

‘Planned and Permanent Redistribution of Air Traffic’ (PPR) Developing a CAA approval process

Civil Aviation Authority

Stakeholder engagement sessions January 2019

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AGENDA

- Introduction / purpose of this session
- The existing airspace change process
(changes to airspace design)
- PPR – a new category of airspace change
(changes to operational procedure)
- Legal position – Air Navigation Directions
- Definition of a ‘relevant PPR’
- Timeline for devising a CAA approval process

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- Technical scope of ‘relevant PPR’, including case studies
- Key questions for stakeholders



Purpose of this session

**‘Planned and Permanent Redistribution of Air Traffic’ (PPR)
through changes in air traffic control operational procedure**

- How ‘PPR’ has been defined and scoped by the Government
- The timeline for the CAA to develop a new approval process
- **Participants to give us initial thoughts on what is important to them in any new process**

NB: The session is to seek views on what a new approval process might look like, not for questioning the merits of Government policy (that ship has sailed!)

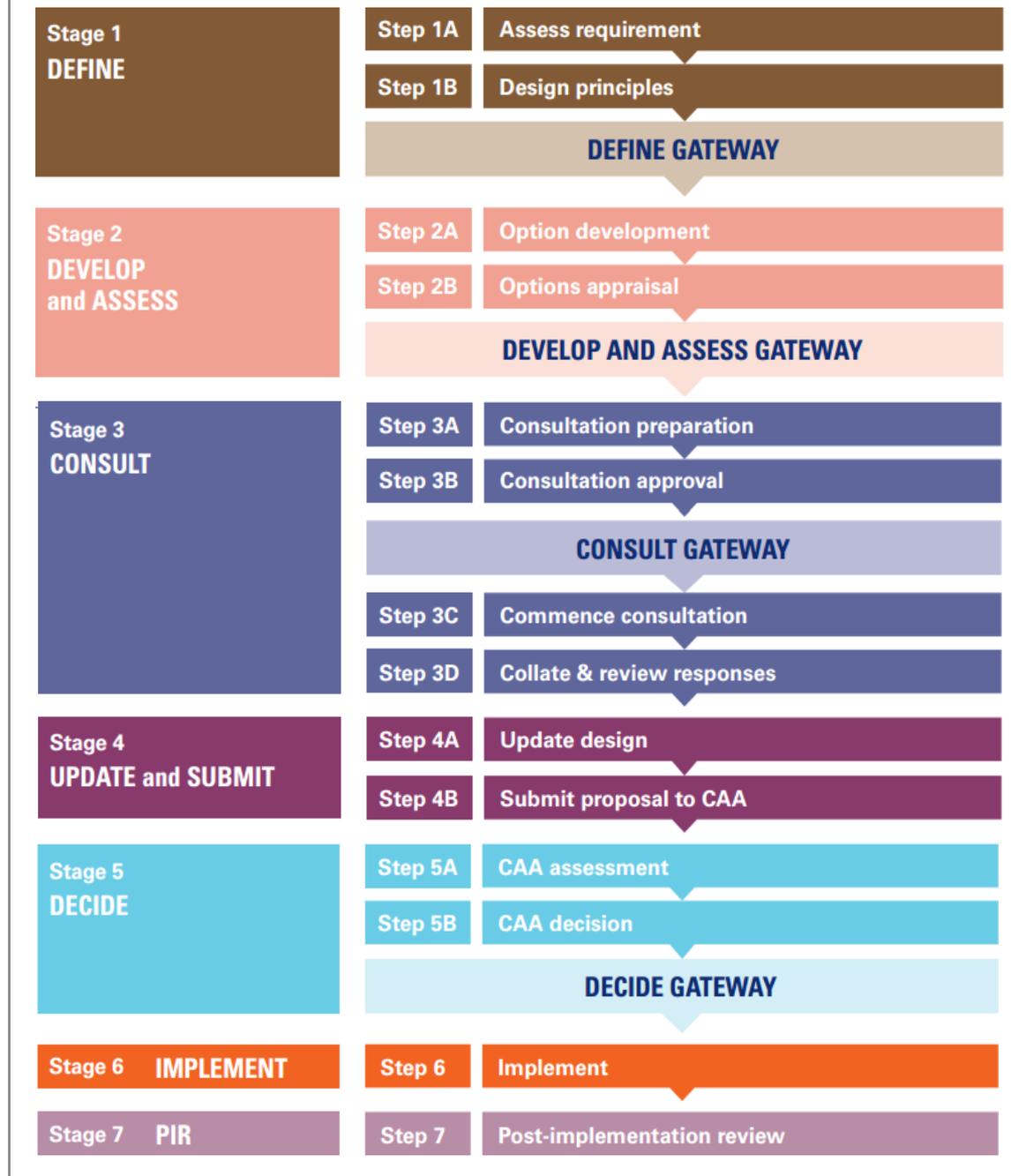


The existing airspace change process

- Changes to the design of UK airspace are proposed by an airport or air navigation services provider (the ‘sponsor’)
- They must follow the CAA’s **airspace change process**
- Airspace change proposals vary greatly in terms of size, complexity and scale of impact on other airspace users and the environment, including people on the ground impacted by noise, so are graded by **Level**
- We also provide for **temporary** changes to airspace design and **trials** of airspace design and operational procedures
- The seven-stage process is set out in a guidance document, CAP 1616



CAP 1616 airspace change process



Key elements of the existing process

CAA oversight:

- process 'gateways'
- ensuring sponsor consultation and engagement
- design principles
- Public Evidence Session

Transparency:

- everything published
- online portal

Evidence:

- impacts assessed in 'options appraisal' in three iterative stages

Clarity for sponsors:

- detailed guidance
- scaled process
- timelines agreed

Decision:

- draft decision in some cases
- SoS can call-in decision in some limited cases



Categories of airspace change

<ul style="list-style-type: none"> ● Changes to the published airspace design 	Permanent change
	Temporary change (usually less than 90 days)
	Airspace trials
<ul style="list-style-type: none"> ● Change to ATC operational procedures but not published airspace design 	From 1 November: PPR – a planned, permanent redistribution of air traffic through changes in air traffic control operational procedure by an air navigation service provider (<i>within the existing published airspace design</i>)
<ul style="list-style-type: none"> ● No change to the published airspace design or procedures for using it 	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

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PPR – what process should apply?

	Permanent change	The airspace change process Stages 1 to 7
●	Temporary change	<i>Before implementation:</i> airspace change process Stages 1, 3, 4 & 5 <i>During operation:</i> engagement, monitoring and feedback to the CAA
	Airspace trials	<i>Before implementation:</i> Stage 1 and information provision <i>During trial:</i> engagement, monitoring and feedback to the CAA
●	PPR	To be decided
●	Airspace information	Best-practice guidance on transparency by airports and air navigation service providers



Legal position

– the Air Navigation Directions

Government has amended the [Air Navigation Directions](#) giving the CAA until **1 November 2019** to develop and **publish a process for prior approval of a “relevant PPR”** and supporting guidance

The process must be proportionate and reflect published Government policy

Ministry of Defence is exempt

CAA must provide annual report to SoS on PPRs proposed

(Direction 9A)



What is a “PPR” ?

- **“PPR” means** planned and permanent redistribution of air traffic through changes in ATC 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

(definitions in Direction 2)



“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...MATS Part II”

(“additional information” in Annex to Directions)



What is a “relevant PPR” ?

- “relevant PPR” means a proposed PPR which both
 - falls within one or more of **Types 1, 2 or 3** (as defined); **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

(definitions in Direction 2)



This definition “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”

(“additional information” in Annex to Directions)

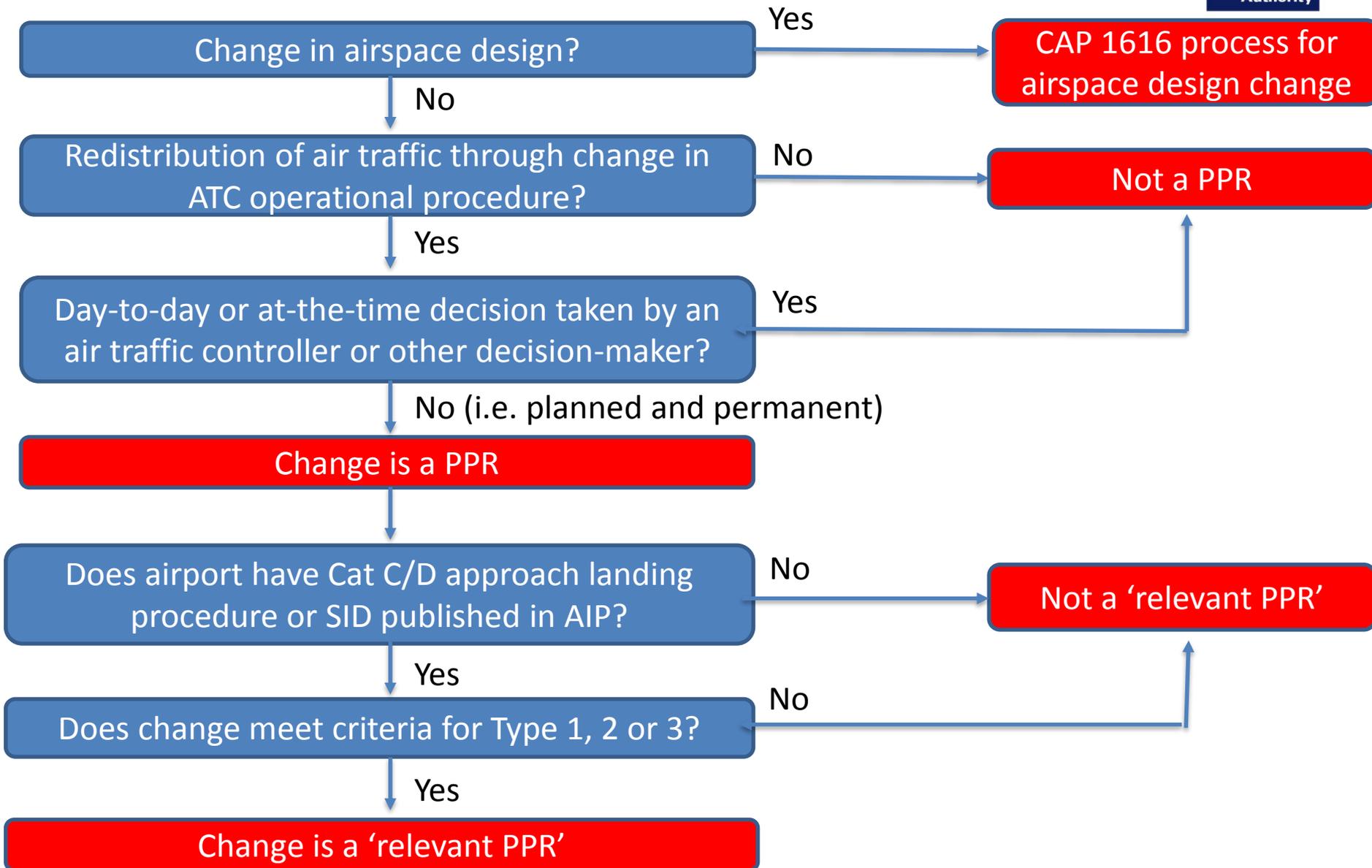


Three types of 'relevant PPR'

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)



Identifying a 'relevant PPR'



Air Navigation Guidance

– guidance to the CAA on its environmental objectives when carrying out its PPR functions

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.

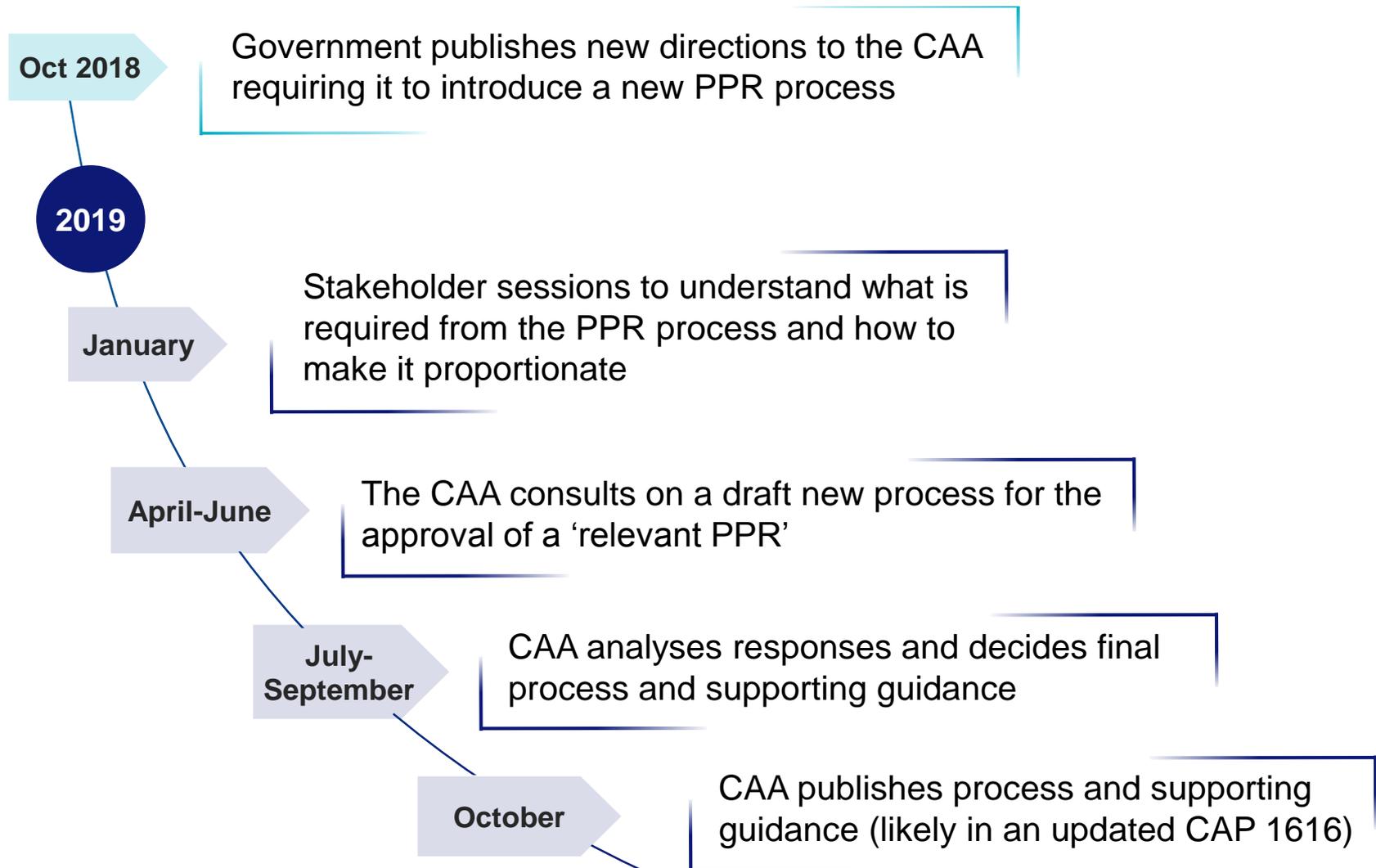
In particular, the CAA should apply guidance that applies to its function to consider whether to approve permanent airspace changes (Direction 5) to its functions under Direction 9A.

(para 16 of annex to directions)

For a given airspace change, the ANG requires the airspace change sponsor to develop and consider options to meet its objective, and to do a proportionate appraisal of the expected environmental impacts of these options using the WebTAG tool.



Timeline



Technical scope of 'relevant PPR'



UK airports in scope

- Cat. C and/or D approach landing procedure and/or
- established SID routes published in AIP

Of the 64 UK airports with ANSPs:

14 are
out of scope

COVENTRY	OBAN
CUMBERNAULD	SHERBURN
FAIROAKS	SHOREHAM
HVERFORDWEST	ST MARY'S
HIGHLANDS & ISLANDS	WARTON
LAND'S END	WOLVERHAMPTON
LLANBEDR	YEOVIL

many smaller airports are in scope
(examples of Cat C airports below)

BELFAST CITY	ISLAY
BIGGIN HILL	KIRKWALL
CARLISLE	LYDD
CRANFIELD	OXFORD
DUNDEE	SCATSTA
GLOUCESTERSHIRE	SUMBURGH
HAWARDEN	WICK
INVERNESS	

All bigger civil airports are in scope



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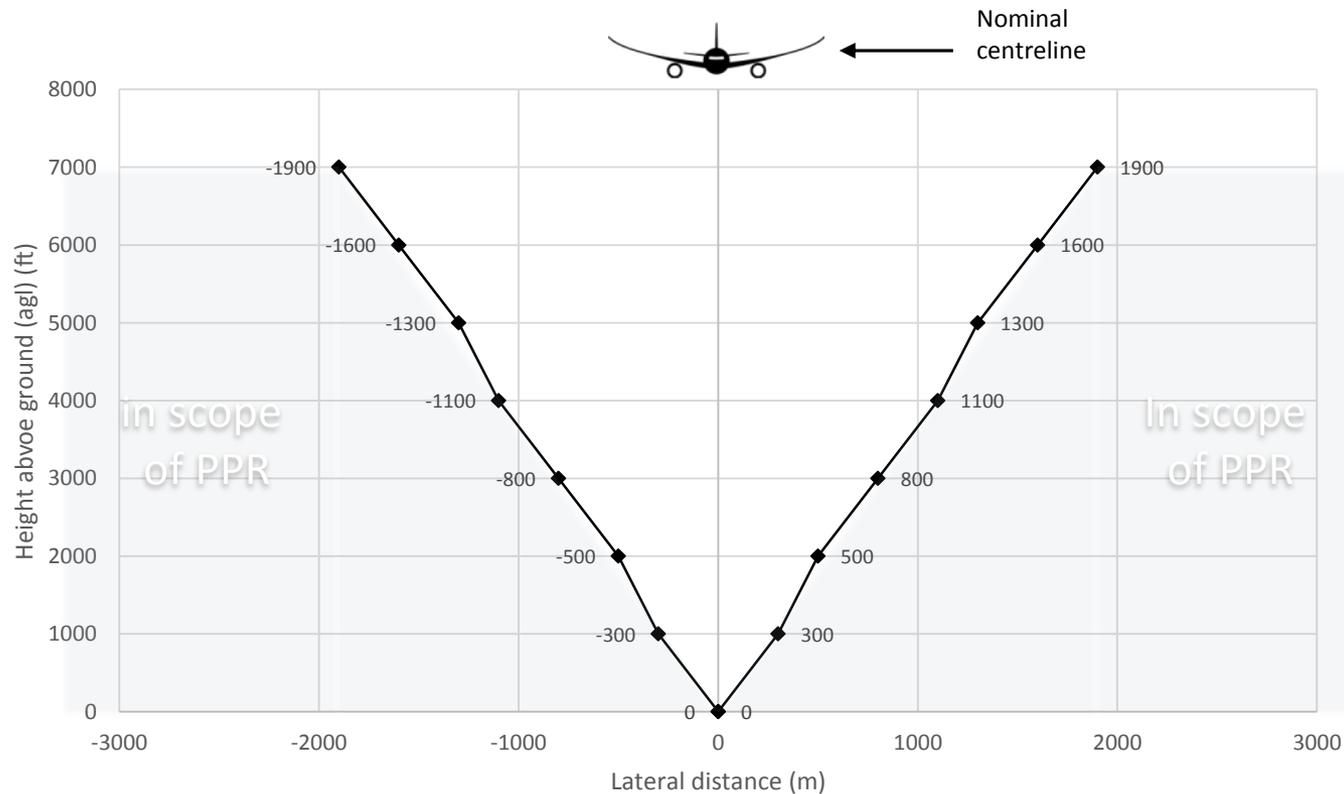


Technical scope of 'relevant PPR'

Type 1

“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 [diagram below]”

(Annex to Directions)



Technical scope of 'relevant PPR'

Type 1

Relates to air traffic control operational procedures, such as those procedures published in the ANSP's Manual of Air Traffic Services (MATS) Part II.

The MATS Part II is a locally specific manual used by each ANSP which underpins how its air traffic controllers manage aircraft, and in turn influences their decisions.

A Type 1 PPR could take many forms, the examples below are not exhaustive:

1. Change of the MATS Part II instructions for departing traffic where an airport does not have published SIDs.
2. Change of the MATS Part II instructions relating to the vectoring of aircraft off a SID.



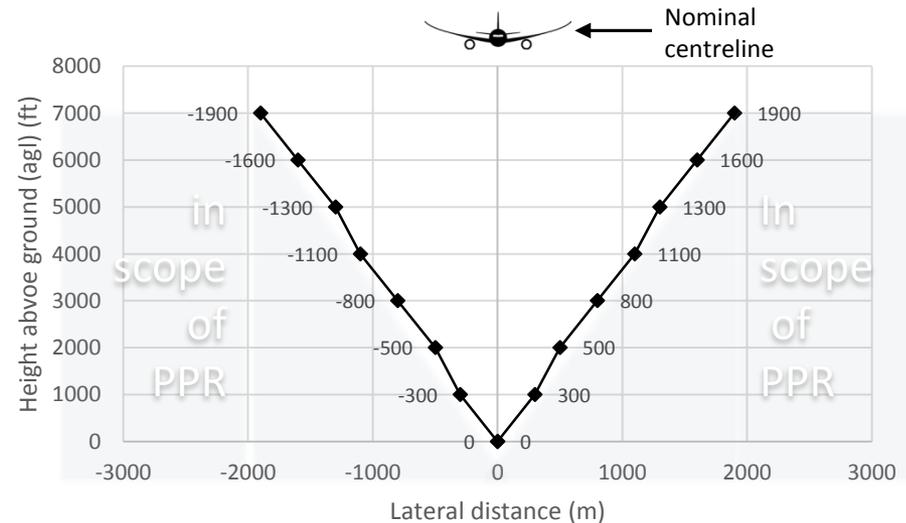
Case Study

Type 1

Change of departure instructions in MATS Part II for an airport without SIDs

...causing a lateral displacement of the existing nominal centreline of departing flight tracks into the shaded region shown on slide 19

For example, a lateral shift of more than 500m for aircraft at 2,000ft or more than 1,100m at 4,000ft.



Technical scope of 'relevant PPR'

Type 2

“A PPR which is anticipated to increase air transport movements using a 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.”

(Annex to Directions)

Relates to the pre-existing SIDs which form part of the 'notified airspace design' (airspace structures and procedures published in the UK Aeronautical Information Publication).

Initiated by an airport and/or its ANSP where it is considering redistributing air traffic from one SID to another.



Case Study

Type 2

Redistribution of traffic from one SID to another at an airport

The Stansted SID switch as part of the LAMP1A airspace change proposal shifted daytime departing traffic from the 'DVR' SID to the 'CLN' SID for both runway 04 and 22 operations. The shift affected just over 20,000 air transport movements per year.

This particular case was assessed and approved as part of the LAMP1A proposal for a change in airspace design. However, going through this process was voluntary because the change did not alter any procedures published in the AIP. Such a change may be classified as a Type 2 PPR in future.



Technical scope of ‘relevant PPR’

Type 3

A PPR which results from a **significant** change to the written **specified landing arrangements** of aircraft [...] (or more than one such change within 36 months whose cumulative effects are **significant**).

“Change to the published **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.

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

(Annex to Directions)



Technical scope of 'relevant PPR'

Type 3

Relates to air traffic control operational procedures, such as those procedures published in the ANSP's Manual of Air Traffic Services (MATS) Part II.

The MATS Part II is a locally specific manual used by each ANSP which underpins how its air traffic controllers manage aircraft, and in turn influences their decisions.



Case Study

Type 3

Effect of joining point change at a regional airport

Change of joining point from 6nm to 9nm

- No published routes between holds and final approach fix in the UK, therefore no change of published procedures
- Noise effects are at low altitude, below 3,000ft

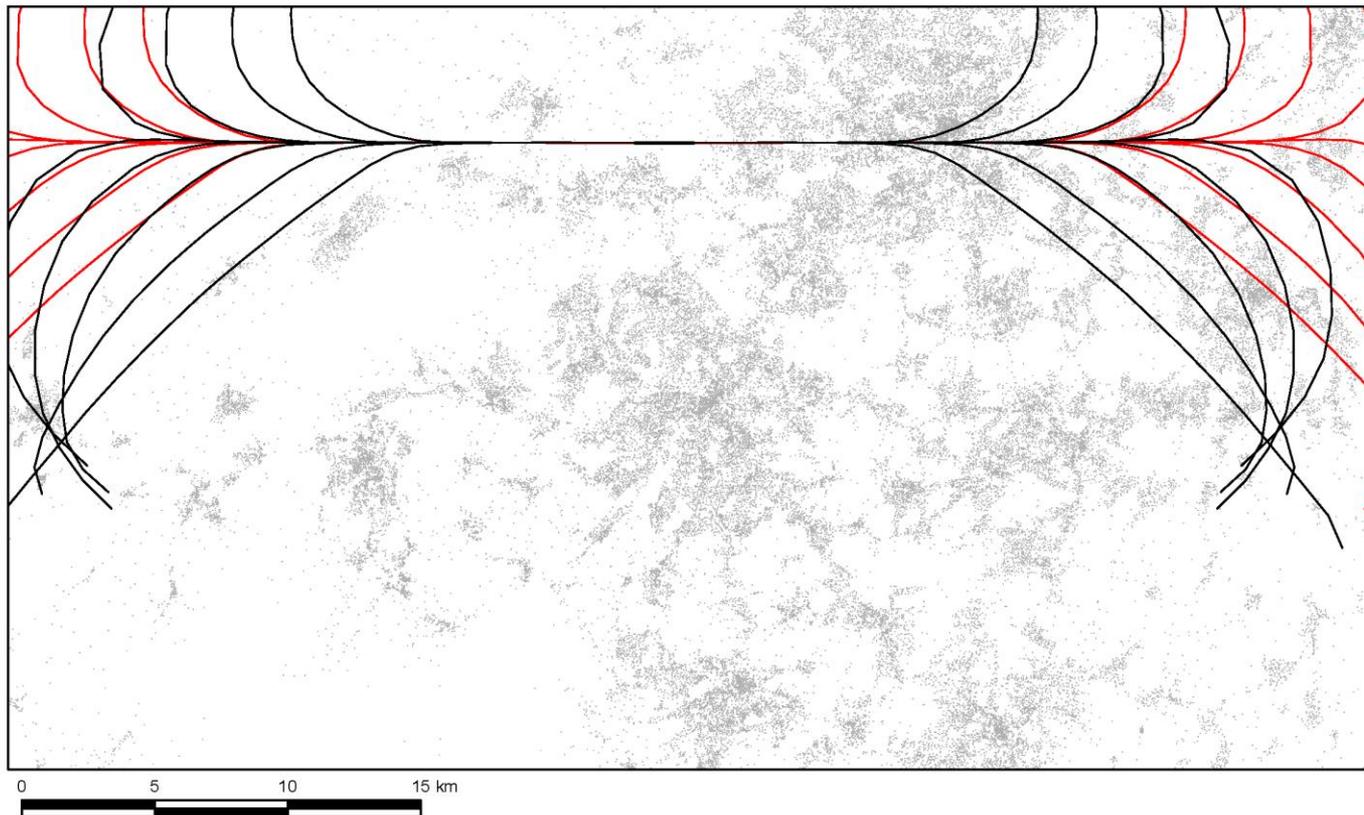
Directed to consider PPRs in accordance with the Air Navigation Guidance



Case Study

Type 3

Change of tracks due to joining point change at a regional airport

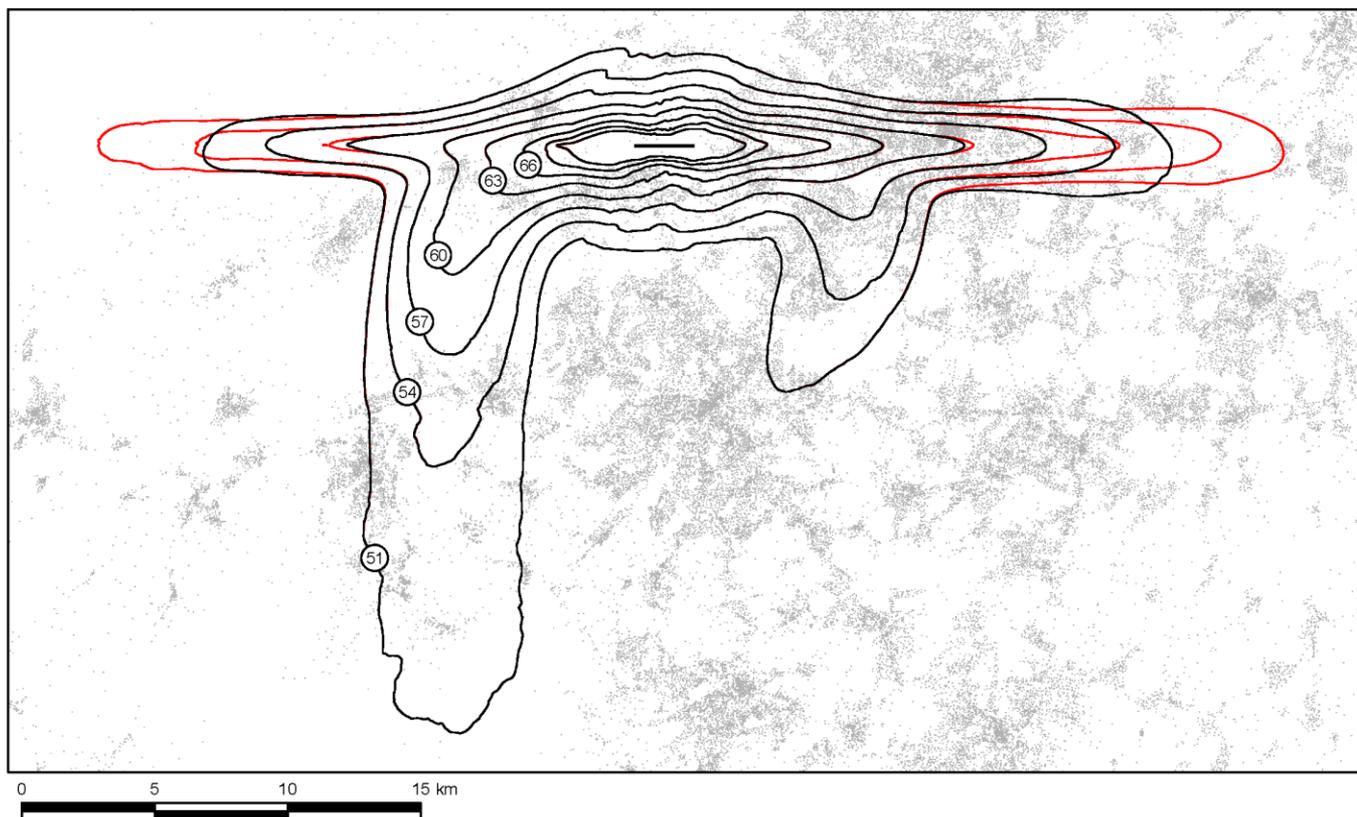


GENERIC AIRPORT
Arrival spur tracks
6 nm vs 9 nm arrival joining point

Case Study

Type 3

Change of contours due to joining point change at a regional airport



GENERIC AIRPORT
51-72 dB(A) Leq contours - with terrain corrections
6 nm vs 9 nm arrival joining point
Runway modal split 70% NW / 30% SE

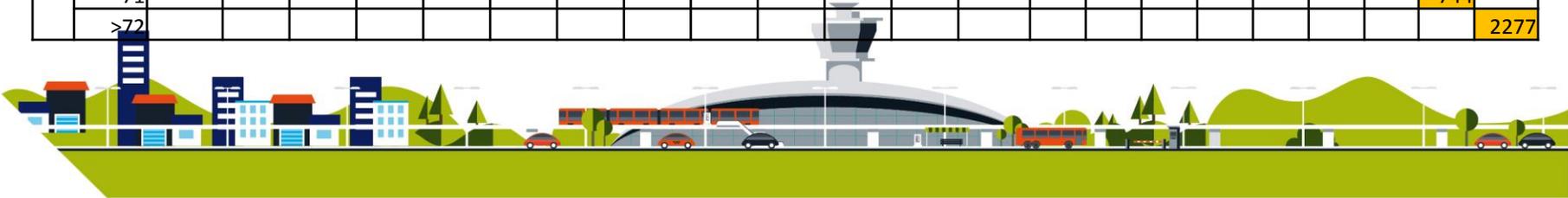
Case Study



Type 3

webTAG input – changes in population noise exposure

		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

Key questions for stakeholders



- How might Air Navigation Service Providers identify that approval is needed for a given change to air traffic control operational procedure?
- Is the objective of a change in air traffic control operational procedure something that might be achieved by narrowing down a range of different options whose impacts can be compared, or might there be only a single option?
- Assuming that we base the approval process for PPRs on the airspace change process set out in CAP 1616, which elements of this process are relevant to PPRs to give the necessary involvement of interested stakeholders, and which are not?
- Only a 'relevant PPR' is in scope of the process. Is there any further scope to scale the process to keep it proportionate?



Questions

or email us at airspace.policy@caa.co.uk

