

8th May 2023

Introduction

AirNav Ireland received the below queries from the Department of Transport on 5th May 2023. This document contains a response. For completeness, the appendix contains a response to a related query provided

Minister Ryan agreed to meet recently with some parliamentary colleagues in relation to concerns expressed by some of the communities around Dublin airport in relation to the operation of the new flight paths off the North Runway introduced in February this year.

A number of technical questions have been posed to the Minister and he has asked that the Department seek a response from AirNav Ireland on these. I would be grateful if you would consider and revert as soon as possible on the following questions:

The final regulatory safety reviews before the North Runway became operational stipulated a minimum divergence of 30 degrees off the North Runway in westerly departures:

- 1. Can you give a full, detailed, and technical explanation for this decision?*
- 2. Can you explain why the flight track of the missed approach on the South Runway was not adjusted?*
- 3. Is it possible for the flight track of the missed approach to be adjusted to allow flights from the North Runway to follow a no divergence track in westerly departures?*
- 4. Is it possible for the flight track of the missed approach to be adjusted to allow flights from the North Runway to follow a 15 degree divergence track in westerly departures?*
- 5. The decision shows a 30 degree divergence for westerly departures off the north runway but just a 15 degree divergence for easterly departures. Why is there a difference?*
- 6. It's clear from current flight paths that the divergence is happening closer than was anticipated in the modelling. Why is that the case?*

Response to 1

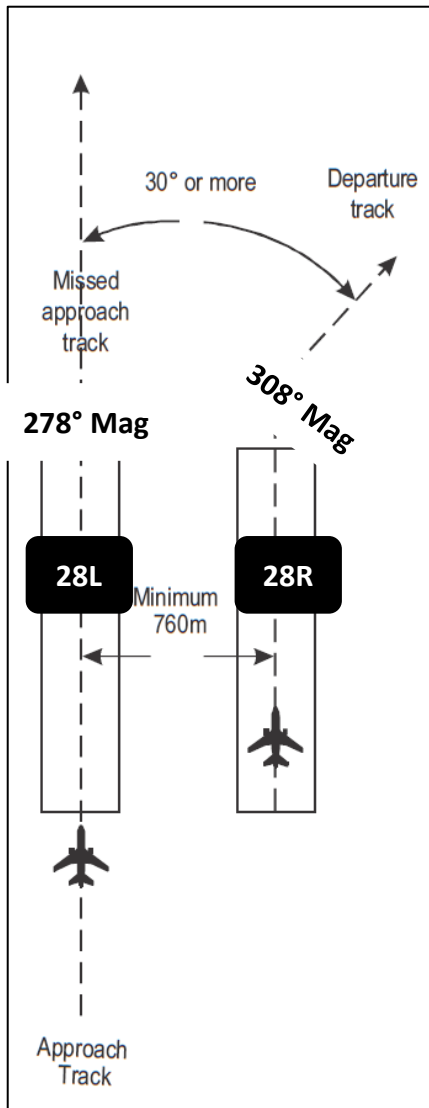
Diagram 1 below shows the ICAO requirement for where aircraft departing on one runway (RWY28R for Dublin) and an aircraft on final approach to another parallel runway (RWY28L) may be authorised **if the departure course diverges immediately after take-off by at least 30 degrees from the missed approach track of the adjacent approach.**

The magnetic bearing of the two runways is 278 degrees. Therefore, the RWY28R departure track was designed to comply with the 30 degrees minimum divergence requirement.

The relevant reference is ICAO Doc 9643 – Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR), Second Edition, 2020.

Note: Dublin Airport Parallel Runways are 1,701m apart.

Diagram 1 – AirNav Ireland illustration of ICAO Requirements as set out in ICAO Doc 9643

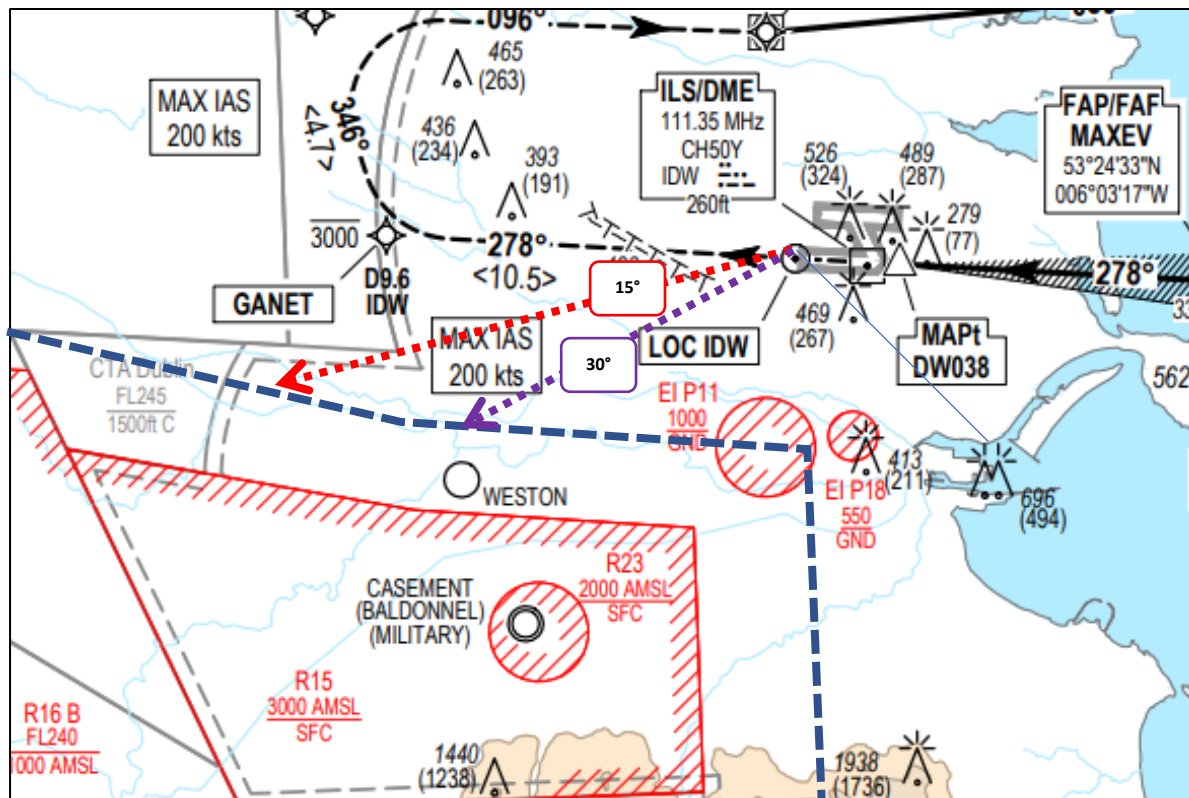


Response to 2

During development of procedures the possibility of a left turn missed approach was considered by IAA ANSP but the overriding ICAO Doc.9426 requirement for a safety-driven divergence (*see 1. above*) of the flight paths of 30 degrees meant that such a change was not deemed as feasible from an airspace, for the following reasons:

- The airspace to the south-west of the airport is controlled by military ATC and commercial traffic does not automatically have access to it. Indeed, the agreement is that traffic controlled by Dublin must remain clear of the area shown by the blue dotted line. This significantly reduces the area for missed approach procedures.
- A change to the long-standing missed approach from Runway 28L would have an impact on other Civil and Military flight operations including Gardai Air Support Unit (GASU) and Weston airport.

- Diagram 2 – AirNav Ireland illustration of Airspace Restrictions around current military activity and how these impact the ability for an alternative missed approach



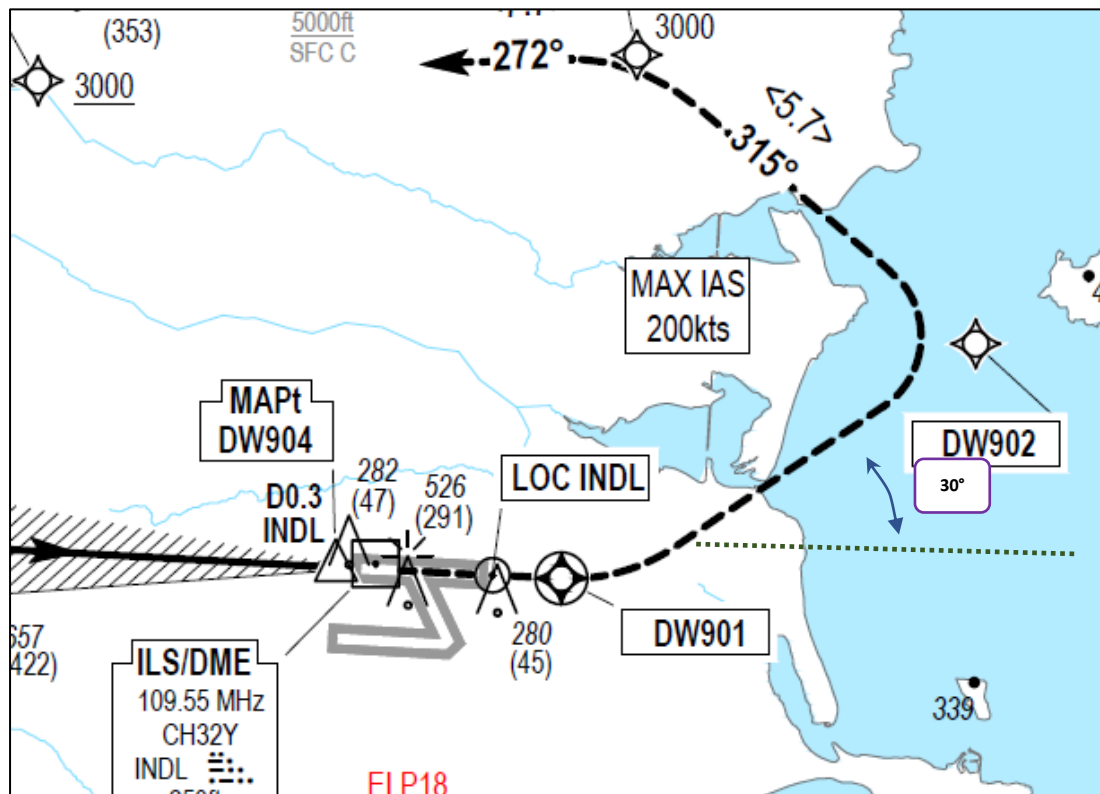
Response to 3

Response to 4

Response to 5

The missed approach from RWY10L does have a 30-degree divergence to protect RWY10R Departures (see Diagram 3 – from AIP Ireland)

Diagram 3 Extract from Aeronautical Information Publication



Note that the requirements for the Departure from RWY10L are different to those for RWY28R because it is not planned to use RWY10R for arrivals when RWY10L is being used for departures. Therefore, there is no need to consider Missed Approaches from RWY10R.

Response to 6

Modelling of flight paths, from a noise perspective, is the responsibility of the daa. It is important to differentiate between noise modelling and the considerations from AirNav Ireland as set out in this paper.

As far as Air Traffic Management (ATM) operations are concerned, monitoring of flight tracks is continuously applied to show that these are safe and fully consistent with the State approved Instrument Flight Procedures, rather than an assessment of the effect on residential communities, which is a matter for the daa.

Summary

Alternative missed approaches for Runway 28L were briefly examined by IAA ANSP at the beginning of the parallel runway project but alternative options were dismissed by IAA ANSP due to the airspace restrictions, as described above. The aerodrome operator, daa, was advised accordingly. To be clear, this examination process ruled out an alternative missed approach on 28L due to airspace restriction described in Diagram 2, which continues to be in place today.

AirNav Ireland can assist the Aerodrome Operator in revisiting the process for amending flight paths / Missed approaches, if initiated by the aerodrome operator as per the regulatory requirement, but any change would need to be accepted by other stakeholders, including the military, and adhere to the applicable regulatory standards.

In summary, any amendments to the current flight paths or missed approaches will have consequential knock-on effects around noise that would need to be fully considered¹ and as set out above it would impact military operations and other aviation stakeholders.

¹ It is very likely that any alternative missed approach would impact residential areas not previously or currently impacted by flights, albeit on several occasions per day i.e., when the missed approach occurs (an estimated average is 2-3 flights per day). The overall consequences of this in terms of noise would be a responsibility for the aerodrome operator, daa, to assess.

Appendix – Response provided to the Department of Transport on 3 April in relation to a separate query**Question received on 31 March**

Is it possible for the airport to meet its planning permission through the design of a new Missed Approach Procedure for 28L (South Runway) with the current airspace?

Response provided on 3 April

Of course, we are more than happy to assist with your request, but it is important to be clear upfront that the planning permission requirement is a matter for daa. It is not appropriate for the IAA ANSP to advise on what conditions daa might be in a position to comply with its planning permission.

The IAA ANSP can, however, provide a number of observations in relation to an alternative missed approach procedure for the original runway 28L. The paper we received focuses predominantly on parallel runway operations in segregated mode, but it is important to be clear that any alternative missed approach procedure for 28L that is less than a 30-degree angle from the take-off track from Runway 28R would impact capacity at Dublin Airport insofar as it would prohibit independent runway operations.

We have briefed key stakeholders on this matter noting that the existing and long standing 28L missed approach procedure is straight ahead to (i) avoid activity at Baldonnell and Weston Aerodromes, (ii) avoid high terrain (Dublin mountains) and high-density residential areas (including city centre) and (iii) minimise the complexity of air traffic control go around procedures. The IAA ANSP has previously explored alternative solutions with daa, but the IAA ANSP has been cognisant of the consequences of an alternative missed approach procedure compared to the tried and tested procedure in use for decades. A primary factor that influenced our assessment of the matter is that an alternative missed approach would not be possible on the basis of a letter of agreement in place with the military.

If a process was initiated by the aerodrome operator daa in order to explore the suitability of an alternative missed approach procedure on 28L and if an option was possible in terms of military acceptance and regulatory approval from a safety perspective, then the alternative missed approach procedure would affect the long-established noise corridors off 28L. This would result in a large number of residents being affected for the first time by flights conducting missed approaches from Runway 28L – in the event that such an alternative approach was progressed, the exact details in relation to the residential areas affected would likely be informed by an assessment undertaken by daa.