019. Among other things, it directs the CAA:

- to put in place proportionate procedures for the determination of relevant PPR proposals, together with supporting guidance
- to require an air navigation service provider to refer a proposal for a relevant PPR to the CAA for approval before the PPR is implemented
- to decide whether to approve any relevant PPR proposal in accordance with those procedures.

6.2 Any change in air traffic control operational procedures which is implemented before 1 November 2019 will not be subject to the new decision-making process. Any change in air traffic control operational procedures which is proposed for implementation on or after 1 November 2019 and which is in scope of the definition of a relevant PPR will be subject to the new decision-making process.

Air traffic control operational procedure changes in the pipeline

6.3 Although there is an expectation that relatively few PPR proposals will be submitted each year, it is conceivable that an air navigation service

provider may have a change to an air traffic control operational procedure in the pipeline when the requirement for a CAA decision and new process takes effect on 1 November 2019.

6.4 The Directions require the CAA to make a decision before the relevant PPR can be implemented, to apply the Air Navigation Guidance (and therefore require a relevant PPR proposal to have gone through options appraisal, consultation etc) and to adopt a proportionate process. Although we will be analysing consultation responses over the summer, it is likely that the PPR decision-making process will be finalised and published, at most, only a few weeks before 1 November 2019.

6.5 If an issue with a proposal in the pipeline does arise, the Department for Transport has indicated that it is prepared to discuss individual proposals with the CAA on a case-by-case basis.

Identifying a relevant PPR

6.6 Paragraph 15 of the annex to the Directions gives the CAA a power to determine whether or not something is in scope of a relevant PPR. Although this power is not formally in force until 1 November 2019, the CAA will in the meantime advise air navigation service providers on this point, should they be in doubt.

Advance planning and resourcing

6.7 Given that any relevant PPR proposals in the pipeline at 1 November 2019 will need to have followed our proposed process before we can consider approval, some advance planning on the part of air navigation service providers and airports will be needed. **Air navigation service providers contemplating a change this year must therefore consider how they should prepare for any changes already in the pipeline that will be implemented, and therefore require prior approval, after 1 November 2019**. For example, following the PPR decision-making process could introduce some time delay. The process, being an entirely new function for

the CAA, will probably require some bedding-in as we put in place our own internal procedures. **We recommend that any air navigation service provider with a change already in the pipeline that could be in scope of a relevant PPR should contact the CAA's airspace regulation team at** airspace.policy@caa.co.uk.

6.8 Air navigation service providers should also consider what impact the proposed PPR decision-making process will have on their resourcing. Even if few operational changes are anticipated to result in relevant PPR proposals, **air navigation service providers will need to put in place the 'trigger' mechanism described in Chapter 4**.

6.9 The CAA has increased its staff resource for airspace regulation and has plans to increase it further, which will include managing the PPR decision-making process. Funding for that is subject to the RP3 UK en-route unit rate funding agreement.[33]

Question 8 (optional): Is there anything specific that the CAA can do to aid the implementation of our proposed PPR decision-making process?

[33] RP3 is the fixed reference period around which the CAA's economic regulation of NERL (NATS En Route plc) is based.

Chapter 7

Next steps

Analysis and publication of consultation responses

7.1 We will analyse the responses and publish a summary of our conclusions and anything we have changed as a result. We expect this to take the form of a 'We asked, you said, we did' statement.

7.2 We will publish responses online through our consultation website. You can if you wish request that your response is not published, or provide a redacted version if some material is sensitive (please see 'Summary of this consultation and how to respond' at the beginning of this document).

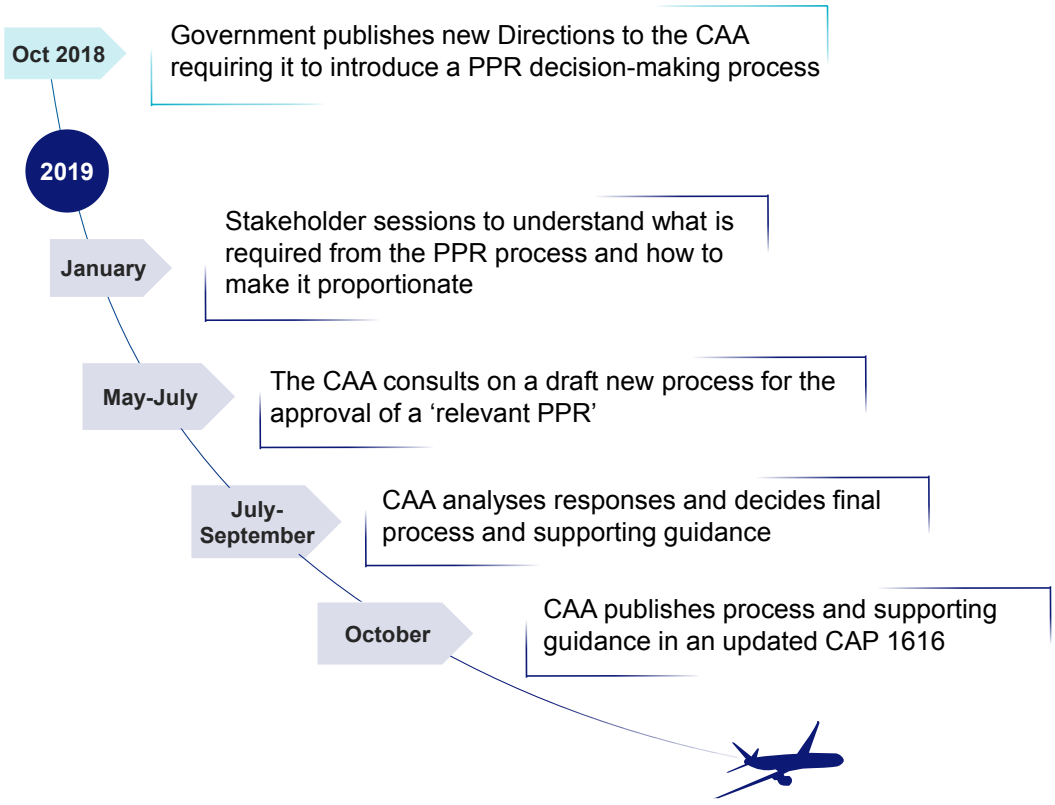
Incorporating changes into CAP 1616

7.3 We propose to incorporate the PPR process into CAP 1616. The PPR section of CAP 1616 (which is currently just a placeholder) will describe the new process and provide supporting guidance. It will cross refer to the existing appendices.

Timescales

7.4 Our anticipated timescales for the proposed process and amendments are set out in Figure 7.1 overleaf.

Figure 7.1: Timeline for the development and implementation of the PPR decision-making process



Appendix A

Glossary

Although we have avoided the use of abbreviations where possible in this document, in the interests of completeness we have included below some common abbreviations – as well as other terms – that relate to airspace change.

Term	Abbreviation	Description
Advisory route	ADR	A designated route along which air traffic advisory service is available.
Aerodrome traffic zone	ATZ	Aerodrome traffic zone – normally, circular zones around an aerodrome where pilots and ATS providers must follow specific requirements.
Aeronautical Information Publication	AIP	Long-term information essential to air navigation, including the detailed structure of UK airspace and flight procedures, which forms part of the UK Integrated Aeronautical Information Package. Sometimes informally known as the Air Pilot. Publication is the responsibility of the CAA, but is carried out under licence by NATS. www.ais.org.uk
Air Navigation Directions		The Civil Aviation Authority (Air Navigation) Directions 2017as amended by The Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018. These Directions set out the CAA's air navigation duties and were jointly issued by the Secretary of State for Transport and the Secretary of State for Defence.
Air Navigation Guidance	ANG	Guidance to the CAA on its environmental objectives when carrying out its air navigation functions, and to the CAA and wider industry on airspace and noise management, October 2017, Department for Transport Guidance from the Secretary of State which the CAA is required to take account of when considering airspace change proposals. https://www.gov.uk/government/publications/uk-air-navigation-guidance-2017
Air navigation service provider	ANSP	An organisation which operates the technical system, infrastructure, procedures and rules of an air navigation service system, which may include air traffic control.

Air traffic control	ATC	Service from an air navigation service provider providing guidance to aircraft through controlled airspace.
Air traffic management	ATM	The combined processes of air traffic control, air traffic flow management, and aeronautical information services. ATM can also mean air transport movement.
Air traffic service	ATS	Generic term that covers flight information services, alerting services, air traffic advisory services, air traffic control services (area control service, approach control service or aerodrome control service) and aerodrome flight information services.
Air traffic services airspace	ATS Airspace	Airspace in which control by air traffic services and specific rules of operations are required.
Air transport movement	ATM	Air transport movements are landings or take-offs of aircraft used for the transport of passengers, cargo or mail on commercial terms. ATM can also mean air traffic management.
Airspace change process		The staged process an airspace change sponsor follows to submit a proposed change in airspace design to the CAA for a decision. The process includes actions associated with implementation and post-implementation review, after the CAA or, where applicable Secretary of State, decision.
Airspace change proposal		A request (usually from an airport or air navigation service provider) for a permanent change to the design of UK airspace.
Airspace design		Together, the airspace structure and flight procedures.

Airspace structure		Designated volumes of airspace within identified characteristics, including the equipment aircraft wanting to enter that airspace must carry and actions pilots must carry out before entering that airspace. The volumes of airspace are designed to ensure the safe and optimal operation of aircraft. Airspace structures consist of: (a) controlled airspace, namely control zones, control areas, terminal control areas and airways (b) airspace restrictions, namely danger, restricted and prohibited areas (c) radio mandatory zones, transponder mandatory zones (d) other airspaces specified by the CAA when defining the airspace change process, such as, for example, flight information zones, aerodrome traffic zones, temporary segregated areas, temporary reserved areas or free-route airspace.
Airway		A corridor of controlled airspace of defined width with a defined lower base, extending to Flight Level 245 (a nominal altitude of 24,500 feet) unless otherwise denoted.
Approach category		A grouping of aircraft based on the speed at which they approach a runway for landing. Categories C and D typically relate to commercial or military jet aircraft.
Area navigation	RNAV	A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the capability of self-contained aids, or a combination of these. (ICAO Doc 9613) https://www.icao.int
Area navigation routes		An air traffic service route created for aircraft capable of employing performance-based navigation technology.
Call-in (by Secretary of State)		For certain types of airspace change, the Secretary of State may decide to call-in a particular airspace change proposal and make a decision instead of the CAA, a decision which the CAA will then be required to implement. There is no equivalent call-in for a PPR proposal.
Carbon dioxide	CO_2	Naturally occurring atmospheric gas, which causes greenhouse effects leading to global warming, and ocean acidification in increased concentrations.

Classes of airspace		Airspace is broken down into different classes, defined by ICAO. In the UK, Classes A, C, D and E are controlled airspace and Class G is uncontrolled airspace (Classes B and F are currently unused in the UK).
Conditional route		An airspace route that is only available under certain circumstances.
Continuous climb (or descent) operations	CCO or CDO	Allow arriving or departing aircraft to descend or climb continuously, to the greatest extent possible.
Control area	CTA	Area of controlled airspace, usually surrounding an aerodrome, extending from ground level to a specified altitude.
Control zone	CTR	Area of controlled airspace, usually surrounding an aerodrome, extending between two specified altitudes.
Controlled airspace	CAS	Airspace in which air traffic control must have control over aircraft to maintain safe separation between them.
Danger Area		Airspace within which activities dangerous to the flight of aircraft may exist at notified times.
Direct	DCT	A term used in relation to flightplan clearances and type of approach.
En-route holding		Pattern adopted by aircraft on the instruction of air traffic services to manage delay and sequencing, and hold them in the air until onward clearance (usually to land) is provided.
En-route phase		That part of the flight from the end of the take-off and initial climb phase to the commencement of the approach and landing phase.
Flexible use of airspace	FUA	Concept promoted by Eurocontrol wherein airspace is no longer designated as purely ‘civil’ or ‘military’ airspace, but considered as one continuum and allocated according to user requirements.
Flight information region	FIR	Specified region of airspace, coordinated through the International Civil Aviation Organization.
Flight procedures		Part of the airspace design. A set of predetermined segments intended to be followed by a pilot when arriving to or departing from an aerodrome.
Flight rules		Aircraft can operate under Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). There is also an intermediate form, Special Visual Flight Rules (SVFR).

General Aviation	GA	Essentially all civil flying other than commercial airline operations, which therefore encompasses a wide range of aviation activity from powered parachutes, gliding and ballooning to corporate business jets, and includes all sport and recreational flying.
Holding patterns		Flight patterns adopted by aircraft to hold until cleared to land by air traffic control.
Holding stack		Airspace used to 'hold' aircraft until they are able to land at an airport. Heathrow airport has four stacks set by government.
Independent Commission on Civil Aviation Noise	ICCAN	The independent UK body responsible for creating, compiling and disseminating best practice to the aviation industry on the management of civil aviation noise and advising government in this area.
Instrument approach procedure	IAP	A set series of aircraft manoeuvres from the initial approach to landing.
Instrument flight procedures	IFP	Procedures designed to international/ national criteria, published in the UK AIP, flown by aircraft with reference to ground-based or satellite-based navigation aids and most usually associated with arrival at or departure from an airport.
Instrument flight rules	IFR	The rules under which a pilot can fly and navigate an aircraft, in certain weather conditions, primarily through use of on-board instruments.
Judicial review		A type of court proceeding in which a judge reviews the lawfulness of a decision or action made by a public body. A judicial review is a challenge to the way in which a decision has been made, rather than the rights and wrongs of the conclusion reached. The court will not substitute what it thinks is the 'correct' decision.
Lower air traffic services route	Lower ATS Route	An air traffic route notified in the UK aeronautical information publication in lower airspace.
Lower airspace		Controlled airspace below Flight Level 245 (a nominal altitude of 24,500 feet).
Manual of Air Traffic Services	MATS	The Manual of Air Traffic Services (MATS) contains procedures, instructions and information which are intended to form the basis of air traffic services within the UK. It is published for use by civil air traffic controllers and for the general interest of a wider audience. It is arranged in two parts.

Manual of Air Traffic Services Part 1	MATS Pt 1	Instructions that apply to all UK Air Traffic Service Units (published by the CAA as CAP 493 www.caa.co.uk/cap493)
Manual of Air Traffic Services Part 2	MATS Pt 2	Instructions that apply to a particular Air Traffic Service Unit, produced locally and approved by the CAA, amplifying and interpreting, at local level, MATS Part 1 instructions. It underpins how an air navigation service provider's air traffic controllers manage aircraft, and in turn influences their decisions. Any authorisation required by MATS Part 1 appears in the MATS Part 2.
NATS		The biggest air navigation service provider in the UK, formerly National Air Traffic Services. Parent company of NERL (NATS En Route plc) and NSL (NATS Services Limited). www.nats.co.uk
Noise preferential route	NPR	Aircraft departing from certain airports follow set departure routes agreed by Government or the Local Authority, with the aim of providing certainty in respect of, and, where possible, minimising noise impacts on the ground. Noise Preferential Routes are not decided by the CAA nor covered by the processes described in CAP 1616.
Notified airspace design		Details of airspace structure and procedures published in the UK Aeronautical Information Publication.
Operational procedure		In this context, a set of step-by-step instructions relating to air traffic control operations that form part of a written manual.
Options appraisal		A means of assessing the possible different approaches for delivering a desired outcome. As a high-level objective, a comprehensive list of options is derived, which is then whittled down through a shortlist to the optimal option for delivery. At the core of an options appraisal is an assessment of the cost and benefits of the proposal. As part of the analysis, the change sponsor is required to put as many costs and benefits as possible into monetary terms, to allow for a direct comparison between options. When quantification of costs and benefits may not be possible or proportionate, a qualitative description of the costs and benefits can be used. The appraisal must use WebTAG, the Department for Transport's appraisal guidance, for health impacts associated with noise, and potentially for other impacts, where possible.

Performance-based navigation	PBN	A concept developed by ICAO that moves aviation away from the traditional use of aircraft navigating by ground-based beacons to a system more reliant on airborne technologies, utilising area navigation and global navigation satellite systems. (Air Navigation Guidance 2017). More specifically, area navigation based on performance requirements for aircraft operating along an ATS route, or an instrument approach procedure or in a designated airspace. (ICAO Doc 9613) https://www.icao.int
Planned and permanent redistribution of air traffic	PPR	A new category of airspace change where there is no change in airspace design, but there is a planned and permanent redistribution of air traffic through changes in air traffic control operational procedure. “Planned and permanent” means other than a day-to-day or at the time decision taken by an air traffic controller or other decision-maker.
Relevant PPR		The subset of PPRs which must be approved by the CAA before a proposed change can be implemented (effective 1 November 2019).
Required navigation performance	RNP	Type of performance-based navigation. See Performance Based Navigation.
Respite		Planned and notified periods where overflight or noise impact are reduced or halted to allow communities undisturbed time.
Restricted area		An area of airspace of defined dimensions within which the flight of aircraft is restricted in accordance with certain conditions.
Sponsor (or change sponsor)		An organisation that proposes, or sponsors, a change to the airspace design in accordance with the CAA’s airspace change process.
Stakeholder		An interested third party in an airspace change or PPR proposal.
Standard arrival route	STAR	Published flight procedures followed by aircraft on an Instrument Flight Rules (IFR) flightplan just before reaching a destination airport. More specifically, a STAR is a designated IFR arrival route linking a significant point, normally on an ATS route, with a point from which a published Instrument Approach Procedure (IAP) can be commenced.

Standard instrument departure	SID	Published flight procedures followed by aircraft on an Instrument Flight Rules (IFR) flightplan immediately after take-off. More specifically, a SID is a designated IFR departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en-route phase of a flight commences.
Supplementary Instruction	SI	A mandatory air traffic control instruction which constitutes a permanent change to local air traffic control operational procedures or information. It is the mechanism to update the MATS Part 2. SIs are used to introduce new changes including, on the successful completion of a trial, the permanent introduction of a change that has been successfully trialled.
Temporary Operating Instruction	TOI	A mandatory air traffic control instruction which constitutes a temporary change to local ATC operational procedures or information. The modification in procedures or operating techniques can be short term, for example an airshow or while waiting for an adaptation fix, or a longer-term activity such as a procedures trial.
Terminal air navigation services	TANS	Terminal air navigation services comprise two elements: the 'radar approach and departure' (approach control) service, and the aerodrome control service. The approach service typically takes control of the aircraft from the en-route service within 40–50 nautical miles of the airport, and sequences aircraft for landing before handing over to aerodrome control. It also takes control of aircraft on departure from aerodrome control. Aerodrome control manages (visually from the airport's control tower) aircraft taking off and landing, and ground movement control of aircraft taxiing between the runway and the stands. These two elements of terminal air navigation services are provided by the airport (acting as an air navigation service provider) itself, or by a third-party air navigation services provider.
Terminal control area		Area of controlled airspace surrounding an airport.
Terminal manoeuvring area	TMA	A designated area of controlled airspace surrounding a major airport where there is a high volume of traffic.
Transport Analysis Guidance	WebTAG	DfT transport options analysis and modelling tool and associated guidance. https://www.gov.uk/guidance/transport-analysis-guidance-webtag

Uncontrolled airspace		Airspace in which aircraft are able to fly freely through the airspace without being constrained by instructions in routeing or by air traffic control, unless they require an air traffic control service.
Upper air traffic services route	Upper ATS route	An air traffic route notified in the UK aeronautical information publication in upper airspace.
Upper airspace		Controlled airspace above Flight Level 245 (a nominal altitude of 24,500 feet).
Upper information region	UIR	Flight information region in upper airspace.
VHF Omni Range and Distance Measuring Equipment	VOR/DME	Combination of two types of radio beacon placed together and used in the UK to provide an en-route navigation service.
Visual flight rules	VFR	The rules under which a pilot can fly and navigate an aircraft, in certain weather conditions, by seeing where the aircraft is going.

Appendix B

Consolidated version of the Air Navigation Directions

DIRECTIONS

CIVIL AVIATION

The Civil Aviation Authority (Air Navigation) Directions 2017

(as amended by *The Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018)*

The Secretary of State for Transport and the Secretary of State for Defence, in exercise of the powers conferred by sections 66(1), 68 and 104(2) of the Transport Act 2000(**a**), give the following Directions:

Citation, commencement and application

1.—(1) These Directions may be cited as the Civil Aviation Authority (Air Navigation) Directions 2017 and come into force on 1st January 2018.

As a result of the Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018,
- ***directions in blue text come into force on 1st December 2018***
- ***directions in green text come into force on 1st November 2019.***

(2) These Directions are given to the CAA.

Interpretation

2. In these Directions—

"the Act" means the Transport Act 2000;

"airspace design" means the structures of UK airspace and flight procedures within it;

"airspace structure" means a specific volume of airspace designed to ensure the safe and optimal operation of aircraft;

"airspace trial" means—

(a) changes to airspace design, or ATC operational procedures, for the purposes of investigating the feasibility of, or validating proposals for, innovative airspace design, technology or ATC operational procedures, or

(b) a test of an airspace design or an ATC operational practice, in order to assess its performance and effect;

"ANSP" means the holder of a licence granted under section 6 of the Act or of an exemption granted under section 4 of the Act;

"ATC" means Air Traffic Control;

"the CAA" means the Civil Aviation Authority;

"flight procedures" means a set of predetermined segments intended to be followed by a pilot when arriving to or departing from an aerodrome, which procedures are either instrument flight procedures or visual flight procedures;

"JANSC" means the Joint Air Navigation Services Council;

"planned and permanent" means other than a day-to-day or at the time decision taken by an air traffic controller or other decision maker;

(**a**) 2000 c. 38.

"PPR" means planned and permanent redistribution of air traffic through changes in ATC operational procedure;

"relevant PPR" means a PPR which falls within the description in paragraph 1 of the Annex to these Directions;

"the MoD" means the Ministry of Defence;

"UK AIP" means the Aeronautical Information Publication for the United Kingdom;

"UK airspace" means airspace in managed areas (which has the meaning given in section 72(3) of the Act (interpretation)).

Airspace design

3. The CAA must—

(a) develop and publish a national policy for the classification of UK airspace;

(b) classify UK airspace in accordance with such national policy, publish such classification, keep such classification under review and, as the CAA considers necessary, modify it;

(c) develop and publish rules, guidelines, technical design criteria and common procedures for the use of UK airspace;

(d) ensure that an Aeronautical Information Service is provided for UK airspace, including the CAA being responsible for the form and content of the UK AIP, in accordance with international obligations (including Annex 15 of the International Convention on Civil Aviation);

(e) prepare and maintain a co-ordinated strategy and plan for the use of UK airspace for air navigation up to 2040, including for the modernisation of the use of such airspace;

(f) consult the Secretary of State in relation to the preparation and maintenance of such strategy and the detail to be included in such plan; and

(g) report to the Secretary of State annually on the delivery of the strategy referred to in sub-paragraph (e), the first such report to be provided by the end of 2018.

Airspace changes: procedure and guidance

4.—(1) Subject to directions 6 and 9, the CAA must develop and publish procedures, and guidance on such procedures, for the development, making and consideration of a proposal—

(a) for a permanent change to airspace design,

(b) for a temporary change to airspace design, or

(c) for an airspace trial.

(2) A procedure developed under paragraph (1) must be proportionate and reflect published Government policy.

(3) The procedure developed and published under paragraph (1)(a) must require the sponsor of the proposed permanent change to airspace design to—

(a) assess whether the criterion referred to in direction 6(5)(c) would be met, and

(b) provide such assessment to the CAA when making the proposal.

Proposed permanent change to airspace design

5.—(1) Subject to direction 6, in accordance with its published strategy, procedures and policy on the design and classification of UK airspace, the CAA must decide whether to approve a proposal for a permanent change to airspace design.

(2) The CAA may make its approval of a proposal subject to such modifications and conditions as the CAA considers necessary.

Secretary of State's call-in power

6.—(1) Subject to paragraph (5), the CAA must notify the Secretary of State where, in respect of a proposal received for a permanent change to airspace design, the CAA has received what it considers is a request to refer the proposal to the Secretary of State for determination on the grounds that one or more of the call-in criteria have been met.

(1A) After notifying the Secretary of State under paragraph (1) of a request received for a proposal to be referred to the Secretary of State, the CAA must provide to the Secretary of State an assessment of whether the CAA considers the proposal meets one or more of the call-in criteria.

(1B) An assessment for the purposes of paragraph (1A) must take account of any guidance which the Secretary of State has given to the CAA.

(2) Where following a notification under paragraph (1) the Secretary of State considers that one or more of the call-in criteria have been met, the Secretary of State may require the CAA to refer the proposal concerned to the Secretary of State for determination.

(3) The CAA—

(a) is not to refer a proposal under paragraph (2) until it has considered the proposal and reached a view on whether or not it would be minded to approve the change proposed (with or without modification or conditions); and

(b) is to inform the Secretary of State of its view when referring the proposal under paragraph (2).

(4) Where the Secretary of State has not requested the CAA to refer the proposal under paragraph (2), the CAA is to proceed to determine the proposal in accordance with direction 5.

(5) For the purposes of this direction, the "call-in criteria" are that the proposed change—

(a) is of strategic national importance,

(b) could have a significant impact (positive or negative) on the economic growth of the United Kingdom, or

(c) could both lead to a change in noise distribution resulting in a 10,000 net increase in the number of people subjected to a noise level of at least 54 dB LAeq 16hr and have an identified adverse impact on health and quality of life.

(6) This direction does not to *[sic]* apply to a proposal which is—

(a) submitted by, or on behalf of, the MoD,

(b) directly related to a planning decision which had already been determined by the Secretary of State,

(c) directly related to a planning decision made by another planning authority which involved detailed consideration of changes to flight paths in UK airspace, consequential on the proposed development, which the sponsor has taken into account when developing its proposal, or

(d) submitted to the CAA for approval before the coming into force of these Directions.

Temporary changes to airspace design

7.—(1) In accordance with its published strategy, procedures and policy on the design and classification of UK airspace, the CAA must consider and determine any proposal for a temporary change in airspace design.

(2) Where the CAA decides to approve any such proposal, it must either make a change to the UK AIP or issue a Notice to Airmen (NOTAM) in relation to such change.

(3) The CAA may make its approval of a proposal subject to such modifications and conditions as the CAA considers necessary.

(4) A temporary change approved by the CAA under this direction is to last for such fixed period as the CAA considers appropriate, which other than in exceptional circumstances is not to be for more than 90 days.

(5) In exceptional circumstances the CAA may extend the period approved for the temporary change for a further period of up to 90 days, provided that the CAA is satisfied that such an extension is not sought as a means to avoid making a proposal for a permanent change to airspace design.

Airspace trials

8.—(1) In accordance with its published strategy, procedures and policy on the design and classification of UK airspace, the CAA may consider and determine any proposal for an airspace trial.

(2) Where the CAA decides to approve any such proposal, it must either make a change to the UK AIP or issue a Notice to Airmen (NOTAM) in relation to such change.

(3) The CAA may make its approval of an airspace trial subject to such modifications and conditions as the CAA considers necessary.

(4) Subject to paragraph (5), an airspace trial approved by the CAA under this direction is to last for such fixed period as the CAA considers appropriate, which is not usually to be for more than six months.

(5) The CAA may extend the period approved for an airspace trial, provided that the CAA is satisfied that such an extension is not sought as a means to avoid making a proposal for a permanent change to airspace design.

(6) The CAA may require an airspace trial to end before the end of the period for which it was approved where the CAA considers it appropriate, safe and practical to do so.

Airspace changes proposed by the MoD

9.—In considering and determining a proposal referred to in direction 4(1) which is submitted by, or on behalf of, the MoD, the CAA must not take into account any impacts on the environment resulting from the use of aircraft by or on behalf of the armed forces of the Crown.

Proposed planned and permanent redistribution of air traffic

9A.—(1) The CAA must develop and publish procedures, and guidance on such procedures, for the development, consideration and determination of proposals for relevant PPRs as set out in the Annex to these directions.

(2) A procedure developed and published under paragraph (1) must—

(a) be proportionate and reflect published Government policy, and

(b) require an ANSP to refer a proposal for a relevant PPR to the CAA for approval before the PPR is implemented.

(3) A PPR proposed by or on behalf of the MoD is to be exempt from the procedures developed under paragraph (1).

(4) In accordance with its published strategy and plan for the use of UK airspace, as well as the procedures published under paragraph (1), the CAA must decide whether to approve a proposal for a relevant PPR.

(5) The CAA may make its approval of a proposal subject to such modifications and conditions as the CAA considers necessary.

(6) The CAA must provide a report to the Secretary of State annually outlining, for each proposal for a relevant PPR referred to it under the procedures developed in accordance with paragraph (1), the specific type of the PPR, the relevant airport, and whether it was approved.

Lower Airspace Radar Service

10.—(1) The CAA is to determine the extent and coverage needed for a Lower Airspace Radar Service for UK airspace and procure and administer such a Service.

(2) The CAA is to keep the provision of such a Service under review and provide a report to the Secretary of State on—

(a) the costs and benefits of the current Service,

(b) the extent and coverage it considers suitable for this Service in the UK, and

(c) how the Service should be funded and recommendations for alternative means of funding it.

(3) The CAA is to provide a report under paragraph (2)—

(a) by the end of 2019, and

(b) on or before the third anniversary of such report and of every subsequent report.

Aeronautical radio frequencies and secondary surveillance radar codes

11. The CAA must monitor and enforce national policy for the use and assignment of civil aeronautical radio frequencies and Secondary Surveillance Radar codes in accordance with international obligations.

Relationship with the Secretary of State for Defence

12.—(1) The CAA is to agree arrangements with the MoD for the MoD's role in the joint and integrated civil and military provision of air traffic services.

(2) The CAA is to ensure that such arrangements are documented in a Memorandum of Understanding between the CAA and the MoD.

(3) The CAA is to agree arrangements with the MoD for the CAA to second and resource an appropriate number of personnel from the MoD, of the appropriate rank and experience, to contribute to the CAA's work on airspace-related matters.

(4) The CAA is to ensure that such arrangements are documented in a Resource and Interface Arrangement between the CAA and the MoD.

(5) Without prejudice to section 67 of the Act, paragraphs (6) to (8) apply where it appears to the CAA that there is a need to increase the volume, or alter the classification, of UK airspace, but to do so might, in the opinion of the CAA or the MoD, have an adverse effect on the ability of the armed forces of the Crown to maintain their operational capability.

(6) The CAA must seek the approval of the Secretary of State for Defence before proceeding with any such change to UK airspace.

(7) Where the Secretary of State for Defence is content with the proposed change, the CAA must ensure that such further consultation on the proposal is undertaken as required under these Directions.

(8) Where the Secretary of State for Defence is not content with the proposed change, the CAA may only approve the proposed change in accordance with directions given by the Secretary of State under section 68(3) of the Act.

Institutional arrangements, advice and support

13.—(1) The CAA is to establish and operate such institutional arrangements with regard to air navigation as the CAA considers necessary to promote the safe, effective and efficient, integrated operation of air traffic in the UK.

(2) The CAA must provide or procure the provision of such advice in relation to air navigation as the Secretary of State may reasonably require.

(3) The CAA is to provide support to the UK Airprox Board for the analysis, categorisation and understanding of pilot and controller reported risk-bearing occurrences.

The Joint Air Navigation Services Council

14. The CAA is to ensure the continuation of JANSC in accordance with the Schedule to these Directions.

Other functions relating to the environmental impact of the use of UK airspace

15.—(1) The CAA must prepare and publish guidance on transparency and engagement for operational changes to airspace usage by aircraft (not covered by directions 4 to 8) which might have affected the noise impact on other persons.

(2) The CAA must establish and maintain a process to receive, classify and respond to complaints received by it in relation to the environmental impact (including noise) of the use by civil aircraft (including general aviation and helicopters) of UK airspace.

(3) On a request by the Secretary of State, the CAA must provide the Secretary of State with a summary of complaints received by it during a specified period, or of complaints relating to a particular issue.

International relations

16. The CAA—

(a) must contribute to the development of international air navigation and provide such assistance as the Secretary of State may request, including (subject to section 2(4) of the Civil Aviation Act 1982(**a**)) international representation on behalf of the United Kingdom;

(b) must maintain close co-operation in relation to air navigation with international organisations and the civil aviation authorities of other States; and

(c) may consider and propose international agreements in relation to air navigation and notify the Secretary of State of any such agreements which would need to be approved by the Secretary of State.

Revocations

17. The following Directions are revoked—

(a) the Civil Aviation Authority (Air Navigation) Directions 2001, and

(b) the Civil Aviation Authority (Air Navigation) (Variation) Direction 2004.

Dated: 16 October 2017

Secretary of State for Transport

Secretary of State for Defence

(**a**) 1982 c. 16.

SCHEDULE

Direction 14

Joint Air Navigation Services Council

1. JANSC is the principal mechanism for maintaining high-level oversight of arrangements between the CAA, NATS (En Route) plc and the MoD, for the continued provision of joint and integrated air traffic services (J&I ATS).

2. JANSC is to ensure compliance with the J&I ATS obligations placed on the CAA, the MoD and NATS (En Route) plc, as detailed in the Civil Air Publication 740: UK Airspace Management Policy.

3. JANSC is to seek to meet every 6 months and is to be chaired by the CAA Group Director, Safety and Airspace Regulation; with the other members of JANSC being the RAF Battlespace Management Force Commander (as representative of the MoD) and the Chief Executive of NATS Holdings Limited. Other persons may attend meetings at the request of JANSC.

Annex
Planned and Permanent Redistribution of air traffic (PPR)

Types of PPRs which are relevant PPRs for the purposes of these Directions.

Interpretation and scope

1. A relevant PPR is a proposed PPR which both:

- falls within one or more of Types 1, 2 or 3 below; and

- relates to an airport which has a Category C or D (or both) approach landing procedure, and/or established standard instrument departure (SID) routes published in the UK AIP.

Additional information on interpretation and scope

2. The definition of relevant PPR in paragraph 1 is designed to capture only ATC operational procedures that relate to airports at which large commercial air transport and most business jets operate, whilst not capturing aerodromes or airports used only by small non-commercial aircraft.

3. Changes to ATC operational procedures that are planned and permanent will typically be recorded in writing and given as some form of instruction to an air traffic controller. An example would be a change to an Air Navigation Service Provider's (ANSP) MATS Part II.

Type 1

4. **A PPR which is (or more than one PPR within 24 months whose cumulative effects are) anticipated to result in a lateral shift of aircraft from the pre-existing nominal centre line of the density of flight tracks of at least the horizontal distance shown in the second column of the table below at the heights shown in the first column of that table -**

Height in feet above ground level (agl)	Horizontal distance from the centreline
1000ft	300m
2000ft	500m
3000ft	800m
4000ft	1100m
5000ft	1300m
6000ft	1600m
7000ft	1900m

Additional information on Type 1

5. The figures in the table are based on an approximate correlation to a 3dB change following advice from the CAA.

6. The ANSP will need to assess the lateral shift of traffic from the nominal centre of the density of flight tracks[1] to establish whether the expected lateral shift is equal to or greater than that shown in the table above. So a 1350m shift away from the existing centreline at 5000ft agl would be a Type 1 PPR, but not if the shift was 1200m at 5000ft agl. The CAA has discretion to interpolate if the height at which the change is being proposed falls in between those shown in the table above.

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1 The nominal centre of the density of flight tracks should where possible be determined or interpreted from radar data, the sample of which should be sufficiently representative (two weeks to one month of data). Where radar data is not readily available, air traffic control expert judgement should be used.

7. It is recognised that ANSPs make air traffic control operational changes with the best of intentions and for safety reasons need some flexibility in doing so. At the same time, uncontrolled multiple changes that individually fall below the threshold could have a cumulative impact similar to a single change that does meet the threshold. To mitigate against this possibility, if a change below the threshold is made, any further operational change(s) proposed within 24 months of the first change must be judged against the Type 1 PPR criteria by adding together the lateral shift of each change. Where the cumulative effect of changes made within a rolling 24-month period meets or exceeds the threshold set out in the table above, the change that results in the threshold being met or exceeded will be judged to have met the criteria for a Type 1 PPR and will need to be considered as such. A PPR which has already been approved by the CAA is not to be included in assessing the cumulative effect of any further change.

Type 2

8. **A PPR which is anticipated to increase air transport movements using a Standard Instrument Departure (SID) by at least 5000 movements per year as a result of a decision by an airport and/or its ANSP to redistribute air traffic from one SID to another at that airport.**

Additional information on Type 2

9. Type 2 applies when there has been a conscious decision by the airport and or its ANSP to redistribute ***existing*** traffic at the airport.

10. Type 2 does not apply to an increase in the number of air transport movements on a SID which is a direct result of changing weather patterns, or airline operations, natural growth, or as a result of agreed (i.e. through the planning system) air transport capacity enhancements at the airport.

Type 3

11. **A PPR which results from a significant change to the written specified landing arrangements of aircraft at a UK airport referred to in paragraph 1 (or more than one such change within 36 months whose cumulative effects are significant).**

12. **"Change to the published *[sic]* specified landing arrangements" means a change to the established minimum, or where applicable maximum, distance of the joining point onto an airport's Instrument Landing System (ILS) or any significant changes to the height at which aircraft must establish onto the ILS.**

13. **Changes to the published minimum joining point at such airports greater than a cumulative total of at least 300 feet vertically or 1 nautical mile horizontally within a rolling 36-month period will be considered as "significant" and thereby constituting a Type 3 PPR.**

Additional information on Type 3

14. In circumstances where multiple changes made within a 36-month rolling period have the cumulative effect of meeting or exceeding the threshold set out in Type 3, the change that results in the threshold being met or exceeded will be judged to have met the criteria for a Type 3 PPR and will need to be considered as such. A PPR which has already been approved by the CAA is not included in assessing the cumulative effect of any further change.

Power to determine whether a proposed change is a relevant PPR: consultation with the CAA

15. If there is any doubt about whether a proposed PPR falls within Type 1, 2 or 3, the ANSP, or airport as appropriate, should consult the CAA. The CAA's decision is to be determinative of whether or not the proposed PPR would be a relevant PPR.

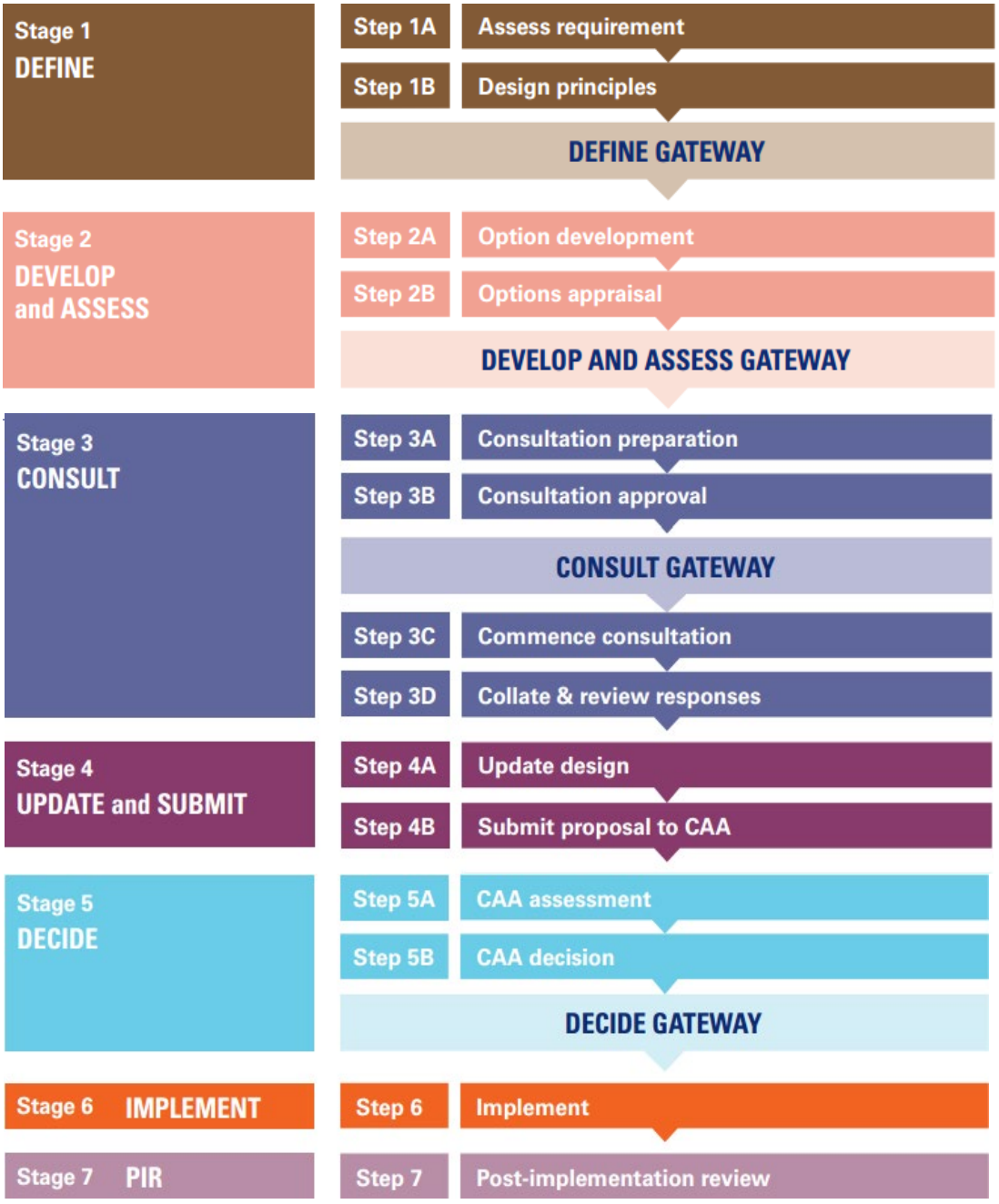
Guidance to CAA on its environmental objectives when carrying out its functions under Direction 9A

16. In accordance with section 70(2)(d) of the Transport Act 2000, the CAA should take account of the Air Navigation Guidance 2017 when carrying out its functions under Direction 9A. In particular, the CAA should apply guidance that applies to its function to consider whether to approve permanent airspace changes (Direction 5) to its functions under Direction 9A.

Appendix C

The seven-stage CAP 1616 process for changes in airspace design

Figure C1: Overview of the airspace change process as published in CAP 1616



The seven stages are made up of 14 separate steps:

- **Stage 1**: The seven-stage process begins with the change sponsor preparing a Statement of Need setting out what issue or opportunity it is seeking to address and meeting the CAA to discuss it. This is followed by engagement by the change sponsor with those potentially affected by the proposed change on the underlying design principles. At this point, the CAA will agree with the change sponsor the timeline against which we can accept the proposal, having regard to submissions by other parties. *(completion of the **'Define'** gateway)*
- **Stage 2**: Continuing to liaise with stakeholders, the change sponsor develops one or more options and carries out an initial appraisal of the impacts, both positive and negative. *(completion of the **'Develop and assess'** gateway)*
- **Stage 3 – Steps 3A and 3B**: The change sponsor then prepares a consultation, including a full appraisal of the chosen design option(s), and assesses who should be consulted. *(completion of the **'Consult'** gateway)*
- **Stage 3 – Steps 3C and 3D**: The change sponsor consults with interested parties, including, where appropriate, local communities, and categorises responses
- **Stage 4**: In the light of responses, the change sponsor may modify the proposals before making a formal submission of the proposal to the CAA for a decision
- **Stage 5**: The CAA assesses the proposal, may hold a Public Evidence Session, may issue a draft decision and subsequently will issue a final decision, or alternatively a 'minded to' decision at the request of the Secretary of State who may have 'called in' the proposal. *(completion of the **'Decision'** gateway)*
- **Stage 6**: If the proposal is approved, it is implemented.
- **Stage 7:** The CAA carries out a review of the change, usually after 12 months of operation.

Appendix D

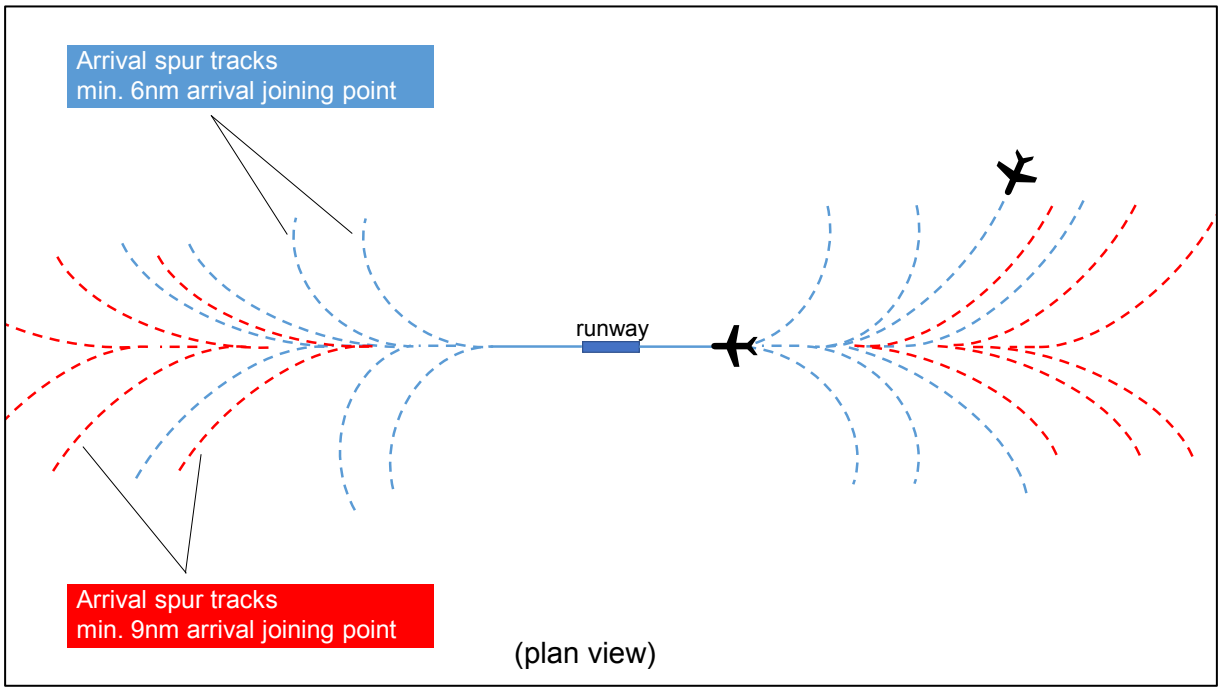
Illustrative example of a PPR noise assessment

D1. Paragraph 16 of the annex to the Air Navigation Directions requires the CAA to take account of the Air Navigation Guidance 2017 when carrying out our PPR decision-making function. We also note that this places certain obligations on both the CAA and the air navigation service provider, as it does for proposed changes in airspace design. This includes the air navigation service provider carrying out an options appraisal using webTAG and the CAA publishing an environmental assessment.

D2. It is not the purpose of this consultation document to explain how this analysis is carried out. Detailed guidance on this is given in CAP 1616. But we thought it might be helpful to include an illustrative example showing the sort of detailed work that the air navigation service provider will potentially need to undertake as part of the PPR decision-making process we are proposing.

D3. Below we show a high-level overview of the environmental noise assessment that would be needed for an example of a relevant PPR. The example we have taken is the Type 3 relevant PPR from Chapter 2, which shows a proposed change in the Instrument Landing System joining point at a generic regional airport. For ease of reference Figure D1 below repeats the diagram from this illustrative example (Figure 2.5 in Chapter 2).

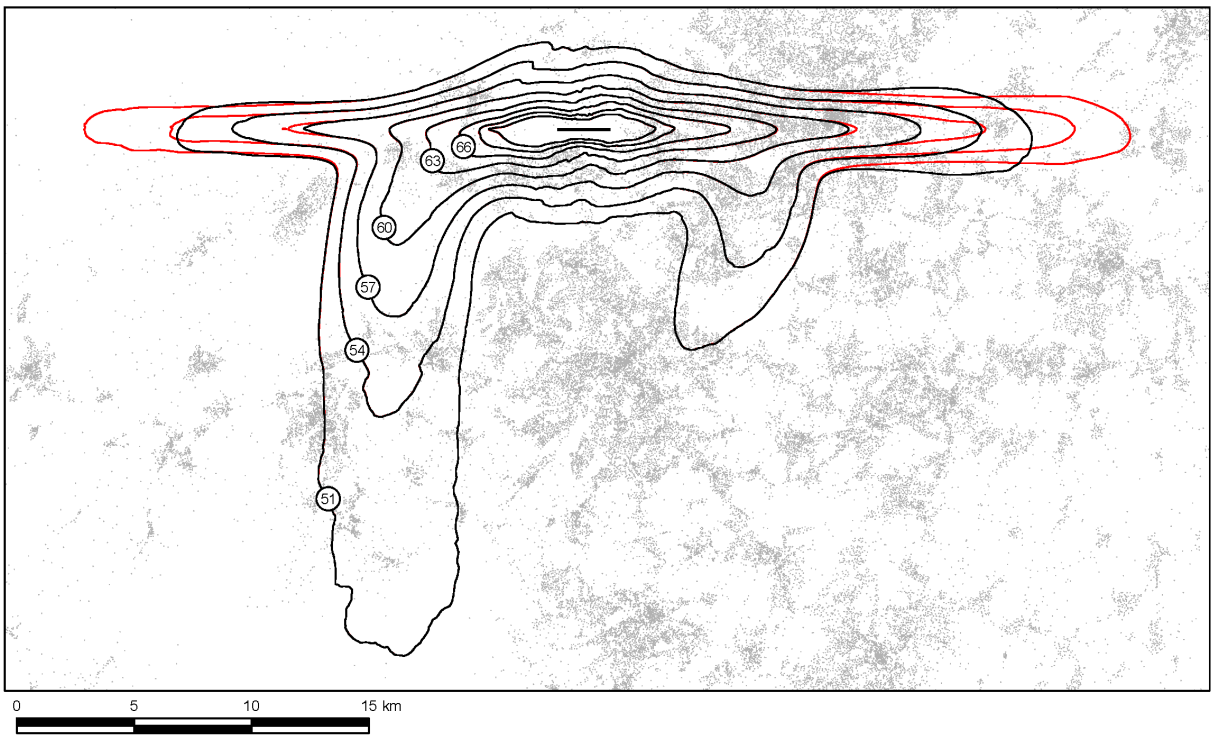
Figure D1: Illustrative example of an air traffic control operational procedure change causing a shift in ILS joining point that could lead to a Type 3 relevant PPR (repeated from Figure 2.5)



Notes: Not to scale. nm = nautical miles.

D4. Once less favourable options have been discarded, the chosen option(s) will need to be assessed in terms of the anticipated noise impacts. For example, Figure D2 shows how the airport's noise contours change from the status quo (black contour lines) of a minimum joining point of six nautical miles from the runway to the proposed minimum joining point of nine nautical miles from the runway (red contour lines).

Figure D2: Illustrative example of the change in noise contours caused by a Type 3 relevant PPR



D5. Figure D3 illustrates how the anticipated noise impacts might be assessed using the WebTAG tool.

Figure D3: Illustrative example of the webTAG input and workbook monetisation results for changes in population noise exposure when assessing a relevant PPR

		Noise exposure with 9nm joining point																					
	dB, Leq16h	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	>72
Noise exposure with baseline 6nm joining point	51	61099	5793	751																			
	52	1428	36416	5349																			
	53	888	303	35681	3430																		
	54	313	140	41	32066	1310																	
	55	339	1205	5	382	32081	1585																
	56	191	2447	2495	750	49	28149	353															
	57			520	2085	116	678	21718	332														
	58							1739	19419	63													
	59								1654	17913	47												
	60									92	19372	115											
	61										1129	26478	105										
	62											302	20699	77									
	63												668	15047	88								
	64													303	9586								
	65														33	6719							
	66																5227						
	67																	4650					
	68																		2608				
	69																			2257			
	70																				1257		
	71																					744	
	>72																						2277

Noise Workbook - Worksheet 1

Proposal Name: Joining Point

Present Value Base Year 2010

Current Year 2017

Proposal Opening year: 2020

Project (Road, Rail or Aviation): aviation

*positive value reflects a net benefit (i.e. a reduction in noise)

	WebTAG assessment	Sensitivity test excluding impacts below 51 dB (for aviation proposals only)
Net present value of change in noise (£, 2010 prices):	£20,357,305	£20,357,305
Net present value of impact on sleep disturbance (£, 2010 prices):	£0	£0
Net present value of impact on amenity (£, 2010 prices):	£14,943,899	£14,943,899
Net present value of impact on AMI (£, 2010 prices):	£230,323	£230,323
Net present value of impact on stroke (£, 2010 prices):	£2,068,899	£2,068,899
Net present value of impact on dementia (£, 2010 prices):	£3,114,184	£3,114,184

Quantitative results

households experiencing increased daytime noise in forecast year:	19398
households experiencing reduced daytime noise in forecast year:	-20295
households experiencing increased night time noise in forecast year:	n/a
households experiencing reduced night time noise in forecast year:	n/a