

The Secretary
An Coimisiún Pleanála
64 Marlborough St.
Dublin 1
D01 V902

4th August 2026

ACP Case Number: ABP – 320705-24

Re: Proposed development of 9 no. wind turbines, 110Kv substation and ancillary development located in the townlands of Snatty, Hurdlestown, Oatfield, Drumsillagh, Sallybank, Gortacullin, Aharinaghbeg, Knockshanvo, Cloontra, Cloghoolia, Ballycullen and others, County Clare and located in the townland of Court, County Limerick.

Dear Secretary,

We refer to the further information response from FuturEnergy Knockshanvo DAC (the Applicant) dated 17th April 2026.

Shannon Airport Authority DAC (Shannon Airport) would make the following comments in respect of aspects of the three part document including:

1. Response to Statutory Consultees' Observations, Knockshanvo Wind Farm Co. Clare, inclusive of "Appendix 5: Response to AIRNAV Ireland and Shannon Airport DAC Submissions";
2. Cyrrus (UK) Report CL-6005-RPT-005 v3.1: Knockshanvo Windfarm, Radar Mitigation Options;
3. TNO Programme for the Evaluation of radar systems in an Extended urban Setting;
4. TNO2025 R13102 – 21 January 2026: Detailed Engineering Assessment due to Wind Turbines at Knockshanvo.

1. Response to Statutory Consultees' Observations, Knockshanvo Wind Farm Co. Clare, inclusive of "Appendix 5: Response to AIRNAV Ireland and Shannon Airport DAC Submissions":

Shannon Airport acknowledges that the content and quality of the report accurately reflects the engagement between the parties to date and that the concerns raised by Shannon Airport are reflected correctly.

We also note the applicant's indication that an Oral Hearing before An Coimisiún Pleanála would be welcomed.

However, Shannon Airport does not accept the suggestion that An Coimisiún Pleanála could grant a conditional planning approval for this development where aviation safety impacts on the Functional System have not been fully assessed and resolved.

The suggestion that An Coimisiún Pleanála could grant a conditional approval for this development is not acceptable to Shannon Airport. AirNav Ireland's systems and procedures are subject to regulatory oversight by the Irish Aviation Authority, acting in its capacity as the competent aviation authority. Any changes to the Functional System must be demonstrated to be at least as safe as, or safer than, the existing system.

Accordingly, Shannon Airport does not consider it appropriate that issues relating to the impact of the proposed development on the Functional System be deferred to a post-consent stage through planning conditions. Any such impacts should be fully assessed and satisfactorily resolved in advance of any planning decision being made.

In summary a conditional planning approval that results in unexpected or unanticipated issues to the Functional System, is not acceptable to Shannon Airport.

2. Cyrrus (UK) Report CL-6005-RPT-005 v3.1: Knockshanvo Windfarm, Radar Mitigation Options: (as commissioned by AI Bridges)

Shannon Airport supports AirNav Ireland's position that this report cannot be relied upon as an accurate assessment of the issues under consideration.

In particular, this position is informed by evidence presented by Cyrrus at a recent An Coimisiún Pleanála oral hearing relating to an adjacent wind farm proposal, where it was asserted that:

- The usable range of an MSSR Radar is 136nm, where AirNav Ireland MSSR facilities operate to a range of 256nm (as now reflected in this Cyrrus Report).
- Cyrrus represented that it possessed expertise in ARTAS. However, when this claim was examined at the oral hearing, it was clarified that its expertise related to Multi-Radar Tracking Systems (MRTS) only. This does not reflect the operational environment, systems architecture or radar processing arrangements employed by AirNav Ireland.

Accordingly, Shannon Airport shares AirNav Ireland's concerns regarding the accuracy of the assumptions, methodologies and conclusions contained within the report and does not consider it an appropriate basis upon which to assess the potential aviation impacts of the proposed development.

3. TNO Programme for the Evaluation of radar systems in an Extended Urban Setting:

This document is noted as a standard document outlining the TNO methodology for the evaluation of radar systems. However, AirNav Ireland has expressed the view that the evaluation methodology is designed for application in urban environments and may not be representative of the operational environment or performance characteristics of the AirNav Ireland radar installation at Woodcock Hill. Shannon Airport shares this view.

Accordingly, Shannon Airport considers that reliance on this methodology, without appropriate consideration of the specific operational and regulatory context of the Woodcock Hill installation, may not provide an adequate basis for assessing the potential impacts of the proposed development on aviation operations and safety.

4. TNO2025 R13102 – 21 January 2026: Detailed Engineering Assessment due to Wind Turbines at Knockshanvo

Shannon Airport supports Air Nav Ireland in acknowledging the credentials of TNO as a longstanding organisation with expertise in its field.

However, it is Shannon Airport's view, consistent with that of AirNav Ireland, that the report and the examples relied upon do not adequately reflect the manner in which AirNav Ireland's radar systems operate within Irish enroute airspace, including the critical interface with transatlantic and oceanic traffic.

Shannon Airport's position, aligned with that of AirNav Ireland, is that while the TNO report may accurately describe the operation and assessment of radar systems serving limited terminal or airport airspace within a continental European context, it does not reflect the unique geographic position of Ireland or the operational requirements of the AirNav Ireland radar network.

Accordingly, Shannon Airport does not consider the report to be directly representative of the operational environment in which the AirNav Ireland Woodcock Hill radar installation functions, nor of the broader air traffic management services supported by that infrastructure.

Further Observations

Shannon Airport wishes to make the following additional observations in relation to the proposed development:

- **Navigational Aids and Communication System**

It is stated by the applicant in Section 1.1.29 of Appendix 5 titled – Response to Air Nav Ireland and Shannon Airport Authority DAC submissions (contained within document 241016 Knockshanvo Windfarm Response F (Part 3) “ *that there was no specific objection or concern raised by either Air Nav Ireland or Shannon Airport in their submissions in October 2024 in relation to any adverse effects of the proposed development may have on the Flight Inspection Procedures and profiles associated with the Shannon Airport Runway 24 Instrument Landing Systems.*

Shannon Airport in its submission dated 14th October 2024 stated that “*this development would introduce new obstacles in the vicinity of Shannon Airport which have the potential to compromise several of the Shannon Airport specific Instrument Flight Procedures (IFP's) thereby adversely affecting the provision of safe and efficient air traffic services at the airport*”.

Instrument Flight Procedures (IFP's) and Instrument Landing Systems (ILS) are intrinsically linked in terms of functionality and have a direct functional relationship whereby the IFP's act as the software element and the ILS as the hardware infrastructure designed to transition aircraft safely from the en-route phase of flight down onto the runway. On that basis, Shannon Airport adopts

the view that it identified all possible inherent safety concerns including flight calibration checks on ILS systems in the context of the above statement.

It has also been stated by the applicant in Section 1.1.29 - Navigational Aids and Communication Systems that *“in August 2021, the Applicant previously commissioned FCSL, an IAA approved service provider, to conduct an assessment against the 18-turbine layout. The findings were that ILS flight inspection procedures would potentially be impacted, and the procedures would have to be flown at an increased height which could result in an increased flight inspection cost. FCSL recommended that flight trials be conducted to ensure correct ILS received operation at increased ranges. Following additional flight trials, FCSL confirmed that adequate signals were received when the flights were conducted at 2,600ft and 3,000ft. FCSL confirmed that when the flight inspection operations are conducted in instrumented metrological conditions at 2,600ft and the 18-turbine layout (previous proposed Violet Hill wind farm development) would not have any effect on the Shannon Airport Runway 24 flight inspection procedures.”*

Shannon Airport notes these statements. However, Shannon Airport is not satisfied that the proposal demonstrates that the Irish Aviation Authority, in its role as safety regulator, would have the necessary safety assurances to conclude that conducting flight inspection procedures at higher altitudes would maintain the existing level of safety, or deliver an equivalent or enhanced level of safety, for the Runway 24 ILS. In particular, Shannon Airport considers that any mitigation measure which requires a material change to established flight inspection procedures must be capable of demonstrating, to the satisfaction of the regulator, that it does not introduce additional operational, safety or compliance risks. On the basis of the information provided, Shannon Airport is not satisfied that such assurance has been established.

Shannon Airport notes that the applicant has addressed the notice to conditions as part of general guidance for windfarm developments in our previous submission on the application namely a commitment to engage with the IAA to include any consented turbines in the IAA Electronic Air Navigation Obstacle Dataset, to comply with any condition in relation to aviation lighting as per Chapter Q (Visual Aids for De-noting Obstacles) of the Certification Specifications for Aerodrome Design – Issue 6 to EASA standard for extensive objects and to comply with any conditions in relation to possible crane activity and gaining permissions from Shannon Airport in that regard. Shannon Airport considers them to be standard requirements associated with aviation safeguarding and regulatory compliance. They do not address the substantive concerns previously raised in relation to the potential impacts of the proposed development on aviation operations, surveillance systems and associated safety-critical infrastructure.

In the MKO Report, AI Bridges are referenced as being “Aviation Consultants.” This attribution requires certification by either the European Air Safety Agency (EASA), or the aviation National Supervisory Authority (in Ireland’s case the IAA). Shannon Airport considers that any such designation should be supported by appropriate evidence of recognised aviation competence, accreditation or approval from the relevant aviation regulatory authorities. In this regard, Shannon Airport notes that regulatory oversight of aviation service providers falls within the competence of the European Union Aviation Safety Agency (EASA) framework and, in Ireland, the Irish Aviation Authority as National Supervisory Authority. Accordingly, Shannon Airport considers that the basis upon which AI Bridges is presented as an aviation consultancy should be clearly set out and evidenced.

Shannon Airport wishes to provide additional background information to highlight the potential implications of the Knockshanvo wind farm development:

- **Shannon Airport Runway 24 Instrument Landing System (ILS) and its importance to aerodrome operations**

Runway 06/24 at Shannon Airport (due to be redesignated as Runway 05/23 in late 2026 due to changes in magnetic variation) is a Code 4 Precision Approach Runway. Runway 24 is CAT II enabled while Runway 06 is CAT I enabled.

A Category II Instrument Landing System (ILS) enables precision approach and landing operations in weather conditions with significantly reduced visibility, beyond those permissible under standard Category I operations. The system provides critical guidance to flight crews during periods of fog, low cloud and other adverse meteorological conditions, thereby supporting the safe and efficient operation of the aerodrome during low visibility events.

The continued availability of the Category II ILS is therefore of significant operational importance to Shannon Airport. Analysis of operational data for 2025 indicates that CAT II procedures were utilised on 25 separate days, involving approximately 332 aircraft movements. Without the availability of the CAT II ILS, a substantial proportion of these movements could have been subject to delay, diversion or cancellation, with consequent operational and economic impacts for the airport, airlines and passengers.

The requirement for CAT II operations remains ongoing. During the period from 1 January 2026 to 30 June 2026, CAT II meteorological conditions were recorded on 29 occasions at Shannon Airport. This demonstrates the regularity with which reduced visibility conditions occur at the aerodrome and underscores the importance of protecting the integrity, reliability and operational capability of the Category II ILS.

In this context, Shannon Airport considers that any development with the potential to impact the performance, availability, certification or future operation of the Category II ILS to be so injurious to the operations of the Airport, having regard to both aviation safety considerations and the significant operational consequences that could arise from any reduction in capability.

Further analysis shows that Instrument Meteorological Conditions (IMC), a situation whereby pilots must fly only by instruments and not by outside visuals due to poor weather (e.g. low visibility/fog etc. tends to predominate over a calendar year. Visual Meteorological Conditions (VMC) tends to indicate good weather conditions whereby pilots can visually see the ground or horizon in the distance.

In the 2017 – 2025 period IMC percentages ranged from 62% to 71% per year. In effect, Shannon Airport is in IMC very frequently – about 65% of the time. This highlights the critical nature of having available a CAT II landing system on Runway 24 and that any unavailability on a temporary basis during turbine construction or with a fully functioning windfarm could not be entertained under any circumstances by The Shannon Airport Group.

- **Runway 24 ILS flight inspection procedures and flight profiles**

Based on information provided by Air Nav Ireland there is an expected impact for calibration of the ILS system serving Runway 24 at Shannon Airport. Any amendment to the current calibration

serials by conducting calibration flights at higher altitudes has potential to affect the ILS Glide Slope angle, which could in turn affect the usability of this landing system.

The Glide Slope angle is essentially the angle of descent an aircraft will use on approach to an aerodrome. It is the angle between the flight path and the ground. The larger the angle, the steeper the descent and the higher rate of descent. The ILS Glide Path for Runway 24 at Shannon operates at an angle of 3° which is the optimal angle recommended and which ensures acceptable speed control for aircraft during landing.

Any increase on the 3° slope would not be recommended from a safety perspective and could prevent certain aircraft types/specifications from landing at the aerodrome. This has serious commercial implications for business at Shannon Airport and would not be acceptable to Shannon Airport Airline customers. Associated impacts with this type of change could include the impact of diversions by aircraft to other aerodromes, cost, inconvenience, schedule disruption and environmental impact (e.g. noise/additional fuel consumption) etc.

As both a permanent obstacle in the future and during any construction (turbine erecting phase) of the development with the use of cranes, Air Nav Ireland may have no alternative to withdraw the ILS pending flight calibration testing. It will not be acceptable to Shannon Airport to operate without an ILS into Shannon for Runway 24 for a number of months or even on a permanent basis.

Shannon Airport notes that a broadly comparable situation arose at Kerry Airport in connection with a nearby wind farm development. As understood by Shannon Airport, changes to the approach environment and associated aviation infrastructure necessitated investment in upgraded landing system technology at significant cost. The development also had implications for the preferred glide slope profile, with consequential impacts for the airport's ability to achieve enhanced low visibility operational capability. This example illustrates the potential for wind farm developments in proximity to aviation infrastructure to have long-term operational, technical and financial consequences for airports and air navigation service providers. It further demonstrates that mitigation measures can involve significant cost and complexity and may not fully restore the operational capabilities available prior to the development.

Shannon Airport therefore considers that any proposal which has the potential to affect the operation, calibration, certification or future development of the Runway 24 Instrument Landing System should be subject to a precautionary approach. The burden should rest on the applicant to demonstrate that the development will not adversely affect the current or future operational capability of this critical aviation safety infrastructure.

- **Shannon Airport's role as Aerodrome Operator within The Shannon Airport Group**

It is also evident that any adverse impact arising from the proposed development on the flight inspection procedures and calibration profiles associated with the Runway 24 Instrument Landing System at Shannon Airport would have significant operational, economic and wider socio-economic consequences.

Shannon Airport is a strategically important national asset, playing a critical role in supporting regional economic development, attracting foreign direct investment and maintaining

international connectivity for the west and mid-west regions of Ireland. In addition to its commercial passenger services, Shannon Airport performs an important function within the wider aviation network as a diversion airport for transatlantic flights operating between Europe and North America.

Shannon Airport therefore considers that the potential implications of the proposed development extend beyond purely technical aviation considerations and must also be assessed in the context of the airport's strategic national importance and the significant economic and connectivity benefits that it delivers. Any risk to the continued safe and efficient operation of critical navigational infrastructure must be carefully considered by An Coimisiún Pleanála in determining this application.

In 2025 there were a total of 98 diversions consisting of the following:

2025	Type of emergency	No.
	Aircraft	5
	Technical Diversion	7
	Medical	22
	Weather	58
	Operational issues at other airports	6
	Total	98

In the first 6 months of 2026 there were a total of 63 diversions consisting of the following:

2026 (Jan – June incl.)	Type of emergency	No.
	Aircraft	3
	Technical Diversion	3
	Medical	8
	Weather	44
	Operational issues at other airports	5
	Total	63

Shannon Airport's status and its strategic position as a diversionary airport will be seriously impacted if Cat II ILS is unavailable because of this proposed wind farm development.

- **Resilience of Critical Entities**

Under the EU (Resilience of Critical Entities) Regulations 2024 (S.I. No. 559/2024) (Critical Entities Directive, EU member states were required to designate critical entities by 17 July 2026. The identification of The Shannon Airport Group as a critical entity by the Competent Authority pursuant to the Critical Entities directive from within the Transport sector is significant and places obligations on those entities to carry out risk assessments in order to evaluate natural, accidental and man-made threats, implement technical, security, and organisational measures to ensure business continuity so that the business can withstand, adapt to, and recover from disruptive

events that could affect essential services i.e. not being able to operate an aerodrome in all types of weather conditions including CAT II.

The significance of this legislation cannot be ignored and should be considered in the context of “safeguarding the aerodrome”. The Competent Authority (Regulator) can issue critical entities

binding administrative orders forcing them to fix operational or security gaps (e.g. threats from the imposition of permanent man-made obstacles (wind turbines in runway flight paths).

Accordingly, Shannon Airport considers that the objectives of the Critical Entities Directive and the associated national regulatory framework are relevant considerations in the assessment of this application and further support the need for a precautionary approach where uncertainty remains regarding potential impacts on critical aviation and navigation infrastructure.

Conclusion

Shannon Airport remains unequivocally opposed to the proposed development and fully supports the position of AirNav Ireland. Significant concerns remain regarding the potential impacts on critical aviation infrastructure, including radar systems, flight inspection procedures and the continued operation of the Runway 24 Instrument Landing System. The applicant has failed to demonstrate, to the satisfaction of Shannon Airport, that these risks can be eliminated or adequately mitigated.

Given the fundamental importance of these systems to aviation safety, operational resilience and the safeguarding of Shannon Airport as critical national transport infrastructure, Shannon Airport is of the view that the applicant has failed to demonstrate that the proposed development would not give rise to significant adverse impacts on airport operations, aviation infrastructure and the continued provision of critical aviation services.

Accordingly, Shannon Airport respectfully requests that An Coimisiún Pleanála refuse permission for the proposed development.

Should you require further information or clarifications please contact the undersigned.

Yours faithfully



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