S

S. 37

File With _____

SECTION 131 FORM

Appeal NO:_ABP 321485

TO:SEO

Defer Re O/H ☐

Having considered the contents of the submission ~~dated~~/ received 19/12/24 from Gareth O'Brien I recommend that section 131 of the Planning and Development Act, 2000 be/not be invoked at this stage for the following reason(s):. no no ~~[illegible]~~

E.O.: _____ Date: 20/12/24

To EO: _____

Section 131 not to be invoked at this stage. ☐

Section 131 to be invoked – allow 2/4 weeks for reply. ☐

S.E.O.: _____ Date: _____

S.A.O: _____ Date: _____

M _____

Please prepare BP _____ - Section 131 notice enclosing a copy of the attached submission

to: _____

Allow 2/3/4weeks – BP_____

EO: _____ Date: _____

AA: _____ Date: _____

S. 37

File With _____

CORRESPONDENCE FORM

Appeal No: ABP 324685

M _____

Please treat correspondence received on 19/12/24 **as follows:**

1. Update database with new agent for Applicant/Appellant _____

2. Acknowledge with BP 23

3. Keep copy of Board's Letter ☐

1. RETURN TO SENDER with BP _____

2. Keep Envelope: ☐

3. Keep Copy of Board's letter ☐

Amendments/Comments

Resp rec'd from Gareth O Brien

Scan

4. Attach to file

(a) R/S ☐

(b) GIS Processing ☑

(c) Processing ☑

(d) Screening ☐

(e) Inspectorate ☐

RETURN TO EO ☐

	Plans Date Stamped ☐ Date Stamped Filled in ☐
EO:	**AA:** F. Khotiya
Date: 20/12/24	**Date:** 23/12/24

James Sweeney

From: Gareth O'Brien <gobrien@yupon.com>
Sent: Thursday 19 December 2024 15:38
To: Appeals2
Subject: PL06F.314485 supplementary submission RA Draft Decision
Attachments: PL06F.314485_GarethOBrien_NRTG_-_ABP_RA_Draft_Decision_Submission.pdf; daa Response on Bikerdike Allen Noise Modelling.pdf; Letter to Vanguardia.pdf; NRTG Letter to Declan Fitzpatrick ABP RA Submission.pdf

Hi ABP,

Please find attached my submission on ABP's Draft Decision regarding daa's RA application PL06F.314485. Apologies for the length of the submission. I wish it were shorter, or better yet unnecessary but daa persists.

If you could please acknowledge receipt, I would greatly appreciate it.

Have a Happy Christmas and New Year.

Regards,

Gareth.

Gareth.

Gareth O'Brien
+353-87-277-9281 Mobile

Gareth O'Brien
24 White Ash Park
Ashbourne, A84 H563
Co. Meath

19/December/2024

An Bord Pleanála via e-mail

Bord Pleanála Case Number: ABP-314485-22

Planning Authority Case Reference: F20A/0668

Submission on the Relevant Action Draft Decision

I live at the south end of Ashbourne, between the eastbound and westbound departure tracks from the RWY28R within 2km of both flightpaths. The noise from these varies from annoying to disruptive depending on time of day, aircraft type and adherence to the Standard Instrument Departure procedure. I am a civil engineer and private pilot who has been examining the noise situation to the northwest of Dublin Airport as a member of the North Runway Technical Group. www.dublin-north-runway.com

At the heart of the draft decision is the EIAR. That in turn is based on noise models that appear to be erroneous or at least so unclear as to be misleading; I believe they need clarification. Of fundamental importance to the validity of these models and the draft decision are the routes used by the departing aircraft.

I welcome the Inspector's acknowledgement that the present flight paths do not align with the route used in daa's 2007 EIS, or the 2016 EIAR. This confirms that the present operations are not in accordance with Condition 1 of the board's 2007 grant of permission. However, I believe that to accept the present flight paths as being a minor operational change required for safety, as the inspector has done, would undermine the planning process and the credibility of An Bord Pleanála should this RA decision proceed as it is.

I am advised that the most common reason for a decision to be overturned upon judicial review is factual inaccuracy. The Inspector's report contains several such inaccuracies, especially where the Inspector has depended on the Vanguardia report. They have been misled by vague and leading language used by the Applicant along with outright inaccurate statements. These are not inconsequential mistakes; they are fundamental to the location of the noise generated by the aircraft and have materially affected the land use of over 6,000 acres.

Our group has proposed several solutions to daa and engaged at daa's request in discussion with AirNav whom we found to be angrily uncooperative. We have not included our proposals in this document. However, it is important for ABP to note that this is not a binary situation. We are not proposing closing of the runway owing to the breach of planning permission. It is possible to immediately heal the breach with a temporary measure (via NOTAM) that would not reduce the capacity of the airport below its present requirement. This would relieve the damage being done to the residents illegally overflown, while giving the daa time to procure a proper aerodrome redesign exercise.

While my submission is long and may appear excessively detailed, it is a summary of over 500 hours of work by various professionals. As complex and far-reaching as this decision is, we would welcome the opportunity to meet and discuss the matter constructively with the inspector and the board.

Regards,

Gareth O'Brien

DocuSigned by:
Gareth O'Brien
570056140FC3454...

19/12/2024

Gareth O'Brien BE(Civil) MSc
North Runway Technical Group

gobrien@yupon.com
087-277-9281

Compressed Summary

1. **Deviation from Noise Preferential Route (NPR)**: Current flight paths deviate significantly from the original NPR approved in the 2007 Environmental Impact Statement (EIS), violating Condition 1 of the runway's planning permission and increasing noise exposure for 30,000 residents.
2. **Role of the IAA Misinterpreted**: The Inspector conflated the roles of the Irish Aviation Authority's Safety Regulation Division (IAA-SRD) and AirNav (the air traffic control service provider). The IAA-SRD's approval of flight paths does not mean they mandated specific routes.
3. **Vanguardia Report Inaccuracies**: The report incorrectly claims that flight path deviations are minor (15 degrees) and required for safety. In reality, the deviations range from 30 to 86 degrees, and alternate compliant designs were ignored.
4. **Breaches in Planning Conditions**: The deviations from NPR and increased noise exposure were not assessed in a comparative Environmental Impact Assessment Report (EIAR), undermining the planning process and trust in regulatory compliance.
5. **New Condition 3(e)** As written the draft condition is open to several interpretations. It is unclear what the board intended with this, but it will make the present nonsensical situation of southbound aircraft turning north to overfly Ratoath permanent.
6. **Inadequate Consultation and Expertise**: AirNav, the contractor for flight path design, lacked the necessary qualifications to redesign the aerodrome's procedures, leading to poor design decisions focused on maximum operational capacity rather than compliance with permission or safety optimization.
7. **Safety Justifications Disputed**: Claims that deviations were necessary for safety are contested. Alternate designs, such as modifications to the missed approach paths, could achieve compliance without deviating from the NPR.
8. **Failure to Implement a Balanced Approach**: Noise abatement procedures and land-use planning to mitigate noise impacts were neglected, exacerbating the environmental impact on communities.
9. **Noise Modelling Discrepancies**: The noise modelling for Dublin Airport's North Runway operations shows inconsistencies. Westbound departures, expected to generate more noise due to lower climb efficiency, were modelled with less impact compared to eastbound departures, raising doubts about the model's validity.
10. **Need for Independent Review**: The submission calls for an independent review of the noise modelling and flight path designs, alongside clarification from the IAA-SRD regarding the necessity of the current deviations for safety.
11. **Recommendations for Redesign**: A qualified third-party firm should be engaged to redesign the flight paths, ensuring compliance with both ICAO safety regulations and the original planning permissions, to restore trust and minimize community impact.

1 Executive Summary

This submission addresses the Inspector's report on Dublin Airport's North Runway (NR), challenges the conclusions drawn regarding flight paths and noise modelling and thus disputes the basis for the board's draft decision. The deviations from the original Environmental Impact Statement (EIS) have significant consequences, and the noise modelling provided by the applicant and its consultants contains discrepancies. We believe these issues undermine the draft decision and must be resolved before any further action is taken.

Noise Modelling Inconsistencies

Analysis shows significant discrepancies in the noise modelling for eastbound and westbound departures. Aircraft departing westward (Runway 28R) make banked turns, reducing their climb efficiency and prolonging their proximity to the ground. This should result in higher noise levels for westbound departures compared to eastbound ones, where aircraft climb straight ahead. However, the models show the opposite—westbound noise zones extend significantly less than those for eastbound flights, which is illogical given the aerodynamics involved.

We raised this issue with Bickerdike Allen Partners (BAP), the consultants responsible for the noise modelling, but they declined to engage and directed us to the daa. A subsequent answer via daa cast doubt on the reliability of the noise models and, by extension, the conclusions based on them.

Flight Path Deviation

The Inspector acknowledges that current flight paths differ from those submitted in the 2007 EIS, which laid the foundation for planning permission. The approved departure route, known as

the Noise Preferential Route (NPR), required aircraft to depart straight ahead for 5 nautical miles before turning. However, current flight paths deviate immediately on take-off, significantly affecting noise exposure in surrounding areas.

The Inspector incorrectly accepts the applicant's argument that these deviations were necessary for safety, citing guidance from the Irish Aviation Authority (IAA). However, this conflates the roles of two IAA divisions: the Safety Regulation Division (IAA-SRD) and the air traffic control service provider, formerly IAA-ANSP now AirNav. It is critical to clarify that the IAA-SRD's role is limited to approving or rejecting submissions for compliance with safety standards. AirNav, as ATC service provider, is not an authority on the design of aerodromes in compliance with regulatory safety standards.

Vanguardia Report and Safety Justifications

The Vanguardia report, which the Inspector relies on, incorrectly asserts that the deviations from the NPR are necessary to comply with International Civil Aviation Organization (ICAO) safety requirements for parallel runways. Vanguardia claims these deviations are minor—limited to 15 degrees—when, in fact, the deviations are much larger, up to 86 degrees for westbound departures.

ICAO requirements refer to a 30-degree divergence between parallel runway departure and missed approach tracks, but this does not mandate turning off the NPR immediately. The applicant could achieve compliance with ICAO standards without such drastic deviations, such as by modifying the missed approach route from the adjacent south runway. This present deviation of the departure track was a design choice rather than a regulatory necessity. It was chosen to maximize long-term future operational capacity while failing to consider compliance with planning conditions.

The Inspector has concluded that the deviation of the flight paths "is not a land use issue". The noise zones requested by daa, approved by ABP and promulgated into the county development plans of Meath and Fingal are labelled "Landuse – Airport Noise Contour Zones (04/05)". GIS analysis shows the approved route affects 932 houses while the deviated paths directly affect 3,115 houses with an additional 4,723 adjacent to the daa's so-called Environmental Corridors. If an 840% increase in the number of households affected is not a land use issue, what is?

Planning Condition 1 Breached

The deviations from the original NPR represent a clear breach of Condition 1 of the North Runway's planning permission, which required strict adherence to the noise zones central to the 2007 EIS. These deviations have led to significantly higher noise exposure for at least 30,000 residents, compared to the hundreds estimated to live in the original EIS's westerly noise zones.

Despite this, the Inspector has dismissed the impact of these deviations as minor and operational. However, the deviation has resulted in a substantial change to the environmental impact of the North Runway, which should have required a differential Environmental Impact Assessment Report (EIAR). The failure to assess the effects of these altered flight paths as compared to the original permission violates the integrity of the planning process and undermines the basis for the draft decision.

Confusion Over IAA's Role

Once again, I must highlight the conflation of AirNav's role as ATC service provider with that of the IAA-SRD, the safety regulator. AirNav designed the current flight paths under contract with the daa, but claims it is not responsible for ensuring these paths meet planning or environmental conditions. The IAA-SRD only verifies that procedures meet the minimum safety standards; it does not consult on, design, or recommend flight paths.

This confusion has led the Inspector to accept the applicant's assertion that the current deviations are a safety requirement imposed by the IAA. In reality, the IAA-SRD's role is limited to approving submissions without falling below minimum safety standards. It does not endorse specific flight paths or dictate how to achieve regulatory compliance. Thus, the decision to depart from the NPR remains entirely within the control of the applicant, not the IAA-SRD.

Recommendations

Given the misunderstanding of the roles of AirNav and the IAA-SRD and the apparent inaccuracies in the noise modelling, I recommend the following actions:

1. **Clarification from the IAA-SRD**: An Bord Pleanála (ABP) should request formal clarification from the IAA-SRD regarding whether the current flight paths were mandated by the safety regulator as the only possible compliant solution.
2. **Independent Noise Modelling Review**: ABP should commission an independent review of the noise models to resolve the discrepancies between eastbound and westbound departures. Models must be produced that represent the noise heard by individuals under the flightpath while the aircraft are overhead rather than averaged with long periods of silence to reduce the dB numbers.
3. **Redesign of Flight Paths**: A qualified third-party firm should be engaged to redesign Dublin Airport's IFR procedures, ensuring compliance with both ICAO safety regulations and the original planning permission while addressing the airports real business needs and minimizing the detrimental impact on citizens.

Conclusion

The current flight paths for the North Runway deviate significantly from the approved NPR, resulting in vastly higher noise exposure for surrounding communities and a 333% increase in the number of homes overflown. These deviations, inaccurately justified as necessary for safety, have been designed for daa by AirNav, who admit having given no regard to planning conditions or environmental impact. The noise modelling provided is misleading and minimizes the true impact of the deviations.

ABP must address these issues before finalizing the draft decision. I strongly urge a transparent review process that includes clarification from the IAA-SRD and independent analysis of the noise models. Only then can a fair and accurate decision be reached, one that respects both the planning process and the rights of affected residents.

2 Introduction

North Runway Technical Group has been focused on the flight path problem as it invalidates all the data used for the decisions in this Relevant Action (RA). As an engineer it seems obvious that when the foundation is flawed, discussing changes to the details of the building on top of it is pointless. You must first fix the foundation. While the Inspector has accepted that flight paths in use do not align with the original EIS, they have incorrectly determined that the deviation is for operational safety reasons and is so minor as not to constitute a land-use change.

This submission focuses on the Inspector's report as it underpins the draft decision. We address the inspector's various conclusions. It is our firm contention that draft decision's changes to Conditions 3(d) and 5 are based on inaccurate underlying information supplied by the applicant and Vanguardia. The noise modelling supplied by Bickerdike Allen Partners does not make logical sense and in no way reflects the noise on the ground when an aircraft flies over. The model seeks to minimize and obfuscate the effects of over 100,000 annual departures on 30,000 people, making all conclusions resting on the noise model unsafe.

It is clear the Inspector read our submission on the EIAR and indeed several elements of it are quoted in their report. While acknowledging that the present flight paths do not follow the Noise Preferential Route of the original planning permission the deviation has been incorrectly minimized and accepted as a 15-degree operational change rooted in safety. As a result, the inspector has disregarded all the submissions demonstrating potential designs that comply with the ICAO requirements, strangely reasoning that third party submissions lack standing because "the Irish Aviation Authority" did not make a submission. The inspector does not seem to understand the difference between "the IAA", IAA-ANSP, IAA-SRD and AirNav.

While the inspector has received a report from Vanguardia Limited, an "environmental and technology company", it does not appear that any independent information regarding ICAO compliance or the safe design of aerodromes and runway procedures has been sought. The inspector appears to have taken the applicants word at face value despite the overwhelming contradictory evidence provided in our submission and others. This choice is pivotal.

The 2005 EIS, the reason given by ABP for the original grant of planning permission, has been undermined and Condition 1 has been breached. This renders all the modelling used in the 2023 EIAR inaccurate and thus it seems logical that no decision granting the RA is possible.

3 Significance of the changed Inner and Outer Noise Zones

No comparative EIAR has been performed comparing the noise permitted by the original EIS to the present situation or the proposed scenario in the 2023 EIAR. We understand that ANCA has asked for this as part of the Infrastructure Application but the Applicant despite having now produced 19,000 pages for that application has still not provided it.

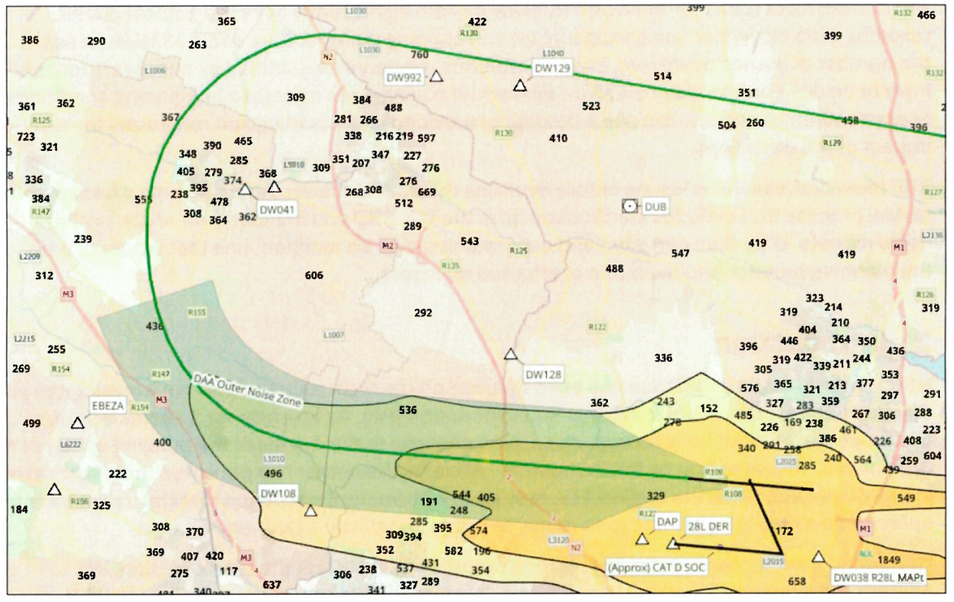

Figure 1 2022 census data shows the sparsly populated area that Meath and Fingal have reserved for aircraft noise at the request of daa.

The significance of the noise change owing to the RA is being determined between a model based on the present flight paths (inaccurately described in the RA EIAR as "permitted") and the proposed scenario. The ABP Inspector incorrectly accepts daa's contention that the changed

flight paths are necessary for safety reasons. However, even if one were to accept an operational or safety need to change the flight path, there has been no determination of the significance of the change from 2007 EIS to the 2023 EIAR, neither the proposed nor so-called permitted models.

The change from the 2007 permitted route has meant that instead of fewer than 2,000 people affected by the noise of over 100,000 departures annually along the Noise Preferential Route, at least 30,000 people are affected by the never-assessed routes being used. Surely a 15-times increase in the number of people affected cannot be construed as immaterial or insignificant.

4 Noise Modelling Questions

While NRTG contends the supplied noise models for this RA are moot as the flight paths used to generate them are not following the Noise Preferential Route, it is important that noise models used in an EIAR be accurate and meaningful.

The eastbound and westbound noise models in the EIAR are inconsistent. The models in the two directions are producing different results. We have recently queried Bickerdike Allen, a section of the letter is shown below. Unfortunately, they refused to engage directly and directed us to e-mail a generic e-mail box at daa (communities@daa.ie) which we did.

Dear Bickerdike Allen Partners,

I am a civil engineer and private pilot who has been examining the noise situation around Dublin Airport. I note in the Environmental Impact Assessment Report submitted by daa plc to An Bord Pleanála in 2023 that your firm produced several noise modelling charts. Attached is A11267_19_DR039_2.0 showing the Forecast Lday Noise Contours 2035 Permitted Scenario.

I would be grateful if you would be willing to help me understand this chart. ...

1. *[removed for clarity]*
2. *As any pilot or aeronautical engineer will agree, aircraft climb most efficiently in a wings-level attitude, thus climbing straight ahead. The lift vector normal to the wings is perpendicular to the ground and maximizes the effective vertical lift. A banked aircraft has a smaller proportion of lift aligned perpendicular to the ground, the balance of the lift being used to affect the turn and thus cannot climb as quickly.*

   I'm confident you'll agree that the higher above ground the aircraft, the less noise is audible on the ground.

   In your chart you show east-bound departures straight ahead from Runway 10R at maximum climb-efficiency reaching the 55db(A) line (green-blue boundary) at approximately 11.25km from departure end of the runway.

   Departures from runway 28R towards the west enter a series of banked turns, undoubtedly reducing their climb-efficiency with the result that they must be closer to the ground for longer. However, in your chart you show 28R departures reaching the 55db(A) line much sooner at only 6.84km.

   Could you please help me to understand how you have modelled less noise from westbound aircraft closer to the ground than those eastbound and higher above the ground, within the same model?

I hope you can help clarify whether I have misunderstood the chart. I look forward to hearing from you.

The westerly operations in this model should have noise zones that extend further from the departure end of the runway than those heading east. This based on the poorer climb performance of aircraft that are turning to follow the SID.

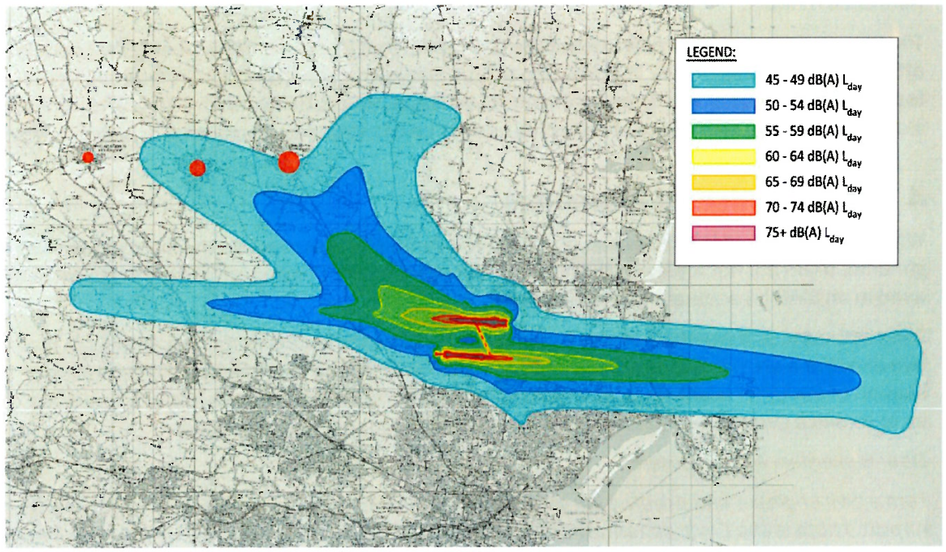

Figure 2 Original noise Bickerdike Allen Partners model as presented to ABP (A11267_19_DR039_2.0)

Figure 2 shows the model as supplied by BAP and it is apparent that the easterly zones are much longer, extending much further from the runway despite any aircraft would be climbing straight ahead which should be a more efficient climb.

Since beginning to write this submission, we have received a response from Bikerdike Allen via daa which is attached as a PDF. ***Their response clarifies that the contours and the dB(A) values used in their model bear no relationship to the noise of an aircraft as it passes overhead a person on the ground.***

Their explanation means that an aircraft taking off towards the east on Tuesday is made louder in this model by an aircraft landing from the east on Wednesday. On the other side of the airport an aircraft taking off to the west on Friday is not as loud because the aircraft landing from the west on Saturday takes a different path. There is no need for expertise to determine that this is arrant nonsense.

The aggregation of modelled arrivals and departures on the east side of the airport whereas they are separate on the west side, along with the averaging of noise levels over 16 hours leads to the supplied graphics which provides no meaningful human information despite appearing scientific and labelled with misleading dB(A) values.

Ask anyone affected by the noise about it and they will typically include the phrase "when an airplane flies over". In terms of the effect on humans, this is the critical data. To our knowledge the applicant has not supplied contours showing dB(A) levels of how loud it is at these locations when an aircraft is overhead.

Averaging 5 hours of noise (300 noise events each of around 1 minute) when aircraft are overhead with 11 hours of silence (to get the 16-hour Lday), results in approximately 75% lower values. This means 59dB(A) Lday in locations where the readings are 79dB(A) while the aircraft

is overhead. Given the logarithmic nature of dB this is 4 times the noise reported by the applicant in graphics such as this one.

The routine justification from noise polluting industries is "this is the standard way of measuring noise effects". It must be clear to the board that the methodology used results in 4 times lower dB(A) levels of noise on the chart than is experienced by a person on the ground when a plane flies overhead.

The dB(A) numbers on the noise modelling chart are objectively meaningless as regards the noise experienced by a person on the ground when an aircraft flies over them.

5 Flightpaths in ABP Inspector's report

The following is a summary of the Inspector's report with respect to the flight paths presently in operation and the history of their deviation from the Noise Preferential Route.

- The approved route as requested by daa, requires planes to fly straight ahead for 5 nautical miles largely over empty fields and solar farms while climbing to 3,000 feet before making turns. Known in the aviation industry as the Noise Preferential Route (NPR), it was at the heart of the Environmental Impact Statement (EIS) for the runway's planning permission.
- ABP's Planning Inspector has clarified that "the flight patterns submitted in the applicant's supplementary information [...] differ from those submitted in the original EIS for the North Runway application." This is a very important clarification for the 30,000 people unnecessarily suffering the effects of aircraft noise.
- In 2007 ABP stressed that granting the permission, overriding the Inspector's recommendation was fundamentally based on environmental information supplied by daa and they reinforced this with Condition 1 requiring no deviation from the EIS.
- The Inspector has established that daa's EIAR for the RA demonstrates that flight paths in use at Dublin Airport are creating noise that is not according to the 2007 EIS and is not according to the 2016 EIAR for the original RA. This clarification by ABP is significant because it confirms a deviation from the runway's Noise Preferential Route, a clear breach of Condition 1 of the planning permission which remains in force.
- Daa claims their decision not to align the north runway flight paths with the Noise Preferential Route was made at the instruction of the IAA for "safety reasons". According to the Inspector, daa claims the Authority acted as consultant on the design of the present flight path routes that ignore the NPR.
- ABP's Inspector has highlighted that they have been forced to disregard many submissions showing alternative solutions and ignore daa's failure to align with the NPR because IAA in its role as aviation safety regulator has not made a submission confirming or denying daa's claims.

The following sections address these various points.

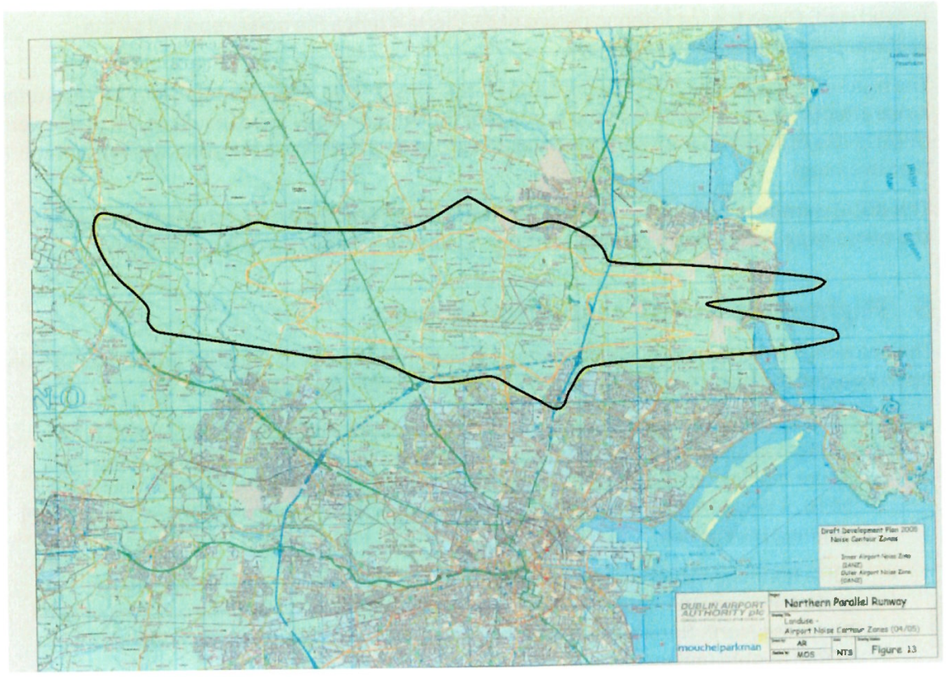

Figure 3 The Dublin Airport Authority plc produced this "Landuse" drawing. For the Inspector to determine that deviation from these noise zones is "not a Land Use issue" is incomprehensible.

6 Confusion over the meaning of "The IAA"

The lack of clarity regarding the nature and roles of the IAA is fundamental to the confusion, especially relating to the changing of the north runway flight path routes for "safety reasons".

Within the IAA, two conflicting functions were separated, or in the modern parlance "firewalled", into the **IAA-SRD** Safety Regulation Division and the **IAA-ANSP** Air Navigation Service Provider. Since 2008, firewalling is no longer popular as a means of corporate governance.

In 2023 IAA-ANSP was spun out into a separate company (a DAC) known as AirNav. For clarity we will use this name for references to both the historical IAA-ANSP and the present AirNav while using IAA to refer to the organization in its roles as Aviation Safety Regulator.

AirNav provides national level ATC and separately "terminal services" at Dublin, Cork and Shannon Airports. "Terminal services" means they provide controllers in the tower to manage aircraft departures and arrivals using established IFR procedures. Apart from these functions, daa separately contracted AirNav to redesign the aerodrome at Dublin Airport as part of the north runway project. There is no evidence that AirNav had or has the skills or even the authorization to provide such services. AirNav, while state-owned, is exclusively a service provider and is in no way a regulator or an "Authority".

IAA-SRD was and remains a separate division within IAA, whose sole function regarding IFR Procedures is approval or rejection of submissions on the basis of compliance with minimum required safety standards. No consulting, no designing, no qualitative or comparative analyses of IFR procedure submissions by SRD are permitted.

Reference to both functions as performed by "the IAA" has led to actions and statements by air traffic controllers incorrectly being stamped with the imprimatur of the safety regulator.

Daa has consistently referred in their communications to both entities, AirNav and SRD, as "The IAA" and never clarified whether they meant AirNav, their paid contractor or IAA-SRD the Safety Regulator. Thus, when the ABP Inspector read the applicant's assertions about the IAA's involvement, it is natural that they inferred that the Safety Regulator insisted on the present flight paths as the only way to achieve safe operations. However, this is not accurate and can be easily confirmed by the IAA safety regulator.

Several groups representing noise-affected residents, including NRTG, have had meetings with IAA senior management including Declan Fitzpatrick (CEO) and Jim Gavin (COO) who have explained the IAA Safety Regulator's role regarding approval of aerodrome procedures. Our understanding is as follows:

- Aerodrome procedures, which include flight paths, are designed by the aerodrome operator, in this case daa, and then submitted to the IAA for approval. Upon receiving the submission, the IAA's role is limited to ensuring that the procedure when considered in isolation does not fall below the minimum required safety standards.
- No other criteria such as environmental impact, alignment with an approved Noise Preferential Route, or any other aspect of the aerodrome operator's planning permission are considered by IAA in approving or rejecting a submission. Use of such criteria being outside the scope of IAA's authority would likely lead to legal action against IAA if they were to use those criteria to assess a procedure submission.
- IAA's role is not to perform a qualitative or comparative engineering analysis of the proposed solution nor is the Authority permitted to suggest improvements or alternatives. IAA does not choose or recommend flight path routes.
- The IAA Safety Regulator must not be involved in designing solutions that it would later approve or reject. To do so would present a clear conflict of interests and undermine their role as independent regulator.
- Approval of the submitted procedure by the IAA Safety Regulator does not in any way imply their endorsement of that procedure as being the best way, the safest way or the only way of complying with the regulatory requirements.

An Bord Pleanála's inspector has made clear that IAA's response is pivotal to their acceptance of the present routing of flight paths from the north runway despite acknowledging they are not aligned with the planning permission.

I urge ABP to put the above to IAA, as Ireland's aviation safety regulator, to clarify its role in the approval of flight paths. **It is critical that IAA Safety Regulator confirm or deny daa's contention / implications that the Safety Regulator required daa to adopt the present flight paths as the only way to comply with safety regulations.**

If as expected IAA (SRD) confirms that the decision to turn the flight paths 30 degrees and 86 degrees from the noise preferential route was not made or required by the safety regulator as the only safe way to operate, it will be clear that the choice to ignore Planning Condition 1 is the sole responsibility of daa as the aerodrome operator and as the applicant.

7 Vanguardia Report Gross Inaccuracies

The Inspector has accepted Vanguardia's assertions that the deviation was:

a. necessary for compliance with ICAO safety regulations
b. Limited to 15 degrees from the NPR used in the original EIS

Vanguardia is an "environmental and technology company" and claims no certification as an Approved Procedure Design Organization (APDO) or in fact any qualification, expertise or experience in the design of aerodromes or IFR Procedures. There is no reason Vanguardia's opinion regarding the suitability or necessity of flight path deviations should be given any greater weight than those of NRTG, yet the Inspector expressly disregards our detailed submissions on this topic in favour of the applicants unsupported and undocumented claims as repeated by Vanguardia.

Vanguardia makes a single non-specific reference to ICAO Annex 14 Aerodromes in their assertion of the necessity of a 15-degree deviation of the departure track being required "immediately on take-off". The relevant publication is in fact ICAO Document 9643, Edition 1 published 2004 as the *Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR)*. Since 2022 Edition 2 is now current and should be used.

"The departures now follow a 15-degree divergence from the runway axes immediately on take-off." Every mention of aircraft following a 15-degree divergence in the Vanguardia report and carried into the Inspector's report is **factually inaccurate**.

ABP Inspector 1.11.3: The mode of operation has been referenced in a significant number of submissions, mainly in relation to the new flight paths for departures from the NR. The supplementary information includes information on these new flight paths which will divert north, off the north runway, earlier than previously indicated in the EIS with the original NR application. ***This is referred to as a 15-degree divergence throughout my report.*** *The applicant has stated that this new turn north, is an airspace safety requirement and is reflected in the noise contour areas.* ***My planning assessment and EIAR details the implication of this divergence and concludes that this does not reflect an alteration to the mode of operation of the runway.***

ABP Inspector 12.6.113: I note Section 6.2.4 of Option 7b states that Aircraft of Categories C/D (medium to heavy jets) departing to the west (Runway 28) are required to maintain straight ahead after take-off to 5NM before commencing turn, unless otherwise cleared by ATC, above 3000 feet. ***The departures now follow a 15-degree divergence from the runway axes immediately on take-off****, which has led to the north-west for westerly departure. This requirement to use the runway differs from the requirements of No 3 a)- b) which dictate the preferential use of both runways as determined by the wind directly. I note there is an element of deviation from the routes, when required by air traffic control (ATC). It is not clear from the text in Section 6.2.4 of Option 7b, as stated above, what, if any, situation is required to allow this deviation.* ***This aside, the Vanguardia Report notes that a divergence follows the ICAO requirement that when parallel runways are in use there must be a 15-degree divergence of aircraft from the runway axis immediately on take-off, is not a land use issue rather an operational change to address a safety concern.***

Vanguardia Report: The original EIAR for the northern runway assumed that aircraft would depart in a westerly direction from the northern runway (28R) in a straight line i.e. on axis with the runway, for 5 nautical miles before diverting from this course. Whereas the flight paths in both the revised and supplementary EIARs follow the ICAO requirement that when parallel runways are in use there must be a ***15 degree divergence*** *of aircraft from the runway axes immediately on take-off. This has been modelled as a 15 degree divergence of aircraft using the northern runway (28R) towards the north-west.* ***This represents the reality of how the northern runway***

has operated since it opened in Augst 2022. *(Vanguardia report Rev P01 19 April 2024, Page 13)*

Vanguardia's statement is objectively and demonstrably inaccurate.

1. There is no instance of any flight path in operation diverging by 15 degrees. No aircraft has ever turned only 15 degrees from the Noise Preferential Route when departing RWY28R.
2. Upon opening the runway in August 2020 two departure turns were in operation: one of 30 degrees the other 75 degrees at the departure end of runway 28R. This was rapidly changed by daa when the company's management discovered the 75-degree turn about which they knew nothing despite having submitted the procedures to IAA for approval.[1]
3. The minimum divergence is now 30 degrees and approximately 55% of the departures turn twice, first by 30 degrees and then immediately upon reaching the Meath border (at DW128) by a further 56 degrees for a total of 86 degrees deviation from the Noise Preferential Route used in the EIS.
4. Neither of these turns are "required for safe operation of the runway". The 30-degree deviation derives from a bad design based on a requirement that applies only to fully segregated (independent) operations.
5. A 30-degree divergence between 28R departure track and 28L missed approach track would be required only to support fully independent operations. This mode might be necessary for 70M+ passengers annually, a business case Dublin Airport does not have.
6. The divergence could be achieved by changing the 28L missed to turn 30 degrees left leaving departures from 28R aligned with the NPR as approved by ABP in the 2007 EIS.

"The departures now follow a 15-degree divergence from the runway axes immediately on take-off." Every mention of 15-degree divergence in the Vanguardia report and carried into the Inspector's report is factually inaccurate.

This is not as asserted by the Inspector "an operational change to address a safety concern". It has resulted in a land-use change over a designated area of at least 6,000 acres, largely agricultural, that was previously within the outer noise zone and no longer is. A similar land area to the northwest of the airport is now within the noise zone despite being residential and inhabited by thousands of people.

Far from a minor 15-degree operational change, it is a fundamental change to the EIS upon which the grant of permission was originally made. The change is strictly forbidden by Condition 1 of the granted permission. The Applicant's position is akin to modifying the route of a motorway such that it is built 12km from where originally planned and pointing out that changing the speed-limit doesn't need planning permission.

> RWY28R Noise Preferential Route: Straight ahead on runway heading 5 nautical miles to 3,000ft per original EIS
>
> RWY28R: Runway Heading 278
>
> 100% of aircraft turn at Departure End of the Runway or Altitude 650ft MSL (400ft AGL): Heading 308 = **30-degree deviation**
>
> Approximately 55% of those aircraft turn again within **3 nautical miles** at DW128: Heading 004 = an **additional 56-degree deviation** for a total of **86 degrees** deviation from the NPR.

[1] Catherine Gubbins accompanied by Kenny Jacobs stated to the Oireachtas Transport Committee that daa was "greatly surprised" by the routes flown when the runway opened despite being responsible for the departure procedures that define the routes.

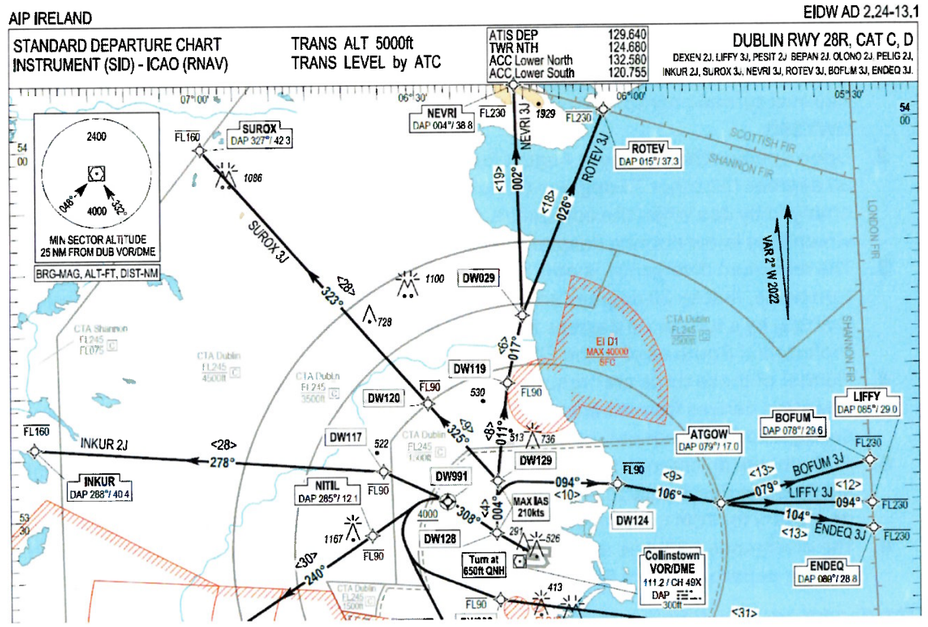

Figure 4 Published departure procedure for Runway 28R shows the heading deviations to 308 and 004 degrees from the runway heading of 278 degrees. These result in 30 and 86 degree deviations from runway heading, not 15.

The Vanguardia report's author, Dani Fiumicelli, has no qualification or experience that makes him an authority on the application of ICAO regulations. His inaccurate assertion in a footnote within the report that the deviation from runway heading is required for compliance with ICAO safety regulations, is simply a repetition of daa propaganda. It is disturbing that the Inspector has given such weight to the Vanguardia report in disregarding submission from people far more qualified than Mr Fiumicelli.

8 "Safety Reasons"

"12.6.112 The IAA requirement to change the flight routes from the NR is raised as one of the greatest concerns in the third-party submissions. The applicant has repeatedly stated that this is a safety issue."

While clearly it is not up to ABP to understand the business requirements, the particulars of the technical requirements and the specifics of the safety regulations, they all form the crux of the daa's inaccurate contention that the present flight paths are required for "safety reasons".

It is important to understand that daa's use of words is very carefully considered in all their communications. The problem that triggered the deviation from daa's planned route is compliance with a specific safety requirement. That does not mean that they were required to use the present route for "safety reasons". We find ourselves at the junction where marketing meets engineering.

This is engineering. There is an important difference between designing a system to be safer and changing a system design to achieve compliance with a safety requirement.

Strange as it may seem, badly implemented compliance with a safety requirement can lead to a reduction in safety as has happened here. The RWY28R SID in operation today is without question less safe than flying straight ahead along the Noise Preferential Route. Climbing straight ahead with wings level is the safest and most efficient way to get departing aircraft away from the ground as quickly and safely as possible. While the SID is compliant with minimum safety standards, turning 240 tonnes of fully laden Airbus A330 at 400ft above ground level through course changes well over 30 degrees is not safer than climbing straight ahead.

The only "requirement" the IAA can impose is to comply with the safety regulations. In this case the flight path deviation was designed by daa subcontractor AirNav as a means of compliance with ICAO Doc 9643. The relevant safety provision requires a divergence of 30 degrees between the runway 28R departure track and the missed approach of the parallel runway 28L for segregated westerly operations. The ICAO standard document is not prescriptive as to how that is to be achieved.

Any combination of deviation of these tracks that adds up to 30 degrees will meet the divergence requirement. This could be a 30-degree left turn of the 28L missed approach (in the STAR) and straight-ahead 28R departures (in the SID) as occurs in virtually all parallel runway aerodromes in the world. Multiple instances are available including Brussels, Berlin, London Heathrow, Paris CDG. Alternatively for example, it could be 20-degree left turn of the 28L missed approach track and 10-degree right turn of the 28R departure track.

The 30-degree divergence is only required for fully segregated operations. Fully segregated operations are required only to absolutely maximize the capacity of both runways. Daa has no business case that requires this. Gatwick can achieve 40M passengers annually from a single runway and predicts they would achieve upwards of 70M using parallel runways operating dependent mode.

Using dependent mode and dual simultaneous departures, the aircraft from RWY28R could climb straight ahead in accordance with the planning permission while the airport would have more than the capacity it will need for decades to come.

A 10-degree right turn after 1.9 nautical miles straight out from RWY28R would allow dual simultaneous departures with arrivals on RWY28L using dependent mode. This would satisfy the real-world business case for Dublin Airport's first wave at more than the presently operational (Summer 2024) capacity. Daa has refused to engage in any reasonable effort to develop a solution that meets the actual needs of the airport.

When faced with segregated mode's requirement for a 30-degree separation between departure track and parallel missed approach track, the aerodrome operator daa and/or their aerodrome designer AirNav chose the simplest to implement design for a maximum 70M+ passenger capacity solution for which they do not have a commercial need. In their own words AirNav, the supposedly expert aerodrome design sub-contractor relied upon by daa, did not consider the client's planning permission when redesigning the aerodrome.

> AirNav answer to Transport Minister 3 April 2023 *"... 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 [now AirNav] to advise on what conditions daa might be in a position to comply with its planning permission."*

12.11.6. Having regard to the absence of any further correspondence from the IAA on the supplementary information, I do not consider the Board can dismiss the applicant's assertions on the need for the new flight patterns and I consider it reasonable that these would be required for safe operation of aircraft movements departing from the NR.

While we understand the Inspector finds themselves unable to override an apparent safety requirement. We request that the Inspector write to IAA-SRD asking them to clarify that there is

in fact the safety requirement for the present flight paths and that no other way would be acceptable to fulfil the requirements of segregated mode as has been inferred by the Inspector. Please do not accept daa's mis/disinformation for lack of a submission from IAA that no one requested.

9 Balanced Approach

1.12.1 The "Balanced Approach" stems from international guidance for aircraft noise and consists of identifying the noise problem at the airport and the exploration of various measures to reduce noise. The end goal is to achieve the maximum environmental benefit, most cost-effective method, using objective and measurable criteria. The four elements of the Balanced Approach include:

1. Reduction of Noise at Source (Technology Standards)
2. **Land-use Planning and Management**
3. **Noise Abatement Operational Procedures**
4. Operating Restrictions.

It must be obvious that two of these are completely ignored by daa regarding operation of the north runway. There has been no "Balanced Approach" to operation of the north runway.

9.1 Land-use Planning and Management

The noise zones from the 2007 EIS were promulgated to Fingal and Meath County Councils and included in both county development plans for over 15 years. Planning permission was granted and denied based on those zones.

The aircraft noise today is not contained within the published zones. Homes were denied permission at locations that are not now overflown and homes were granted permission in locations that are now subject to extreme noise disturbance.

The Land-use Planning and Management effort between 2007 and now has been fundamentally undermined by daa and made the environmental impact worse than had there been no such effort at all.

9.2 Noise Abatement Operational Procedures

The airport's general NAOP requirements conflict with the SID for the north runway 28R.

> *3.2.1 Departures from all runways except Runway 10R, must track the runway extended centreline after take-off until passing 750ft and then proceed in accordance with the relevant Instrument Flight Procedure published departure track and adhere to published altitude/level restrictions unless otherwise cleared by ATC.*

The RWY28R SID conflicts with this, requiring the turn at 650ft (AMSL), 100ft lower. This is the altitude promulgated to the Flight Management Systems in the aircraft. Thus, every departure following the SID as required by NAOP 2 is in breach of NAOP 3.2.1.

For many of the aircraft using RWY 28R departures is not possible to simultaneously:

- Comply with the SID
- Comply with NADP2 (NAOP 3.2.4)
- Operate the aircraft within safe operational limits

NAOPs 3.2.3 and 3.2.4 when combined with the bank angle and speed limit required to confirm with the SID, routinely conflict with the safe operating speeds of the aircraft. The designer of the

SID did not consider noise abatement or compliance with the NPR as requirements and did not understand the real-world performance capabilities of the aircraft.

NAOP 8 is nonsensical as it applies to the RWY28R SID. Strict track keeping on a SID that diverges perpendicular to the Noise Preferential Route achieves nothing but propaganda for the aerodrome operator who has redefined the meaning of NPR to suit.

There is no penalty for failure to comply with the NAOPs at Dublin Airport. No action is taken even when SID deviations are reported via daa's online system and confirmed by daa. Even when such events are confirmed by daa and notified to AirNav, follow up communication from the complainant to AirNav is ignored.

10 What is a Noise Preferential Route?

ANCA's definition of a Noise Preferential Route (NPR) aligns with UK Department for Transport's definition. DAA has chosen to invert the relationship and instead of a SID being designed to stay along the NPR, they claim an NPR is simply measurement of compliance with the SID. No one else defines it like this. The UK DfT explains this below.

In the 2005 Environmental Information Statement (EIS) the flight path described for modelling of the noise zones is shown as the green line. This route is used for all noise modelling for the EIS and operational recommendations were made based on this being the most appropriate route for the flights. By any reasonable reading of the EIS and based on ANCA's definition of the term, this green line is the Noise Preferential Route.

When daa tells everyone "There is no link between planning and flight paths", or when victims of daa's gaslighting say "the planning process has no role to play in approval of flight paths", this is daa "dancing on the head of a pin" as described in the Oireachtas Transport Committee. The planning process has no role to play in the approval of a specific proposed SID, only IAA does that and only to ensure the minimum safety regulations are not breached, not on any other basis.

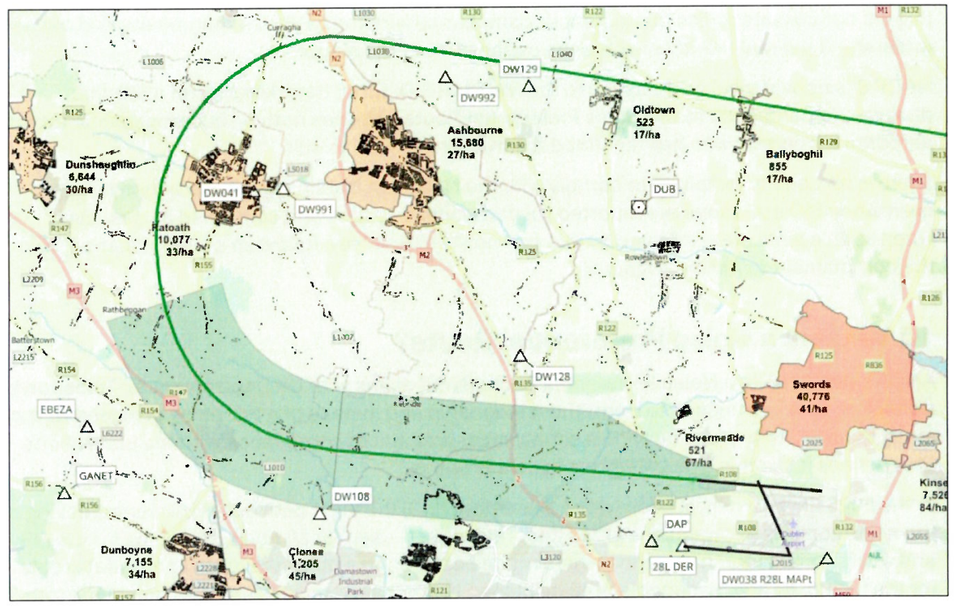

Figure 5 The daa applied for this Noise Preferential Route when requesting permission to build the North Runway. This was granted in 2007 with a Condition not to deviate from their Environmental Impact Statement.

In the planning process to permit construction and operation of the new runway, ABP agreed noise zones based on the Noise Preferential Route (NPR) as submitted by daa in 2005-2007. Daa and their sub-contractor AirNav from 2016-2022 designed SIDs (thus flight paths) that do not align with the approved NPR. As a result, the aircraft noise falls outside the permitted noise zones in breach of the planning permission. This is now affirmed by An Bord Pleanála's Planning Inspector in their report for the Relevant Action appeal.

> **ANCA NPR (from their website):** "Some airports operate Noise Preferential Routes (NPRs). These are specific flight paths which route aircraft over areas which are considered to be less sensitive to noise, such as industrial and commercial land uses, or less populated areas."
>
> **UK Department for Transport NPR:** "NPRs at the designated airports are set and 'owned' by the Government and have existed since the late 1950s, when the airports were in public ownership. NPRs at the designated airports have acted as an important noise control measure in that the **standard instrument departures at the designated airports have to be based around them**.
>
> *Originally, the NPR was a line on a map drawn which attempted to minimise the number of people overflown by departing aircraft, but in 1991 it was decided to add a 1.5km swathe to each side of the line to help with assessing track keeping performance.* They were intended to provide communities with information and assurance on where overflight aircraft can be expected to be seen or heard. A number of other UK airports have adopted NPRs, either voluntarily or through planning agreements.
>
> Noise controls and amendments to NPRs are prompted for review by government only when there is substantial lobbying or complaints from communities or airports. The government would then hold a consultation on various options, during which stakeholders would submit proposals. **Then the government would make a decision and implement the change.**"

> **DAA's (re)definition of NPR: "**An NPR (Noise Preferential Route), also known as an Environmental Noise Corridor, is a designated path that enables monitoring of an airlines' adherence to a Standard Instrument Departure (SID)."

Daa has chosen to isolate the track-keeping methodology outlined above, apply it not to the approved NPR but instead to the SID (daa-designed flight path) and then market that as being an NPR or Environmental Noise Corridor. The disingenuous use of these terms is intended to imply third-party official approval of this route or corridor on an environmental basis and such inference has been incorrectly drawn by journalists, elected representatives and even many of the complainants.

Analysis of the flight paths using GIS software and publicly available population and map data demonstrates the scope of the deviation from planning permission. The failure of daa to adhere to their EIS has increase the number of homes affected by the departure noise from 934 houses on the approved route to 3,115 houses directly affected within daa's so-called Environmental Corridor and an additional 4,723 houses adjacent to the flight paths. The Inspectors characterisation of this as not being a land-use change is unreasonable on its face.

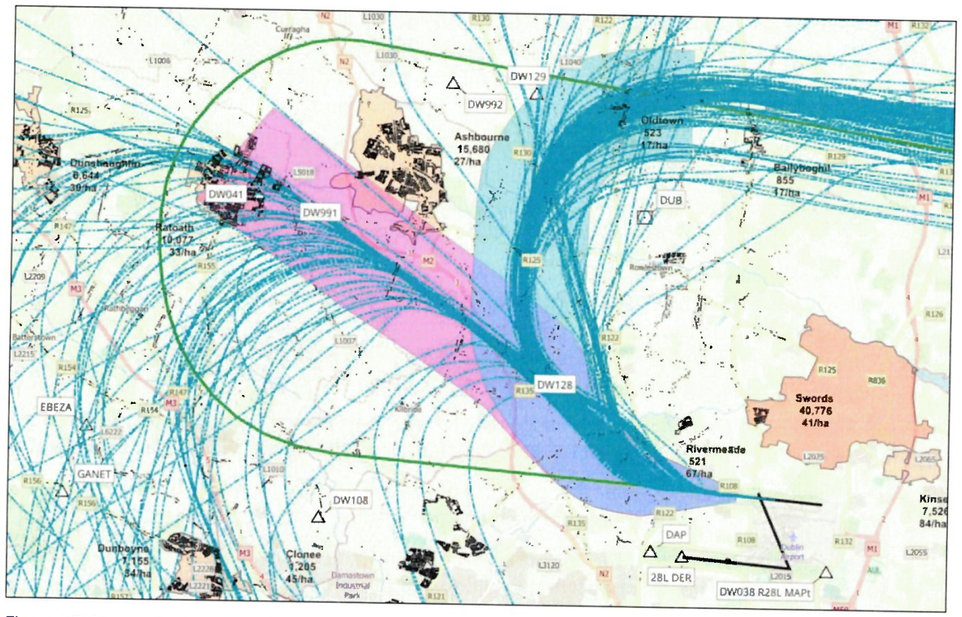

Figure 6 GIS analysis shows that the approved route shown above contains 934 houses. daa's chosen routes contain 3,115 houses. This does not include 4,132 houses in Ashbourne, adjacent to daa's so-called environmental corridor or the 591 houses in Ratoath that are directly overflown but but slightly beyond the 8 nautical miles used in this exercise.

11 Who really designed the updated aerodrome?

It is important to note that while the project is routinely referred to as "building the north runway" or "adding the north runway, it was much more than this from an operations perspective. Modifying an aerodrome from single to parallel runway operations is a fundamental redesign of the entire aerodrome and must affect the existing procedures.

When the original EIS was developed in 2004/5, "The IAA" gave the go-ahead to use a copy of the south runway straight-ahead departure track. This despite ICAO 9643 "Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR)" having been published in

2004 after several years in draft at ICAO. It is unclear from the EIS document whether this "IAA" was ANSP or SRD. (See Section 6)

Determination of the "best" SID and STAR combination to meet the 30-degree requirement is dependent on multiple factors including, but not limited to:

- the specific runway operational mode(s) needed by various business cases for the airport
- the load placed on ATC. Some operational modes require more staff than AirNav has
- compliance with ICAO safety requirements
- compliance with or modification of Letters of Agreement with Weston and the Military
- reduction of annoyance to people affected by noise

It must be clear that to achieve the best procedures would involve a process of clearly defining the various requirements, weighting the importance of each (potentially a political process) and then creating and comparing draft solutions by scoring each according to the agreed criteria. This describes a typical engineering function, namely the design and implementation of complex systems. It requires the employment of suitably qualified, skilled and experienced personnel. There is no evidence that either daa or their sub-contractor AirNav applied such a process to the redevelopment of the aerodrome at Dublin Airport.

As described above the IFR procedures are virtual infrastructure. As such they impinge on the requirements for other aspects of the constructed environment. The exercise described above should have been performed as part of the design exercise for the whole north runway project and should have informed the original application for planning permission.

How can you even know what taxiways, hold points, runway entrance and exits you need to construct, if you don't know the modes of operation and the flight paths you'll be working with? The one drives the other and it's clear the procedure design work that should have been performed in concert with the infrastructure design, did not even begin until physical construction of the runway was underway or about to commence.

How seriously did daa and their contractors take the planning permission process? AirNav has admitted they did not consider planning permission at all, claiming that is and was up to daa.

When faced with what they term a "complex and regulated" flightpath design that would be required to comply with the planning permission, did daa intentionally choose to ignore it?

Did daa expect that waving the "SAFETY" flag and blaming "the IAA" would divert Fingal, ANCA and ABP from requiring compliance with Condition 1 of the 2007 planning permission?

Most importantly, daa routinely states that the flight paths were "designed by experts". AirNav has no aerodrome design experts. AirNav employs professional air traffic control officers, who appear to have acted as amateur design engineers in the design of the routes for the north runway's departure procedures. **At the heart of this entire matter, is whether suitably qualified and experienced engineering design personnel were responsible for executing the design process. There is no evidence that any such personnel were.**

Did *Aeronautical Services and Procedures* (ASAP) in Bratislava manage the design process or did they only create an IFR procedure submission based on a design already completed by AirNav?

The instructions sent by AirNav to ASAP are critical to understanding the this and should be examined by ABP. Our anecdotal understanding is that the design exercise was performed, and the routes chosen by AirNav, only the final production of the procedure document was by ASAP.

12 Who is the Aerodrome Operator?

While daa is the Aerodrome Operator (AO), the senior management of daa repeatedly referred in 2022 to having "devolved responsibility" to "The IAA". It appears that the executive team members honestly thought daa only ran the shopping centres in the terminals and the IAA ran the flying part of the airport. Catherine Gubbins (formerly Acting CEO), in the company of Kenny Jacobs (CEO), professed openly to the Oireachtas Transport Committee that they were "greatly surprised" by the route the aircraft took when the runway opened. This despite as AO, only daa can submit changes of IFR procedures to IAA-SRD for approval and promulgation. It is apparent that no one at daa read, or possible was able to read, the procedure document before submitting it to SRD for approval.

The "aerodrome" is everything airside, outside the terminal building. The apron, taxiways and runways comprise the aerodrome. The Instrument Flight Rules (IFR) Procedures are typically drawn up when the aerodrome is built or modified and remain largely unchanged for decades. In effect, while they are documents, the IFR Procedures (SIDs and STARs) are themselves virtual infrastructure. Daa is exclusively responsible for the aerodrome, not IAA, not "the regulatory authorities" as Ms Gubbins confidently asserted to the committee.

13 Cardinal Departures vs New Condition 3(e)

3(e) Runway 10L-28R shall be used for departure only between the hours of 06:00 to 08:00.

As written, this is open to multiple interpretations. Did the board intend to imply that the north runway is not available for departures except during 06:00 to 08:00 daily, or was it something else?

If this phrase is intended to require that the south runway not be used between 06:00 and 08:00 daily for departures, then that should be written. Or is this an attempt to restrict usage of the south runway in a decision that can affect only the north runway's planning permission? Would that not be out of scope for this decision?

This restriction may be intended to block the use of both runways for simultaneous departures during first wave, one of the busiest times for the airport during which maximum departure capacity is required. Is this the case? If so, why? Who sought this? No explanation is given in the decision, so interpretation of the board's intention is impossible. Transparency would be good here.

If the board does seek to block dual departures, it will cause the present non-compliant noise over Ratoath and its hinterlands to persist, affecting over 12,000 people who were never consulted or informed that they would suffer environmental impact. Virtually all the aircraft that presently overfly Ratoath on departure from the north runway are heading to destinations south. These should clearly be using the south runway (RWY 28L). This was AirNav's published intention, such operations were supposed to begin in March 2023. The mismanagement of that organization over years has led to inadequate staffing and the inability to begin the dual departure operations that would alleviate some of the unlawful noise pollution.

Should ABP now codify a ban on dual departures and accept the massively deviated departure routes, it will render the requirement for planning permission a nonsense. ABP will provide precedent to enable flights from any runway in the country to overfly any area the aerodrome operator pleases without requirement for planning permission.

14 Conclusions

1. Every piece of analysis, be it noise modelling, number of people "highly affected", eligibility for insulation, and so forth is predicated on the routes the aircraft take when they depart the runway. The aircraft are not where they are supposed to be because daa and subcontractor AirNav chose to ignore Condition 1 of the north runway planning permission. We are faced with the "appalling vista" that all the work carried out for the past two years regarding Conditions 3(d) and 5, with any relationship to aircraft noise may well need to be repeated using the correct flight paths.
2. ABP must please address the inconsistency in the noise model where easterly vs westerly operational noise zones extend to different distances. As noted in Section 7, the models show less noise from aircraft departing to the west compared to those departing to the east. This despite the reduction in climb efficiency caused by the turns and speeds specified in the westbound SID. It must surely be important to ABP that the information on which decisions depend be transparently accurate. If the noise models are not related to the real-world noise pollution on the ground, a decision that depends on them is undermined.
3. The Vanguardia report declares that the deviation of the flight path is necessary to comply with ICAO requirements for parallel runways. It then characterizes the deviation as 15 degrees from the ABP-approved route. Both are factually inaccurate. The deviations range from 30 to 86 degrees and are not simply "required by ICAO to operate parallel runways". The Inspector's determination that there has not been a land-use change but merely an operational change that is nothing to do with planning permission is fundamentally flawed. If such a complete change to the EIS is to be accepted despite Condition 1, it must undermine the permitting system and the credibility of ABP.
4. When daa makes statements that the flight paths were changed "in consultation with the IAA", this means AirNav, the air traffic controllers. SRD, the safety regulator, is not permitted to "consult", only to approve or reject submissions, and then strictly based on the submission's compliance with minimum required safety standards. Any inference that the Safety Regulator required daa to adopt the present flight paths is incorrect.
5. To correct the confusion, we suggest any inference the inspector has drawn that the IAA acting as the Safety Regulator required or endorsed a design decision "on the basis of safety" should be reconsidered and explicitly clarified by the applicant and IAA-SRD. Moreover, each claimed action or interaction should be explicitly attributed by the applicant to AirNav or SRD instead of "The IAA". This is pivotal to the inspector having felt forced to accept the present flight paths as being required for safe ATC operation despite clarifying that they do not match the original route from the 2005 EIS.
6. There is a lack of clarity as to the role of AirNav (formerly IAA-ANSP). AirNav is not an Authority, is not an engineering design practice, is not qualified to design IFR procedures and most importantly is not a disinterested party. AirNav's deficient design effort in converting the aerodrome from single to parallel runways is at the heart of the flight path problem. Having designed the SID procedures, AirNav's management now has a vested interest in maintaining the status quo as they perceive any effort to change to the SID as criticism. State entities including ABP and the Department of Transport must stop referencing AirNav as though it were an independent expert body regarding aerodrome design. It is not.
7. It is my opinion based on FOI-disclosed communications between AirNav and the Department of Transport that the North Runway procedures project was approached with an objective of leaving the existing "tried and tested, long-standing" procedures

Dani Fiumicelli <Dani@vanguardia.co.uk>

Dear Mr Fiumicelli,

I am a civil engineer and private pilot living in Ashbourne (Meath) who has been examining the noise situation around Dublin Airport, in particular noise resultant from flights departing the North Runway. I note in the Environmental Impact Assessment Report submitted to An Bord Pleanála (ABP) in 2023 and updated in 2024 that your firm produced two reports that are referenced. It is apparent from the Inspector's report that they leaned heavily on Vanguardia's expertise in regard to the flight paths presently in operation from runway 28R, making multiple references in this context to the Vanguardia Report.

> *The original EIAR [at the time referred to as an EIS] for the Northern Runway assumed that aircraft would depart in a westerly direction from the northern runway (28R) in a straight line i.e., on axis with the runway, for 5 nautical miles before diverting from this course ...*

Vanguardia has clarified in the report that the present flight paths are not aligned with the route used for the noise modelling in the original EIS based on which the planning permission was granted. Based on ANCA and UK Department for Transport definitions, this route described from the original EIS must be construed as the Noise Preferential Route (NPR) although the EIS does not use the term.

Most concerning is that ABP's Inspector in their report has accepted Vanguardia's assertions that the deviation was:

a. Necessary for compliance with ICAO safety regulations
b. Limited to 15 degrees from the NPR used in the original EIS

Given the relatively slight nature of this 15-degree deviation, characterised as an ICAO requirement for parallel runways, the inspector has determined that it does not constitute a land-use change. This determination depends heavily on repeated references to the Vanguardia reports.

Vanguardia is an "environmental and technology company" and the website claims no certification as an Approved Procedure Design Organization (APDO) or in fact any qualification, expertise or experience in the design of aerodromes or IFR Procedures. There does not appear to be any reason why Vanguardia's opinion regarding the suitability or necessity of flight path deviations should be given any particular weight, yet the Inspector expressly disregards detailed third-party submissions on this topic while accepting Vanguardia's assertions.

It may be that the Inspector has misunderstood.

Would you be willing to you please clarify whether Vanguardia intended your statement regarding interpretation of requirements from ICAO documents to be considered expert opinion?

Could you clarify how your firm made the determination that the present flight paths are necessary for compliance with ICAO requirements? Perhaps this was third-party information upon which you relied?

How did you determine that the routes should be modelled as though they deviate by only 15 degrees?

> *"... Whereas the flight paths in both the revised and supplementary EIARs follow the ICAO requirement that when parallel runways are in use there must be a 15 degree divergence of aircraft from the runway axes immediately on take-off.* ***This has been modelled as a 15 degree divergence of aircraft using the northern runway (28R) towards the north-west. This represents the reality of how the northern runway has operated since it opened in Augst 2022."*** *(Vanguardia report Rev P01 19 April 2024, Page 13)*

Your statement, especially the last sentence, is unfortunately inaccurate and has led the Inspector to make incorrect inferences.

1. **There is no instance of any RWY28R procedure in operation diverging by 15 degrees.** No aircraft has ever turned only 15 degrees from the Noise Preferential Route when departing RWY28R. Modelling a 15-degree divergence of aircraft using the northern runway (28R) towards the north-west as though it "represents the reality of how the northern runway has operated since it opened in August 2022" is factually and materially inaccurate.
2. The "15-degree immediately after take-off" requirement is from the 2004 Edition 1 version of ICAO 9643. The 2020 Edition 2 version now supports up to two nautical miles straight ahead (parallel tracks) followed by 10-degree deviation between the departure tracks. Far from a blanket requirement for all parallel runways, this is only required to support simultaneous departures from the two runways. The 10 degrees can be achieved by any combination of deviations of both tracks aggregating to 10 degrees.
3. Based on the published IFR procedure charts, the minimum divergence in operation is 30 degrees. The procedures documents along with ADSB data shows that approximately 55% of the departures turn twice, first by 30 degrees and then immediately upon reaching the Meath border (at DW128) by a further 56 degrees. Thus, rather than 5 nautical miles straight ahead, by 2.6 nautical miles west of the departure threshold 55% of aircraft have already completed a course deviation of 86 degrees from the Noise Preferential Route used in the EIS.
   It is difficult to understand how an 86-degree variation could reasonably be modelled by a 15-degree deviation in the model. Perhaps you were unaware of the almost perpendicular deviation in reality?
4. It is too simplistic to state that these turns are required for safe operation of the runway. The various requirements for deviations between the different tracks and track types are related to specific modes of operation. The runway could be operated in compliance with ICAO regulations without the present turns if the SIDs and STARs were properly designed. No ICAO requirement specifies an 86-degree deviation from the extended centre line.
5. A 30-degree divergence between 28R departure track and 28L missed approach track is required only to support fully independent operations in "segregated mode". This mode is only necessary to support more than 70 million passengers annually, a business case Dublin Airport does not have.
6. The 30-degree divergence could for example be achieved by changing the 28L missed approach track to turn 30 degrees left, leaving departures from 28R aligned with the NPR as approved by ABP in the 2007 EIS.

Far from a minor 15-degree "operational change" as the Inspector has inferred, the present SID is a fundamental land-use change and a material deviation from the EIS upon which the grant of

unchanged. It is evident that AirNav only discovered the ICAO 30-degree divergence requirement after the 2016 RA EIAR had already been completed using a 15-degree deviation that would have prevented segregated operations.
I see no evidence that they ever considered any option other than deviation of the departure track. To do otherwise would have required opening up the 28L STAR to change its missed approach, which would be "complex" and they had already decided not to do that. Remaining within the daa's planning permission, if considered at all, was determined to be unnecessary. The 2016 RA application was subsequently withdrawn and the present one submitted dropping the request for a change to the NPR.

8. It is the firm recommendation of NRTG that a qualified, suitably experienced, third-party design firm must oversee the redesign of the north runway's procedures. A qualified consulting engineer should sign off on the resulting design as meeting the needs and requirements of daa. Given their historical involvement with the project and lack of appropriate qualification, this should not be undertaken by AirNav. AirNav's role should be no more than that of a contributing stakeholder.

It is understandable that An Bord Pleanála will be horrified to discover the extent of disinformation that the applicant has included in the RA and continues to disseminate publicly. It may be tempting to try to find ways to accept daa's justification for blatantly disregarding their planning permission rather than address the house of cards. Please keep in mind that daa produced the original EIS, based on the route they chose and that they sought and were granted planning permission based on that Noise Preferential Route.

Daa discovered a decade later that they wanted to operate the aerodrome in a manner not compatible with the permission they had sought and received, so they surely should have applied for approval of a modified EIS/EIAR through the planning process. They must be denied any planning permission change that would accept their breach of existing permission, otherwise why have a planning process and why should any developer take ABP Conditions seriously?

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permission was originally made. Such deviation is strictly forbidden by ABP Condition 1 to the original planning permission.

If you would like to discuss any of this information, I would be very happy to meet you, either online or in person. I visit my UK office weekly in Kingston on Thames and I would be happy to drive down to meet in person if you feel that might be productive.

I hope that understanding more about the reality of how the northern runway has operated since it opened in August 2022, you might be willing to write to An Bord Pleanála and clarify your report.

Regards,

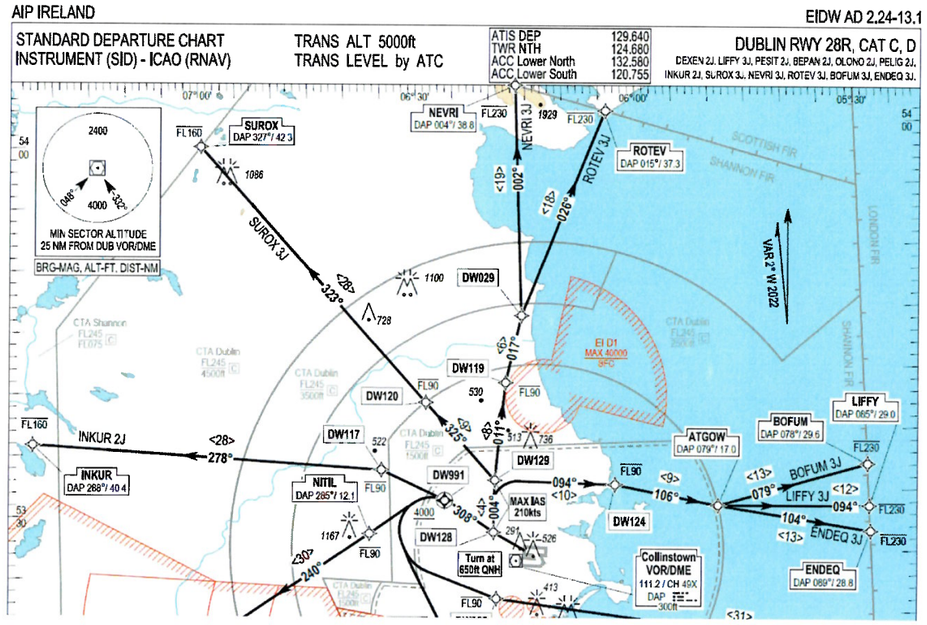
Gareth.

RWY28R Noise Preferential Route: Straight ahead on runway heading 5 nautical miles to 3,000ft per original EIS

RWY28R: Runway Heading 278

100% of aircraft turn at Departure End of the Runway or Altitude 650ft MSL (400ft AGL): Heading 308 = **30-degree deviation**

Approximately 55% of those aircraft turn again within **3 nautical miles** at DW128: Heading 004 = an **additional 56-degree deviation** for a total of **86 degrees** deviation from the NPR.



North Runway Technical Group

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Ashbourne, Meath A84 H563
gobrien@yupon.com

Declan Fitzpatrick
declan.fitzpatrick@iaa.ie
by email only

Dear Mr Fitzpatrick,

As you are aware An Bord Pleanála released a Draft Decision and the Planning Inspector's Report regarding daa's application for the Relevant Action to change conditions 3(d) and 5 of the North Runway planning permission. The Inspector has accepted that the present RWY28R SIDs do not align with the Noise Preferential Route used in the Environmental Impact Statement on which daa's application for permission to build and operate the north runway rests. Further they acknowledge that the SID does not follow the route used in daa's 2016 "original RA" application.

Unfortunately, the Inspector has accepted on face value a combination of daa misinformation and an erroneous report by Vanguardia explicitly because the IAA has not made a submission. The Inspector has disregarded the submission of multiple individuals and organizations including ours regarding the routing of flights from the north runway for this reason. We realize that IAA is under no obligation to make a submission and we understand that ABP never requested IAA do so.

The Inspector's position that they must accept the applicant's statements as factual in the absence of a submission from IAA is unreasonable. The Inspector's position amounts to "surely if daa's assertions were wrong, the IAA would have done something about it and because IAA didn't, then daa's position must be correct." We believe this results from the common misconception, evidently shared by the Inspector, that IAA is an oversight body that can and must intervene in any and all aspects of aviation in Ireland. We understand this is not the case and such authority and duty has never been assigned to IAA.

While IAA is not required to make a submission, your organization can help the 30,000 people who are being unnecessarily subjected to destructive noise pollution simply by correcting ABP's misapprehension of the role of IAA-SRD and ANSP then and now.

Please make a submission and please actively refute the inaccurate inferences that have been drawn. We have included below material we hope you will include in your submission.

Regards,

Gareth O'Brien
North Runway Technical Group

General Information about IAA as Safety Regulator based on our discussion in your office some months ago:

- Aerodrome procedures, which include flight paths, are designed by the Aerodrome Operator, in this case daa, and then submitted to the IAA Safety Regulator for approval. Upon receiving the submission, the IAA's role is limited to ensuring that the procedure when considered in isolation does not fall below the minimum required safety standards.
- No other criteria such as environmental impact, alignment with an approved Noise Preferential Route, or any other aspect of the aerodrome operator's planning permission may be considered by IAA in approving or rejecting a submission. Use of such criteria being outside the scope of IAA's authority would likely lead to legal action against IAA if they were to use those criteria to assess a procedure submission.
- IAA's role is not to perform a qualitative or comparative engineering analysis of the proposed solution nor is the Authority permitted to suggest improvements or alternatives. IAA does not choose or recommend flight path routes.
- The IAA Safety Regulator must not be involved in designing solutions that it would later approve or reject. To do so would present a clear conflict of interests and undermine their role as independent regulator.
- Approval of the submitted procedure by the IAA Safety Regulator is purely on the basis of achieving minimum safety standards and does not in any way imply IAA's endorsement of that procedure as being the best way, the safest way or the only way of complying with the regulatory requirements.

We hope you will include this information in IAA's submission to ABP. It is crucial to correcting the Inspectors misunderstanding of the role of IAA as safety regulator in the development of the north runway.

Specific Information regarding the north runway departure procedures:

The Inspector seems to refuse to acknowledge any technical aviation information unless it comes from daa or IAA. It would be helpful if you could clarify for ABP the following specifics regarding the RWY28R SID:

- IAA did not dictate the route used by the RWY28R SID including requiring deviation of the departure route to the north by any angle.
- Aircraft do not deviate from the runway heading by only 15 degrees as the inspector and Vanguardia have misunderstood. The minimum deviation is 30 degrees and approximately 50% of aircraft have completed a heading change of 86 degrees from runway heading by 2.5 nautical miles west of the departure end of the runway. The IAA does not characterize this as a minor change for operational reasons.
- To claim that daa deviated the route "for safety reasons" is too simplistic. Daa chose a mode of operation for the runways for which ICAO regulations require a divergence between the departure traffic and the parallel missed approach track of 30-degrees. Neither ICAO, nor IAA prescribe how that 30-degree divergence is to be achieved. Daa, and their subcontractor AirNav, chose to deviate the north runway SID by 30 degrees from the runway heading. Acceptance of this 30-degree deviation by IAA as being compliant with the safety regulations does not imply endorsement of this route by IAA "for safety reasons".

- There are multiple possible means of compliance with the pertinent ICAO regulations. IAA has received and approved only the one chosen by daa as Aerodrome Operator. Any inference or implication that IAA instructed or caused daa to deviate from the route approved in their planning permission is not correct.

ABP Inspector's Report

The following are highly relevant items in the Inspector's Report that we expect you will understand are grossly inaccurate.

https://www.dublin-north-runway.com/wp-content/uploads/2024/09/r314485_240917_001411.pdf

1.11.3. The mode of operation has been referenced in a significant number of submissions, mainly in relation to the new flight paths for departures from the NR. The supplementary information includes information on these new flight paths which will divert north, off the north runway, earlier than previously indicated in the EIS with the original NR application. This is referred to as a **15-degree divergence** throughout my report. The applicant has stated that this new turn north, **is an airspace safety requirement** and is reflected in the noise contour areas. My planning assessment and EIAR details the implication of this divergence and concludes that this does not reflect an alteration to the mode of operation of the runway.

12.6.63. In addition to the quantum of ATMs proposed third party submissions also raise concern as to the direction of the aircraft movement, as permitted under the original NR permission, the permitted RA and the supplementary information which is based on the live data since the opening of the NR. **The mode of operation and the direction of the flight paths are raised in a significant number of submissions.**

12.6.71 The applicant states that **in consultation with the IAA** flight departure routes from the NR have been amended from the routes initially proposed in the original NR permission.

12.6.75 As per my assessment below, and in the interest of clarity, the Board will note that the flight patterns submitted in the applicant's supplementary information and included for the purpose of the proposed scenario of the EIAR, differ to those submitted in the original EIS for the NR application. The Board will note that the flight patterns submitted to the planning authority for the original Relevant Action also differed from those submitted with the original EIS for the NR application. The main difference between the revised EIAR and the amended supplementary EIAR is the divergence north from the NR, earlier than previously indicated in the revised EIAR permitted by the planning authority.

12.6.112. The IAA requirement to change the flight routes from the NR is raised as one of the greatest concerns in the third-party submissions. The applicant has repeatedly stated that this is a safety issue. **No submissions have been received from the IAA in relation to this requirement.**

12.6.113. I note Section 6.2.4 of Option 7b states that Aircraft of Categories C/D (medium to heavy jets) departing to the west (Runway 28) are required to maintain straight ABP 314485-22 Inspector's Report Page 236 of 432 ahead after take-off to 5NM before commencing turn, unless otherwise cleared by ATC, above 3000 feet. The departures now follow a 15-degree divergence from the runway axes immediately on take-off, which has led to the north-west for westerly departure. [...] the Vanguardia Report notes that a divergence follows the ICAO requirement that when parallel runways are in use there must be a **15-degree** divergence of

aircraft from the runway axis immediately on take-off, is not a land use issue rather an operational change to address a safety concern.

12.11.4. I consider the alteration in flight paths are considered an air traffic control issue rather than an acoustic requirement, this aside Section 5.1 of the Vanguardia Addendum Report provides an overview to the alterations for the flight paths as stated below:
The original EIAR for the Northern Runway assumed that aircraft would depart in a westerly direction from the northern runway (28R) in a straight line i.e., on axis with the runway, for 5 nautical miles before diverting from this course. Whereas the flight paths in both the revised and supplementary EIARs follow the ICAO requirement that when parallel runways are in use there must be a **15-degree** divergence of aircraft from the runway axes immediately on take-off. This has been modelled as a 15-degree divergence of aircraft using the North Runway (28R) towards the north-west. This represents the reality of how the Northern Runway has operated since it opened in Augst 2022.

12.11.6. Having regard to the absence of any further correspondence from the IAA on the supplementary information, I do not consider the Board can dismiss the applicant's assertions on the need for the new flight patterns and I consider it reasonable that these would be required for safe operation of aircraft movements departing from the NR.

12.11.7. Should the Board consider the recommendation of this report, and the proposed alterations to the RD for the air traffic movements and insulation criteria, the Airport Noise Act, 2019, **requires further engagement with the IAA during the 14-week additional consultation period**.

Questions regarding noise modelling for Dublin Airport

Dear Gareth,

Thank you for your email.

To clarify, Bickerdike Allen Partners (BAP) operates as a third-party consultant for Dublin Airport under specific contractual obligations ensuring information is not disclosed to any third parties without their client's explicit consent. As you would know, this would be standard practice for any organisation which have existing contracts with external consultants. Therefore, their redirection of your query was in line with their contractual requirements and was a legitimate and reasonable step to take when your query was received. For future reference, all queries, including those related to noise modelling, should be directed to Dublin Airport directly.

Outlined below, is our response to the queries raised:

Noise Contour Naming Conventions:

In response to your query about the use of the terms "permitted" and "proposed", it is important to clarify that these terms are used in the context of assessing the impact of changes being proposed to Condition 3d and 5 as part of the Relevant Action (RA).

"Permitted" contours have been developed based on the application of Condition 3d and 5 as included in the grant of permission for North Runway. "Proposed" contours reflect the operating framework being sought as part of the North Runway Relevant Action Application.

Noise Levels Arising from Turning vs. Straight Departures:

In relation to your query about noise levels from turning versus straight aircraft departures, Lday contours cannot be used to draw such conclusions about specific flight operations, as they aggregate noise from both arrivals and departures.

Generally speaking, departures create shorter, wider contours due to the higher thrust required for take-off, while arrivals produce longer, narrower contours due to lower thrust and continuous descent.

The bulge in the northwest of the Lday 55 contour (green on the map referenced) is primarily caused by westerly departures from Runway 28R, which account for approximately 75% of daytime departures. The long eastern bulge near the South Runway is as a result of the combination of arrivals from the east (75% of all arrivals) and departures to the east (25% of all departures).

Validity of Noise Contour Modelling:

Dublin Airport, in collaboration with our consultants BAP, places significant emphasis on ensuring the accuracy of noise modelling and monitoring. The validity of the 2023 modelled noise contours has been assessed in the Q1 Noise and Flight Track Monitoring Report (click here), which compares modelled noise levels with data recorded by Noise Monitoring Terminals. This analysis confirms the reliability of the modelled contours and demonstrates that they provide an accurate estimate of expected noise levels.

I trust that the details provided above offer clarity regarding your queries.

Best Regards,

Angela

Angela Flynn | COMMUNICATIONS

Community Engagement Senior Manager

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From: Gareth O'Brien <gobrien@yupon.com>
Sent: Tuesday, September 24, 2024 3:14 PM
To: Communities <communities@daa.ie>
Cc: Bickerdike Allen Partners <Mail@bickerdikeallen.com>
Subject: Fwd: Questions regarding noise modelling for Dublin Airport

Dear daa,

It seems that your consultant Bickerdike Allen Partners (BAP) is unwilling or unable to address the questions I raised directly and is deflecting us to daa's communities e-mail.

I'm wondering if daa instructed them not to answer?

While I'm sure the communities liaison personnel do their best, the questions are somewhat technical in nature and it is certain that daa will

not be capable of answering them without assistance from BAP. Referring me to daa's community liaison staff is tantamount to a flat refusal to answer. Such a short and dismissive anonymous response may make it seem as though BAP has something to hide and I would rather not be forced to assume that if they have been prevented from answering by daa.

As you will be aware, the entire Relevant Action, the insulation scheme and in particular the count of the number of people affected and annoyed by the north runway's 28R departures are all entirely dependent on BAP's noise model. The model parameters appear to be inconsistent westbound vs eastbound giving the impression that the noise model has been designed to show lesser effect towards the west. It is perfectly possible that I am misunderstanding the model and I hope a professional organization such as BAP would not make such a fundamental error. However, failing to engage with this important question must increase suspicion that the model is flawed.

I hope you will please permit BAP to answer my questions and clear up the confusion.

Regards,

Gareth.

Gareth O'Brien
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-------- Original Message --------

Dear Bickerdike Allen Partners,

I am a civil engineer and private pilot who has been examining the noise situation around Dublin Airport. I note in the Environmental Impact Assessment Report submitted by daa plc to An Bord Pleanála in 2023 that your firm produced several noise modelling charts. Attached is A11267_19_DR039_2.0 showing the Forecast Lday Noise Contours 2035 Permitted Scenario.

I would be grateful if you would be willing to help me understand this chart. I have 2 questions:

1. It is presented as "permitted" as opposed to "proposed" which is shown separately in A11267_19_DR0470. **Could you please explain the definition of "permitted" you used in this matter?** Do you mean that permission has been granted by a relevant authority to allow noise in this area, or is it something else?
2. As any pilot or aeronautical engineer will agree, aircraft climb most efficiently in a wings-level attitude, thus climbing straight ahead. The lift vector normal to the wings is perpendicular to the ground and maximizes the effective vertical lift. A banked aircraft has a smaller proportion of lift aligned perpendicular to the ground, the balance of the lift being used to affect the turn and thus cannot climb as quickly.

   I'm confident you'll agree that the higher above ground the aircraft, the less noise is audible on the ground.

   In your chart you show east-bound departures straight ahead from Runway 10R at maximum climb-efficiency reaching the 55db(A) line (green-blue boundary) at approximately 11.25km from departure end of the runway.

   Departures from runway 28R towards the west enter a series of banked turns, undoubtedly reducing their climb-efficiency with the result that they must be closer to the ground for longer. However, in your chart you show 28R departures reaching the 55db(A) line much sooner at only 6.84km.

   Could you please help me to understand how you have modelled less noise from westbound aircraft closer to the ground than those eastbound and higher above the ground, within the same model?

I hope you can help clarify whether I have misunderstood the chart. I look forward to hearing from you.

Regards,

Gareth.

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