Delivery of the Scottish Onshore Wind Sector Deal with Onward2030

Work Package Two

As Chair of Onward 2030, I am pleased to share with you a Scottish Onshore Wind Sector Deal Technical Commitment output with the delivery of 'Work Package 2' (WP2), Guidance on Instrument Flight Procedures (IFPs). Every effort was made to engage with aviation and developer stakeholders in the development of this guidance.

This work builds upon ongoing cross-industry engagement to support coexistence between aviation and wind development, recognising that the design, protection, and regulation of IFPs remain essential to maintaining a safe operating environment for UK airspace users. The guidance aims to address the growing need for clarity, consistency, and shared understanding as increasing numbers of wind proposals interact with safeguarded aerodrome environments.

The purpose of this document is to provide a common, authoritative reference point that explains the context, regulatory framework, roles and responsibilities, and expected processes associated with assessing the impact of wind turbine developments on IFPs. It outlines how developers, airports, Approved Procedure Design Organisations (APDOs), and the CAA should work together, including details of the information required, typical timelines, sources of specialist support, and the potential range of outcomes from IFP assessments.

For clarity, this guidance does not supersede existing regulatory instruments. Rather, it complements them by bringing together relevant considerations in a single accessible form, reflecting current practice and known future changes such as evolving CAA processes and updates to ICAO Annex 14.

Engagement is central to successful co-ordination between the renewables and aviation industries. We are very grateful for the support from CAA in reviewing this document. Collaborative dialogue between developers, safeguarding officers, IFP designers, and regulators is essential for effective and productive co-existence. This document may be reviewed and any feedback should be shared with Scottish Renewables or RenewableUK for consideration.

Tim Mockridge

Chairman, Onward2030

Scottish Government – Onshore Wind Sector Deal

Work Package 2

Onshore Wind Industry Guidance on Instrumentation Flight Procedures (IFPs)

February 2026

Author information: This document was developed in collaboration with developers, an aviation industry expert, an airport representative, and the Civil Aviation Authority (CAA).

Contents

1. Executive Summary

1.1 The Scottish Government Sector Deal Technical Workstream identified that IFPs were a critical aspect in relation to achieving consent for onshore wind farms in proximity to airports. This can also be applicable to offshore wind farms, and military aerodromes can also be impacted. However, this guidance focuses on onshore wind farms and impacts on civilian aerodromes. Planned wind farms can penetrate into the protection zones around current flight routes designed to keep flight procedures safe and can also limit the design of new flight procedures. As a result, a work package was established with the objective of clarifying the issues relevant to IFP design and approvals, and providing guidance on context, responsibilities and process, while maintaining safe operations and acknowledging the specific and individual airport requirements. This guidance document is the outcome of this work.

1.2 The document aims to provide a common level of understanding of IFPs which has been developed in conjunction with advice from the Civil Aviation Authority (CAA) and aviation stakeholders. This does not supersede or replace the authoritative regulatory instruments.

1.3 In broad terms, IFPs are the flight profiles that must be followed by aircraft on approach, landing and take-off.

1.4 *Generally,* if you are more than 50km from an airport your development shouldn't have an impact. *However*, some airports have larger safeguarding areas.

1.5 Aviation charts can be used to give an indication of the minimum altitudes around airports, and these can be compared with the likely height and scale of any wind turbines proposed. However, IFP design is a specialist subject, and users of this document must seek advice from professionally qualified designers where necessary in determining clarification and interpretation of the regulatory requirement.

1.6 Safeguarding officers at airports should be contacted for advice. Where required, an assessment of the potential impacts on IFPs should be undertaken by an Approved Procedure Design Organisation (APDO). An APDO is an entity approved by the CAA to design Instrument Flight Procedures (IFPs) for use in UK airspace. APDOs design the specific flight paths and associated procedures that aircraft follow within the existing airspace structure, particularly in the vicinity of aerodromes. While the assessment may be undertaken by any APDO, it will be necessary to ensure that such a provider uses the most up to date aerodrome survey data and that continuity of Aeronautical Data Quality (ADQ) is assured throughout. Where an assessment is undertaken by an APDO that is not the body responsible for the latest review of the aerodrome IFP procedures, the aerodrome may have to arrange for its own assessment as part of its safety and ADQ assurance processes.

1.7 These IFP assessments will need inputs related to the proposed development; the turbine locations, elevations of each location, micrositing allowance, highest elevation within each micrositing area, tip heights, and dates of commencement of turbine installation and full turbine installation complete. IFP studies take ~2-3 days of designers' time to complete, however, lead times are in the region of 6-8 months. The airports may need 6 weeks – 3 months to consider the results of the APDO study before feeding back to the developer. The timescales for the process from that point will depend on the feedback and mitigations required; timescales could be considerable (months, even extending into years), especially if changes to ATC Surveillance Minimum Altitude or an Airspace Change (as described in CAP777 ATC Surveillance Minimum Altitude Charts in UK Airspace Policy and Design Criteria and CAP1616 Airspace Change Process respectively) are required.

1.8 The IFP study should be provided to the developer, however it is noted that commercially or otherwise sensitive information could need to be redacted before issue (either airport or developer's sensitive information). The airport should feed back on how the results of the study have been considered from a technical and commercial point of view, and what the airport's recommendation therefore is. This feedback should also include information on next steps, and likely timescales and costs.

1.9 It is recognised that multiple developments within an aerodrome's safeguarded area will have a potential cumulative impact on the design and protection of an IFP. It is neither practical nor reasonable for an airport to continually assess, review and effect changes to IFPs to accommodate increasing numbers of turbines. Developers should appreciate that cumulative effects will ultimately reach a point whereby no further

changes can safely be mitigated through changes to IFP design and still meet the regulatory and safety case requirements. From the developers' perspective it is essential that they consult early, understand the pre-existing environment and adopt flexibility in layout and design to minimise or negate any potential IFP impact.

1.10 There are a number of changes that may affect how IFPs are considered in the future. These include:

1.10.1 A consultation on changes to CAP 1616 has been conducted by the CAA and closed on 18 December 2025. The consultation, titled "Consultation on the airspace change process, CAP3157", aims to streamline the CAP1616 process.

1.10.2 Changes to ICAO Annex 14 have been announced in a State Letter. These concern the Obstacle Limitation Surfaces (OLS) which will be delineated into Obstacle Free Surfaces (OFS) and Obstacle Evaluation Surfaces (OES). This will also impact IFPs. These changes are to be implemented by November 2030.

1.10.3 Following consultation, the DfT and CAA have decided to replace the current model (where multiple organisations, usually airports and air navigation service providers, each individually sponsor and fund airspace change proposals, often with interdependent designs) with a single guiding mind responsible for future airspace design – a UK Airspace Design Service (UKADS). UKADS will be provided by NATS (En Route) plc (NERL), which currently provides air traffic control services for the 'en route' phase of flight. DfT and CAA are working with NERL to put in place the necessary structures and priorities for this organisation. This could have the impact in the coming years of IFP designers moving from the currently approved APDOs to NERL. This should be monitored and mitigated as necessary to ensure that it does not unduly hold up actions required for wind farms.

2. Context/Introduction

2.1 The Scottish Government Sector Deal[1] Technical Workstream identified that IFPs were a critical aspect in relation to achieving consent for onshore wind farms in proximity to airports; this is also applicable to offshore wind farms which are close to airports. Planned wind farms can penetrate into the protection zones around current flight routes designed to keep flight procedures safe and can also limit the design of new flight procedures. As a result, a work package was established with the objective of clarifying the issues related to IFP design and approvals, and providing guidance on context, responsibilities and process, while maintaining safe operations and acknowledging the specific and individual airport requirements. This objective had the anticipated outcome of developing clear regulatory guidance which would add value to both wind farm developers and airports in how issues relating to IFPs were addressed.

2.2 However, it is recognised that because of the international and national aviation safety regulations and requirements, there are clearly defined aspects of IFP which are not negotiable. Therefore, this document has been focused on ensuring transparency and clarity while enabing a common understanding to facilitate engagement during planning, consenting and developing and implementation processes.

2.3 In developing this guidance, it is important to recognise the context of the scenario in which there are potentially conflicting demands between the requirements of aviation and the need to meet renewable energy targets. As detailed within this document, the aviation sector's responsibilities in meeting international and national obligations to deliver a safe operating environment is enshrined in Government policy. Through consultation, a cooperative approach and flexible consideration can in certain circumstances allow an aviation stakeholder to adapt the application of the regulatory requirements to accommodate wind turbines. However, this has clearly defined limits and accountable aviation stakeholders must discharge their responsibilities accordingly. Although the development of onshore wind is a tenet of Government policy, it is on a presumption of co-existence rather than primacy over aviation interests. Therefore, unless Government indicates a change in policy, wind farm developers are advised to recognise the constraints under which they have to apply safety requirements, particularly in respect of IFPs in relation to this document. In particular, developers should acknowledge that an airport not only has to deal with their specific proposal but has to assess the overall cumulative effect on the integrity of their associated IFPs. These cannot be regularly adapted on receipt of each new proposal to minimise this impact and nor can airports be expected to design in additional mitigation to allow for developments of which they have yet to be made aware. It is essential that developers engage with airports at the earliest opportunity and recognise the need for a flexible and adaptive approach to accommodate the necessary IFP requirements to minimise cumulative effects as much as is realistically possible.

2.4 The document aims to provide a common level of understanding of IFPs which has been developed in conjunction with advice from the CAA and aviation stakeholders. This does not supersede or replace the authoritative regulatory instruments.

[1] Onshore wind sector deal - gov.scot

2.5 What is an IFP?

2.5.1 In broad terms, Instrument Flight Procedures are the processes that must be followed by aircraft on approach, landing and take-off. The more detailed definition below is taken from CAP 785B (Implementation and Safeguarding of Instrument Flights Procedures (IFPs) in the UK.

2.5.2 IFP – A Standard Instrument Departure (SID), a Standard Instrument Arrival (STAR), an approach transition, an initial approach procedure or an Instrument Approach Procedure (IAP):

o SID – A designated Instrument Flight Rules (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.

o STAR – A designated IFR arrival route linking a significant point, normally on an ATS route, with a point from which a published IAP can be commenced. (International Civil Aviation Organisation (ICAO) – Annex 11 'Air Traffic Services')

o Omni-Directional Departure (ODD) – A departure which provides a quantitative level of safety to aircraft departing IFR for those aerodromes in the UK which accommodate such operations which do not normally have notified SIDs in the UK Aeronautical Information Publication (AIP).

o Approach Transition – A Performance Based Navigation (PBN) flight procedure that links the STAR to the Initial Approach Fix (IAF) or Intermediate Fix (IF) of an Instrument Approach Procedure (IAP).

2.5.3 The environment surrounding an aerodrome is constantly changing as a consequence of both aviation and non-aviation developments (e.g. building developments, radio masts/towers and cranes etc.). As a result, IFPs need to be protected from the impact of obstacles whether they be temporary or permanent. This activity is known as safeguarding. The objective of the safeguarding activity is to determine whether new obstacles have any impact on the IFPs and allow the aerodrome licence holder to determine the most appropriate mitigations (if any) in conjunction with an IFP designer.

2.5.4 Items that are being consulted upon/are in some way going to change, are denoted by being in a light blue filled box.

2.5.5 In September 2025, a consultation on changes to CAP 1616 was launched by the CAA. The consultation is titled 'Consultation on the airspace change process, CAP 3157'. The consultation closed on 18th December 2025. The summary of the proposals is as follows:

2.5.5.1 Our overarching aim is to update the airspace change process and guidance to meet the objective to make regulatory requirements as proportionate and streamlined as possible, while retaining requirements that enable the CAA to make informed, evidence-based, transparent decisions.

At the same time, we want to ensure impacts continue to be addressed, understood, and transparently engaged on for the benefit of those who use and are affected by airspace changes. Ensuring the key principles of the current airspace change process are maintained is paramount. Safety, transparency, proportionality, accountability and consistency remain essential elements of the airspace change process. Some proposals apply only to the UK Airspace Design Service (UKADS) provider for airspace change proposals sponsored by the UKADS, some proposals apply to all airspace change proposals and some proposals relate to specific pre-scaled airspace change processes. We have

	clearly marked which proposals the proposed changes apply to in the summary text.

3. Acronym List

Acronym	Definition
AD	Aerodrome
ACP	Airspace Change Process
ADQ	Aeronautical Data Quality
AGL	Above Ground Level
AIP	Aeronautical Information Publication
AMSL	Above Mean Sea Level
ANC	Air Navigation Council
ANO	Air Navigation Order
ANSP	Air Navigation Service Provider
APDO	Approved Procedure Design Organisation
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATCSMAC	Air Traffic Control Surveillance Minimum Altitude Chart
ATM	Air Traffic Management
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CNS	Communication, Navigation and Surveillance
DA	Decision Altitude
DAM	Defence Aerodrome Manual
DH	Decision Height
DfT	Department for Transport
DIO	Defence Infrastructure Organisation
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
IAF	Initial Approach Fix
IAP	Instrument Assessment Procedure
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedure
IFPP	Instrument Flight Procedures Panel
IFR	Instrument Flight Rules
MDA	Minimum Descent Altitude
MAA	Military Aviation Authority
MOCA	Minimum Obstacle Clearance Altitude
MOD	Ministry of Defence
OCA	Obstacle Clearance Altitude
OCH	Obstacle Clearance Height
ODD	Omni-Directional Departure
OES	Obstacle Evaluation Surfaces
OFS	Obstacle Free Surfaces
OLS	Obstacle Limitation Surfaces
PANS	Procedures for Air Navigation
PBN	Performance Based Navigation
PSR	Primary Surveillance Radar
RNP	Required Navigation Performance

RNAV	Area Navigation
SARPs	Standards and Recommended Practices
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Arrival Route
TAA	Terminal Arrival Altitude
UKADS	UK Airspace Design Service
USOAP	Universal Safety Oversight Audit Programme

4. Regulatory Framework

4.1 In setting out this guidance document, it is appropriate to identify the regulatory framework from the international context and the shaping of national regulatory practices. This is necessary to establish the boundaries of the UK's international obligations. National regulation is designed to discharge the UK's international obligations but sufficiently flexible to maintain high standards in specific operating environments.

4.2 It should be noted that Annex A sets out the regulatory framework and references the relevant documents but refrains from quoting the specific details verbatim. This is to avoid the need to constantly update this section, in what is a guidance document, each time a regulatory document is amended, and to reinforce the need to only use the relevant source document.

4.3 Furthermore, IFP design is a specialist subject, and users of this document must seek advice from professionally qualified and approved designers where necessary in determining clarification and interpretation of the regulatory requirements.

5. Roles and Responsibilities

5.1 This section sets out in brief the key roles and responsibilities of the following in the context of IFPs:

- Department for Transport (DfT)
- Ministry of Defence (MOD)
- CAA
- Airports including safeguarding responsibilities
- IFP designers
- UKADS
- Developers

For further information on each, please refer to Annex C.

5.2 DfT:

5.2.1 The DfT serves as the State signatory to the Chicago Convention, which established the International Civil Aviation Organisation and the 19 Annexes under the Convention. DfT implements wider Government policy, determines strategic policy in relation to civil aviation, has powers to develop legislation to support implementation of the ICAO Standards and Recommended Practices and other powers to provide Statutory Directions and Guidance to the CAA (e.g. Civil Aviation Authority (Chicago Convention) Directions 2022).

5.2.2 In respect of IFPs, DfT plays a strategic and oversight role, but the CAA is the primary regulator responsible for their design, approval and maintenance.

5.3 MOD:

5.3.1 The MOD is a statutory consultee in the UK planning system to ensure designated zones around key operational defence sites such as aerodromes, air weapon sites and technical sites are not adversely affected by developments outside of the MOD estate. Through the auspices of the Defence Infrastructure Organisation (DIO), a formal consultation process is established which enables developers to submit details of wind farm proposals. Within this process, the relevant military organisations such as the Military Aviation Authority (MAA) and operational commands will advise on the impact from any proposed development.

5.4 CAA

5.4.1 Working within the direction set by DfT, and in accordance with the General Duties as set out in the Transport Act, the CAA is the competent authority and primary regulator for the UK responsible for the safety and approval of IFPs to ensure safety, consistency and compliance with international standards

5.5 Airports/Aerodromes

5.5.1 Aerodrome safeguarding is a legal requirement under both ICAO SARPs and national legislation, as detailed in CAP738 Safeguarding of Aerodromes. The safeguarding processes undertaken by aerodrome authorities are subject to regular audit by the CAA. It is noted that certain aerodromes are protected by law and listed as certified and licensed aerodromes. This measure ensures that aerodrome operators are statutory consultees in the planning process and can check that the safe operation of their aerodromes is not impacted by external developments.

5.6 IFP Designers

5.6.1 The CAA regulates the provision of IFP design services and any IFP service provider must be approved by them. Companies applying for approval must be legal entities and once approved, are known as Approved Procedure Design Organisations (APDOs). The approval certificate is non-transferable and lists the named IFP designers who meet the requirements for training, education and experience.

5.7 UKADS

5.7.1 Following consultation, the DfT and CAA have decided to replace the current model (where multiple organisations, usually airports and air navigation service providers, each individually sponsor and fund airspace change proposals, often with interdependent designs) with a single guiding mind responsible for future airspace design – a UK Airspace Design Service (UKADS).

5.8 Developers

5.8.1 Developers are the originator of the IFP issue but are dependent on the key aviation stakeholders to provide the assessment and assess the potential impact of a proposed wind farm development. As there will likely be resource and timeline issues at the airport and/or the APDO, it is essential that developers work with the related airport and associated organisations to facilitate the workstream as much as they can for the elements and information which are within their area of responsibility.

6. Outline Process

6.1 A series of FAQ type questions are given below. Please also refer to the flowchart in section 7.1.

6.2 How close to an airport do I need to be before I need to worry about having an IFP impact?

6.2.1 Generally, if you are more than 50km from an airport your development shouldn't have an impact. However, some airports have larger safeguarding areas. This will have been communicated to the planning authorities, so you could request a safeguarding map from them or from the airport itself. There is no central location where all safeguarding maps are saved and publicly accessible.

6.3 How can I check if I'm going to impact IFPs or not?

6.3.1 First use the Aviation Tool, which is hosted on the RenewableUK website. You either need to be a RenewableUK member or have access to the Energy Pulse tool. The Aviation Tool will give an indication of the visibility to radar and impact on obstacle limitation surfaces, however it also has the option to overlay Air Traffic Control Surveillance Minimum Altitude Chart (ATCSMAC) – these show the minimum altitudes in areas around each airport, and you can see where your proposed wind turbines are in relation to these heights. Note that only safeguarded aerodromes will have ATCSMAC charts. See Annex D for the list of civilian safeguarded aerodromes.

6.3.2 You can also access the ATCSMAC charts from the Aeronautical Information Service website: eAIS Package United Kingdom

- In the navigation pane on the left, go to "Part 3 - Aerodromes (AD)
- Open the section "AD 2 Aerodromes"
- Scroll to find the airport(s) in of interest.
- Within the airport, go to section "AD EGPH AD 2.24 CHARTS RELATED TO AN AERODROME"
- Select "ATC SURVEILLANCE MINIMUM ALTITUDE CHART - ICAO".
- For non-safeguarded aerodromes, there may be approach and departure charts instead of ATSCMAC charts, which also given an indication of minimum altitudes.

6.3.3 You should consider any ATCSMAC minimum altitudes within 5 nautical miles of your development. Note that actual IFP assessments apply lateral and vertical tolerances.

6.3.4 You need a minimum clearance between the wind turbine tip height (above mean sea level (AMSL) not above ground level (AGL)) and the published minimum altitude of ~300m (984 feet), i.e.:

Tip height + terrain elevation AMSL + 984 feet ≤ minimum altitude on (ATSCMAC).

Note that the tip height + terrain elevation AMSL + 984ft should then be rounded up to the nearest 100ft before comparison with the published minimum altitude.

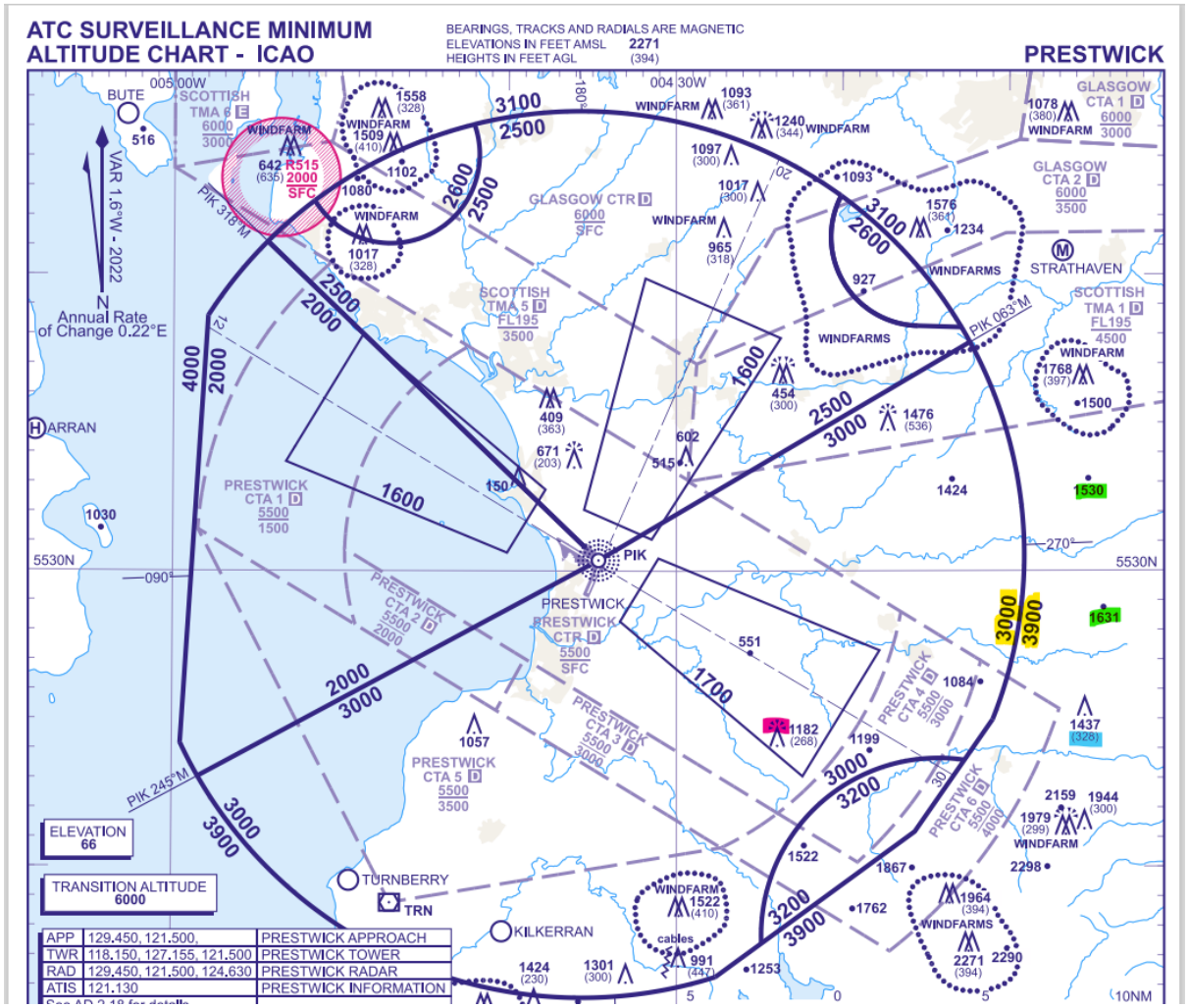
At this early stage when turbine locations are not yet set, you should consider the highest terrain point within the overall site. Thereafter, the highest point within the turbine micrositing area should be considered.

6.3.5 You can also contact the relevant airport(s) as soon as you have an idea of coordinates and tip heights so they can do an initial check. Depending on the results of that check, they will recommend if further studies are needed.

6.3.6 CAP 777 gives full details as to how to read ATCSMAC charts, some brief notes are given below using the example of an ATCSMAC for Prestwick airport (AERO INFO DATE 29 FEB 24, AD 2-EGPK-5-1)

- All numbers are in feet above mean sea level, apart from numbers in brackets which are above ground level (an example is highlighted in blue).
- An example of the minimum altitude is highlighted in yellow.

- An example of the height of a natural obstacle (e.g. a hill) is highlighted in green.
- Obstacles are marked as being lit or not lit; an example of a lit obstacle is highlighted in pink. Note that not all obstacles are marked on the ATCSMAC chart. Only significant obstacles and dominant spot heights.



Prestwick chart info; AERO INFO DATE 29 FEB 24, AD 2-EGPK-5-1. Copyright: CAA and NATS.

6.4 How do I know who to contact?

6.4.1 You should contact the Safeguarding officer at the airport. These are listed on the CAA website for a number of aerodromes: Contact CAST | UK Civil Aviation Authority. Otherwise you can check each airport's website to try and find the information.

6.5 Who can carry out the IFP studies?

6.5.1 The airport will have an Approved Procedure Design Organisation who can carry out these studies. It may be that you pay for the study through the airport, or contract directly with the APDO. Some consultants (who are not APDOs) may also be able to carry out the studies but would need the studies to be checked by the airport's APDO. Only the APDOs can carry out any redesign of the IFPs.

6.6 What level of detail is required for a full study?

6.6.1 Once you have design freeze, you will need to supply the turbine locations, elevations of each location, micrositing allowance, highest elevation within each micrositing

area, tip heights and dates of commencement of turbine installation and full turbine installation complete.

6.7 Who provides the data regarding the airport and its procedures for an IFP study?

6.7.1 The Airport's APDO.

6.8 What happens once the APDO have recommended a solution?

6.8.1 This needs to be discussed and agreed with the Airport, then the CAA. The airport needs to check the commercial and operational impacts of the technical solution (which may or may not be acceptable to the airport), and which (if any) procedures need to be updated for example CAP 777 or CAP 1616 See 6.14 for advice if you are in dispute with the airport's findings.

6.9 If you disagree with the airport's decision, what can you do?

6.9.1 The airport should have provided enough information regarding why they have made their decision. You can request to have a discussion to understand the decision. If they've acted reasonably, it is likely that there will not be any recourse. See 6.14 for advice if you are in dispute with the airport.

6.10 What should be in the scope of an IFP assessment?

6.10.1 The assessment will consider whether obstacles are located within the lateral bounds of the instrument flight procedures and if so, whether they interfere in the vertical plane such that Minimum Obstacle Clearance Altitude (MOCA), Obstacle Clearance Altitude (OCA) or climb gradient require adjustment for the procedure to be permitted. It may also identify proposed changes already under consideration that would mitigate or otherwise affect the impact, should they be approved.

6.11 How long should studies take?

6.11.1 ~2-3 days of designers' time to complete the study, however, lead times are in the region of 6-8 months. The airports may need 6 weeks – 3 months to consider the results of the APDO study before feeding back to the developer. The timescales for the process from that point will depend on the feedback and mitigations required; timescales could be considerable (months, even extending into years).

6.12 What feedback should get back after a study is completed?

6.12.1 The IFP study should be provided to the developer, however it is noted that commercially or otherwise sensitive information could need to be redacted before issue. The airport should feedback on how the results of the study have been considered from a technical and commercial point of view, and what the airport's recommendation therefore is. This feedback should also include information on next steps, and likely timescales and costs.

6.13 When changes are needed, who pays for it?

6.13.1 This will depend on why the change to procedure or equipment was needed (e.g. other operational reasons from the airport), otherwise it would be the developer(s). The costs should be proportionate and fair; this would be discussed and agreed specifically for each project.

6.13.2 Historically, it would be expected that the developer(s) would bear the full cost, however this is now changing to be more of a shared/proportional approach. This change is reflected in e.g. the proposed changes to the National Policy Statement for Energy (EN-1) and the Onshore Wind Taskforce Strategy.

6.13.3See also section 9.12 on the UKADS, which may also change this.

6.14 Where can I as a developer get help if I feel progress is not being made, or if I feel that the airport is not acting reasonably?

6.14.1 The CAA should be approached for impartial guidance in this case.

6.14.2 Note that the Onshore Wind Taskforce strategy, published in July 2025, contained the following action:

Action 26: The Government will explore creating a new post in the Civil Aviation Authority with responsibility for providing neutral and objective advice for stakeholders and facilitating discussions to assist resolution of aviation safety concerns associated with proposed developments.

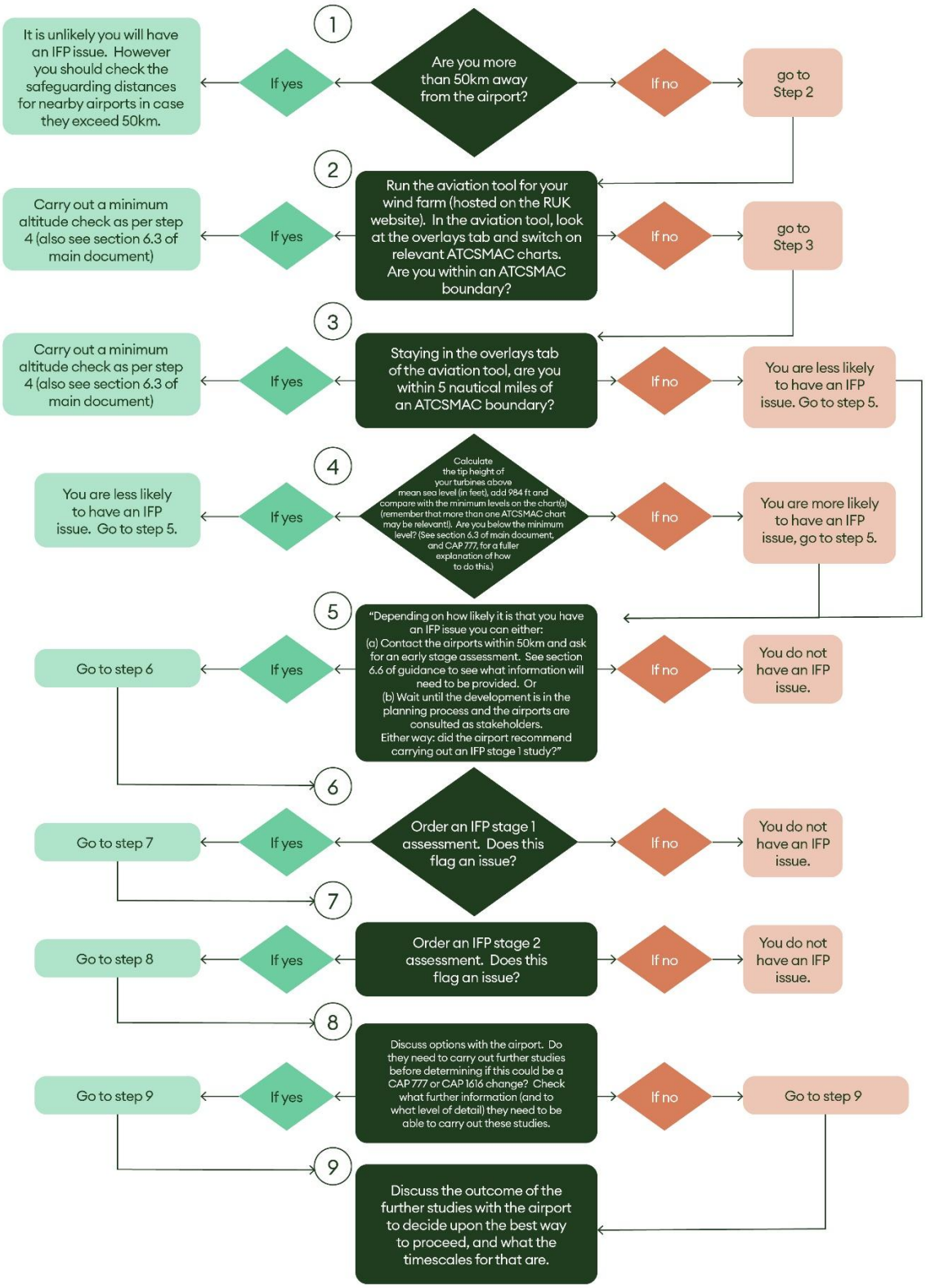
This post, should it be realised, would be the best contact for this purpose. In the interim, the recommended CAA point of contact is the Obstacle and Safeguarding Policy Specialist through windfarms@caa.co.uk or, if there is a technical question around the application of IFP through Ifp.policy@caa.co.uk.

6.15 What if it is a military airfield, as opposed to civilian? How does the process change then?

6.15.1 MOD airfields have IFPs, which are published in the UK Mil AIP | AIP. In addition, details can be found in the relevant Defence Aerodrome Manual for each MOD airfield. When developers consult with the MOD regarding their wind farm, any impact on IFPs will be investigated at that point.

7. Flowchart

7.1 Please see below a flowchart of the outline process in visual form.



8. Range of Outcomes and Implications from IFP studies

8.1 When is CAP 1616 triggered?

8.1.1 CAP 1616 is triggered when a proposed change to Instrument Flight Procedures (IFPs) constitutes an *airspace change* under the CAA's Airspace Change Process. This generally applies when:

- The minima (lowest usable altitudes) for a procedure are altered in a way that affects safety or access, particularly for public transport operations.
- The procedure becomes unusable by certain classes of airspace users.
- A new IFP is introduced, or an existing one is removed.

8.2 Local Minima Adjustments – CAP 1616 Relevance:

8.2.1 If a change in obstacle environment (e.g. introduction of a wind turbine) requires a minor increase in obstacle clearance altitude (OCA/OCH) but does not affect procedure availability or flight safety, a local amendment may be made without triggering CAP 1616 — particularly if:

- The increase remains within established tolerances or protected airspace volumes.
- There is no operational consequence for aircraft access (e.g. minima remain below the controlling terrain/environment).

Ultimately, the CAA and the procedure owner (usually the airport) must determine whether CAP 1616 applies, based on a risk-based impact assessment.

8.3 Are there scenarios when a minor increase in obstacle clearance altitude does not affect procedure availability or local safety and does not trigger CAP 1616?

8.3.1 A minor increase in obstacle clearance altitude (OCA/OCH) can occur in aviation when adjustments are made to ensure safe aircraft separation from terrain or obstacles, often as a result of updated surveys or minor construction. The procedure owner (usually the airport) will need to undertake an impact assessment of any change to its obstacle clearance altitude as even small changes may have significant impacts. Subject to this point, there may be several scenarios where such a minor increase does not affect procedure availability:

- Scenario 1: The increase remains within existing operational limits. If the new OCA/OCH stays within the existing published procedure minima, pilots and operators are unaffected because the approach, landing, or departure remains operationally unchanged.
- Scenario 2: No change to published minima or procedure design. When the slight increase does not require raising the published Minimum Descent Altitude (MDA) or Decision Altitude/Height (DA/DH), availability of the procedure is unaffected, and safety margins remain intact.
- Scenario 3: Negligible impact on affected airspace users. Where the impact of a minor change in altitude has been assessed as negligible as it does not affect accessibility for any class of aircraft, airport throughput, or established flight paths—including those of general aviation, commercial, or local services, it may be concluded that stakeholder engagement as part of the CAP1616 process is not warranted.
- Scenario 4: No added environmental or noise impact. Provided the adjustment does not change flight routes, fuel usage, or noise footprints over local communities or sensitive areas, there are no environmental triggers under CAP1616.
- Scenario 5: Administrative update only. Sometimes, the change might simply align published documents with observed topographical data, with no practical change

to daily operations. In such cases, only the paperwork and charts are updated, with no effect on actual flying.

8.3.2 For these scenarios, as long as:

- The OCA/OCH increase is minor,
- No operational, safety, or environmental thresholds are crossed, and
- All users maintain access and safety margins, then the update does not trigger the full CAP1616 process, is not considered a significant airspace change, and does not require wider consultation or regulatory review. The UK CAA's approach ensures only consequential changes—those affecting safety, capacity, environmental impact, or equity of access—trigger the formal procedures of CAP1616.

8.4 It is understood that some of the Terminal Arrival Altitude (TAA) levels for the new Required Navigation Performance (RNP) procedures will exceed 50km from the airport – is there a means of classifying which airports have these extended TAAs?

8.4.1 Altitudes published within the TAA may replace the MSA altitude. These altitudes provide at least 1,000 feet of obstacle clearance above all objects located in an arc of a circle defined by a 46km (25NM) radius centred on the Initial Approach Fix (IAF) (Reference ICAO Doc 8168 Aircraft Operations Volume I, Part II, Section 4, Chapter 1). Procedures may be established that enable the flight crew to continue towards the IAF and descend to the published TAA altitude for the sector beyond this radius – terrain, obstacles and flyability of the procedures in all wind conditions will dictate the profiles.

8.5 Are there scenarios when an increase in angle of ascent or descent would not trigger CAP1616?

8.5.1 An increase in the angle of ascent (climb) or descent could, in some limited cases, be considered a non-substantive change that does not trigger the CAP1616 process—but only if it does not affect safety, access, or the real-world behaviour of flights.

8.5.2 Under CAP1616, the key test is whether a change to an IFP alters flight behaviour in a way that impacts who can use the procedure (access) or the associated risks (safety). Changing a climb or descent angle is generally likely to affect aircraft performance, profile over the ground, or who can use the procedure, so such changes are usually considered substantive. However, very minor or theoretical changes - those that:

- Do not alter the ground track of aircraft,
- Do not change the minimum or maximum altitudes achieved at specific points,
- Do not impact noise exposure or environmental effects, and
- Do not impose new requirements on operators or restrict usage (i.e., all the same classes of aircraft can still use the procedure safely and effectively),

may be regarded as non-substantive and handled administratively, without triggering full CAP1616.

8.5.3 For example, a purely administrative refinement to a climb or descent angle (e.g., a decimal precision change that reflects already existing operational practice but doesn't impact the actual manner in which aircraft are flown or their profiles) could be non-substantive. Also, if manufacturer data is updated to reflect actual climb performance but the operational profile, constraints, and user base do not change, such a tweak may not trigger the process.

8.5.4 By contrast, any increase in climb or descent angle that:

- Increases the required climb gradient above what all current users can consistently achieve,
- Shifts noise or altitude profiles over new ground areas,
- Changes when or how aircraft reach certain altitudes,

- Restricts access for certain types of aircraft,

would almost certainly be substantive and require the CAP1616 process.

8.6 Can you provide further information as to what is in a stage 1 assessment compared to a stage 2 assessment?

8.6.1 A Stage 1 assessment is to consider the Statement of Need presented by sponsors to identify and/or clarify all IFP related activities required to be undertaken during the CAP1616 process; how these IFP activities will be planned and managed, and how they will influence the airspace change process provisional timescale. A Stage 2 assessment involves a more detailed options appraisal, incorporation of wider airspace change issues, interdependencies and a high-level assessment of costs and benefits involved.

8.7 If CAP 1616 is triggered, how long could the process take (within the current CAP1616 process)?

8.7.1 This could currently take a number of years, the actual period depending on a range of factors which will be addressed in the initial assessment stage and depending on the impact and extent of the proposed changes. The proposed amendments to CAP1616 as detailed in CAP3157, reduce the number of stages from 7 to 4, simplifying the process. This may have an impact on the timelines in future.

8.8 How does the airport/CAA interaction work (including timescales)? Especially once the initial IFP assessments have been done.

8.8.1 CAA Answer: There are two main scenarios for the approval of IFPs: The Airspace Change Process (ACP) and periodic review. As part of an ACP, the output of the IFP design assessment feeds into the operational assessment which, alongside the other assessments, informs the final ACP decision as detailed in CAP 1616 stage 5B: Decision. While the IFP technical design element may be accepted, it is possible that a decision is made not to approve an ACP. In addition, CAP2541 contains our general approach to determining the order in which it will consider ACPs submitted for decision.

8.8.2 CAA Answer: For a periodic review, it is the IFP sponsor's responsibility to ensure that the periodic review for IFPs is arranged in time. The CAA recommends that the timeline should be discussed prior to the initiation of the IFP design activities, to ensure the risks (resource, surveys, costs, and any other identified risks) are mitigated. Once submitted, the completion will be dependent on the agreed timeline. The CAA is responsible for assessing the technical aspects of the IFP design submitted for approval, ensuring the proposed procedures are safe to be flown by aircraft. A report will be sent to the APDO and the sponsors which could include all potential issues requiring corrective actions or items requiring further discussion. This is typically an iterative process.

8.9 How are 'safety' and 'access' defined with regards to CAP 1616 and UK aviation regulations?

8.9.1 In the context of UK aviation regulations, specifically under the Civil Aviation Authority's CAP 1616 process for airspace change, 'safety' and 'access' have distinct but interconnected meanings, especially when it comes to changes to instrument flight procedures (IFPs):

8.9.2 Safety

- Definition: Safety refers to maintaining a high standard of safety in the provision of air traffic services. It is the highest priority for the CAA when considering airspace change proposals. All airspace change proposals, including changes to IFPs, must explicitly assess the impact of the change on safety, identifying any new or altered hazards, associated risks, and the mitigations that will be put in place for those risks.
- CAP 1616 Context: Section 70(1) of the Transport Act 2000 places a primary duty on the CAA to maintain safety when deciding whether to approve airspace changes. Every proposed change must demonstrate that it maintains or improves the existing safety environment for all affected users.

8.9.3 Access

- Definition: Access refers to the ability of airspace users (pilots, airlines, general aviation, military, etc) to safely and efficiently use, transit, or operate within the airspace or at an aerodrome. Changes to IFPs that might hinder, restrict, or otherwise affect who can use a particular procedure or airspace—and under what conditions—are considered changes that affect 'access'.
- CAP 1616 Context: The airspace change process considers not just safety but also the needs of users of airspace. If a proposed change to an instrument flight procedure would restrict access (e.g. by imposing new equipment requirements, removing an existing procedure, or making a route or airport less usable for certain operators), this is regarded as having an impact on access.

8.10 When is CAP 777 triggered?

8.10.1 CAP 777 is guidance on the design and safeguarding of instrument flight procedures. It is not a regulatory process like CAP 1616 but supports how IFPs should be protected from encroachment or degradation.

8.10.2 CAP 777 becomes relevant when:

- A proposed development (such as a wind turbine) is within safeguarding limits or penetrates an obstacle protection surface used to protect IFPs.
- The change alters the obstacle environment in a way that affects how IFPs are assessed or designed.

8.11 Local Minima Adjustments – CAP 777 Relevance:

8.11.1 If a turbine results in a small, localised change in obstacle environment and:

- The new obstacle can be tolerated within existing margins, or
- The airport/designer chooses to redesign the procedure slightly without compromising safety and design,

then CAP 777 remains the guiding document, but no formal change (e.g. airspace change proposal) is triggered.

8.12 Is there any flexibility in IFP Design for Wind Turbine Developments?

8.12.1 There is some flexibility in IFP design that can accommodate wind turbine development:

- Procedure Re-routing: Tracks can be slightly offset or curved to avoid new obstacles.
- Higher Minima: In some cases, minima can be raised to retain the procedure's usability despite new obstacles.
- Use of RNAV (Area Navigation): RNAV-based procedures offer more design flexibility than traditional ground-based ones.

8.12.2 However, flexibility is often constrained by:

- Terrain, airspace structure, and other nearby constraints

- Operational priorities (e.g. maintaining Category A aircraft access)
- CAA's safety and regulatory requirements

8.12.3 In many cases, early engagement and collaborative assessment between developers, airports, and IFP designers can identify solutions that avoid significant impacts or the need for a formal airspace change.

9. Annexes

A. Regulatory Framework
B. Regulatory References
C. Roles and Responsibilities
D. Safeguarded Aerodromes

Annex A Regulatory Framework

9.1 International Civil Aviation Organisation

9.1.1 ICAO, established in 1944, is the UN agency which sets the framework by which the 193 member states cooperate. In this sense, ICAO serves as the global forum for the contracting states for international civil aviation. ICAO develops policies and standards, undertakes compliance audits, performs studies and analysis, and supports aviation through other related activities.

9.1.2 The development and maintenance of international Standards and Recommended Practices (SARPs), as well as Procedures for Air Navigation (PANS) are the key elements of the Convention on International Civil Aviation (Chicago Convention) and are a core aspect of how ICAO delivers its role. The SARPs and PANS are the key mechanisms in respect of safety and interoperability objectives through the worldwide standardisation of performance of air navigation facilities and services.

9.1.3 The development of SARPs and PANS are the responsibility of the Air Navigation Council (ANC) charged with managing the technical work programme of ICAO which considers and recommends the SARPs that form the Annexes to the Convention. The ANC works to maintain and improve aviation safety and air navigation efficiency, introducing advanced systems identifying risks and devising mitigation measures in accordance with the ICAO Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP).

9.1.4 The ANC conducts its work through established panels of experts who are assigned specific tasks from the overall work programme and taking advantage of technical experts from member States and international organisations to develop proposals. The panels cover the full range of aviation but within the context of this document, the Instrument Flight Procedures Panel (IFPP) is relevant. This Panel is responsible for:

9.1.4.1 "Developing and maintaining flight procedures, SARPs and guidance material (e.g. PANS-OPS, Docs 8697, 9905 and 9906) leading to enhanced safety, increased terminal airspace capacity and utilisation, improved airport/heliport accessibility in all weather conditions, and more efficient transitions to/from en-route airspace."

9.1.4.2 Specifically, this includes:

- New IFP design criteria to address improvements in air navigation, evolving aircraft capabilities and new operational concepts;
- Instrument Flight Procedure oversight requirements;
- Harmonisation of charting criteria, databases, and avionics systems guidance with IFP design standards and the facilitation of efficient communication between Air Traffic Control (ATC) and flight crews;
- Consequential amendments to affected Annexes and ICAO documents as a result of changes to IFP design SARPs and criteria.

9.1.5 The relevant ICAO documents which set the framework for national regulation are listed at Annex B.

9.1.6 Finally, it should be noted that ICAO, through the Universal Safety Oversight Audit Programme (USOAP), assesses the safety oversight systems of ICAO Member States on the basis of a continuous monitoring approach.

9.2 National Regulation

9.2.1 The UK documents related to IFPs are highlighted below. It is essential that the latest source documents are used in line with their current amendment status.

9.2.2 The Transport Act 2000 defines the CAA's general duty which requires the CAA to exercise its functions under the Act in the way it sees best furthers the interests of

aviation. The obligations that this requires of the CAA are satisfied through the publication of the relevant documents.

9.2.3 There are two key elements of aviation regulation:

9.2.3.1 The Air Navigation Order (ANO), which includes the Rules of the Air Regulations, and states;

- Air Navigation Order 216 article 187: (4) An applicant for approval of an instrument flight procedure must supply such evidence and reports as the CAA may require. (6) The CAA must grant an approval to submit reports supporting an application for approval of an Instrument Flight Procedure if it is satisfied that the applicant is competent having regard to the applicant's company, staffing, equipment, knowledge, experience, competence, skill and other arrangements to design an Instrument Flight Procedure that is safe for use by aircraft. (7) The applicant for an approval under paragraph (6) must supply such evidence and undergo such examinations and tests and undertake such courses of training as the CAA may require.

9.2.3.2 The Basic Regulation (UK Reg (EU) No 2018/1139 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018) and its Implementing Rules.

9.3 For reference and completeness, the following are relevant:

- UK Reg (EU) No 2017/373 – UK Air Traffic Management (ATM) Provision of Services Regulation
- UK Reg (EU) N0 139/2014 – UK Aerodromes Regulation
- UK Reg (EU) 2018/1048 – UK PBN Regulation
- Air Navigation Guidance 2017
- Air Navigation Directions 2023

9.4 The specific detail in relation to IFPs is contained in the following:

- CAP1616 – Airspace Change Process – This document sets out the process for airspace change in the UK. This provides the basis to assess the safety impact of IFPs and ensures IFP compliance through continuous safeguarding and review activities.
- CAP785A – Oversight of UK Approved Procedure Design Organisations – sets out the specific requirements for the oversight of APDOs.
- CAP785B – Implementation and Safeguarding of IFPs in the UK – sets out the technical requirements for the approval of IFPs and the delivery of safeguarding services.
- CAP777 – Air Traffic Control Surveillance Minimum Altitude Chart – Sets out the principles and responsibilities in relation to Surveillance Minimum Altitude Areas in the vicinity of an aerodrome in which the minimum safe levels allocated by a controller vectoring IFR flights with Primary Surveillance Radar (PSR) and Secondary Surveillance Radar (SSR) have been predetermined.
- CAP738 Safeguarding of Aerodromes.

9.5 The relationship between these regulations and the specific roles and responsibilities are detailed in Annex C below where relevant.

Annex B - ICAO Regulatory References

9.6 The following lists the relevant regulatory references in relating to IFPs:

- Annex 4 – Aeronautical Charts
- Annex 11 – Air Traffic Services
- Annex 14 – Aerodromes
- Annex 15 – Aeronautical Information Services
- ICAO Doc 8168 Procedures for Air Navigation Services – Aircraft Operations – Volume 1 Flight Procedures
- ICAO Doc 8168 Procedures for Air Navigation Services – Aircraft Operations – Volume II Construction of Visual and Instrument Flight Procedures
- ICAO Doc 8697 Aeronautical Chart Manual
- ICAO Doc 9368 Instrument Flight Procedures Construction Manual
- ICAO 9613 Performance Bases Navigation Manual
- ICAO 9906 Quality Assurance Manual for Flight Procedure Design
    - Volume 1 – Flight Procedure Design, Quality Assurance System
    - Volume 2 – Flight Procedure Designer Training
    - Volume 3 – Flight Procedure Design, Software Validation
    - Volume 5 – Validation of Instrument Flight Procedures
    - Volume 6 – Flight Validation Pilot Training and Evaluation
- ICAO Doc 10066 Aeronautical Information Management
- ICAO Doc 10068 Manual on the Development of a Regulatory Framework for Instrument Flight Procedure Design Service

9.7 DfT

9.7.1 The DfT serves as the State representative to ICAO which means it holds several key responsibilities to ensure the UK meets its international obligations:

9.7.1.1 Strategic Representation and Oversight

- Represents the UK at ICAO, shaping global aviation policy making and negotiating SARPs adoption.
- Coordinates the UK's position on ICAO SARPs, ensuring alignment with domestic aviation policy and safety frameworks.
- Sets national aviation policy to align with ICAO standards, including safety, security and environmental goals.
- Ensures legislative alignment, working with the CAA to embed SARPs into UK law and regulation.

9.7.1.2 Regulatory Compliance and Oversight

- Ensures the UK implements ICAO SARPs through national legislation and regulatory frameworks in conjunction with the CAA.
- Coordinates UK responses to ICAO audits, including the USOAP.
- Uses ICAO guidance (e.g. Doc 8335 Rulemaking) to shape UK aviation legislation and explore reforms that allow for agile, expert-led regulation.
- Carries out the specific duties set out in the Transport Act 2000 in respect of aviation.
- Acts as the sponsor department for CAA setting strategic objectives and governance frameworks including Ministerial Directions.

9.7.2 In respect of IFPs, DfT plays a strategic and oversight role, but the CAA is the primary regulator responsible for their design, approval and maintenance.

9.7.3 It should be noted that as of July 2025, the DfT is consulting on a proposal to remove detailed technical regulations from secondary legislation, and to give the CAA new powers to write legally binding rules. This is likely to have a future impact on the regulatory requirements for subjects such as IFPs and how the CAA exercises its responsibilities.

9.7.4 Changes to ICAO Annex 14 have been announced in a State Letter. These concern the Obstacle Limitation Surfaces (OLS) which will be delineated into Obstacle Free Surfaces (OFS) and Obstacle Evaluation Surfaces (OES). The State Letter includes the following "The OFS will be steeper and for some, it will be narrower and shorter. However, there will be additional surfaces, the OES, which extends below and beyond the OFS."

9.7.4.1 It is difficult at this time to predict for each aerodrome what the impact of these changes will be, however they will impact the Instrumentation Flight Procedures.

9.7.4.2 These changes are to be implemented by November 2030.

9.8 MOD

9.8.1 To meet its defence obligations and maintain its operational capability, MOD is a statutory consultee within the planning system so that developments and activities do not inhibit the use of defence assets or training areas. The safeguarding process is initiated by the submission of relevant details to the wind farm team, Defence Infrastructure Organisation 2

Wind farms: MOD safeguarding - GOV.UK

9.8.2 The Wind Farm engagements team coordinates the MOD technical, operational, policy and legal experts to negotiate with developers with the aim of reaching agreements with developers. In respect of IFPs, this entails assessment of the impact of proposed developments against the relevant procedures as published in the Military Aeronautical Information Publication (Mil AIP) UK Mil AIP | Home .

9.8.3 Developers will also note that each military airfield has a published Defence Aerodrome Manual (DAM) which is accessible through www.raf.mod.uk and may be of assistance in informing a developer of the likely impacts of a proposal.

9.9 CAA

9.9.1 Working within the direction set by DfT, and in accordance with the General Duties as set out in the Transport Act, the CAA is the competent authority and primary regulator for the UK responsible for the safety and approval of IFPs to ensure safety, consistency and compliance with international standards:

- Ensuring compliance with ICAO standards.
- Assessing the impact of IFPs through the airspace change process (ACP) as detailed in CAP1616.
- Approving IFP designers known as Approved Procedure Design Organisations (APDOs).
- Publishing guidance for APDOs and ensuring procedures meet safety and regulatory requirements before publication in the Aeronautical Information Publication (AIP).

9.9.2 To fulfil its responsibilities, the CAA conducts the oversight of IFPs through a cycle of actions:

- Develop and maintain regulations including guidance, support, communication and regulatory decision process.
- Service providers certification process including competency checks.
- APDO oversight process including regular audits, demonstration of regulatory compliance and continuous reporting as detailed in CAP785A.
- Safety review of airspace and IFPs through continual monitoring of safety compliance through the airspace change process (CAP1616) safeguarding and periodic reviews of IFPs, management of safety risks and analysis of safety data.
- Identification of changes through the continual review of regulations.

9.9.3 In accordance with the Air Navigation Order (ANO), the CAA only accepts IFPs designed by APDOs and which are either submitted in accordance with the CAP1616 Airspace Change Process, or under a periodic review which is required at least once every 5 years in accordance with ICAO Annex 11. An IFP design will not be published in the Aeronautical Information Publication (AIP) unless and until it is accepted by the CAA.

9.10 Airports/Aerodromes

9.10.1 Aerodrome safeguarding is a legal requirement under both ICAO and national requirements as detailed in CAP738 Safeguarding of Aerodromes. The safeguarding processes undertaken by aerodrome authorities are subject to regular audit by the CAA. It is noted that certain aerodromes are protected by law and listed as certified and licensed aerodromes. This measure ensures that aerodrome operators are statutory consultees in the planning process and can check that the safe operation of their aerodromes are not impacted by external developments.

9.10.2 The aim of safeguarding is to assess the implications of any proposed development within the vicinity of an established aerodrome to ensure, as far as practicable, that

the aerodrome and its surrounding airspace is not adversely affected by the proposal to maintain continued safety of aircraft operations.

9.10.3 Aerodromes holding a licence based on UK regulation are required by the CAA to ensure they have the necessary processes in place to safeguard their aerodrome against obstacles or activities which may present a hazard. Responsibility for all safeguarding activities rests with the aerodrome operator as the CAA is not involved in the process for specific cases. This is because the CAA considers the aerodrome operator to be the experts on safeguarding and assessing the impact of any development on their specific operation.

9.10.4 In general terms, safeguarding is based on the OLS which represent the lower limit of the blocks of protected airspace around an aerodrome, and which can typically extend out to 15km from the Aerodrome Reference Point (ARP). Specific details are contained in CAP 738.

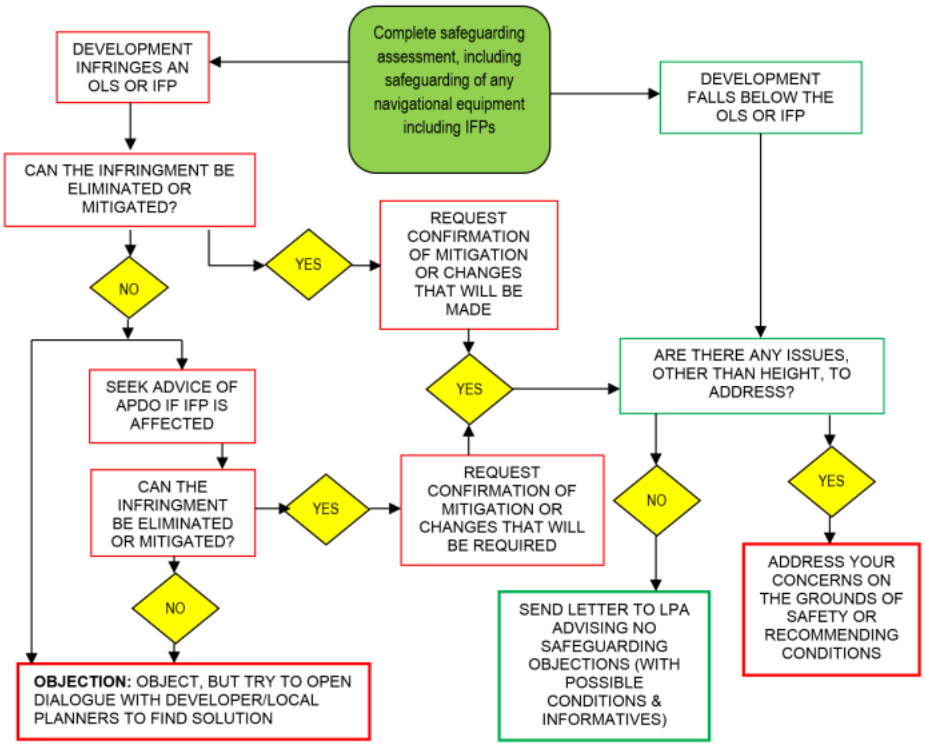
9.10.5 However, in respect of IFPs, there can be lower height restrictions. In addition, the technical safeguarding of Communications, Navigation and Surveillance (CNS) systems can require lower height restrictions.

9.10.6 As statutory consultees in the planning process, airports can assess the potential impact on flight procedures, from proposed developments within the safeguarding zones they have notified. As a consequence, airports may request or require developers to lower or re-position as mitigation. Airports are responsible for maintaining accurate obstacle data and supporting periodic reviews of procedures to reflect environmental changes.

9.10.7 Specifically in relation to IFPs, airports act as the sponsor for new or amended IFPs, initiating the design process to improve safety, access or efficiency. In progressing changes, the airport will collaborate with airspace designers, operational staff and the CAA to ensure procedures align with the airport operations and infrastructure. The Airport must ensure that any IFPs associated with their operations meet the CAA's regulatory requirements for design, safeguarding and notification in accordance with CAP785. Through a process of periodic review, airports work with APDOs to ensure their IFPs remain valid and compliant with environmental changes and evolving regulations.

9.10.8 In addition, they must ensure that the CNS systems for which they are responsible underpin IFP performance.

9.10.9 Illustrated below is a flowchart from CAP 738 (Safeguarding of Aerodromes) outlining the safeguarding assessment process that the aerodrome would follow:



Flow chart from CAP 738, Third edition October 2020, CAA

9.11 IFP Designers

9.11.1 The CAA regulates the provision of IFP design services and any IFP service provider must be approved by them. Companies applying for approval must be legal entities and once approved, are known as Approved Procedure Design Organisations (APDOs). The approval certificate is non-transferable and lists the named IFP designers who meet the requirements for training, education and experience. It should be noted that APDOs must have a minimum of two approved IFP designers to meet quality assurance compliance requirements as set out in CAP785A.

9.11.2 IFP Designers in the UK carry out the specialised and regulated responsibilities to ensure flight procedures are safe, flyable and compliant with national and international standards as follows:

- Core Design Responsibilities
  - Create and maintain IFPs in accordance with ICAO PANS-OPS Doc 8168, CAP758A and B, and any national differences published in the UK AIP;
  - Ensure obstacle clearance and flyability by applying rigorous design criteria and conducting terrain and obstacle analysis;
  - Document and code procedures using ARINC 424 standards for integration into aircraft navigation systems.
- Regulatory Compliance
  - As part of the APDO certification be subject to regular audit;
  - Follow CAP758B for safeguarding, validation and periodic review of procedures;
  - Maintain design records and quality assurance in line with ISO standards and CAA expectations.
- Safeguarding
  - Conduct safeguarding assessments to evaluate the impact of new developments on IFPs;
  - Maintain safeguarding databases and maps, and liaise with airports, planning authorities and developers.

- Validation and review
  - Develop and execute validation plans, including ground and flight checks to confirm procedure accuracy and safety;
  - Participate in periodic review (normally every 5 years) to update procedures based on changes in magnetic variation, airspace structure or obstacle environment.
- Stakeholder engagement
  - Collaborate with airports, ATC and regulators to ensure procedures meet operational needs;
  - Support airspace change proposals under CAP1616 when IFPs are part of broader airspace redesigns.

9.12 UKADS

9.12.1 Following consultation, the DfT and CAA have decided to replace the current model (where multiple organisations, usually airports and air navigation service providers, each individually sponsor and fund airspace change proposals, often with interdependent designs) with a single guiding mind responsible for future airspace design – a UK Airspace Design Service (UKADS).

9.12.2 UKADS will be provided by NATS (En Route) plc (NERL), which currently provides air traffic control services for the 'en-route' phase of flight. DfT and CAA are working with NERL with the shared ambition for the UKADS to be up and running by the end of 2025.

9.12.3 The first focus for this modernisation is London and the South East of England.

9.12.4 Additional regulatory changes to facilitate the UKADS's work are also being considered, including aspects relating to the Airspace Change Process (detailed in CAP1616), the airspace change masterplan and the government's Air Navigation Guidance and Air Navigation Directions to the CAA. Updates on the UKADS developments can be found at the following link: Latest news about the UKADS (CAA) (https://www.caa.co.uk/commercial-industry/airspace/airspace-modernisation/uk-airspace-design-service/latest-news-about-the-ukads/).

9.12.5 More information can be found here: UK Airspace Design Service (UKADS) | UK Civil Aviation Authority

9.13 Developers

9.13.1 Developers are the originator of the IFP issue but are dependent on the key aviation stakeholders to provide the assessment and assess the potential impact of a proposed wind farm development. As there will be resource and timeline issues, it is essential that developers work with the related airport and associated organisations to facilitate the workstream as much as they can for the elements and information which are within their area of responsibility. Key areas which require consideration are:

- Engage in a timely manner recognising wind industry timelines are not a key priority for aviation stakeholders.
- Ensure full and accurate data is provided to the airport and that any subsequent amendments made by the developer will impact workloads and timescales for the airport and its specialists.
- Agree key parameters with the airport.
- Given resource implications for the airport, consider what contracted project management support can be provided to assist process.
- Agree budgetary provision for any necessary studies.

Annex D Safeguarded Aerodromes

9.14 As per CAP 738 and the Planning Circular 2/2003: Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003 (Published 27 January 2003) the safeguarded aerodromes in **Scotland** are as follows:

- Aberdeen
- Benbecula
- Edinburgh
- Glasgow
- Inverness
- Islay
- Kirkwall
- Prestwick
- Stornoway
- Sumburgh
- Tiree
- Wick

9.15 As per CAP 738 and the town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002 (Updated 22 December 2016), the safeguarded aerodromes in **England and Wales** are as follows:

England:

- Biggin Hill
- Birmingham
- Blackpool
- Bournemouth
- Bristol
- Carlisle
- Coventry
- Doncaster Sheffield
- Durham Tees Valley
- East Midlands
- Exeter
- Farnborough
- Humberside
- Leeds Bradford
- Liverpool
- London City
- London Gatwick
- London Heliport
- London Heathrow
- London Stansted
- Luton
- Manchester
- Newcastle
- Newquay
- Norwich

- Oxford
- Southampton
- Southend

Wales:

- Cardiff

9.16 As per Best Practice Guidance to PPS 18 'Renewable Energy' (published 1 August 2009, last updated 18 October 2019) the airport consultees in **Northern Ireland** are as follows:

- Belfast International
- City of Derry
- Enniskillen (St. Angelo)
- George Best Belfast City
- Newtownards