UK Civil Aviation Authority

Consultation Response Document: Proposed amendments to the UK Performance-based Navigation Regulation

CAP 3204

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List of Acronyms

AAM	Advanced Air Mobility
ACOG	Airspace Change Organising Group
ACP	Airspace Change Proposal
AMC	Acceptable Means of Compliance
AMS	Airspace Modernisation Strategy
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
APDO	Approved Procedure Design Organisation
APNT	Alternative Position, Navigation and Timing
ASBU	Aviation System Block Upgrades
ATM	Air Traffic Management
CAA	Civil Aviation Authority
CAS	Controlled Airspace
CONOPS	Concept of Operations
DFMC	Dual Frequency Multi Constellation
DME	Distance Measuring Equipment
DVOR	Doppler VHF Omnidirectional Range
EASA	European Aviation Safety Agency
EU	European Union
EVTOL	Electric Vertical Take Off and Landing
FASI	Future Airspace Strategy Implementation
FRA	Free Route Airspace
FSTD	Flight Simulator Training Device
GA	General Aviation
GM	Guidance Material
GNSS	Global Navigation Satellite System
IAA	Irish Aviation Authority
ICAO	International Civil Aviation Organisation
ILS	Instrument Landing System
IRE	Instrument Runway End
LNAV	Lateral navigation
LPV	Localiser performance with vertical guidance
LSSIP	Local Single Sky ImPlementation
MAP	Missed Approach
MON	Minimum Operating Network
NM	Nautical Miles
OBPMA	On-Board Performance Monitoring and Alerting
OEM	Original Equipment Manufacturer
PBN	Performance-based Navigation
PCP	Pilot Common Project
PinS	Point In Space
RF	Radius to fix
RNAV	Area Navigation
RNP	Required Navigational Performance
SBAS	Satellite Based Augmentation System

SDR	Standard Departure Route
SID	Standard Instrument Departure
SIS	Signal in Space
SRA	Surveillance Radar Approach
STAR	Standard Arrival Route
TMA	Terminal Manoeuvring Area
TSE	Total System Error
UKADS	UK Airspace Design Service
VNAV	Vertical Navigation

Introduction

Overview

We published proposals to amend and consolidate the regulations that govern performance-based navigation (PBN) in the United Kingdom (UK) in order to support the development of a systemised, sustainable, and modernised airspace that promotes economic growth, enables effective noise mitigation and helps to reduce greenhouse gases.

Our proposals intended to:

- Achieve consistency in application of, and maintain interoperability with, equivalent regulations in the European Union (EU) and therefore providing industry stakeholders with consistent regulatory frameworks; and
- Contribute to the delivery of the strategic objectives set out in the Airspace Modernisation Strategy (AMS)

These changes aimed to provide Air Navigation Service Providers (ANSPs) and aerodromes with the flexibility they need to determine the optimal PBN specification for an efficient use of airspace in accordance with the regulation, and considering the impacts these may have on local communities with respect to noise. However, any future airspace changes resulting from updated PBN requirements would be subject to the established airspace change process as outlined in CAP 1616[1].

How we consulted

We ran a consultation, CAP3045, from 14th November 2024 to 16th January 2025 asking for views on our proposals. The consultation was hosted on citizen space portal and asked 29 questions via an online survey. With this document we have grouped answers to those questions into themes covered by specific chapters.

Our target audience were aerodrome operators, providers of Air Traffic Management/Air Navigation Services (ATM/ANS), aircraft operators and industry associations but the consultation was open to all.

Who responded

We received 35 responses to this consultation via the online survey from a variety of stakeholders including aerodrome operators, Air Navigation Service Providers (ANSP),

[1] CAP1616 The Process for Changing the Notified Airspace Design

aircraft operators, industry and community associations and the general public. The breakdown of respondents by group is shown below.

Option	Total	%
Aircraft owner/operator	11	28.95
Aerodrome owner/operator	6	15.79
Air navigation service provider	6	15.79
Business or trade association	1	2.63
Community organisation	3	7.89
Member of the public	2	5.26
Other	9	23.68

Most respondents answered all survey questions and a number of those also left detailed comments. There were a small number of respondents that did not answer a proportion of the questions.

An additional 3 responses were received via email, making comments in a format that did not align with our questions; where possible we have taken these comments into account. These are included in the statistics presented above but not in the other tables in this document.

Chapter 1

Amending and consolidating UK regulations for PBN

UK reg (EU) 2018/1048 and (EU) 716/2014

We asked

1.1 Our proposals set out the case for amending and consolidating UK Regulations for PBN.

You said

1.2 **Question: Do you agree with the case we have made for amending and consolidating UK Reg (EU) 2018/1048 (the UK PBN Regulation) and the PBN elements of UK Reg (EU) 716/2014 (the UK PCP Regulation)?**

Option	Total	%
Yes	33	94.29
No	2	5.71
Not answered	0	0.00

1.3 Most respondents believed that our case put forward would achieve this.

Aligning PBN with AMS objectives

We asked

1.4 Our proposals were designed to facilitate alignment of PBN requirements with the AMS.

You said

1.5 **Question: Do you believe that the proposals to amend and consolidate the UK PBN Regulation and the PBN elements of the UK PCP Regulation will**

support the development of a systemised, sustainable, and modernised airspace network in line with the AMS?

Option	Total	%
Yes	29	82.86
No	6	17.14
Not answered	0	0.00

1.6 Most respondents believed that our proposals to amend and consolidate the 2 specified regulations would achieve our aims.

1.7 Within those respondents that did not agree, common themes related to overall perceived negative impact of the AMS with respect to noise and the environment, consideration of required enforcement measures and timelines being unrealistic were recorded.

1.8 One respondent also suggested that the requirements within the proposals should be widened in scope to include non-instrument runway ends (IREs) or those without an approach control service and to consider the use of helicopter point-in-space (PinS) procedures.

We did

1.9 Given the overall positive support in response to both of the questions, we will proceed with our plans to consolidate the two regulations to meet the objectives of the AMS, with PBN related provisions being removed from UK reg (EU) 716/2014 and solely remaining within an updated UK reg (EU) 2048/2018.

1.10 We believe that deployment of PBN to non-instrument runways and the implementation of helicopter PinS should remain a choice for airspace change sponsors to make based on local circumstances and operational needs, not mandated by regulation.

Chapter 2

RNP APCH with 3 lines of minima at Instrument Runway Ends

We asked

2.1 Our proposals set out a requirement for provision of 3 lines of minima at all IRE.

You said

2.2 **Question: Do you agree that RNP APCH 3 lines of minima should apply at all IRE for all aerodromes?**

Option	Total	%
Yes	24	68.57
No	8	22.86
Not answered	3	8.57

2.3 Most respondents agreed with this requirement.

2.4 From those respondents that either answered yes or no, some further comments were made around the following themes:

- lack of criteria for when 3D approaches were not considered feasible and what the fallback hierarchy of options would be
- possibility of using LP minima when LPV was not possible due to the obstacle environment
- The minima should not be deployed by mandate. It should be left to industry to decide what was most appropriate based on many factors including operational necessity, geographical location and financeability
- Question regarding whether the proposal would apply to an aerodrome covered by CAP2304 or that had benefitted from the GNSS rollout programme

2.5 **Question: Do you agree that the date by which RNP APCH 3 lines of minima will have to be implemented is realistic?**

Option	Total	%
Yes	20	57.14
No	13	37.14
Not answered	2	5.71

2.6 The majority of respondents agreed that the date is realistic but it was clear that many did not. Common points from those respondents not in agreement fell under the following themes:

- Prohibitive costs for design and deployment of procedures
- Lack of resource at Approved Procedure Design Organisations (APDO) to design appropriate procedures
- Lack of resource at the CAA to approved submitted designs in a timely manner
- Questions over if or when a UK SBAS Safety of Life (SoL) service would ever become available

We did

2.7 We have evaluated options related to the deployment of 3 lines of minima and decided upon the following:

2.8 Providers of ATM/ANS will still be required to deploy 3 lines of minima, LNAV, (LNAV/VNAV, LPV) but consideration is given to the current unavailability of an SBAS SoL service in the UK, which is not within CAA control. Further information on how deployment of LPV minima may be achieved will be detailed in separate Acceptable Means of Compliance (AMC) and Guidance Material (GM) that will be published in support of the revised regulation.

Chapter 3

SBAS SoL service transitional arrangements

We asked

3.1 We proposed a transitional period for implementation of LPV minima for RNP APCH.

You said

3.2 **Question: For implementation of RNP APCH with LPV line of minima at all IREs, do you agree that retaining the same transitional period of 18 months from when SBAS service becomes available remains realistic?**

Option	Total	%
Yes	22	62.86
No	11	31.43
Not answered	2	5.71

3.3 The majority of respondents agreed with the proposed transitional period but almost a third did not.

3.4 The general concerns with this approach were:

- Unrealistic timescale due to the pressure on resources to develop the procedures
- Uncertainty over the future availabilty of an SBAS SoL service in the UK
- Whether there would be the ability to pre-emptively approve procedures using LPV prior to the service becoming available to speed the process

We did

3.5 We have further examined possibilities with respect to the transitional period.

3.6 The current unavailability of an SBAS SoL service in the UK presents a challenge to the deployment of LPV line of minima and timescale for access to such a service is still unknown; this remains outside of CAA control. Further information on future management of transitional arrangements will be detailed in separate AMC and GM that will be published in support of the revised regulation.

Chapter 4

Proposed navigation specifications

We asked

4.1 We proposed specific navigation specifications for each flight phase in line with definitions in the ICAO PBN Manual[2], detailed for the UK context in Appendix A of CAP3045.

You said

4.2 **Question: Do you agree with the proposed navigation specifications for en-route continental operations**?

Option	Total	%
Yes	24	68.57
No	4	11.49
Not answered	7	20.00

4.3 The majority of respondents agreed with our proposal for en-route continental navigation specification.

4.4 Some respondents suggested that RNAV5 was a dated specification and that RNAV1 as a minimum would be more appropriate and unlock the value of airspace/offer increased opportunity for systemisation.

4.5 Additional comments suggested that RNP2 or A-RNP specifications were preferrable, particularly in a free route airspace (FRA) environment.

[2] ICAO Doc 9613 Fifth edition, 2023

4.6 **Question: Do you agree with the proposed navigation specifications for en-route continental operations being applicable to all flight levels on ATS routes and FRA?**

Option	Total	%
Yes	23	65.71
No	5	14.29
Not answered	7	20.00

4.7 Many answers were similar to those given to the previous question.

4.8 One respondent suggested that the requirements should not be applicable to ATS routes below FL100 to enable non-RNAV5 general aviation (GA) aircraft to continue to operate in Class A airspace and ATS routes.

4.9 **Question: Do you agree with the proposed navigation specifications for en-route oceanic operations?**

Option	Total	%
Yes	23	65.71
No	5	14.29
Not answered	7	20.00

4.10 The majority of respondents agreed, considering that these specifications were already in use and fit with that described in ICAO Doc 007[3].

4.11 Several comments were received stating that specification RNP2 should be considered more widely, especially as this was already required for flights utlising ATS Routes T9 and T213[4] and this requirement should not be revoked by omission.

[3] ICAO Doc 007 North Atlantic Operations and Airspace Manual, v.2025-1

[4] As defined in UK AIP ENR 3.3

4.12 Two respondents questioned whether Shanwick Oceanic airspace[5], where the UK provides Air Traffic Services, and which is outside of UK territorial waters could be considered in scope of regulation or not.

4.13 **Question: Do you agree with the proposed navigation specifications for arrival and departure procedures, including STAR transitions?**

Option	Total	%
Yes	23	71.43
No	5	17.14
Not answered	7	11.43

4.14 The majority of the respondents agreed with this proposal.

4.15 There was some concern around non-RNAV1 compliant GA aircraft and what the alternative would be to fly approach transitions in this case.

4.16 Although there was support for RNP1 + radius-to-fix (RF) where required, there was a request that legislative text include 'environmental' as a valid reason for deployment, in addition to 'safety' and 'operational'.

4.17 It was also requested that RNP Authorisation Required (AR) be considered as an optional specification for arrival and departures due to the level of RNP AR approvals already in existence across the UK air transport fleet.

4.18 **Question: Do you agree that the specific use of RNP1 + RF path terminator should only be an optional minimum navigation specification for arrival and departure procedures, including STAR transitions?**

Option	Total	%
Yes	26	74.29
No	5	14.29
Not answered	4	11.43

[5] As defined in UK AIP ENR 2.1

4.19 The majority of respondents agreed with this statement.

4.20 Some respondents felt that RNP1+RF should be mandated as a minimum requirement, with RNP AR as an option, to unlock the real efficiency of the airspace and to deliver environmental benefits that had already been seen in other places in the world.

4.21 **Question: Do you agree with the additional option for the use of RNP AR navigation specification for rotorcraft operations?**

Option	Total	%
Yes	26	74.29
No	4	11.43
Not answered	5	14.29

4.22 The majority of respondents agreed with this proposal.

4.23 There were some qualified comments expressing concern on the impact to crew training requirements and technical challenges Original Equipment Manufacturers (OEM) could face in being able to meet the criteria.

4.24 **Question: Do you agree that it would be appropriate to extend the applicability of the proposed rotorcraft operations navigation specifications to include new airspace users such as eVTOL?**

Option	Total	%
Yes	23	65.71
No	7	20.00
Not answered	5	14.29

4.25 The majority of respondents agreed with this proposal.

4.26 Emphasis was placed by respondents on the need for electric Vertical Take Off and Landing (eVTOL) operators to be compliant with the same requirements as other users.

4.27 Some respondents felt that adding eVTOL to the regulation was premature and there were some caveats, particularly with regard to the type of use and future Concept of Operations (CONOPS).

We did

4.28 We thoroughly evaluated and considered responses across all of the questions related to each proposed navigation specification. We have made some adjustments to our plans accordingly.

4.29 We have decided not to include navigation specifications for Oceanic airspace in the Regulation. While the Shanwick FIR does fall within scope of 'airspace under the responsibility of the United Kingdom' per UK Reg (EU) 2018/1048, the primary responsibility for requirements in this area remains with ICAO, through the member states of the North Atlantic Systems Planning Group (NAT SPG)[6]. These member states are collectively responsible for the delivery of the agreed level of safety performance in the provision of air navigation services in the entire North Atlantic Region.

4.30 Even though the proposed specifications for Oceanic captured those already operationally implemented in the Shanwick FIR, we felt that it would introduce unnecessary complexity both now and in the future for these to be adopted into UK Regulation due to the process under which requirements for the region are developed and maintained through ICAO.

4.31 For those navigation specifications in applicable flight phases that are optional ways to meet the minimum applicable specification, such as RNAV1 for en-route continental and RNP1+RF for arrival/departure, further information on the use of these will be detailed in separate AMC and GM that will be published in support of the revised regulation.

4.32 Applicability of specifications for 'rotorcraft' will be changed to 'helicopter' to better align with those set out in ICAO Doc 9613 PBN Manual[7].

4.33 The use of PBN specifications will not be extended to include eVTOL. Instead, this will be considered under further rulemaking activity in future, when appropriate.

[6] Working arrangements as detailed in the NAT SPG handbook 2nd Edition v2.9.0 2024

[7] ICAO Doc 9613 PBN Manual fifth edition, 2023

Chapter 5

Proposed implementation dates

We asked

5.1 We proposed a specific implementation date of 31 December 2030 in CAP3045 applicable to all of the navigation specifications for each flight phase.

You said

5.2 **Question: Do you agree that the proposed implementation date for en-route continental navigation specifications is realistic?**

Option	Total	%
Yes	23	65.71
No	5	14.29
Not answered	7	20.00

5.3 The majority of respondents supported our proposal.

5.4 Some general comments were made regarding:

- Retaining conventional navigation infrastructure to provide a backup to GNSS
- Timeline could be less realistic if implementation in certain circumstances required an ACP to be progressed

5.5 **Question: Do you agree that the proposed implementation date for en-route oceanic navigation specifications is realistic?**

Option	Total	%
Yes	23	65.71
No	5	14.29
Not answered	7	20.00

5.6 The majority of respondents agreed with this proposal. It was noted the proposed specifications were already in place in the described airspace despite the requirement being absent from previous regulation.

5.7 **Question: Do you agree that the proposed implementation date for arrival and departure procedures navigation specifications is realistic?**

Option	Total	%
Yes	19	54.29
No	13	37.14
Not answered	3	8.57

5.8 The majority of respondents agreed with this proposal.

5.9 But the number of 'no' responses did indicate some concerns or constraints in meeting this date. These were:

- Unrealistic timeline due to lack of resource at APDO to design appropriate procedures
- Unrealistic timeline due to lack of resource at the CAA to approved submitted designs in a timely manner
- Unrealistic timeline due to resource constraints at APDOs
- Costs of equipage and the available funding support available for smaller aerodromes
- Implementation should be aligned with related ACP implementations such as FASI
- If a timeline was mandated consideration should be given to making the proposed UK Airspace Design Service (UKADS) responsible for meeting the implementation date

5.10 **Question: Do you agree that the proposed implementation date for the additional RNP AR navigation specification for rotorcraft operations is realistic?**

Option	Total	%
Yes	21	60.00
No	7	20.00
Not answered	7	20.00

5.11 The majority of respondents agreed with our proposals.

5.12 Some comments were made in respect of the following:

- Ensuring funding for smaller aerodromes to meet the requirements was considered
- Equipage and crew training burden could constrain progress
- If the specification was optional, why would it be given a prescribed implementation date

5.13 **Question: Do you agree that applicability of the proposed implementation date for rotorcraft operations navigation specifications to new airspace users such as eVTOL is viable?**

Option	Total	%
Yes	17	48.57
No	11	31.43
Not answered	7	20.00

5.14 The majority of respondents agree with our proposal.

5.15 But the number of ‘no’ responses did indicate some concerns. These were:

- Not viable to apply to eVTOL as even general rotary operators are further behind in PBN adoption and eVTOL would be further still
- eVTOL concepts still need to be proved
- Could the CAA deliver the required regulatory support to enable this given resourcing constraints

We did

5.16 While it was clear that the majority of respondents support the proposed implementation date, it also brings with it some challenges.

5.17 There are also clearly many complex issues to consider with respect to how any implementation date would we considered in the context of FASI Masterplan, Airspace Change Proposals (ACP) already in progress, the stand-up of UKADS and resources available overall.

5.18 On balance we have decided not to proceed with a forward-looking implementation date in the revised regulation. This aligns with UK legislative best practice with respect to forward looking implementation dates in UK legislation. The regulation will have an in-force (applicability) date of 6 months from when the legislation is laid.

5.19 Separate AMC and GM in support of the revised regulation will be published at a later date. This will provide more detail in relation to implementation requirements.

5.20 As mentioned in the previous section, we will not be extending the use of PBN navigations specifications to eVTOL; this will be considered under further rulemaking activity in future, when appropriate.

5.21 Applicability to state aircraft is covered under UK Reg (EU) 2018/1139 (the UK Basic Regulation).

Chapter 6

Transitional Measures

6.1 We proposed to make minimal change to the content of Article 4 of existing Assimilated UK Reg (EU) 2018/1048.

6.2 We highlighted that applicability would be widened to include some providers of ATM/ANS not previously in scope and that we would formalise a standard mechanism for the provision and maintenance of the required information.

6.3 We indicated that further guidance on the enhanced process for reporting and monitoring would be communicated at a later date.

We asked

6.4 **Question: Do you agree with the revised requirements proposed under Article 4 Transitional measures?**

You said

Option	Total	%
Yes	25	71.43
No	6	17.14
Not answered	4	11.43

6.5 The majority of respondents agreed with our proposal.

6.6 Some comments we made with respect to the following:

- Reporting requirements were already covered under the ACOG masterplan
- We should be mindful of existing LSSIP, ACP reporting mechanisms and not create unnecessary additional burden
- Requested that the reporting was standardised, clearly defined and scaled depending on the size of the organisation
- Appropriate monitoring and enforcement should be put in place

We did

6.7 We now plan to make some adjustments to this article to provide clarity of responsibilities during the formation of the transition plan, and expectations throughout this process.

6.8 As the implementation of PBN in the UK is via an airspace change, further clarity on what a transition to PBN means in this context and how compliance will be assessed for new and existing proposals will be given in separate AMC and GM that will be published in support of the revised regulation.

Chapter 7

Additional comments

We asked

7.1 In addition to specific questions, we invited respondents to provide additional comments on any aspect of the overall consultation.

7.2 The additional comments covered a wide range of subjects that we considered were both within and outside the scope of the consultation itself. In the following section we have presented those questions and comments which we believe were most relevant but have considered all that were made.

You said

7.3 Are costs for this going to be passed to airspace users?

7.4 The addition of 'off-airfield' PinS approaches and non-designated rotorcraft 'approved' GPS approaches should be considered.

7.5 A lack of suitably qualified FSTDs equipped for PBN in the GA and corporate sectors restricts the level of training 'off-aircraft' available for LPV, RF legs and RNP AR. Most GA and older corporate aircraft have no ability to fly RF legs.

7.6 It is vital that an SBAS SoL service becomes available again to enable LPV minima.

7.7 We have been clear in our opposition to a PBN mandate – it cannot be implemented in isolation due to other dependencies in the UK airspace system and uncertainty around UKADS and CAP1616 delivery process. This makes a mandate destined to fail and not be able to deliver for the proposed date. RNAV standards proposed are dated and UK should be setting higher expectations. GNSS SiS integrity is key and there should be a goal to access DFMC for resilience. Should be wary of dictating in regulation which type of approach procedure should be available and operationally used at an aerodrome.

7.8 We would remind the CAA that airborne equipment requirements for PBN should apply only to the procedures expected to be flown, not to an airspace volume (since the PBN paradigm requires a route to be followed). This is important for operators using smaller aerodromes that share SIDs/STARs with major aerodromes, where there is an expectation that radar vectors will be used in the arrival phase to the smaller aerodrome, and some features of the arrival/approach to the major aerodrome will never be required.

7.9 Consideration should be made regarding the Regulation of PBN outside of CAS, such as SDRS and MAPs.

7.10 Sections 2.2 and 2.3 of CAP3045 provide a misleading context for the cost and benefit of ground navigation beacons. Differentiation needs to be made between cost of DVOR and DME, and recognition needs to be made of the key role of these beacons in mitigating growing GNSS interference concerns. Additionally, section 2.3 infers that the UK has not been predominantly PBN based in en-route for many years which it has. And consequently, does not recognise the role that ground based navigation has already played in supporting PBN operations.

7.11 Full PBN strategy and legislation cannot be completed until a target level of GNSS and ground nav resilience is defined and a MON architecture agreed. This covers both en-route (DME and DVOR) as well as ILS in the UK. For this reason, the discussions on MON should be completed prior to the publication of the final UK PBN legislation.

7.12 Will there be any penalties for missing the deadline?

7.13 Will there be any special arrangements for adding LPV minima line to extant procedures?

7.14 We support the intent of the proposed amendments and recognises the benefits of implementing PBN procedures as part of the Airspace Modernisation Strategy (AMS). However, we emphasise the importance of aligning timelines, addressing resource constraints, and establishing a robust exemption programme to ensure equitable implementation across stakeholders. A Mandated Minimum Design Specification (MMDS) for PBN, particularly in high-traffic regions such as the LTMA, could drive consistency and maximise operational and environmental benefits. Further stakeholder engagement and impact assessments will be essential to refining these proposals.

We did

7.15 The comments with a direct link to the consultation were taken into account where possible and are reflected in the outcomes detailed earlier in this document.

7.16 Those comments not directly related to PBN will be considered separately through other existing or future workstreams.

Chapter 8

Additional Questions

We asked

8.1 Article 1 of UK Regulation (EU) 2018/1139 and section 149 of the Equality Act 2010 requires us to comply with several duties in the exercise of our functions.

8.2 To help us to satisfy these duties, and to help us ascertain the impacts of the changes being proposed, we invited stakeholders to describe the effects they envisage the proposals might reasonably have in 6 specific areas:

- Safety
- Efficiency
- Finance
- Security
- Environment
- Equality

8.3 For each of those areas, we asked for the impacts to be described in one of the following categories:

- Positive impact
- Negligible impact
- No impact
- Negative impact

You said

8.4 Safety:

Option	Total	%
Positive impact	28	80.0
Negligible impact	4	11.43
No impact	2	5.71
Negative impact	1	2.86
Not answered	0	0.00

8.5 The majority of respondents believed that our proposals would have a positive safety impact. Some specific comments were made:

- PBN itself was viewed as enhancing safety/reduces risk
- Transition from an environment predicated on the use of conventional navigation aids was welcomed
- Introduction of procedures at IRE currently without ILS or SRA would bring benefits
- More PinS approaches should be considered

8.6 Efficiency:

Option	Total	%
Positive impact	29	82.86
Negligible impact	3	8.57
No impact	2	5.71
Negative impact	1	2.86
Not answered	0	0.00

8.7 Most respondents believed that our proposals would have a positive impact on efficiency

8.8 There was a general acknowledgement that PBN deployment can unlock more predictable routeings and airspace systemisation can bring fuel/Co2 reduction, facilitate optimal airspace design and reduce delays.

8.9 Finance:

Option	Total	%
Positive impact	15	42.86
Negligible impact	4	11.43
No impact	2	5.71
Negative impact	11	31.43
Not answered	3	8.57

8.10 There was a mixed response to this question.

8.11 Many respondents felt that there were financial opportunities as a result of fuel reduction due to efficient design and future proofing UK airspace.

8.12 But many respondents felt there would be a negative impact in the following areas:

- Cost to aircraft operators in meeting equipage requirements
- Cost to aerodrome operators/ANSPs having to work through the ACP process necessitated by an implementation mandate
- Potential increase in Controlled Airspace (CAS) requirements resulting in impact to recreational aviation

8.13 Security:

Option	Total	%
Positive impact	6	17.14
Negligible impact	8	22.86
No impact	11	31.43
Negative impact	5	14.29
Not answered	5	14.29

8.14 Most respondents agreed that our proposals would have positive or little impact on security.

8.15 There was some concern related to reliance on GNSS and the potential for Radio Frequency Interference (RFI); there should be robust measures put in place to protect against this.

8.16 Environment:

Option	Total	%
Positive impact	28	74.29
Negligible impact	2	5.71
No impact	1	2.86
Negative impact	3	8.57
Not answered	3	8.57

8.17 The majority of respondents felt that our proposals would have a positive impact on the environment.

8.18 Those respondents that felt there was negative impact were concerned about increase in noise or increase in the number of people affected by noise than before.

8.19 Equality:

Option	Total	%
Positive impact	1	2.86
Negligible impact	0	0.0
No impact	28	80.00
Negative impact	1	2.86
Not answered	5	14.29

8.20 Most respondents believed that our proposals would have no impact on equality, with many questioning why this was being asked on a consultation related to this specific subject.

We did

8.21 From the 6 specific areas, it was clear that the highest volume of 'negative impact' responses related to finance/costs.

8.22 The objective of the PBN regulation is to set out the desired navigation specifications for each phase of flight in order to facilitate the requirements of the applicable delivery elements of the AMS.

8.23 We recognise that there could be a small increase in costs for operators at, and operators of, aerdromes brought into scope of the regulation for the first time, but overall the requirements for modernisation are directed within the AMS itself, with or without any PBN regulation.

8.24 Airspace change sponsors are responsible for bringing forward proposals that meet modernisation requirements, of which PBN is a part. The needs of, and impacts to, stakeholders should be considered in a local context within those proposals.

Chapter 9

Next Steps

We will be proceeding with the next phase of this project to amend and consolidate the regulations that govern PBN in the UK. This includes:

- Work on drafting the necessary documents required by the Department for Transport (DfT), to implement the changes
- Development of AMC and GM in support of the regulation

The target date for the revised legislation to be laid is Summer 2026. A separate consultation on AMC/GM will take place at a future date.