

## Heathrow Airport Ltd

### Cranford Project – Arrivals 09L IPA Statement of Need

## The existing situation

### What is the Cranford Agreement?

In 1952 an undertaking was given on behalf of the Government that, as far as practicable, the northern runway would not be used for landings or take-offs to the east, but it was accepted that there would be occasions when, for traffic reasons, both runways would have to be used. This undertaking is often referred to as the 'Cranford Agreement'. It was intended to reduce overflight of the village of Cranford. Although the Government in 2010, after public consultation, confirmed that this “agreement” should cease and that Heathrow should implement easterly alternation as soon as possible, the legacy of the Cranford Agreement still has an operational impact today. This is because the development of the airfield in the intervening years continued with an operational requirement of 09L for arrivals and 09R for departures, and so therefore it is not possible to implement runway alternation during easterly operations with the current taxiway infrastructure.

Planning permission to support the necessary taxiway changes was granted, on appeal, by the Secretary of State on 2 February 2017, the same day the Government published the draft Airports National Policy Statement (ANPS) which supported expansion of Heathrow. The airfield design for an expanded Heathrow meant that this taxiway work now needed to be repositioned. The planning application for this is therefore being pursued through the Development Consent Order (DCO) for Expansion.

### Proposal overview

The ‘Cranford Project’ which is to introduce runway alternation on easterly operations – involves several different elements – changes to the physical infrastructure of Heathrow’s taxiway as outlined above, and the relevant airspace changes. With regards to the latter, there are two elements – changes to the arrivals with the introduction of Independent Parallel Approaches (IPA) to 09L, and routine departures from 09L. The proposal is solely focussed on the arrivals element.

We are already pursuing a separate airspace change for the wider introduction of IPA at Heathrow<sup>1</sup>, however that proposal does not include a new arrivals approach to 09L because there is currently no runway alternation during easterly operations. However, in anticipation of this in the future, this Airspace Change Proposal (ACP) is looking to implement the necessary airspace change which would allow IPA to be implemented to 09L.

### Background - Landing on the departures runway (Tactically Enhanced Arrivals Measures)

Due to 09L being used primarily for arrivals, the number of departures from this runway is very low; 120 in 2018. These take place due to a requirement to undertake Single Runway Operations, night time alternation, or when some arrivals can land on the departures runway – this element is explained further below:

In certain circumstances, Heathrow is permitted to land some arriving aircraft on the runway being used for departures. This is a resilience measure which has been in use since runway alternation was introduced in 1972, allowing Heathrow to prevent and recover more quickly from delay during periods of excessive airborne holding. On westerly operations this is known as TEAM (Tactically Enhanced Arrivals Measures). Whilst landing on the departure runway on easterly operations is not technically referred to as TEAM operations, in practice it is a similar operation.

TEAM is a tactical procedure which allows for a temporary suspension of runway alternation after 0700<sup>2</sup> to increase the flow of arriving aircraft, allowing some aircraft to land on the departures runway. TEAM can be used when severe inbound congestion involving airborne holding delays of 20 minutes or more occurs or is likely to occur. In this circumstance, NATS has the discretion to land up to 6 aircraft per hour<sup>3</sup> on the departure runway. These TEAM rules

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<sup>1</sup> See ‘London Heathrow - Independent Parallel Approach Arrivals Procedure’ on CAA Portal: [airspacechange.caa.co.uk](https://www.caa.co.uk/airspacechange)

<sup>2</sup> All times in this document are in local.

<sup>3</sup> Rare exceptions to increase this number may occur for safety reasons.

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only apply to westerly operations. Landing on the departure runway is permitted on easterly operations without formal restriction.

Although not described as TEAM, Heathrow is also able to use the departures runway for arrivals between 0600-0700 without being limited to a maximum number. This is because this is the busiest time of day for arrivals into Heathrow.

When both runways are in use for landing, arrivals to both the departure runway and arrival runway are dependent on each other. This is because arriving aircraft landing on both runways cannot arrive at exactly the same time. This dependency means use of the departure runway for landing is not as efficient as it could be. The result is that even though Heathrow can land some additional aircraft on the departures runway, the number it lands on the main arrival runway during that time must reduce.

The average number of aircraft that landed on the easterly departures runway during the last 5 years<sup>4</sup> is:

- 16 in the 06.00am to 07.00am hour
- 23 per day after 07.00am

Currently, those aircraft that land on the departures runway, overfly the same geographic areas between the stacks and joining final approach as the aircraft landing on the main landing runway.

### The issue to be addressed and the opportunity

This ACP will seek to remove the dependency between simultaneous arrivals on easterly operations, through a new approach to 09L, so that the landing rate on 09R, the arrivals runway, does not have to reduce to enable the additional aircraft to land on the departures runway, thereby optimizing traffic flow to ensure it is the same to each runway. Consequently, by having IPA to both 09L and 09R, full easterly alternation can in part be facilitated.

The project will be known as 09L IPA.

This will enable more efficient prevention and recovery from delay and therefore reduce airborne holding, the number of late running night flights, the number of cancellations and the number of arrivals that would land out of alternation in comparison to not making this change. Accordingly, this will significantly improve the operational resilience of Heathrow.

Some of the modern navigation capabilities of the Heathrow fleet are not being utilised in the Heathrow route system. We have undertaken feasibility studies to investigate whether there is an opportunity to utilise this capability for IPA routes. This work has confirmed that the potential exists and so we are seeking to initiate an ACP to exploit this opportunity to enable IPA. This ACP would significantly contribute to meeting the UK's legal obligation to implement Performance-based Navigation (PBN) routes at Heathrow<sup>5</sup>.

### Heathrow expansion

Heathrow Airport's current planning conditions allow a maximum 480,000 Air Transport Movements (ATMs) per year. While the airport does not achieve this maximum capacity, any disruption to the daily schedule can result in non-optimal performance. This non-optimal performance can result in the form of increased airborne holding (delays), flight cancellations, flight diversions or late running flights which can result in aircraft arriving or taking off in the night time period<sup>6</sup>.

The Airport National Policy Statement expects Heathrow Expansion to enable at least an additional 260,000 ATMs from the airport whilst including a 6.5 hour ban on scheduled night flights between 11pm and 7am (with the exact start and

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<sup>4</sup> Between 1st May 2013 and the 30th April 2018.

<sup>5</sup> See ATM Functionality 1 of [EU 716/2014](#) and [EU 2018/1048](#)

<sup>6</sup> Restrictions on night flights have been in place at Heathrow since 1962 and the structure of the current night flying restrictions at Heathrow has been in place since October 2017. The Night Flight restrictions are part of the Government defined noise measures under section 78 of the Civil Aviation Act 1982.

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finish times to be determined following consultation)<sup>7</sup>. As part of Heathrow Expansion, the restriction of 480,000 ATMs will of course need to be removed by the Development Consent Order.

As part of the application for development consent for Expansion, Heathrow will put forward plans to manage the impacts of growth, including any growth that may occur before the construction and operation of the new runway, using the existing runways. This would be achieved alongside the delivery of a number of operational enhancements. It would be accompanied by the implementation of the necessary measures identified as part of the application for development consent, including noise abatement measures, as are necessary to mitigate any impacts. Such noise abatement measures might include operating restrictions such as a change to the start of scheduled operating hours<sup>8</sup>. All of these matters are subject to the separate development consent application and are not within the scope of this ACP.

09L IPA is required to provide operational resilience, with or without any additional ATMs. The need for the additional resilience will increase with any additional ATMs. In addition, subject to further verification, the use of IPA between 0600 and 0700 has the potential to directly support an increase in declared capacity in the hour. An increase in capacity could either contribute to an increase in ATMs (within or beyond the current annual limit), and/or support Heathrow's ambition to deliver a ban on scheduled night flights as contemplated by the Airports National Policy Statement.

## The cause of the proposal

Heathrow wishes to make this change to facilitate airspace arrangements that in part will lead to the ability to introduce easterly alternation and to take advantage of the operational opportunities described above.

## What this proposal will involve

If successful, this ACP will result in the re-distribution and concentration, via the use of PBN for those arrivals to 09L that are "TEAM" arrivals (in the same way as the wider implementation of IPA at Heathrow). Unlike today where all arrivals remain within Heathrow's main arrival swathes, the IPA routes will need to be positioned outside of these flows. This is to ensure existing tracks over the ground for the remaining (majority) of Heathrow's arrivals will remain unchanged. Therefore, the new IPA routes are required to be positioned over areas not commonly overflown by Heathrow arrivals.

This proposal will require a change to Heathrow's Noise Abatement procedures<sup>9</sup> for IPA arriving aircraft<sup>10</sup> which will require approval from the Department for Transport. Heathrow are engaging with the Department for Transport on this.

This ACP will seek to introduce IPA routes to Runway 09L only (the wider implementation of IPA at Heathrow which is already underway is seeking to introduce IPA routes to Runway 09R, 27L and 27R).

The IPA routes will require a high specification of technical equipment and approval by those aircraft using them. Those aircraft would fly these routes precisely, meaning that when viewed from the ground the aircraft will be flying the same tracks repeatedly and accurately.

As mentioned above, controlled growth permitted by any development consent order for Expansion may be implemented before the opening of the third runway<sup>11</sup>. 09L IPA would be part of a suite of measures (along with the wider implementation of IPA) for the future operational environment necessary to practically deliver this growth. As explained above, such growth and the control and mitigation of its impacts (including any impacts on Heathrow's operation) will be assessed and determined, alongside the benefits of such an increase, as part of the DCO process.

**However, Heathrow intends to progress this ACP regardless of any proposed expansion at Heathrow Airport to enable runway alternation on easterly operations and to further enhance the resilience of the current operation.**

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<sup>7</sup> See [para 3.54 of ANPS](#)

<sup>8</sup> See [Page 5](#) of Heathrow Airport's Expansion Consultation Document January 2018.

<sup>9</sup> UK AIP EGLL AD 2.21 Para 10 (a) – (d)

<sup>10</sup> Heathrow will not be seeking to make changes to the joining point for all approaches; only for IPA arrivals.

<sup>11</sup> [See Page 5 and Page 52](#) of Heathrow Airport's Expansion Consultation Document January 2018.

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09L IPA, is being sought in advance of the broader redesign being developed under a separate ACP for Expansion. Our business objective for 09L IPA is limited to adding new routes within the existing route/flight path framework to provide resilience and lead to easterly alternation, leaving more fundamental changes for the expansion ACP. Without this objective the boundary between the two ACPs may blur, which is not in the interests of the sponsor or stakeholders.

### What this proposal does not cover

This proposal is part of the wider Cranford Project that seeks to introduce full easterly alternation. Other elements of that project include (but which are not covered by this ACP):

- 09L departures
  - These can only be delivered with the necessary taxiway infrastructure serving the western end of the northern runway. The planning request for this change sits within the DCO for Expansion.
  - A Planned and Permanent Redistribution (CAP1616) request will be made regarding the proposed increased usage of the 09L SIDS and will be pursued separately
- Proposals on how easterly alternation will operate will be developed through the DCO and are not part of this ACP.

### What this proposal does not affect

This proposal does not seek a change to the Government rules on the maximum number of aircraft allowed to land on the departures runway per hour.

This proposal does not change the position of the main swathe of arrivals into 09L (i.e. non-TEAM arrivals).

This proposal does not affect westerly operations.

This specific airspace change proposal only relates to a two-runway operation. Whilst this project's concepts may be transferrable to a three runway environment, the life time of this airspace change is expected to cease when the third runway becomes operational.