An Bord Pleanála

Inspector's Report

ABP-309953-21

Development	5 no. wind turbines. Permission is sought for a period of 10 years and an operational life of 30 years from the date of commissioning of the entire wind farm. An Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) have been prepared in respect of the proposed development
Location	Ummeras Beg, Coolatogher, Mullaghroe Lower, Ummeras More and Coolsickin/Quinsborough, Co. Kildare.
Planning Authority	Kildare County Council
Planning Authority Reg. Ref.	21/84
Applicant(s)	Ummeras Wind Farm Ltd.
Type of Application	Permission
Planning Authority Decision	Refuse Permission
Type of Appeal	First & Third Parties v Refusal of Permission

Appellant(s)	1. Ummeras Wind Farm Ltd (First Party) 2. Monasterevin Rathangan Wind Awareness (Third Party)
Observer(s)	1. Larry & Mary McCormack 2. Kate McCormack 3. Liam & Mary Murphy 4. Michael Hoey 5. Umeras Community Development CLG 6. Dept. of Defence
Date of Site Inspection	04.08.2021
Inspector	Anthony Kelly

Contents

1.0 Site Location and Description

1.1. The general windfarm site is located approx. 3km north of Monasterevin in west Co. Kildare. The Grand Canal is located east of the proposed windfarm.

1.2. A new vehicular access is proposed off the L1002 local road adjacent to the east of an existing cul-de-sac road which accesses bogland and forestry. The local road is straight in both directions at location of the proposed access and there are a number of one-off houses along the road in the vicinity, in particular on the opposite side of the road to the south and south east.

1.3. The overall site generally comprises areas of agricultural grassland in the northern and southern sections divided by an area of forestry. There are relatively limited areas of forestry along the north west of the site. There are larger areas of bogland further to the north west and north of the site. Ground levels on site are relatively flat with some undulating levels. This is not an area of elevated ground.

1.4. The site has an area of 45.4 hectares. The site is approx. 2.3km long in a north east to south west direction and approx. 1.1km wide at its widest point in the southern part of the site.

2.0 Proposed Development

2.1. Permission is sought for:

- 5 no. wind turbines with a tip height of up to 169 metres and all associated foundations and hardstanding areas. (The specific type and dimensions of the proposed turbines in the planning application are not definitive),
- an on-site electrical substation,
- a temporary construction compound,
- underground electrical and communications cabling connecting the turbines to the electrical substation,
- site access tracks and associated drainage,
- a permanent meteorological mast up to 100 metres in height, and

- all associated site development works, ancillary works, and equipment.

Permission is sought for a period of 10 years and an operational life of 30 years from the date of commissioning of the entire wind farm.

A concurrent planning application was submitted to Offaly Co. Co. in relation to elements of the proposed windfarm development within Co. Offaly comprising road/junction works to facilitate turbine delivery.

Works connecting the proposed windfarm to the national grid via 9.8km of underground cabling to the planned EirGrid Bracklone 110kV substation will be subject of future planning applications to Kildare and Laois Co. Cos.

2.2. In addition to standard planning application plans and particulars the application was accompanied by:

- An 'Ummeras Wind Farm Environmental Impact Assessment Report' (EIAR) dated January 2021 prepared by Tobin Consulting Engineers comprising:
  - Volume I – Non-Technical Summary
  - Volume II – EIAR Main Report
  - Volume III – Appendices (submitted in two separate parts, Part 1 and Part 2).
  - Volume IV – Two photomontage booklets ('Ummeras Wind Farm LVIA Viewpoint Photomontages Book 1: VP1-VP13' and 'Ummeras Wind Farm LVIA Viewpoint Photomontages Book 2: VP14-VP25'), dated December 2020 and prepared by Macroworks.
- A 'Natura Impact Statement' (NIS) dated January 2021 prepared by Tobin Consulting Engineers.

Both the EIAR and NIS consider all elements of the overall proposed development i.e. the windfarm, grid connection and turbine delivery route.

3.0 Planning Authority Decision

3.1. Decision

Kildare County Council refused permission for two reasons:

1. The Planning Authority has serious aviation safety concerns in relation to the proposed development due to the location of the subject site wholly within a critical low-level flight route used by the Air Corp. The proposed development would therefore have a negative impact on the navigability in the area. Furthermore, the proposed wind turbines, with a tip of 169m are considered to be an en-route obstacle to aircraft in flight along this route and therefore would negatively impact Air Corps operations, pose a serious flight hazard to low flying aircraft and would endanger pilot and public safety and would therefore be contrary to the proper planning and sustainable development of the area.
2. It is considered that the content of the Environmental Impact Assessment Report is inadequate by reason of an absence of sufficient information in regard to:
    - Biodiversity
    - Hydrology and Hydrogeology
    - Lands, Soils and Geology
    - Material Assets: Aviation
    - Noise & Vibration
    - The capacity of the existing road network to accommodate traffic movements associated with the proposed development, particularly oversized HGV's
    - The assessment of cumulative impacts arising from the proposed development.

In the absence of such information, the Planning Authority is unable to fully assess the impact of the proposed development on the environment and therefore is unable to carry out a full Environmental Impact Assessment of the proposed development.

Accordingly, the proposed development would be contrary to the proper planning and sustainable development of the area.

3.2. Planning Authority Reports

3.2.1. The Planning Report reflects the Council's decision.

3.2.2. The Planning Report considers that, given the provisions of the National Planning Framework (NPF) and the location of the site within the Southern Lowlands Character Area, 'the principle of a wind turbine (sic) in this location is in accordance with planning policy at national, regional and county level, subject to all other site-specific considerations'.

3.2.3. The content of the NIS is briefly set out. The Planning Report states that the EIA carried out by Kildare Co. Co. assesses the impact of the part of the development within the boundary of Co. Kildare and the cumulative impact of the development when considered with the wider project. Offaly and Laois Co. Cos. are the competent authorities for EIA of the development within their jurisdictions. The Planning Report notes that the EIA has been informed by competent internal Council departments. Submissions received have also been considered.

3.2.4. The content of the EIAR is set out in the Planning Report and each chapter synopsis is accompanied by a comment on whether or not the planning authority is or is not satisfied that the EIAR fully addresses the potential impact of the proposed development under the various headings. Observations received (particularly from residents of the area in relation to Chapter 5 (Population and Human Health) and from Waterways Ireland in relation to Chapter 14 (Landscape and Visual Impact Assessment)), reports from internal sections of the planning authority and from prescribed bodies help inform the planning authority's assessment of each chapter.

3.2.5. The conclusion of the EIA is that the EIAR does not adequately assess the likely significant environmental effects of the proposed development and is inadequate due to an absence of sufficient information to comply with the requirements of Article 5(1) of the EIA Directive 2014/52/EU and potential impacts on biodiversity, hydrology and hydrogeology, lands, soil and geology, material assets (aviation), noise and vibration, the capacity of the road network and assessment of cumulative impacts. This results

in a lack of clarity in regard to assessment of likely environmental impacts and prevents a full EIA being carried out.

3.2.6. The Planning Report considered that further information assessment was required. However, given the Department of Defence report, it was considered permission should be refused. Two reasons for refusal were recommended and the application was refused for these reasons, as set out in Section 3.1, above.

3.2.7. The Planning Report includes a 'Written Statement of Decision Maker (Chief Executive)' and an appendix containing the names and addresses of the observers.

3.2.8. **Other Technical Reports**

Area Engineer – No objection subject to conditions relating to surface water disposal, construction practices, a road condition assessment, and a road opening licence.

Water Services – No objection subject to conditions relating to surface water discharge and not impairing land and roadside drainage.

Roads, Transportation & Public Safety Department – Commentary is provided. The road network is not ideally suitable for the scale of construction traffic and appears to be remote from high voltage electricity networks, requiring cabling along local roads. The road is liable to significant damage from HCV traffic, especially over-weight vehicles, caused by the transfer of wheel loads to the subgrade at stress levels above that which the subgrade can support. This can be rectified by either intense and frequent repair of the road surface or provision of a designed road structure. Most proposed haul routes would appear to be unsuitable due to bridge restrictions and poor road infrastructure. Increased volumes of HCVs and other vehicles poses an increased risk to public safety.

Further information is requested in relation to (i) liaison with local stakeholders in terms of disruption to traffic flow, (ii) condition surveys of roads, (iii) structural inspections and condition surveys of all bridges and structures along the haul route and electrical cabling route, and (iv) letters of agreement from relevant landowners.

Environment Section – The EIAR Non-Technical Summary, and Chapters 2 (Description of Proposed Development), 7 (Land Soil and Geology), 8 (Hydrology and Hydrogeology), 9 (Air Quality), 13 (Noise and Vibration) and 18 (Schedule of Mitigation

Measures) of the EIAR have been assessed. Further information is requested in relation to:

- Chapter 7 – The EIAR does not cover the issue of release of ammonia caused by excavation of peat.
- Chapter 8 – Details of a proposed surface water monitoring schedule during the construction stage to be provided and show monitoring locations on a site layout plan.
- Chapter 13 – (i) Further baseline noise monitoring required in the vicinity of noise sensitive locations P024 to P029, (ii) a tonal assessment of the wind turbines, substation, transformer, and battery storage compound and, (iii) details of noise monitoring schedules for the construction and operational stages including recommendations for mitigation measures in the event of exceedance of permitted limits.

Heritage Officer – Chapters 6 (Biodiversity) and 15 (Cultural Heritage) of the EIAR are outlined and comments made. The conclusion for Chapter 6 is that further survey and revision of the EIAR is required on foot of the NPWS submission. The conclusion for Chapter 15 is that impact on archaeology has been adequately considered with relevant and appropriate mitigation measures provided.

The report also examined the NIS. The Heritage Officer sets out no concern with the NIS.

Kildare National Roads Office – The proposed development will not impact the operation of the national road network.

Kildare Fire Service – No objection subject to the applicant obtaining a Fire Safety Certificate.

3.3. Prescribed Bodies

Irish Water – No objection. Observations made.

Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTCAGSM) – Observations and recommendations are made in relation to Nature Conservation as follows:

1. Impacts to hen harrier have not been adequately assessed. The Department is aware of a hen harrier winter roost site within 2km of the development contrary to Section 6.7.4.3.3 of the EIAR which states the only known roosts are over 10km away. Further hen harrier winter roost survey work is required. Information allowing the identification of sensitive roosting sites should be provided in a confidential annex only.
2. Golden plover was found to have the highest predicted annual mortality rates of all species recorded at 5.7 collisions per year. The Collision Risk Model Report used an avoidance rate of 99.98% which deviates from the default 98% for this species. Collision Risk Modelling using the 98% avoidance rate must be included in the EIAR. Justification for using the 99.98% rate must be clearly outlined in the EIAR. The EIAR states the predicted level of collision risk would be unlikely to cause significant impacts to the Co. Kildare golden plover population and would not be significant at the national scale. However, the EIAR states the assessment indicates potential for a significant negative impact to the local population and the assessment of significance at the local scale is precautionary due to limited data on the size of the local population. Declines of >20% are evident in recent years. The large and rapid decline in golden plover as well as cumulative collision risk with other windfarms should be taken into account when assessing collision impact significance. Further information is required.
3. Fatality monitoring methodology in Section 6.9.2.1.1 is not sufficiently detailed. Further information on fatality monitoring and additional mitigation is required.
4. Section 12.5.4 of the EIAR states lighting will be required. Best practice guidance for aviation lighting design should be considered, including mitigation options.
5. A condition is recommended for inclusion in any grant of permission in order to protect nesting birds and breeding mammals.
6. It is noted that no invasive species was recorded. Any control or management of invasive species required should be undertaken in accordance with relevant TII publications. This particularly relates to the grid connection element as linear

infrastructure provides an opportunity for invasive species to spread over long distances.

7. In relation to hedgerow removal along the turbine delivery and grid connection routes, a post-construction report should be provided to the local authority detailing hedgerow removed and amount replanted to ensure no net-loss.

Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTCAGSM) – A second report was also provided, in relation to archaeological observations and recommendations. The National Monuments Service agrees with the recommendation made in the Archaeological Assessment Report. An archaeological monitoring condition should be required as a condition of planning.

Department of Defence – An objection is made for four reasons. Given the nature of the planning authority's first reason for refusal the four objections are set out in full:

1. With a blade tip height of 169m (554 feet), the wind turbines are considered an en-route obstacle to aircraft in flight. Air Corps aircraft will routinely operate at similar levels above the ground in this area.
2. The proposed development site lies wholly within a route identified as a critical low level route in support of Air Corps operational requirements. This Air Corps low level route is a 3NM (nautical miles) corridor either side of the M7 centreline. Obstacles to aircraft within this corridor could affect Air Corps aircraft's ability to access the regions especially in poor weather conditions.
3. Typical flight operations to regional areas that may be affected include:

   (1) Security missions in support of the Defence Forces in aid to the civil power.

   (2) Air Ambulance missions in support of the HSE.

   (3) Garda Air Support (GASU) missions in support of the Garda Síochána.
4. As safe aircraft operation is dictated by ensuring that aircraft do not fly close to an obstacle, there would be an immediate impact on navigability in the area.

Offaly County Council – An application has been submitted to Offaly County Council in relation to road/junction accommodation works to facilitate turbine deliveries. The Council requests the windfarm application to be assessed in line with relevant planning guidelines, international, national, and regional policy.

Transport Infrastructure Ireland (TII) – TII will rely on the planning authority to abide by official policy in relation to development affecting national roads subject to (i) the development being undertaken in accordance with the recommendations of the Transport (Traffic) Assessment and Road Safety Audit submitted, with any additional works required funded by the developer, (ii) consultation with the relevant road authorities on any works proposed that affect national roads and associated junctions and any works, including reinstatement works, shall comply with standards outlined in TII publications, and (iii) a full assessment of haul routes shall be undertaken to confirm all structures can accommodate the proposed loading associated with the delivery of turbine components. Additional comment is made in relation to grid connection and cable routing in so far as it may affect existing national roads and TII infrastructure or proposed national road schemes.

Irish Aviation Authority (IAA) – The applicant/developer should engage with Clonbullogue Airport with regard to the proposed development and any associated crane operations with a view to ensuring no impact on the safety of flight operations. In the event of permission being granted the applicant should be conditioned to contact IAA to (i) agree an aeronautical obstacle warning light scheme, (ii) provide as constructed coordinates together with ground and tip heights, and (iii) notify IAA of intention to commence crane operations with at least 30 days prior notice.

Inland Fisheries Ireland (IFI) – The site is located primarily within the Cushina, Figile and Slate River catchments, tributaries of the Barrow SAC system, an important fishery. The Figile and Slate are two of four tributaries draining large peatland areas which combined are known as the Black River system. The restoration of salmon spawning recruitment throughout the Black River is integral to improving salmon stocks in the SAC. Salmon population, and other Habitats Directive species, in the Black River systems are an important component of the Barrow SAC population even though the Black River system is not SAC designated.

IFI is concerned that modifications proposed to approach roads are likely to be used to facilitate the future transport of additional turbines to this and other sites. Wind farm development is seen as the long-term change of use for peatland areas. IFI's main concerns are (i) serious water quality and habitat hydro-morphological issues that persist through the Figile, Slate and Cushina River systems linked to peat extraction

operations and (ii) direct impacts upon water quality/quantity related to the construction/operation phase. These two issues are expanded upon in detail.

The Climate Action Plan 2019 is referred to in the application. Impacts causing harm detailed in the Plan will impact significantly on native fish species. Protection and long-term viability of ecosystems and populations of protected species is integral to the Plan. Commercial peat production has resulted in salmon spawning/recruitment to limited sections of the Slate and Cushina rivers. Significant human intervention is likely to be necessary to facilitate recovery of the fisheries habitat on long stretches of these watercourses. Historic damage related to peatland use on the Bog of Allen should be addressed in line with the change of use of these sites. IFI is keen to build on recent water quality improvements in the Black River. Implementation of restoration plans to address the water quality and hydro-morphological issues is integral to the restoration of populations of salmon and other species for which the Barrow SAC was designated. Implementation of such plans will also be central to the implementation of the requirements of the Water Framework Directive.

An Taisce – The Council should ensure that the location suitability is adequately justified under the Habitats and EIA Directives. The waterway flowing through the site is unassigned under the Water Framework Directive. An Taisce would highlight the ruling by Justice Hyland (2018 740 JR) on unassigned waterbodies and the obligations of decision makers in concluding that there will be no impact on the Water Framework Directive status of said waterbody.

3.4. Third Party Observations

3.4.1. 147 no. observations were received by the planning authority. None were in support of the proposed development. The vast majority of observations were submitted by people living in the general vicinity of the site. Observations were also received from Into Kildare Co. Kildare Tourism Board, Umeras Community Development, Monasterevin Rathangan Wind Awareness Group, Waterways Ireland (Waterways Ireland and the applicant have met to discuss issues that may impact on Waterways Ireland property. No agreement has been reached but further consultation is planned), Irish Peatland Conservation Council, three local county councillors, a TD, and a senator.

3.4.2. The main issues raised are largely covered by the third-party grounds of appeal and further response, and the observations received by the Board.

4.0 Planning History

4.1. There is no previous relevant planning history on site.

4.2. Pre-planning was carried out in October 2019 and August 2020.

4.3. The EIA Portal ID is 2021011.

4.4. A concurrent application has been made to Offaly County Council.

P.A. Reg. Ref. 21/38 – Further information was sought on 30.03.2021 for permission for road/junction accommodation works in the townlands of Bracknagh, Ardra, Moanvane, Garrymona and Ballychristal to facilitate turbine deliveries associated with the subject wind farm development.

4.5. It is envisaged that the proposed windfarm will connect to the electrical grid via the planned EirGrid Bracklone 110kV substation in Co. Laois. The relevant planning application is:

P.A. Reg. Ref. 20/638 – The ESB seeks permission for a 110kV/MV electricity station including a two-storey control and switchgear building, five transformers and two house transformers. Further information was sought by Laois County Council on 29.01.2021. A three month time extension to reply to the further information request was granted by the planning authority until 28.10.2021.

5.0 Policy Context

5.1. Project Ireland 2040 National Planning Framework (NPF)

5.1.1. The NPF is a high level strategic plan to shape the future growth and development of the country to 2040. The Framework will be focused on delivering 10 National Strategic Outcomes (NSOs). NSO 8 is 'Transition to a Low Carbon and Climate Resilient Society' and includes the harnessing of wind energy.

5.1.2. The NPF contains a number of National Policy Objectives (NPOs) including

NPO 55 – Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

5.2. Wind Energy Development Guidelines for Planning Authorities (2006)

5.2.1. The guidelines provide advice on wind energy development in terms of the development plan and development management processes. Guidance is given on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety and windtake. Chapter 6 provides guidance on siting and design of wind energy development in the landscape. This includes advice on siting, spatial extent and scale, cumulative effect, and spacing, layout and height of turbines. Advice is also given regarding landscape character types as a basis for the application of the guidance on siting and design.

5.3. Draft Revised Wind Energy Development Guidelines (2019)

5.3.1. These provide for an update and review of the 2006 Guidelines.

5.4. Eastern & Midland Regional Assembly Regional Spatial & Economic Strategy 2019-2021 (RSES)

5.4.1. Section 4.8 (Rural Places: Towns, Villages and the Countryside) notes that renewable energy production has largely been provided in rural areas 'and the location of future renewable energy production is likely to be met in rural areas'.

5.4.2. Section 7.9 (Climate Change) states 'The Strategy supports an increase in the amount of new renewable energy sources in the Region. This includes the use of wind energy – both onshore and offshore, biomass … in accordance with National policy and the Regional Policy Objectives outlined in this Strategy'.

5.5. Kildare County Development Plan 2017-2023 (as varied)

5.5.1. Section 2.2 (viii) (Strategy) states that the Plan seeks to encourage the focus of new development on, among other issues, supporting, facilitating, and promoting the sustainable development of renewable energy sources in the county.

5.5.2. Section 2.7 (Preferred Development Strategy) has been informed by the RSES and the environmental sensitivities of the county. One of the areas of focus set out is 'Managing development in rural areas with a focus on agricultural diversification, appropriate rural enterprise (e.g. renewable energy production) and the strengthening of existing towns and villages'.

5.5.3. Chapter 5 (Economic Development, Enterprise & Tourism) states that 'It is a priority of this Plan to support and capitalise on the employment and enterprise potential of the green economy. The plan also aims to support the development of a secure and affordable energy supply and renewable and efficient energy infrastructure (including buildings for business, public sector and the community) to improve competitiveness, security and reduce costs'. It is the policy of the Council, Policy ECD 27, to 'Support and facilitate sustainable agriculture, agri-food, horticulture, forestry, renewable energy and other rural enterprises at suitable locations in the county'.

5.5.4. Section 6.11.5 (Casement Aerodrome) is relevant in the context of the first reason for refusal. In relation to 'Safeguarding', subsection (a) states 'The safeguarding in relation to the Code 4 and Code 3 runways at Casement Aerodrome restricts development (to a very significant extent in certain areas) on the approach to its subsidiary runway 05, for a distance of up to 15km from that runway, of which more than 10km on the approach lies above County Kildare (reaching to the outskirts of Naas)'.

5.5.5. Chapter 8 (Energy & Communications) contains a number of references to wind and other renewable energy sources. European and national energy policy supports climate change resilience through, inter alia, 'increasing the proportion of energy consumed from alternative non-polluting, low carbon and renewable energy sources (wind, solar, hydro, and geothermal) across the sectors'. Kildare Co. Co. 'will make every effort to increase energy efficiency and unlock renewable energy potential'. Renewable Energy is addressed in Section 8.4 of the Plan while Wind Energy specifically is set out in Section 8.5. Five wind energy policies and one objective are set out in Section 8.5. In brief, three relevant policies relate to the following:

Policy WE 1 – Regard will be had to the Wind Energy Development Guidelines (2006) in assessing planning applications for windfarms.

Policy WE 2 – Wind energy development will be encouraged in suitable locations.

Policy WE 3 – This policy sets out what will be considered in assessing proposals e.g. landscape sensitivities, visual impact, impact on nature conservation designations, archaeology and rights-of-way, shadow flicker, impact of associated development such as access roads and grid connections, scale, size and any cumulative effect and impact on protected bird and mammal species.

Objective WEO 1 states it is an objective of the Council to prepare and publish a Wind Energy Development Strategy following the completion of the Department's review of the Wind Energy Development Guidelines.

5.5.6. Section 10.4.8 (Green Energy Projects) states that 'Rural areas have the potential to be harnessed for renewable energy projects – including wind, hydro and solar energy'. This section also states that 'The Council will support renewable energy projects in rural areas. However, it is mindful of the need to protect landscape sensitivities, residential amenities, views or prospects, public rights of way, wildlife, habitats, special areas of conservation, protected structures, bird migration paths etc'. Renewable energy is identified as an example of diversification from traditional agricultural practices in Section 10.4.1 (Agriculture). Policy RE 5 of the Plan is to 'Support and facilitate sustainable agriculture, horticulture, forestry, renewable energy and other rural enterprises at suitable locations in the county'.

5.5.7. The site location is in an area designated as 'Southern Lowlands' in Map 14.1 (Landscape Character Areas). Table 14.1 identifies the Southern Lowlands as an area of 'Class 1 Low Sensitivity'. These areas are 'Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area'. The Southern Lowlands is not included in Table 14.3 (Likely compatibility between a range of land-uses and Principle Landscape Areas). However, the two (of four) Class 1 Low Sensitivity areas cited, North Western Lowlands and Northern Lowlands, both have a 'High' compatibility for windfarm development. The River Barrow is included in Table 14.3 as a 'Sub-ordinate Landscape Area'. The Barrow is approx. 2.7km from the closest proposed turbine. The Barrow is designated as a 'Class 4 Special' sensitivity. Table 14.3 identifies a windfarm as 'least compatible' in the Barrow/Class 4 area.

5.5.8. Table 14.4 (Likely compatibility between a range of land-uses and proximity to Principal Landscape Sensitivity Factors) also includes a windfarm. Table 14.4 outlines

the likely compatibility of a land use within 300 metres of Principal Landscape Sensitivity Factors. Of the 12 no. 'Sensitivity Factors' outlined, those within approx. 300 metres of any of the proposed turbines are 'Broad Leaved Forestry' and 'Mixed Forestry' which have a compatibility of 1 (Compatible only in exceptional circumstances), 'Peat Bogs' which have a compatibility of 3 (Likely to be compatible with great care) and 'Agricultural Land with Natural Vegetation' which has a compatibility of 4 (Likely to be compatible with reasonable care). 'Major Rivers and Water bodies' and 'Canals' have a compatibility of 0 (Very unlikely to be compatible). However, the Grand Canal to the east and the River Figile to the south west are outside the 300 metres radius set out in Table 14.4. The Plan does note that 'all developments are unique and at local level landscapes vary in terms of their ability to absorb development and each site should be assessed on its individual merits'.

5.5.9. The 'Scenic Routes and Viewpoints' map in Chapter 14 does not show any Scenic Routes in the general area. However, Table 14.9 (Views to and from bridges on the Grand Canal) sets out bridges and the proposed development would appear to be visible from at least four of these. Additional commentary, policies and objectives relating to Landscape, Recreation & Amenity are also set out in Chapter 14.

5.6. Offaly County Development Plan 2014-2020

5.6.1. The site is located approx. 400 metres from the Offaly county boundary to the north of the site and a planning application for road/junction accommodation works to facilitate turbine deliveries is being considered by Offaly Co. Co. The Offaly County Development Plan 2014-2020 includes a 'Wind Energy Strategy for County Offaly'. Figure 9 (Wind Energy Strategy Map for County Offaly) shows that the areas of Co. Offaly close to the current site, and indeed most of east Co. Offaly, are within a 'Wind Energy Development Area' i.e. areas deemed suitable for wind energy development.

5.7. Laois County Development Plan 2017-2023

5.7.1. The site is located approx. 400 metres from the Laois county boundary to the south of the site. The Laois County Development Plan 2017-2023 includes, as Appendix 5, a 'Wind Energy Strategy'. The area of Co. Laois in proximity to the site is identified in Section 5 as an 'Area Not Open for Consideration' i.e. particularly unsuitable for

windfarm development. (The relevant map shows the overwhelming majority of the county has this designation).

5.7.2. It is proposed to provide a grid connection between the site and a proposed EirGrid 110kV substation at Bracklone, Portarlington, which is currently under consideration by Laois Co. Co. A 9.8km connection route is shown in Figure 2.4 of the EIAR. Planning applications for future grid connection will be made to both Kildare and Laois Co. Cos.

5.8. Natural Heritage Designations

5.8.1. The closest Natura 2000 site is River Barrow and River Nore SAC (Site Code 002162) approx. 2.1km to the south. The closest heritage area is Grand Canal pNHA (Site Code (002104) approx. 400 metres to the east at the closest point.

6.0 The Appeal

6.1. Grounds of Appeal

First and third party grounds of appeal were received by the Board. The main points made in both grounds of appeal can be synopsised as follows:

Ummeras Wind Farm Ltd (First Party)

- The grounds of appeal set out the background on scoping, pre-planning meetings, community engagement and public consultation and supportive national, regional, and Council policy (including the Climate Action and Low Carbon Development (Amendment) Bill 2021 published since the submission of the planning application and therefore not considered in the EIAR).
- The Planning Report highlighted a number of positive points relating to the application and noted that a number of chapters/topics were adequately assessed in the EIAR. The Dept. of Defence report stated that they wished to object, as opposed to recommending a refusal as stated in the Report. The Report's consideration that the principle is in line with planning policy subject to

all other site-specific considerations is noted. No shortcomings were identified in the NIS. The Planning Report concluded that, in the absence of additional information requested in a number of chapters, the EIAR was inadequate in relation to certain assessments.

- The grounds of appeal address the main themes and topics raised within the public observations. These can be briefly synopsised as follows:
    - Human Health – Chapter 5 (Population and Human Health) of the EIAR includes a review of the scientific evidence of potential health impacts of windfarms. It concludes that there would be no significant negative impacts on human health and the Planning Report stated assessments in this chapter were suitable.
    - Tourism – Tourism was also addressed in Chapter 5. The site is not associated with any tourist activities or attractions. Numerous studies found that wind farms did not have any negative impacts on tourism. The Planning Report stated the assessments in this chapter were suitable.
    - Landscape & Visual – Photomontages from 25 no. viewpoints were provided. One viewpoint mentioned frequently is Ummeras Bridge (VP6). The EIAR states, in relation to this viewpoint, that the turbines will intrude on views along and from the canal but serve as a backdrop feature. They are likely to be encountered briefly in a journey scenario and serve as a way marker or point of interest. The significance of the visual effect is moderate. The Planning Report considered the impact in respect of landscape had been adequately addressed in the EIAR.
    - Noise – Detailed information on potential noise and vibration (Chapter 13) was completed by specialist consultants. The assessment found there were no noise sensitive receptors which would have significant effects. The planning authority's Environment Section further information request is addressed in the grounds of appeal.
    - Property Prices – Chapter 5 of the EIAR provided a summary of recent UK studies that have shown there is no evidence on negative impact on property prices within several kilometres of a windfarm.

- Shadow Flicker – The results of a comprehensive computer modelling exercise are contained in Chapter 11 (Shadow Flicker) of the EIAR. The applicant has committed to ensuring there will be no shadow flicker at sensitive receptors in the area. The Planning Report considers this issue was adequately addressed.
- Community Engagement – The applicant strongly disagrees that there was an unwillingness to engage in meaningful public discussion. Scope to carry out 'normal engagement' was hugely restricted by Covid. All houses within 2km (approx. 175 no. houses) were provided with project information booklets including contact details of a Community Liaison Officer. In total 298 no. booklets were distributed along with 261 no. project update booklets at a later date. A virtual public information room was commissioned accessed via the project website. The Planning Report stated that while public engagement is not mandatory, the applicants have availed of it.
- Cultural Heritage – Chapter 15 (Cultural Heritage) provides a list of all historical sites in the area and found there would not be any significant negative impacts. The Planning Report agreed that an adequate assessment was carried out.
- Biodiversity – Surveys were carried out from late 2016 to mid-2020 in line with guidance and best practice. The project ecology team have considerable familiarity with the area. Chapter 6 (Biodiversity) of the EIAR provides a detailed description of existing habitats and species on site as well as a thorough assessment of potential impacts. The collision risk modelling exercise accounted for all bird species found to be utilising/passing through the site. Almost two and a half years' worth of data was used. Bird surveys had also been carried out by the project ecology team since 2011 in the surrounding areas, though not in relation to this project. An assessment of the potential to support the Marsh Fritillary Butterfly was carried out in 2018. This concluded that, while colonies occur on the periphery and along the Grand Canal the site does not offer any potential. No response was received from a consultation

with Butterfly Conservation Ireland. A rebuttal of refusal reasons relating to diversity is presented in the grounds of appeal.

- Appropriate Assessment – The AA Screening Report and NIS found there are no residual direct, indirect, or in-combination effects on any European site. The Planning Report did not note any shortcomings in relation to same.
- Hydrology & Hydrogeology – Chapter 8 (Hydrology & Hydrogeology) assessed these concerns in detail and concluded there would be no significant effects. The planning authority Environment Section further information request is addressed in the grounds of appeal.
- Roads – The highest volumes of construction traffic are only expected on the five days of the concrete foundation pours. The applicant will liaise with local residents ahead of works and busy days as described in the EIAR (Chapter 16, Traffic and Transport). Further information requested by the planning authority Roads Section is addressed in the grounds of appeal.
- Planning and Kildare County Development Plan – Some submissions raised concern the development might contravene the County Development Plan 2017-2023 because it is visible from the Grand Canal and a protected view at Ummeras Bridge. Landscape and visual impact have been comprehensively addressed in the EIAR and photomontages provided. The majority of viewpoints had lower significance visual effects than that at Ummeras Bridge. The EIAR states the landscape character area is deemed 'low'. For Co. Offaly cutaway bog adjoining the Kildare border is of moderate sensitivity. There is no sensitivity designated for the relevant area in the Laois CDP. The Kildare Plan indicates windfarms are 'likely to be compatible with great care' within 300 metres of peat bogs. However, the Landscape Character Area in which most turbines will be located is 'likely to be compatible with reasonable care'. The Planning Report considered the potential impacts in respect of landscape have been adequately addressed in the EIAR.

There was an accusation of project splitting as the application did not include the grid connection. Project splitting describes where applicants circumvent the EIA directive on all or part of a project. It is a term associated with the EIA process and not the planning process. The entire project, including the grid connection, has been assessed in the EIAR. Therefore there is no project splitting and it is in accordance with EIA Directive 2014/52/EU and national legislation.

In relation to the lack of cumulative assessment in the EIAR, Chapter 4 (Planning Policy and Development Context) details the projects which authors of subsequent chapters used when drafting their respective cumulative impact sections.

First Reason for Refusal

- The Planning Report acknowledges that the concerns of the IAA and the Dept. of Defence during the scoping exercise were addressed in the EIAR by way of specialist reports. The IAA submission had no objection subject to normal conditions relating to windfarms. To respond to the four objections cited by the Dept. of Defence a specialist report, further to the report prepared for the EIAR, was commissioned from Captain Fintan Ryan to determine the significance of the concerns raised. Capt. Ryan's background is outlined.
- Precedent exists for the consenting of wind farms in similar areas e.g. ABP-306500-20 at Drehid, Co. Kildare. That is located in the same low flight route and restricted air space as the proposed windfarm. A similar observation received by the planning authority from the Dept. of Defence was not listed as a reason for refusal by the planning authority. Four other windfarm precedents are also set out.
- The four areas of concern set out in the Dept. of Defence report are:
    - A height of 169 metres is considered an en route obstacle to aircraft in flight and Air Corps aircraft routinely operate at a similar level – While some aircraft may operate at similar levels to the turbines this is also the case for wind turbines elsewhere in Ireland. Installation of safety lighting, daytime visibility, and their addition to the national aeronautical obstacle database (approx. 1,904 no. obstacles listed on 21.02.2021 of which

approx. 1,840 no. are wind turbines) will allow all aircraft safely navigate by the minimum required distance of 500 feet laterally or vertically. There is sufficient airspace above the 500 feet buffer. Class G airspace up to 2500 feet is available free for use by all aircraft. Over this is restricted airspace open to non-military traffic with consent from the military controller. In the event cloud cover is too low lateral avoidance can be utilised. Further obstacle avoidance measures frequently used include radio navigation aids and other navigation aids e.g. GPS. Some of these can provide automatic warnings in the event a flight gets too close to an obstacle. Regardless, there will be no practical impact on Air Corps aircraft operations in the wider area. The proposed development will not act as an en-route obstacle that would pose any significant health and safety threat.

- The site lies wholly within a critical low level route in support of Air Corps operational requirements, a 3NM corridor either side of the M7 centreline. Obstacles within this corridor could affect ability to access the regions – There are a significant number of windfarms around Ireland where turbines are within 3NM of low-level flight routes, often associated with motorways or primary roads. These are shown on Figure 4-1. Two are cited where there are turbines located within 650 metres from the M7 (Monaincha and Rathnaveoge). The Drehid windfarm is within 3NM of the M4. It is not uncommon for pilots to use motorways for navigation however more modern aviation practice is to use newer navigational aids to fly faster and more efficient, direct routes. Notwithstanding precedent, the EIAR included worst-case examples explaining why the proposed turbine locations will not cause a significant issue in this regard. For example a light aircraft doing 80 knots along the motorway route could reverse its course while taking the aircraft less than one-sixth of the distance to the nearest turbine (approx. 0.33NM or 0.6km). Other manoeuvres outlined have more than adequate space (approx. 2NM) when using the motorway as a navigational aid. In poor conditions line of sight with the M7 would not be possible and navigational instrumentation would be necessary. The use of the 3NM corridor as

flight aids, while supportive, cannot be wholly relied on. The windfarm would not affect aircraft wishing to use the M7 as a navigational aid as the required safety margins will still be met.

- Typical flight operations to regional areas might be affected – The windfarm is in direct line between Casement and Limerick/Shannon. Slight alterations would be required to ensure a safe and efficient passage around the proposed turbines. The aircraft could simply overfly the turbines, use lateral avoidance measures, or use Instrument Flight Rules (using navigational instrumentation) for part of the journey. A direct flight over the turbines to Shannon is 97NM. Avoiding the turbines by 2NM would result in a 98NM trip/approx. 30 additional seconds. During poor visibility a flight would need to deviate by approx. 2° to avoid the windfarm approx. 22NM into the flight and then resume course. This avoidance measure would add at most a minute of flight time. Any access requirement of the Air Ambulance would not be significantly impacted unless the unlikely event occurred that a patient needed to be collected between the turbines or immediately adjacent (there will be no public access to the site). Access of the Air Ambulance to residential properties will not be impacted. The Garda Air Support Unit would not be significantly impacted by the windfarm location. Very minor alterations would suffice to navigate around the windfarm. Any avoidance measures caused by the turbine locations would be valid for all other windfarms. The proposed development would not have any significant impacts on flight operations as set out by the Dept. of Defence. Any slight deviations are expected to be insignificant.
- As safe operation is dictated by not flying close to obstacles there would be an immediate impact on navigability in the area – Installation of safety lighting, daylight visibility, and addition of turbine locations to the national aeronautical obstacle database will allow all aircraft safely navigate. While the site is located underneath restricted airspace it occupies only 0.05% of the area associated with the restricted airspace. The Drehid windfarm is also under this restricted airspace. There are no obvious unique features associated with pilot training compared with the

remaining 99.95%. The windfarm would allow pilots in training to become familiar with navigating around such obstacles without leaving the restricted airspace.

- The objections raised are not warranted as a reason to refuse.

Second Reason for Refusal

The second reason for refusal related to an inadequate assessment of biodiversity, hydrology and hydrogeology, land, soils and geology, material assets: aviation, noise and vibration, the capacity of the road network and the assessment of cumulative impacts. The main points made can be summarised as follows:

- Biodiversity – The ornithological survey approach was fully in line with guidelines and a detailed background is set out. The DTCAGSM has confirmed a Hen Harrier roost within 2km, but the ecologists are confident that there were no active hen harrier roosts within 1km of the proposed turbines. The presence of a roost as identified by the Department would not change the conclusions of the Hen Harrier impact assessment completed. A Hen Harrier is not on the Sensitive Species List published by the NPWS where it does not want to make the precise locations of endangered species publicly available. There is no such information in the EIAR.

  The Collision Risk Model report used a 99.8% avoidance rate for Golden Plover, not 99.98% as stated by the Department and in the Planning Report. The rationale for using the 99.8% avoidance rate is fully explained in the EIAR and summarised in the grounds of appeal. The 98% avoidance rate is a default avoidance rate with no apparent empirical basis. As the knowledge base has developed there has been an increase in the recommended avoidance base for birds. Most species-specific avoidance rates are 99% or higher. The 99.8% avoidance rate was derived from three post-construction monitoring studies in East Yorkshire with similar levels of Golden Plover flight activity to Ummeras. Using a 98% avoidance rate rather than 99.8% the impact remains negligible at national level. At the county scale it exceeds the 1% threshold which is suggested to determine whether an impact is non-negligible. The potential increase in annual mortality due to collisions is 2.6% using the mean collision risk prediction and 6% using the upper limit prediction. While exceeding the 1%

threshold the accuracy of the population estimates and applicability of the 1% threshold need to be considered. The population estimates are likely to be significant underestimates and reasons for this are set out. The 1% threshold was not intended to indicate that all increases above this are significant. It is concluded that use of the 98% avoidance rate would not change the likely significance of the predicted Golden Plover collision risk.

The cause of the decline in Golden Plover wintering population is not known for certain. However, Ireland is at the western edge of its wintering range and it is possible that arctic breeding waterbirds are migrating shorter distances to winter. The Golden Plover is still widespread and abundant and collision risk will generally be proportional to the size of the local population, a decline in population will cause a similar decline in collision risk. A cumulative collision risk of approx. 250 collisions per year would be required to cause a 1% increase in annual Golden Plover mortality. It seems likely the overall Golden Plover wintering population is at least double the 2018 estimate of 92,060. A realistic estimate of the minimum cumulative collision risk required to cause a significant impact at the national scale is 2,500-5,000 collisions per year. Cumulative collisions from 14 windfarms where Golden Plover collision risk was identified (not a complete list) is 129.5-136.5 birds using a 98% avoidance rate. It indicates that, even using a 98% rate, there does not appear to be any potential for the cumulative collision risk from windfarms to cause a significant impact. At the county scale (8,250 population size) there are only two other windfarms. The cumulative collision risk is 77 collisions per year/3.5% increase in annual mortality (98% avoidance rate) or 7.7 collisions per year/ 0.35% increase in annual mortality (99.8% avoidance rate). Increases of at least 5-10% are likely to be required to cause significant population impacts because of the much larger likely population. The cumulative risk is unlikely to reach levels that would cause significant impacts to the Kildare population. There are two windfarms (Cloncreen and Moanvane) approx. 12km from Ummeras. These are well outside the likely range of the local population associated with Ummeras and therefore there is no potential for additional collision risk.

The fatality monitoring methodology in the EIAR was provided as per Scottish Natural Heritage guidelines and additional information to further clarify this is submitted with the grounds of appeal.

Mitigation measures to reduce collision risk with wintering and breeding birds will be implemented in the unlikely event that post-construction monitoring indicates significantly higher mortality rates than predicted and are at a level that might have significant negative effects at a county scale. Potential options can be divided into three broad groups: habitat management to deter sensitive species, use of visual or audio cues to promote avoidance of turbines and curtailment of turbines when there is a high collision risk. These are addressed in additional detail. It will only be possible to identify mitigation requirements after three years of operation phase surveys and fatality monitoring. This would be around 2029 when it is likely further evidence will allow more accurate evaluation of mitigation measures and will be confirmed with the relevant statutory bodies.

Responses to the DTCAGSM report relating to lighting, clearance of vegetation, and invasive species are outlined and, in relation to turbine delivery and grid connection routes it states there will be no net loss of vegetation.

- Hydrology and Hydrogeology – The planning authority's Environment Section had recommended further information in this regard seeking detail of a surface water monitoring schedule during construction and showing monitoring locations on a site layout plan. Mitigation measures were to be included in the monitoring schedule should monitoring show water quality is being impacted.

  Information regarding a proposed monitoring schedule and methodology are contained in Chapter 8 (Hydrology and Hydrogeology) of the EIAR and is further detailed in the grounds of appeal. The proposed monitoring schedule is robust and in line with relevant guidance. Tables 5.7 and 5.8 in the grounds of appeal outline the selected parameters and their associated trigger limits as well as frequency of monitoring prior to, during and post-construction. Prior to construction baseline monitoring will be carried out. This will determine trigger values. Final detail will be agreed with the relevant authorities. Monitoring will be undertaken at three locations on the Ummeras Beg Stream; upstream of the

development, at the proposed stream crossing between proposed T1 and T2 and downstream at the local road. Mitigation measures are set out including identifying the source of the pollution, isolating the area, stopping works if necessary and informing the relevant authorities. Best practice construction methods will be implemented in order to prevent water pollution. A Construction Environmental Management Plan (CEMP) was developed for the EIAR. Surface water quality monitoring measures will be incorporated with all mitigation and management measures detailed in the EIAR and will feed into the Surface Water Management Plan, part of the CEMP. The CEMP will also be incorporated into the specification for the Civil Engineering Works contract. Environmental site audits will be undertaken on a regular basis to ensure mitigation measures proposed are implemented.

- Land, Soils and Geology – The planning authority's Environment Section stated the EIAR does not cover the issue of the release of ammonia caused by the excavation of peat.

  A response to this has been completed, and reviewed, by two hydrogeologists. Only T3 and associated hardstanding is located in a peat area. Access tracks to T3 will be floating roads, minimising excavations. Additional site monitoring was carried out for this response. A methodology is described, results provided, and an assimilative capacity assessment analysed.

  Based on data collected in 2020 to inform the EIAR, additional monitoring, and assimilative assessment there is no basis for refusal of the development in relation to ammonium. There is limited peat on site with concentrations of ammonium in ground and surface water within regulatory limits. Any temporary release via peat excavation would not result in exceedance to statutory water quality standards.

- Material Assets; Aviation – The Planning Report expressed serious concern that the impact of the proposed development on aviation has not been properly assessed and the proposed development would have a negative effect on aviation, particularly in light of the Dept. of Defence report.

  This opinion appears solely based on the Dept. of Defence report which has been rebutted fully in the grounds of appeal. The finding that the EIAR has not

fully assessed impacts to aviation is also refuted. Two specialist reports were commissioned to inform the EIAR after submissions by IAA and the Dept. of Defence following the scoping exercise. The Kildare County Development Plan 2017-2023 restricts tall structures within 15km of Casement and the windfarm site is approx. 40km away.

- Noise & Vibration – Further information was requested by the planning authority's Environment Section in relation to additional baseline monitoring in the vicinity of noise sensitive locations P024-P029, a tonal assessment of the turbines, substation, transformer, and battery compound and details of a noise monitoring schedule for the construction and operation stages including recommendations for mitigation measures in the event of exceedance of permitted limits. Expert consultants were commissioned to provide responses.

  Background noise monitoring is typically carried out a number of representative noise sensitive locations and the monitoring data is then extrapolated. Best practice was adopted in the EIAR. The noise monitoring locations used in the EIAR are representative of all sensitive receptors including those highlighted for reasons set out. Further baseline monitoring is not warranted however it can be undertaken should the Board request it.

  The tonal data for each turbine model can be different and it is difficult to know the precise tonal spectrum for the proposed development at this stage. The sound power data for all candidate turbines will be sought during the tender stage and will comply with standards. Most modern turbines do not give rise to clearly audible tones at receptors located at four times the tip height setback. Post construction noise surveys will determine if there is any audible tonal component present and can be used to inform any potential mitigation. For illustrative purposes the N133 turbine model shows there is no tonality associated with that candidate turbine. At turbine selection stage a warranty will be provided to ensure the noise output will not require a tonal noise correction. Evidence is provided in the EIAR and the grounds of appeal that low levels of noise are produced by the substation. Just 5 metres is recommended between a 110kV substation and the land boundary of noise sensitive receptors. The 38vK substation proposed is comparable. The transformer is the principal noise source in a substation. For completeness an analysis has been carried out.

Predicted noise levels associated with the substation at the ten nearest noise sensitive receptors is 23-26dB LAeq. The potential for significant tonal sounds, in non-involved noise sensitive receptors, is unlikely. The battery storage compound referred to in the Environment Section report is not in the project description and there are currently no plans for such a facility. There will be no significant tonal noise impacts at noise sensitive receptors from the turbines or substation.

A noise monitoring schedule and methodology is provided, divided into construction and operational phases. There is a separate section for vibration. Noise levels are expected to be within criteria for construction noise during construction given distances of works from noise-sensitive locations. At operation stage, if noise criteria are not complied with, mitigation measures will be designed. Construction and operational phase mitigation measures, primarily those set out in the EIAR, are reproduced.

Monitoring schedules and methodologies in the EIAR and grounds of appeal are appropriate.

- Traffic & Transportation – Concerns and issues relating to traffic and transportation were expressed by the planning authority's Transportation Department. Concern was expressed in relation to the haul routes and increased volume of HCVs. Four further information issues were requested by the Department.

  Detail of the primary construction material haul route was agreed with this section of the planning authority prior to submission of the application and that pre- and post-construction road condition surveys would be completed. Numerous windfarm projects have utilised similar road networks as haul routes. The applicant is surprised permission was refused on this basis. Engagement continued up to submission of the application. A summary of the scoping and agreements are outlined.

  Capacity of the road network – It will not have a significant adverse traffic impact. Construction will take approx. 12 months. All vehicles will be subject to standard axle weight requirements. Construction phase impacts will be slight to moderately negative. Mitigation has been incorporated. Site personnel,

maximum of 40 no., will travel outside peak traffic hours with construction generally between 7am to 6pm. The capacity of the road network to accommodate traffic movement was assessed as part of the EIAR's Traffic Assessment. Routes assessed were the primary construction haul route, turbine delivery route (TDR) and grid connection route. Once construction is complete associated traffic will be negligible. Grid connection and TDRs will not accommodate the same level or type of traffic as the construction material haul route. A construction material haul route which avoided Monasterevin and protected bridges across the Grand Canal was identified as requested and agreed. The seven local and regional roads are examined. Some of these roads already service quarries/quarry haul routes. On average, 16 no. HGV trips per day (16 arrivals and 16 departures) are envisaged. Peak HGV traffic generated would be up to 186 no. per day, both to and from the site. These would be during concrete pours over five isolated days. Traffic would be as little as one HGV trip per week during the later months. The R401 is already over-capacity and the proposed traffic volumes will have limited additional impact. The R419 is well below capacity. The capacity of the L3002 and L3003 should not be affected by traffic associated with the primary construction haul route. Use of the L7003 avoids the use of Rathangan town centre and the capacity of this road was not raised as an issue. The L1002 is used to avoid Monasterevin and the canal bridges. In relation to the TDR, approx. 2km of the L1002 route is located in Co. Kildare. The loads would be delivered in consultation with the relevant Councils and An Garda Síochána during off-peak periods and as such should not affect the capacity of the road network. Any remediation works will be borne by the applicant. Grid connection works will be brief and transient. Associated levels of traffic should not affect the capacity of the route. A Traffic Management Plan (TMP) was submitted with the EIAR.

Inadequate EIAR regarding assessment of cumulative impacts – The EIAR outlines the potential impact of traffic generation. The cumulative effects assessment did not identify any notable cumulative impacts. Of three windfarms within approx. 15km, Mount Lucas windfarm is already operational, Cloncreen is under construction and expected to be completed prior to commencement of Ummeras and Moanvane has different haul routes. Turbine deliveries for

Ummeras will be along the same route proposed for Moanvane. A full cumulative assessment was completed.

Bridge restrictions – This was not advised by the planning authority at scoping stage. On survey there was no height or weight restrictions on any bridge on the primary construction material haul route. HGVs are currently using this route. There are no bridge restrictions on the 2km turbine haul route in Kildare. Post-decision contact has occurred between the applicant and planning authority. There are restrictions associated with bridges along the grid connection route. These have been sensitively accounted for. As no restrictions have been identified and the bridges are being used by HGVs the request for inspections and surveys to be applied solely to the applicant is onerous.

Increased HCV and other vehicles pose a risk to public safety – Traffic movements have been set out previously. Planning permission for a quarry in 2019 included for HGV movements on the L3002. There is also a second quarry on the L3002. This sets a precedent for the primary construction material haul route on the L3003, L3003 and R401. The construction period will be temporary. Of 22 no. collisions identified on the haul route over 11 years, four involved a HGV and one involved a pedestrian. This does not indicate a public safety issue and the increase in HGVs will present a slight risk. Mitigation was included in the EIAR's TMP.

Liaison with local stakeholders – As set out in the EIAR a Traffic Management Co-ordinator will be appointed. Local residents will be informed of traffic-related matters via letter drops and posters in public places with information including contact details and out of hours number as set out in the EIAR. No works to accommodate the TDR are located in Co. Kildare.

Engagement with the Municipal District Office – A number of surveys were requested as further information as set out in the planning authority's Transportation Section report. It had been agreed that pre- and post-construction pavement surveys would be carried out. A road condition survey is of no value prior to permission. A ten year permission is sought and, if permitted, construction would not be likely to commence for a number of years. The EIAR includes reference to the visual pavement surveys on the primary

construction material haul route. Further detailed surveys will be carried out on the L1002 where approval is granted. Surveys for the cable route would provide an inconsequential and indeterminate result. The planning authority outlined solutions to address the construction traffic impacts: intense and frequent repair of the road surface and provision of a designed road surface. Output of the surveys requested would form part of the background data used to develop a detailed design solution to rectify the condition of the road during and after construction. The applicant is willing to undertake the intense and frequent repair of the road surface through replacement of damaged surface layers during construction and provide a bond for the provision of repair to roads as determined once the post-construction road condition assessment has been completed.

- Interactions of the Foregoing – The Planning Report stated, in relation to Chapter 17 (Interactions of the Foregoing) of the EIAR, that the interactions between the disciplines were set out but that the impacts have not been fully identified, particularly in relation to biodiversity and traffic. As further information was requested for a number of EIAR chapters it would be considered best practice to review Chapter 17 following submission of additional information. The existing interactions discussed in the EIAR remain accurate and no additional interactions can be identified.
- Section 5.8 (Schedule of Mitigation Measures) of the grounds of appeal sets out additional mitigation measures contained within the grounds of appeal relating to biodiversity, hydrology and hydrogeology, noise and vibration, and traffic and transportation.
- The assessment of cumulative impact was referenced in the second reason for refusal. The inclusion of this is not appropriate. An appropriate level of information was provided in the EIAR but nonetheless some additional information has been provided. A comprehensive list of plans and projects, set out in the EIAR, were considered including other windfarms and significant projects. A cumulative impact assessment was provided in each chapter, based on Chapter 4.

- The information provides a full, justified and evidence-based rebuttal of the decision to refuse. The EIAR and grounds of appeal have been prepared to assess any impacts associated with the proposed development in accordance with the requirements of the codified Directive 2011/92/EU as amended by Directive 2014/52/EU (EIA Directive).
- Appendices attached are:
    - Appendix 1 – Copy of Notification of Decision Letter
    - Appendix 2 – Ornithology Surveyor Experience
    - Appendix 3 – Golden Plover Avoidance Rates (Extract from Appendix 6-4 of submitted EIAR)
    - Appendix 4 – Aviation Report prepared by Fintan Ryan, Chartered Engineer dated 29.03.2021
    - Appendix 5 – Letter from AWN Consulting Ltd. (Noise Consultants) dated 09.04.2021.

Monasterevin Rathangan Wind Awareness (Third Party)

The appellant is appealing on the grounds Kildare County Council's reasons for refusal are weak:

- Tourism – The decision did not consider fully the impact on the Grand Canal and new infrastructure such as the Barrow Blueway, Ballykelly Mills Distillery and Umeras Peatlands Park.
- Landscape – The decision did not consider fully the impact on protected scenic views from the Grand Canal.
- Biodiversity – It is the opinion of Dr. Patrick Moran, Principal Ecologist with Forest, Environmental Research & Services Ltd. (FERS), that there are significant deficiencies in the biodiversity chapter of the EIAR as regards the potential impacts, the AA screening report and NIS are unfit for purpose and do not provide information of sufficient quality or quantity, and they fail to take into account numerous relevant European and domestic judicial rulings. The decision did not fully consider the

impact on the River Barrow SAC, a number of bird species including the hen harrier, or bats, or fully consider cumulative impacts of the proposed development and other projects in the region.

- Cultural heritage – The decision did not fully consider the impact on monuments located near the site.
- Noise – The decision did not fully consider the impact on noise on local residences.
- Consultations – The decision did not fully consider the availability of environmental information to the public. The EIAR was available for an inadequate amount of time on Kildare County Council's online portal contrary to the requirements of EU regulations.
- Roads, Traffic and Transport – The decision did not fully consider impacts on local roads and bridges for construction, turbine transport and the proposed cable route.
- Aviation – The decision did not fully consider all of the impacts on aviation.

6.2. Planning Authority Response

The main points made by the planning authority in relation to the first-party appeal can be summarised as follows:

- Due regard was given to the relevant policies and standards in the Kildare County Development Plan 2017-2023, the planning history of the site, internal reports particularly the Heritage Officer and Transportation Department, reports of the prescribed bodies particularly the Dept. of Defence and the National Parks & Wildlife, third-party submissions, and the proper planning and sustainable development of the area.
- The planning authority has no further comment to make. The Board is requested to uphold the decision to refuse permission.

6.3. Observations

6.3.1. Observations were received from the following. All observations object to the proposed development.

1. Larry & Mary McCormack, Quinnsboro Stud Farm, Monasterevin, Co. Kildare W34 Y432 (approx. 700 metres south of the southern boundary of the site).
2. Kate McCormack, Quinnsboro, Monasterevin, Co. Kildare W34 Y432 (approx. 700 metres south of the southern boundary of the site).
3. Liam & Mary Murphy, Mullaghroe, Monasterevin, Co. Kildare W34 Y436 (approx. 800 metres south east of the site on the opposite side of the Grand Canal).
4. Michael Hoey, 152 Crann Nua, Portarlington, Co. Laois
5. Umeras Community Development CLG, Umeras, Mountrice, Monasterevin, Co. Kildare W34 YC84
6. Dept. of Defence, Station Road, Newbridge, Co. Kildare W12 AD93.

6.3.2. Given that a number of the points made in Observation Nos. 1-5 are common to more than one observation, the main points can be collectively summarised under broader headings. The main points made can be summarised as follows:

Legal

- The information in the EIAR in relation to turbine wind noise is not enough in light of the judgement of Right to Know CLG v Raheenlagh Power DAC.
- The Supreme Court overturned the Board's permission for Cleanrath Windfarm Ltd. after finding the Board erred in failing to consider submissions from a local couple concerning developing knowledge about noise impacts from turbines.
- The judgement in O'Grianna v An Bord Pleanala, Cork Co. Co. and Framore Ltd. ruled planning permission should not be granted for a windfarm project requiring a grid connection unless grid connection details are provided in the EIA process. Essentially, the Board's decision to grant permission was quashed on the basis of project splitting. The grid connection was considered to be an essential part of the project. In this case the applicant has lodged separate

planning applications with Offaly Co. Co. in relation to the transportation of the wind turbines.

- The two planned future applications to Kildare and Lois Co. Cos. for grid connection is project-splitting. The application is invalid because it fails to include the grid connection.
- The planning authority did not make the planning application available online until two weeks after it was lodged and the statutory right to object was constrained. The development is in contravention of the spirit of the Aarhus Convention.
- Public participation is being denied for the grid connection aspect of the development and a number of issues are expressed in relation to the Bracklone substation.
- The planning authority decision implies that the EIAR does not identify or assess the likely significant environmental effects of the proposed development and is inadequate. A further information request would defeat the obligation on the applicant to provide all the information in their possession and in effect there is no real decision to appeal.
- The planning application should not have been validated prior to inspection and scrutiny. The sole issue to be resolved by the Board is whether or not the supporting documents submitted by the applicant should have been accepted on a provisional basis to allow sufficient time to establish whether sufficient information was provided to comply with requirements.
- Past failures to apply the EIA and Habitats Directive to developments connected with the Barrow Nore SAC constitutes environmental pollution. This pollution and their decisions granting planning permission have to be nullified and rectified before any new plans or projects which are connected to the SAC are approved or commenced. Consequently at best this application is premature.

<u>Biodiversity</u>

- There are an abnormal number of protected species in the proposed area. The EIAR is lacking in detail and is not fit for purpose.

- Quinnsboro and Ummeras is the only one of the nine curlew conservation areas in Ireland in the east. The curlew is Ireland's only red listed bird species on the IUCN list of threatened species.
- Information relating to the soprano pipistrelle bat is inadequate.
- The Board refused permission for a windfarm in Co. Donegal by Behy Renewable Energy as it was not satisfied that the windfarm would not have an adverse impact on the hen harrier.
- In relation to the freshwater pearl mussel, the AA Screening Report states further assessment is required because of the potential for surface water runoff from the site during heavy rain to discharge to the River Barrow and River Nore SAC.
- Endanger water quality.
- Other species referred to include the Marsh Fritillary butterfly, lapwing, kestrel, snipe, whooper swan.
- Turbine excavations.
- Tree and vegetation removal.
- The application is premature pending the Board's compliance with article 4.1(a)(ii) of the Water Framework Directive which states member states shall protect, enhance, and restore all bodies of surface water.
- The impact of windfarms on birds has not been adequately addressed. It is not enough for wind energy companies to gauge the effect of their own activities in isolation.
- Wind turbines on peatlands have resulted in considerable pollution of a number of watersheds due to bogs slipping and erosion of peat into protected watercourses.
- The EIAR does not consider the rehabilitation of Ummeras Bog to create a wetland will bring protected species closer to the turbines, rendering it unsuitable for a windfarm.

- Cumulative impact of planned windfarms has not been examined in relation to biodiversity.

Infrastructure

- There is no infrastructure to support construction of the windfarm or proposals to lay cabling. The applicant has stated access to the site will not be over two heritage bridges i.e. McCartney's Lock Bridge and Ummeras Bridge. These bridges cannot accommodate HGVs of any size. There is no agreement with Inland Waterways to drill under the canal. Therefore the cabling plans are unworkable.
- Premature pending adequate infrastructure being in place such as the Bracklone ESB station and no decision on 21/38 by Offaly Co. Co.
- No road structure to support the plan / The road network is poor / Extent of cable trenching on substandard roads / Disruption to roads.
- Inadequate assessment of decommissioning.

Landscape/Tourism

- No consideration of the impact of the proposed development on Ballykelly Mills regeneration, Quinnsboro, Grand Canal Blueway, Ummeras Peatlands Park, landscape tourism / Tourism is not adequately addressed in the EIAR.
- The planning authority has not adequately addressed the extent of the negative impact of same / Inland wind projects have negative impacts on tourism. The Board recently refused a project in Co. Longford on the basis of tourism impacts and Failte Ireland has objected to a number of projects recently in scenic areas.
- Proposed T2 will destroy the landscape scenic view routes. The impact of the turbines on the landscape is understated in the visual impact assessment.
- Ireland is sold to the world as having unspoilt countryside and the wind industry ignores this. The need for a robust National Landscape Policy and Strategy is now critical.
- The development of Ummeras Peatlands Park pre-dates the proposed windfarm. Development of a windfarm within 200 metres would be detrimental.

- The Council's approach regarding visual impact is not consistent with their approach to Maighne Windfarm.
- The Landscape Visual Impact Assessment is substantially deficient / Photomontages from important viewpoints are not provided / winter imagery has not been provided / Additional photomontages have been prepared by, and included in, the observation from Umeras Community Development CLG.
- Cumulative impact of planned windfarms (Ballydermot 6km away which, it is stated, will be the biggest windfarm in Ireland by area) has not been examined in terms of landscape impact.
- The EIAR only mentions Ballykelly Distillery in the context of justifying the industrialisation of the area with wind turbines. It has no mention of Ummeras Peatland Park despite having met with Umeras Community Development in this regard.
- The turbines would dominate views from Monasterevin along the Blueway for 7km to Wilson's Bridge, a disproportionate impact.
- Adverse effect on the potential for Monasterevin and Rathangan.

Policy

- Sections 4.2.3.1, 5.7.3, 5.7.4 and 5.7.5 of the Draft Revised Wind Energy Development Guidelines 2019 are set out.
- The Kildare County Development Plan 2017-2023 states such development should be subject of safety and amenity requirements, natural resources should be used in an environmentally and socially acceptable manner, regard should be had to the proper planning and sustainable development of the area including community / Environmental and landscape impacts and impacts on protected or designated heritage areas/structures / The development fails to consider the heritage of the area.
- Co. Kildare can better meet its development objectives with a spatially concentrated development on the larger bogs in Kildare away from tourist amenities and population centres.

Miscellaneous

- The first party grounds of appeal fail to address the reasons for refusal.
- Health implications.
- No/inadequate consultation/engagement with the local community.
- No cognisance of Quinnsboro Stud Farm.
- Devaluation of property / Proximity of houses.
- Noise pollution.
- Shadow flicker / Devices take too long to stop the turbines.
- Seriously injure the visual and residential amenities of the area.
- Impact on wells.
- Lack of local/permanent jobs resulting from the development. Claims by the wind industry of job creation have not materialised in any community.
- The site is too close to Monasterevin and Lackagh/Mountrice.
- Extent of housing in the area (400 houses within 2km).
- Offshore windfarms should be provided with onshore windfarms only developed in partnership with communities.
- The need for a windfarm at this location has not been justified.
- Groundwater / Water table.
- Key social impacts of wind projects are being underestimated and are not in line with international standards and practice on Social Impact Assessment. The Council and Bord need to consider more closely the social impacts of projects in line with evolving case law and good practice.
- Social conflict / Contrary to the well-being of the community.
- The wind industry has disproportionately influenced government policy through the industry lobbying by Wind Energy Ireland.
- The Renewable Energy Support Scheme (RESS) benefits are token payments to local communities which ignore those most impacted in the 1-2km zone.

- Windfarms distributed in small projects all over Ireland is the most expensive and least efficient model for developing renewable energy.
- Turbines should be realised in a more efficient and less intrusive manner by a more spatially concentrated development.
- Various additional documentation has been submitted such as a 2021 Draft copy of 'Experience the Barrow Blueway, An Economic Plan for the Barrow Line of the Grand Canal' prepared by Co. Kildare Leader Partnership, Kildare Co. Co. and Waterways Ireland and a section of a discussion document called 'Shaping our Electricity Future' prepared by EirGrid. Observations also contain newspaper clippings and online links related to, inter alia, the Ummeras Peatland Park, health implications of living in proximity to a windfarm, devaluation of property, a conceptual model to assist in assessing, planning and managing the social impacts of projects, 'The Onshore Windfarm Sector in Ireland: Planning in Harmony with Heritage' policy research paper published by The Heritage Council dated October 2013, and Youtube and RTE videos including drone footage of the area.

6.3.3. Given the nature of the planning application, the reasons for refusal and the specialist competency of the Dept. of Defence, I consider it appropriate to separately summarise the main points made in that submission. Following consultations with the Air Corps at Casement Aerodrome the Dept. wishes to object. Given the content of the observation I consider it appropriate to set out the content in detail.

1. The Air Corps use the EI-R16 and Military Operating Areas (MOAs) to conduct pilot training and to recover aircraft making approaches under instrument flight rules (IFR) to Casement. Instrument approach procedures are primarily conducted from the west through EI-R16. The airspace is in use nearly every day. The area is designated in accordance with s68 of the IAA Act for use by the Defence Forces and published in ENR 5-2 of AIP Ireland. Military aircraft in this airspace may not be flying in compliance with the rules of the air.
    a. EI-R16 is airspace south west of Casement with base levels starting from 1,000 feet to Flight Level 240 (approx. 24,000 feet). This airspace is used primarily for departure and arrival procedures for aircraft operating under IFR. The flight procedures are used by both civilian and military aircraft

operating out of Casement. The proposed windfarm is located beneath this airspace.

b. MOA4 is airspace south west of Casement. This airspace is from the surface to the level of activation up to a maximum of Flight Level 450 (approx. 45,000 feet). The airspace is used for pilot training where aircraft will not be complying with the civil rules of the air. Low level flying training areas are contained within MOA4. The proposed wind farm is located within this airspace.

2. Air Corps low level aircraft such as the Emergency Aeromedical Service (EAS), Garda Air Support Unit (GASU) or other aircraft on security taskings in support of the state make use of certain portions of the road network to access the regions. Typically the routes are low level and especially in poor weather. 3NM free of tall structures is required either side of designated roads to carry out these types of missions.

3. Further to the above:

   a. With a blade tip height of 169 metres/554 feet the turbines are considered an en route obstacle to aircraft in flight. Air Corps aircraft will routinely operate at similar levels in the area.

   b. The site lies wholly within an identified critical low level route in support of Air Corps operational requirements i.e. 3NM either side of the M7. Obstacles within this could affect Air Corps aircraft's ability to access the regions, especially in poor weather. EAS and GASU aircraft will fly at turbine height, especially in poor weather. Should the development go ahead, in poor weather conditions the route may be blocked to aircraft accessing the south west. Aircraft attempting to return to Casement could find the return route no longer available due to deteriorating weather. In effect, the aircraft will be pushed downwards to stay below the cloud base with the option of flying over the windfarm no longer possible.

   c. Typical flight operations that may be affected include (i) security missions in support of the Defence Forces in aid to civil power, (ii) Air Ambulance missions in support of the HSE, (iii) GASU missions.

4. As safe aircraft operation is dictated by ensuring that aircraft do not fly close to an obstacle, there would be an immediate impact on navigability in the area.

6.4. Further Responses

6.4.1. Further responses were received from both first and third parties in relation to the respective separate grounds of appeal.

Ummeras Wind Farm Ltd. (First Party)

6.4.2. The main points made can summarised as follows:

- Tourism – This was addressed in Chapter 5 (Population and Human Health) of the EIAR. It found that as the site is not associated with any tourist activities or attractions there would be no direct impacts. Numerous studies have found in general that windfarms did not have any significant negative impacts on tourism and indeed there were some positive impacts e.g. most tourists associate wind turbines with clean energy than with landscape impacts. No objection was received from Waterways Ireland, Bord Failte or the Ballykelly Mills developer.
- Landscape & Visual – The Landscape and Visual Impact Assessment finds the visual effect at canal bridges not to be significant. The Planning Report notes the development is in a landscape which generally has the capacity to generally accommodate a wide range of uses without significant adverse effects and acknowledges wind farms are considered as having a high compatibility with the landscape. A robust impact assessment could have been carried out by the planning authority.
- Biodiversity – The further information points in relation to biodiversity have been comprehensively addressed in the grounds of appeal. The appellant has failed to point out any lacunae and deficiencies as referred to. An assessment of the pathways for effects and an evaluation of the proposed development was completed. The development is located within the Barrow catchment and is not located within or upstream of the 'current range' or 'current distribution' for Freshwater Pearl Mussel which is limited to a 10km stretch of the Nore.

The third-party appeal claims the decision did not fully consider impacts on curlew, lapwing, golden lover, whooper swan and hen harrier. The EIAR assessment is based on a comprehensive ornithological dataset collected using robust methodologies. Section 6.7.4.3 of the EIAR provides an overview of the findings of survey efforts for each bird species and Section 6.8.4.9 describes the potential impact. This information, as elaborated in the first-party grounds of appeal, is summarised in the first-party's Further Response. Potential mitigation measures set out in the first-party appeal are summarised in the Further Response.

Chapter 6 (Biodiversity) of the EIAR contains information on the surveys and impact assessment for bats. The desk study identified the closest known roost to be over 3km from the site. Only a shed located 165 metres from T2 was identified as a potential roost site, but a survey determined it was not suitable as a hibernation roost. Detectors at proposed turbine locations showed medium and high levels of bat activity at proposed T3, associated with the woodland habitat. Activity was low at the other turbine locations. Forestry around T3 was deemed too young to have suitable roosting features. Section 6.8.4.6 of the EIAR found there would be no significant negative impacts on bats in the area. Notwithstanding, mitigation measures are outlined in Section 6.9 should significant impacts be found to occur. Impact to bat species was fully addressed.

It is stated the planning authority did not fully address cumulative impacts. Section 6.11 determined there would be no significant cumulative impact for biodiversity. Cumulative impact for golden plover at a national, county, and local scale was requested and this was addressed in the grounds of appeal.

- Cultural heritage – The appellant does not elaborate on how the decision did not fully consider the impact on monuments located near the site or specify any particular monument or areas where information is not provided or discussed. There were three archaeological monuments in the southern area of the site. Two previously unrecorded archaeological monuments were also recorded and added to the Sites and Monuments Record (SMR). Mitigation by design was used in developing the proposed infrastructure. As described in Section 15.4 of the EIAR the proposed development, including the TDR and grid connection,

will have no direct impact on recorded archaeological monuments though there will be some indirect visual impact. A mechanism for recording, protecting, and resolving any newly revealed sites will be agreed. A thorough assessment for cultural heritage has been carried out.

- Noise – The third-party appeal states the decision did not consider fully the impact of noise on local residences but does not specify any particular properties or lack of data. Both on-site monitoring and computer modelling was used to predict the worst-case noise and vibration impacts. The closest non-involved noise sensitive receptor in 676 metres from proposed T3. Noise levels in low wind speeds will increase though predicted levels will remain low, albeit new sources of noise will be introduced. There are no noise sensitive receptors for which the proposed development would have significant impacts. Significant vibration effects are not expected because of distances. Clarification for noise issues raised by the planning authority Environment Section were addressed in the grounds of appeal. There was sufficient information to allow the planning authority carry out a complete assessment.

- Consultations – The third-party appeal claimed the planning authority did not consider the availability of environmental information to the public. Scope to carry out normal public engagement was restricted by Covid. Public engagement the applicant did engage in is set out. The Community Liaison Officer is still operating as a point of contact. The applicant is not aware of any issues with respect to EIAR information availability of the Council's website.

- Roads, Traffic & Transport – The third-party appeal states the decision did not fully examine impacts on roads and bridges for the construction material haul route, TDR, or grid connection. A full assessment of potential impacts was provided in Chapter 16 (Traffic and Transport) of the EIAR. Extensive consultation was carried out with the planning authority's Roads Section while preparing the EIAR. Further clarification issues raised in the Roads Section report for the planning application are addressed in the first-party grounds of appeal. Post-decision clarification was sought from the Roads, Transportation and Public Safety Department to identify bridge restrictions referred to, but no

specific locations were identified. There are restrictions with bridges along the grid connection route.

- Aviation – It is claimed in the third-party appeal that the planning authority did not fully consider all the impacts on aviation in their decision. The applicant considers that the planning authority did not take account of the evidence provided in Chapter 12 (Material Assets: Aviation, Telecommunication and Electromagnetic Interference) of the EIAR. On foot of the scoping exercise two specialist aviation reports were commissioned. The IAA have no objection to the proposed development subject to normal conditions. Despite a report by Capt. Fintan Ryan addressing all concerns raised by the Dept. of Defence in the scoping exercise, a similar observation was made by the Department to the planning authority. A second report was commissioned and submitted with the grounds of appeal.

Monasterevin Rathangan Wind Awareness (Third Party)

6.4.3. The main points made can summarised as follows:

- Inadequate consultation with local householders.
- Significant visual impact on the surrounding landscape. The vulnerable landscape has an inability to accommodate an industrial development of this scale. The windfarm would contravene the Kildare County Development Plan.
- Local tourism initiatives have potential to drive significant inward investment into the area and revitalise Monasterevin and Rathangan. The windfarm location is completely incompatible.
- The wetland to be created on Umeras Bog will create an important new nature reserve. Turbines should not be located where rare birds have been found. A 'Peer Review of Ecological Information Submitted in Support of a Planning Application for the Proposed Development of Ummeras Wind Farm and Associated Infrastructure' prepared by FERS Ltd. on behalf of Monasterevin Rathangan Wind Awareness dated May 2021 was submitted as part of the further response.
- Devaluation of property.

- General impact on the bloodstock industry.
- Wind energy is a high cost for low benefit means of producing electricity.
- Sterilisation of land that had other productive uses.

7.0 **Assessment**

This assessment has three aspects: an environmental impact assessment (EIA), an appropriate assessment (AA), and a planning assessment. In each assessment, where necessary, I refer to the issues raised by parties in the various submissions to the Board. There is an inevitable overlap between some assessments, for example, some matters raised falling within both the environmental impact assessment and the planning assessment.

8.0 **Environmental Impact Assessment (EIA)**

All relevant information, including the grid connection and TDR, has been taken into consideration in this EIA.

Introduction

8.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR) prepared by Tobin Consulting Engineers and dated January 2021. The EIAR comprises a Non-Technical Summary (Volume 1), an EIAR Main Report (Volume 2), two volumes of appendices (Volume 3, Parts 1 and 2) and two photomontage booklets (Book 1 and Book 2).

8.2. The appeal falls under the requirements of Directive 2014/52/EU, the Scoping Report being dated 15.01.2020 and the planning application being submitted on 22.01.2021. The proposed development falls within Schedule 5 Part 2 Class 3 (i) of the Planning & Development Regulations, 2001 (as amended) i.e. 'Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts'. The planning authority decision considered

that the submitted EIAR did not identify and describe adequately all of the effects of the proposal on the environment in accordance with article 3(1) of the 2014 Directive. The applicant (which is also the first-party appellant) rejects this and in the grounds of appeal demonstrates how the EIAR complies.

8.3. Chapter 1 (Introduction) of the EIAR sets out the background to the proposed development. The EIAR includes all aspects of the proposed development, including grid connection and road/junction accommodation works to facilitate turbine delivery. The applicant (Ummeras Wind Farm Ltd.) is a subsidiary of Statkraft Ireland Ltd., part of the Statkraft Group, Europe's largest generator of renewable energy. The proposed windfarm is expected to add up to 30MW of wind energy capacity (an assumed rated electrical power output of approx. 6MW per turbine). The EIAR contains a list of the competent experts who contributed to the EIAR (Table 1-3). Pre-application scoping and consultations are outlined. Detail of public engagement is set out in Section 1.10.6, an issue raised in multiple observations where this was considered to be inadequate.

8.4. Chapter 2 (Description of the Proposed Development) describes the existing site and the main components of the development and provides details on the construction, operation, and decommissioning of the windfarm. Construction is expected to take approx. 12 months.

8.5. Chapter 3 (Reasonable Alternatives) contains a description of the reasonable alternatives that were considered in terms of site selection, other land-use options for the site as well as site layout, transport route options and design considerations. In the 'do-nothing' scenario 'the prospect of capturing valuable renewable energy resources would be lost' with opportunity lost to contribute to renewable energy targets. In terms of alternative locations, site selection began at a macro level. The area has a generally lower density of environmental designations allowing greater scope for development in these areas, wind energy development already exists with capacity for future wind energy development and there is transmission infrastructure. This process led to a focused search for areas considered to have capacity and a search for appropriate and available lands and a more specific micro level assessment was then completed. Each site was measured against a range of criteria. 'The available wind resource and the proximity of the subject site to a connection point on the National Grid was a key driver on the final selection of the site. The site proposed for the Ummeras Wind Farm

Development emerged as the preferred location'. The key findings with respect to the chosen site are set out in Table 3-1. A number of alternative layouts/designs were considered through an iterative process. These include an increase in the distance to non-involved houses from 500 metres to 676 metres, from shadow flicker being in line with guidelines to a commitment to zero shadow flicker, a reduction in the number of proposed turbines from seven to five, and a reduction in output from 35MW to 30MW. The substation location was considered in the northern area of the site though there is a deeper level of peat. Alternative processes i.e. bio-energy, off-shore wind, solar and tidal and wave energy, are considered and discounted in Section 3.3.4 for reasons including cost, efficiency, sustainability, output, technology, and footprint.

8.6. Chapter 4 (Policy, Planning & Development Context) considers the proposed development works in terms of legislative context and in relation to strategic, national, regional, and local planning policies and objectives, in order to ascertain whether it is consistent with the relevant legislation and with the proper planning and sustainable development of the area. There are significant policy supports for renewable energy technologies in the country and the development will contribute towards achieving national and EU targets for renewable energy production and carbon dioxide reduction.

8.7. I have carried out an examination of the information presented by the applicant, including the EIAR which includes the proposed grid connection and TDR, the supplementary information, and the submissions/observations made during the course of the application and the appeal. A summary of the results of the submissions made by the planning authority, prescribed bodies, appellants, and observers, has been set out at Sections 3 and 6 of this report. The main issues raised specific to EIA can be summarised as follows:

- The ability of the road network to accommodate the proposed development.
- The issue of release of ammonia caused by excavation of peat.
- Surface water monitoring schedule during the construction stage.
- Noise issues and inadequate information in relation to noise.

- Biodiversity – Hen harrier, collision risk modelling for golden plover and fatality monitoring methodology, deficiencies in the Biodiversity chapter of the EIAR, rehabilitation of Ummeras Bog.
- Aviation, in so far as it affects Dept. of Defence operations.
- Adequacy of the Landscape Visual Impact Assessment.

8.8. These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and recommendation. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and that the information contained within the EIAR, and supplementary information provided by the applicant, adequately identifies and describes the direct, indirect and cumulative effects of the proposed development on the environment and complies with article 94 of the Planning & Development Regulations, 2000 (as amended).

8.9. The following sections address each of the environmental factors. The headings are those used in the EIAR.

Population and Human Health

8.10. Chapter 5 examines the existing environment and addresses the potential impacts on population and human health arising from the proposed windfarm.

8.11. Land use on site is primarily agriculture with some forestry and the surrounding area is described. The populations of both Quinnsborough Electoral District (ED) and Lackagh ED, within which the windfarm is sited, increased between 2011 and 2016, by 10.3% and 8.7% respectively. All 146 no. receptors (properties and buildings) within 1.5km of the proposed turbines have been identified. 133 no. are considered to be sensitive receptors (i.e. 13 no. appear derelict, are commercial buildings or are 'involved' receptors). This information is used to inform assessments such as shadow flicker and noise modelling. The EIAR states that 'The closest sensitive receptor property is located more than 676m (i.e. 4x the height of the maximum turbine tip height being applied for) from the nearest turbine'. As part of the community engagement process and public consultation all sensitive receptors within 1.6km of the windfarm boundary were engaged with. Employment and tourism baselines are set out. In terms of human health, Section 5.3.2 states 'it is not possible to get reliable

baseline information on small scale populations', but some insight into the general area is provided.

8.12. Potential impacts are set out in Section 5.4. In terms of impact on population during the construction phase this includes some land use change and short-term negative effects as a result of construction traffic and noise and air quality. It is estimated 40 no. people will be directly employed at peak construction. The construction phase will have a short-term slight positive effect on employment and the economy. I note that while reference is made to sourcing construction materials, plant and machinery and local contractors and suppliers from the general area there is no commitment in this regard. There is likely to be a short-term slight negative impact on the Barrow walkway and canal. This would affect local users more than tourists as it would only affect approx. 3km of the approx. 120km long walking trail. Replacement of the forestry land lost (approx. 5 hectares) will be in Co. Cork. Population trend will not be affected by the operation of the development and two UK studies in relation to the impact of windfarms on house prices concluded that the windfarms do not significantly impact property values in the area. 1-2 high quality technical jobs in operation and maintenance are expected to be supported by the development. The power supply infrastructure and capacity in the local region will be improved though the EIAR does concede that, in terms of the economy, 'the direct effects from the proposed development locally will be limited'. The EIAR considers that the proposed Barrow Blueway project will have a more notable impact on the local tourist population than the proposed windfarm. Various studies are set out to support the view that windfarms do not adversely affect tourism and the conclusion is that windfarms will have 'a long-term, imperceptible, neutral impact on tourism numbers in the vicinity of the site'.

8.13. In terms of impact on human health, the EIAR assessment 'is based on a comprehensive review of the relevant published literature on the subject'. A number of studies are referenced in Section 5.4.2.1 (Wind Turbine Syndrome) which concludes that there appears to be little scientific evidence of effects of wind turbine syndrome and significant health effects in this regard are not anticipated. Noise induced hearing loss, sleep disturbance, infra-sound (sound below the audible human frequency) and electromagnetic interference are addressed and no concern in relation to these issues are cited. The effect on psychological well-being is difficult to assess as there is no direct measurement, but no findings of increased depression or anxiety

are in peer-reviewed literature. The effect on residential amenity is considered to be 'a slight to moderate negative effect … which will be short-term for the construction phase and long-term for the operational phase'.

8.14. The potential for a major accident or disaster is low. The cumulative effect is set out in Section 5.4.5. Relevant impacts e.g. noise and shadow flicker, are discussed in the relevant chapters. Mitigation measures have been incorporated such as replanting forestry to be removed and best practice construction methods. Specific mitigation for other environmental factors which may interact with human health are discussed in the relevant chapters. In terms of residual impacts the development will provide clean energy from a renewable source, a direct positive long-term impact. The local economy will have a short-term boost during the construction phase. The establishment of a Community Benefit Fund is considered to be a positive effect. The long-term impact on the tourism and recreational amenity of the Canal is considered to be imperceptible and neutral.

8.15. I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts on population and human health can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on population and human health.

Biodiversity

8.16. Chapter 6 involves a Biodiversity Impact Assessment. It is noted that the entire project has been assessed throughout the chapter.

8.17. The study area for the Biodiversity Assessment 'comprised the proposed wind farm site and the wider surrounding hinterland'. Table 6-1 outlines the zone of influence (ZoI; the likely area over which the proposed development could have potential impacts on a given receptor) informing the Assessment and relates to habitats and flora, mammals, birds, invertebrates, and aquatic species. The three main elements informing the baseline ecological assessment are consultation with key stakeholders (consultee responses coming from Kildare Co. and IFI), a desktop ecological evaluation and field surveys (undertaken between December 2016 and July 2020) and

these three elements are described. The field surveys are described in some detail and substantial detail is contained within the appendices. The information gathered from the desk studies and field surveys was used to make an Ecological Impact Assessment (EcIA) of the proposed development upon the identified ecological receptors on an importance scale of international, national, county, local importance-high value, and local importance-low value.

8.18. Designated European (SACs, SPAs) and national sites (NHAs, pNHAs) are set out and potential pathways examined. The only pathway identified, for the windfarm element of the proposed development, is surface water connectivity between the site and the River Barrow and River Nore SAC. An evaluation of the significance of habitats and flora recorded at the site was carried out. No floral species of conservation concern were recorded on site. The majority of the development site 'is located within intensively managed and highly modified habitats'. Table 6-13 (Ecological Evaluation of Habitat within the Proposed Development Footprint) lists the habitats and their ecological evaluation. None of the habitats on the windfarm development site are of higher value than local importance-higher value (broadleaved woodland, drainage ditches, depositing/lowland rivers and treelines). The depositing/lowland river does, however, lead to a key ecological receptor (KER) i.e. River Barrow and River Nore SAC.

8.19. Bat surveys were carried out. There were no known roosts within the site. The buffers around Ts 1,2, 4 and 5 showed limited potential for bat roosts and the forestry plantation around T3 was deemed too young. Bat surveys show a variable level of bat usage across the site with highest levels associated with the forestry edge, stream, treelines and hedgerows and the canal. Six species were detected. Detectors at T3 recorded medium and high levels of activity whereas detectors at the other turbines recorded low activity.

8.20. Signs of otter were recorded but no holt or resting sites. Evidence of badger was recorded throughout the windfarm site, including setts. No sign of red squirrel, pine marten or stoat was recorded in or adjacent to the development footprint during walkover surveys though red squirrel and pine marten potentially could use the site. Evidence of fox was recorded as was a possible mink burrow. Other species likely to occur include rabbit, hare, stoat, pygmy shrew, and hedgehog based on their widespread distribution. Frogspawn was recorded in a ditch just outside the site

boundary. A survey for marsh fritillary was undertaken. It was concluded that the site 'does not offer any potential for this species', though colonies do occur on the periphery of the site. The Ummeras Beg stream is addressed. Within the site it does not provide optimal habitat for salmon, white-clawed crayfish, or lamprey species though there is potential that suitable supporting habitat may occur further downstream. Species records are shown on an aerial photograph in Figure 6.4.

8.21. In terms of avifauna, a list of all target species recorded during surveys within the ZoI are set out including Annex I Bird Directive species, BoCCI (Birds of Conservation Concern in Ireland) red list species, waterfowl, waders, and raptors. Substantial survey detail is contained within Appendix 6-2 (Bird Survey Data and Figures). The survey recorded mute swan, whooper swan, hen harrier, goshawk, sparrowhawk, buzzard, kestrel, peregrine, merlin, golden plover, lapwing, curlew, snipe, woodcock, ringed plover, teal, mallard, cormorant, grey heron, little egret, moorhen, kingfishers, black-headed gull, herring gull, lesser black-backed gull, great black-backed gull, yellowhammer, grey wagtail, skylark, meadow pipit, stonechat, and whinchat. Observations on each species are described in Section 6.7.4.3 (Avifauna). All of these are evaluated as being 'locally important-higher value' and all bar kingfisher, teal, moorhen, little egret, great black-backed gull, and passerine species are considered KERs with a sensitivity evaluation ranging from low to medium.

8.22. KERs that require consideration regarding potential impact and mitigation include receptors identified as being of 'Local Importance-higher value', or greater e.g. broadleaved woodland, depositing/lowland rivers, bats, otter, badger. The identification and description of effects on habitats and fauna, set out in Section 6.8 (Potential Effects) takes account of the characteristics of the receiving environment and each phase of the project. The effects described are those ecological impacts predicted prior to consideration of mitigation. Table 6-17 (Assessing the Potential Impact on Local Avian Communities from Habitat Loss and Fragmentation Associated with Construction Activities) sets out the individual species, the magnitude of the habitat loss and fragmentation in so far as it would affect that species (low concern for all), and a significance evaluation (which are either 'low significance, long-term, slight negative effects' or 'very low significance, long-term, imperceptible negative effects').

8.23. The potential impact on avian communities from disturbance displacement during construction is also considered (Table 6-18). The potential impact ranges from 'low

significance, temporary, slight negative effects' to 'very low significance, temporary, imperceptible negative effects', depending on the species.

8.24. Collision risk during the operational phase is one of the main impacts to consider in assessing possible impacts of a windfarm. The susceptibility of birds to collision depends on a number of factors e.g. species, number of birds and flights per year, turbine height and blade length, weather, topography. The physical characteristics of a bird plays a crucial role in predicting the probability of a bird suffering a collision. High wing loading (ratio of body weight to wing area) is associated with species with low manoeuvrability such as swans and geese. Other species such as farmland passerines are generally more manoeuvrable and less susceptible to collisions. 'Radar tracking surveys at operating wind farms have shown that birds will generally avoid colliding with turbines and do not fly into them blindly. In practice, most birds do take avoiding action when they encounter operating turbines in the landscape', according to the EIAR. A Collision Risk Model is included as Appendix 6-4, prepared for 17 no. species observed flying at potential collision risk height and with sufficient amounts of flight activity. Golden plover was found to have the highest rate of annual mortality. The level of collision risk 'would be unlikely to cause significant impacts to the Co. Kildare golden plover population, and would not be significant at the national scale'. The EIAR considers that the presence of turbines could potentially deter birds from using the area. However, the literature is not in agreement on the magnitude of displacement impact associated with operating turbines though 'there is an increasing body of evidence to suggest that wind farms do not affect bird distribution'. One recommendation is that turbines are a minimum 200 metres apart to facilitate free movement; in the application all turbines are more than 400 metres from a neighbouring turbine. Table 6-19 assesses the potential impact of disturbance displacement during operation. Significance was evaluated as between 'low significance, long-term, slight negative effects' or 'very low significance, long-term, imperceptible negative effects'.

8.25. Mitigation measures are set out in Section 6.9. These have been designed to mitigate potential negative and harmful effects as a result of the proposed development on the KERs identified as part of the impact assessment. Measures for the construction, operation and decommissioning phases are set out relating to general mitigation, habitat/flora mitigation, fauna mitigation, birds and bats. Some of these mitigation

measures are post-construction bird monitoring, increasing the turbine cut-in speed during bat activity season (April – October) and lighting.

8.26. Mitigation is expected to result in no significant residual effects arising from the construction, operational or decommissioning phases. Key relevant projects considered in terms of cumulative effects are set out (these are set out in Section 9.46 of this Report). No significant residual effects on any ecological receptor have been identified and no residual cumulative effects are anticipated. The conclusion of the Biodiversity chapter notes that the development and implementation of a Construction Environmental Management Plan (CEMP, submitted as Appendix 2-4) 'is a key instrument in ensuring the implementation of all mitigation measures during construction … The residual effects assessment, post implementation of mitigation measures, concluded that the proposed development, when considered individually, will not result in significant effects on any of the identified KERs. In addition, no significant cumulative/in-combination effects are anticipated'.

8.27. Biodiversity issues formed a significant element of the third-party submissions to the planning authority and the third-party grounds of appeal and observations received by the Board. Biodiversity issues were also cited in the DTCAGSM report relating to hen harrier, golden plover, and fatality monitoring methodology. The 'Peer Review of Ecological Information Submitted in Support of a Planning Application for the Proposed Development of Ummeras Wind Farm and Associated Infrastructure' prepared by FERS Ltd. on behalf of Monasterevin Rathangan Wind Awareness dated May 2021, which was submitted as part of the further response, considers that the biodiversity chapter in the EIAR is deficient in relation to avifauna. The Review considers that 'The applicant has provided no scientific methodological information as to how the viewsheds utilised were generated. It can only be assumed that the viewsheds were calculated by eye, in a completely subjective, unscientific, unrepeatable, and uninformed manner'. Consideration of certain species such as whooper swan are likely to be inadequate. The Department's concern about hen harrier is referenced. Detail on usage of the study area by golden plover at night is a lacuna and concern is expressed about curlew. The Collision Risk Model is considered to be fundamentally flawed as it is based on inadequate viewshed analysis and inadequate bird surveys.

8.28. Many of the issues raised by the Department and in observations and further responses are addressed by the applicant in the first-party grounds of appeal, and the further response. A robust justification and explanation is set out in relation to the hen harrier, golden plover, and fatality monitoring methodology, among other issues as summarised in Sections 6.1 and 6.4 of this Report. The applicant considers that the presence of the hen harrier roost identified by the Department would not change the conclusions of the Hen Harrier impact assessment completed, and the project ecologists are confident that there were no active hen harrier roosts within 1km of the proposed turbines. The 99.8% avoidance rate for golden plover in the collision risk modelling exercise, rather than a 98% rate, was derived from three post-construction monitoring studies in East Yorkshire with similar levels of golden plover flight activity to Ummeras. The population estimates for golden plover are likely to be significantly underestimated, for reasons set out, and use of the 98% avoidance rate instead of the 99.8% rate would not change the likely significance on the golden plover population, which is not significant. The fatality monitoring methodology in the EIAR was provided as per Scottish Natural Heritage guidelines and additional information to further clarify this is submitted with the grounds of appeal.

8.29. The Peer Review was not submitted with any of the observations received by the planning authority, or with the third-party grounds of appeal, and the specific lacunae referred to were not cited. Many of the issues referenced in the Peer Review, relating to the biodiversity chapter in the EIAR, were not considered to be an issue by the Department or by the planning authority's Heritage Officer. The generation of the selected viewsheds is the primary area of concern, and its consequence for inadequate bird surveys, collision risk modelling and conclusions. The EIAR, including appendices and the grounds of appeal, contain a very significant amount of information and detail relating to avifauna, collected over several years. I am satisfied, having regard to the detail submitted, that a robust assessment was carried out sufficient to adequately outline avifauna issues relating to the proposed windfarm development.

8.30. The Department did not comment further on the content of the first-party grounds of appeal, nor did the planning authority's Heritage Officer identify any further concern in relation to biodiversity.

8.31. In conclusion, I have considered the submissions on file, this chapter of the EIAR which includes the grid connection and TDR, and all supplementary documentation. I am satisfied that the potential for impacts on biodiversity can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on biodiversity.

Land, Soils and Geology

8.32. Chapter 7 sets out the assessment methodology and information on the existing soil and geological environment at the proposed windfarm. Methodology for the chapter included a review of legislation and guidance, a desk study, field surveys, an intrusive investigation, an evaluation of potential effects, an evaluation of the significance of the effect and an identification of measures to avoid and mitigate effects. The Geological Survey of Ireland (GSI) commented and made recommendations to inform the EIAR. The Environmental Protection Agency did not respond to a consultation letter.

8.33. The site is not a sensitive site in terms of the soils and geological environment as outlined in sections relating to study area; site topography and geomorphology (an 8 metres difference in ground level across the windfarm site with two drumlins, generally north west to south east); regional bedrock; local bedrock geology (both Lucan Formation (Dark limestone and shale, Calp) and Allenwood Formation (Thick-bedded limestone, locally peloidal)); mineral/aggregate resources; geological heritage (the closest geological heritage site is >5km north west at Dunmurry Hill); regional soils; local soils (generally underlain by cutover raised peat and limestone till); regional subsoils; local subsoils (till derived from limestone is the dominant soil type with peat encountered in certain areas); soil contamination (no areas of particular concern observed); landslide database ('low' landslide susceptibility); ground investigation (confirmed the general geology indicated in the geological mapping; Appendix 7-1 ('Ground Investigation Report'); laboratory test results (submitted as Appendix 7-3); karst features (not identified); accidents/disasters, and peat and subsoils stability (a Peat Stability Risk Assessment submitted as Appendix 7-4 justifies the 'low' hazard ranking assigned).

8.34. The potential effects of the construction phase are set out in Section 7.5. These include access tracks, the temporary construction compounds, management of excavated materials, hydrocarbon release and excavations for the turbine foundations, hardstanding foundations, substation foundations and met mast. Floating roads (built directly on top of peat and soft soils) will be used where peat is deeper than 1 metre, mainly close to T3. 12,362m^3 of compacted material is estimated to be required for access tracks. Construction of the access tracks and temporary construction compounds are considered to be not significant, permanent, negative effects. Unsuitable excavated material will be bermed and profiled adjacent to works locations. Good site practice will mitigate any effect of hydrocarbon release. Most turbine foundations are not anticipated to require piling. On the assumption of no piling, 3,474m^3 of concrete is estimated as being required. Turbine foundations will be investigated to identify any potential karst features, though none are recorded. Hardstanding foundations are estimated to require 29,000m^3 of compacted material. In total, a volume of 49,198m^3 of compacted material is estimated to be required.

8.35. During the operation phase no new effects on the soil and geological environment will arise. There may be hydrocarbon/oil spills related to maintenance, but risk would be negated by mitigation measures. Additional small volumes of aggregate may be required to resurface roads. At decommissioning stage turbine foundations would remain in place and covered with earth and allowed revegetate. The tracks may be left for future use such as agricultural. These materials are mostly inert. The substation will be retained as a permanent structure. The EIAR anticipates that 'there will not be any significant cumulative effects in relation to Land, Soils and Geology'.

8.36. A number of mitigation measures for construction, operation, and decommissioning, to avoid or reduce the potential effect on soils and geology, are outlined in Section 7.6. Residual effects 'will be not significant and permanent'. Chapter 7 concludes that 'The development of the project will have a long-term but not significant effect on the soil and geological environment through the application of identified mitigation measures and appropriate management throughout the life cycle of the wind farm'.

8.37. The planning authority's Environment Section considered that the EIAR does not cover the issue of release of ammonia caused by excavation of peat. In the first party grounds of appeal the applicant stated that a response to this has been completed by two hydrogeologists and additional site monitoring was carried out. Only T3 and

associated hardstanding is located in a peat area. The applicant considered that, based on data collected in 2020 to inform the EIAR, additional monitoring, and assimilative assessment there was no basis for refusal of the development in relation to ammonium. There is limited peat on site with concentrations of ammonium in ground and surface water within regulatory limits. Any temporary release via peat excavation would not result in exceedance to statutory water quality standards. I note that the planning authority did not comment further on this issue in the Planning Authority Response to the grounds of appeal.

8.38. In conclusion, I have considered the submissions on file, this chapter of the EIAR which includes the grid connection and TDR, and all supplementary documentation. I am satisfied that the potential for impacts on land, soils, and geology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on land, soils, and geology.

Hydrology and Hydrogeology

8.39. Chapter 8 describes the existing hydrological, hydrogeological and water quality characteristics and includes an assessment of the impact on the water environment from the development. The drainage of the proposed development is also considered as are proposed mitigation measures.

8.40. An examination of the existing hydrological regime was carried out through a combination of consultation with the relevant authorities, a desktop review and site-specific fieldwork. The GSI commented and made recommendations to inform the EIAR. The Irish Peatland Conservation Council and the three County Councils of Kildare, Offaly and Laois did not respond to a consultation letter. On a regional scale the windfarm site is in the Barrow Hydrometric Area and Catchment. The sub-catchment is Barrow_SC_040. The river sub-basin cited in Table 8-2 (Waterbodies and the Proposed Development Site) is the Figile_080IE_SE_14F010600 with an ‘unassigned’ status. The Ummeras Beg Stream flows through the site ultimately discharging to the Barrow. The development is not located in an area for action as set out in the 2018-2021 National River Basin Management Plan. It is also noted that the Grand Canal is not hydrologically linked to the site. A flood risk assessment was

prepared. This is submitted as Appendix 8-1 of the EIAR. It concludes that the windfarm site was found to meet the criteria of the Justification Test with four recommendations proposed to mitigate flood risk. In terms of hydrometric data, though there are stations further downstream where flows come from a number of different tributaries, there is no station in the immediate environs of the site. Table 8-4 identifies the nearest downstream monitoring station on the Figile before its confluence with the Barrow. The most recent data dates to 2006 and water quality was Q3-4 (moderate/slightly polluted). An upstream station (River Bridge on the L1002 which is on the Slate River) had the same Q3-4 value in 2017. Surface water samples were taken on a field study, one from the Figile River at Ardra Bridge, Bracknagh (upstream) and two within the subject site, one of these at the downstream site boundary. These baseline results are set out in Table 8-5 to allow for comparative studies.

8.41. The Water Framework Directive describes the groundwater quality status as 'Good'. The types of bedrock aquifer underlying are Lucan Formation in the west area (LI – locally important aquifer – bedrock which is moderately productive only in local zones) and Allenwood Formation in the east area (Rkd – regionally important aquifer – karstified (diffuse)), of the windfarm site. Groundwater flow paths are expected to generally follow the local surface water catchments. The groundwater vulnerability throughout the proposed windfarm site ranges from L (Low) to H (High). Figure 8-6 (Groundwater Vulnerability) identifies only a very small area of the proposed grid connection within the windfarm landholding area as being in a H area. The windfarm infrastructure itself (turbines, substation, access tracks) is L or M (Moderate). No turbine is located within 1km of the public water supply zone of contribution for Rathangan or Monasterevin. Alteration to the regional groundwater regime is 'deemed unlikely'.

8.42. Potential effects on the hydrological and hydrogeological environment may comprise direct and indirect effects on the quality of surface waters and groundwater, and potentially the increased volume of surface water flow. Proposals for construction activities and operational infrastructure were reviewed to identify activities likely to impact on water bodies. Following identification of sensitive waterbodies the extent and severity of potential effects at all three stages were evaluated. In a do-nothing scenario there are no significant hydrological or hydrogeological impacts. The potential effects of construction activities such as earthworks, including turbine bases, and

hydrocarbons are set out. Turbine bases may encounter groundwater. Felling of 5.01 hectares of forestry may potentially mobilise sediment and release nutrients. Potential pollution to water from site traffic or construction activity is a concern. Surface water is likely to be impacted by all of these activities, prior to mitigation. Installation of permanent infrastructure for the operational phase may have potential to slightly increase runoff. There will be no direct discharges to the surface water environment during the operational stage. Tables 8-8 and 8-9 in the EIAR set out the magnitude and significance of hydrological criteria at construction and operational stages, prior to mitigation. Potential impacts are considered slight/negligible. The risk of accidents 'is very low and would not cause unusual, significant or adverse effects on human health or the environment during the construction or operational phase'. The cumulative impact assessment, taking into consideration the key relevant projects set out in Section 9.46 of this Report, considers there is no potential for significant impacts cumulatively with other planned developments. Decommissioning impacts are similar to the construction phase impacts.

8.43. Mitigation measures are set out in Section 8.5. All measures outlined will be incorporated into the Surface Water Management Plan, part of the CEMP. These relate mainly to the construction phase and areas such as infrastructure construction, concrete, fuels and chemicals, erosion and sediment control, surface water flow and watercourse crossings. Operational phase measures are also set out. Mitigation measures during decommissioning should be similar to the construction phase. Local surface water features should be monitored to take account of any variations in quality as a result of the proposed activities. Potential residual impacts are considered to be 'slight and short term in nature'. There are considered to be 'no significant long-term impacts'. There are 'no significant cumulative effects … in relation to the water environment'. Chapter 8 concludes that 'There are no significant long-term impacts on the surrounding water quality, hydrology and hydrogeology at the site'.

8.44. The planning authority's Environment Section considered that details of a proposed surface water monitoring schedule during the construction stage should be provided and monitoring locations shown on a site layout plan. Tables 5-7 and 5-8 of the appeal document set out a surface water monitoring schedule and parameter/trigger values. Reference is made to monitoring at three locations as shown on Figure 5-3. However, Figure 5-3 does not appear to be provided. Notwithstanding, the three surface water

quality monitoring locations are described: Upstream of development on the Ummeras Beg Stream, at the stream crossing between T1 and T2 and downstream at the L1002 crossing. The grounds of appeal outline proposed mitigation measures and the duties of the appointed contractor. Additional detail is set out in Section 6.1 of this Report. I note that the planning authority's Environment Section did not comment further on this issue in the Planning Authority Response to the grounds of appeal. I also note that the Council's Water Services Section and the IFI did not express specific concern about the development as outlined in the EIAR or grounds of appeal.

8.45. In conclusion, I have considered the submissions on file, this chapter of the EIAR which includes the grid connection and TDR, and all supplementary documentation. I am satisfied that the potential for impacts on hydrology and hydrogeology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on hydrology or hydrogeology.

Air Quality

8.46. Chapter 9 assesses the likely air quality related impacts associated with the proposed development.

8.47. The concern from a health perspective is focused on particles of dust which are less than 10 microns (PM_{10}) as it is these particles which have the potential to be inhaled into the lungs and potentially cause adverse health impacts. Council Directive 2008/50/EC also sets an ambient target for particles less than 2.5 microns (PM_2). While larger dust particles can give rise to nuisance there are no statutory guidelines regarding maximum dust deposition levels. Vehicular traffic at construction stage is not of a magnitude requiring a detailed assessment. The EIAR notes that dust is present naturally in the air. The site is located within Zone D (remainder of the country) as one of the air quality zones in Ireland for air quality management and assessment purposes. A conservative estimate of the background NO_2 (nitrogen dioxide) concentration in the region is 4µg/m^3 (micrograms per cubic metre; annual average limit value of 40µg/m^3). Long-term PM_{10} monitoring in Zone D areas suggest a conservative estimate of the current background PM_{10} concentration in the region is

10µg/m^3 (annual average limit value of 40µg/m^3). $PM_{2.5}$ monitoring suggests a background concentration of 7µg/m^3 (annual average limit value of 25 µg/m^3).

8.48. The worst-case sensitivity of the area to dust soiling is considered to be medium. The worst-case sensitivity of the area to human health impacts is considered to be low. There is a low sensitivity to ecological dust impacts. In a do-nothing scenario the ambient air quality at the site will remain as per the baseline.

8.49. The greatest potential impact on air quality during construction is dust emissions from earthworks, excavation, construction of hardstanding and vehicle movement. The overall risk of dust from vehicular movement is low. The overall risk of dust soiling impact from construction is low, risk to human health is low and the risk of dust-related ecological impact on the Grand Canal is negligible. During operation, road traffic is expected to have an imperceptible impact on air quality. Generation of electricity from the windfarm will lead to a net saving in NO_x (nitrogen oxide) emissions. Total NO_x emissions savings over the thirty year life span will amount to over 880 tonnes of NO_x, equivalent to 12.97% of the total NO_x emissions from power generation in Ireland in 2018. This is a slight positive, long-term impact to air quality. Decommissioning will have an imperceptible impact on local air quality.

8.50. There is no potential for cumulative dust impacts. The proposed development, in conjunction with other windfarm developments, will cumulatively aid in reducing NO_x emissions and aid in achieving national targets.

8.51. A Dust Management Plan has been submitted as Appendix 9-2. This will be incorporated into the CEMP. No mitigation is required during the operational phase. No residual adverse impacts are predicted. Chapter 9 concludes by stating 'No significant impacts to air quality are predicted as part of the proposed development'.

8.52. In conclusion, I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts on air quality can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on air quality.

Climate

8.53. Chapter 10 assess the likely climate related impacts associated with the proposed development.

8.54. Reference is made to international and EU frameworks, protocols and agreements and domestic legislation in relation to reducing carbon emissions. The EIAR acknowledges that there is the potential for a number of embodied greenhouse gasses (GHG) and emissions during the construction phase from vehicles, machinery, and construction materials. Forests are an important part of the global carbon cycle. Removed forestry will be replanted. It is also noted that some peat will be removed.

8.55. Agriculture (35.3%) and transport (20.3%) were the largest carbon dioxide contributors in Ireland in 2019. Emissions are predicted to continue to exceed targets.

8.56. In the do-nothing scenario there will be no construction, tree felling or peat removal. Generation of 89GWh per annum of wind energy will not occur. The proposed development will help Ireland meet its climate targets for future years.

8.57. The construction phase will result in a number of GHG emissions from various sources, including embodied carbon. The total construction phase GHG emissions (excluding the forestry removal that it is proposed to replant) is predicted as 1,644.9 tonnes of carbon dioxide. This includes emissions from manufacture and transport of materials, construction, and peat removal. The total construction phase (including 108.72 tonnes of CO_2 from forestry) of 1,753.62 tonnes is 0.003% of Ireland's national GHG emissions in 2019. The EIAR states that 'the site-specific energy balance gives a payback period for the current site of approximately 2.4 months'. There will be no GHG emissions during operation. There will be a net benefit in terms of GHG emissions due to the 89GWh of electricity per annum which would otherwise have been produced by fossil fuels. The EIAR states that 'In terms of the lifetime of the wind farm, the total GHG emission savings will amount to approximately 29,524 tonnes of CO_2eq which is equivalent to 7.4% of the total predicted annual GHG emissions from the energy sector in 2020 (EPA, 2019). This is a slight, positive, long-term impact to climate as a result of the proposed development'.

8.58. Emissions from vehicles at decommissioning are predicted to be imperceptible. On a cumulative basis, the development, in conjunction with other windfarms will aid in

reducing CO_2 emissions from fossil fuels, aiding Ireland in achieving national climate targets. It will have an overall positive and long-term cumulative impact on climate.

8.59. There is no mitigation required during the three phases of construction, operation and decommissioning other than ensuring machinery is used properly and switched off when not in use. No significant residual effects are predicted.

8.60. Chapter 10 concludes that, once operational, the development will provide up to approx. 89 GWh of renewable electricity and contribute to national targets.

8.61. In conclusion, I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts on climate can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on climate and the development would, overall, have a positive impact on climate.

Shadow Flicker

8.62. Chapter 11 assesses the potential for shadow flicker to impact on sensitive receptors.

8.63. Shadow flicker is an effect that occurs when the rotating blades of a wind turbine cast a moving shadow over an observer or a building. The effect is predominantly experienced indoors. Shadow flicker is largely dictated by the relative position of the turbine(s) and window in combination with the time of day and year. The occurrence of shadow flicker impacts is determined by the presence of screening, the orientation of the property, the presence of direct sunlight, wind speed, direction of wind and the presence of people in the property. For the vast majority of the time at any given property shadow flicker should not cause any issues.

8.64. The EIAR outlines various sources of guidance in relation to shadow flicker e.g. Wind Energy Development Guidelines for Planning Authorities (2006), Draft Revised Wind Energy Development Guidelines (2019). Other UK documentation is noted as well as best practice guidance from the Irish Wind Energy Association and the Kildare County Development Plan 2017-2023. The 2006 Guidelines recommend that shadow flicker at dwellings within 500 metres should not exceed 30 hours per year or 30 minutes per day and where shadow flicker could be a problem appropriate measures should be taken to prevent or ameliorate the potential effect. The Draft Guidelines note that only

properties within 130 degrees either side of north, relative to the turbines, can be affected and that the time period in which a neighbouring property may be affected is entirely predictable. The Draft Guidelines also recommend that a condition should be imposed to ensure no existing dwelling or property will experience shadow flicker.

8.65. It is common practice to use a distance of ten rotor diameters as a maximum limit within which significant shadow flicker can occur. An assessment of shadow flicker at properties within 1.5km was considered appropriate to provide a robust assessment and this was carried out i.e. 10x the maximum rotor diameter being applied for, 150 metres. There are no non-involved sensitive receptors located within 676 metres. Three property owners involved in the project are within this range. For the purpose of the assessment these are included as sensitive receptors. The 30 hours per year/30 minutes per day current recommendation have been applied to all sensitive receptor locations within 1.5km. 'Regardless of the guidelines which are in place, Ummeras Wind Farm Limited have committed to having zero shadow flicker at any sensitive receptor within 1.5km (10 rotor diameters) of the proposed turbines'. Detail of the shadow flicker modelling is provided. The model considers worst-case conditions for shadow flicker effect. There is no potential for cumulative shadow flicker effects from other windfarms.

8.66. 146 no. receptors are identified within 10 rotor diameters of a turbine. 8 no. of these (derelict/commercial) were removed in the 'verification' process leaving 138 no. sensitive receptors considered as potential shadow flicker receptors. Appendix 11-1 (Summary of Shadow Flicker Assessment Reports) and Appendix 11-2 (Wind PRO Shadow Flicker Modelling Report) provide a detailed illustration of the potential shadow effects.

8.67. Appendix 11-1 details the predicted maximum daily shadow flicker representing maximum numbers of hours in any one day when shadow flicker will be experienced at a receptor in the worst-case conditions. 32 no. receptors are predicted to exceed the 30 minutes per day threshold so mitigation will be required. The model inputs assumed worst case conditions including direct sunshine for the full duration of daylight hours, turbine blades always turning, windows facing the turbines, the property is always occupied and not screened. In reality, the actual occurrence of shadow flicker is likely to be significantly less. Appendix 11-1 also details shadow flicker for the 30 hours per year threshold. This assumes 100% sunshine every day

whereas Met Eireann data shows the sun shines on average 30.8% of the daylight hours. Also, as it is not possible for all turbines to be turned to all sensitive receptors at the same time a wind direction reduction factor can also be applied. A more realistic result is provided which shows that, though the 30 hour per year threshold is exceeded at 27 no. receptors, it 'is not exceeded at any receptors when the regional sunshine probability and wind reduction factors are taken into account'. 'Realistic' shadow flicker at receptors is significantly reduced from the worst case scenario.

8.68. Impact from shadow flicker at sensitive receptors will be likely, significant and long-term 'but have a momentary effect with respect to the duration of impact on a daily basis'. Section 11.4.1 (Zero Shadow Flicker Impact) again references the Draft Guidelines proposal for no shadow flicker at all at sensitive receptors and again commits to ensuring zero shadow flicker at sensitive receptors. It is unclear from this commitment whether or not involved receptors are included in this zero shadow flicker. A condition could be included in a grant of permission that zero shadow flicker is to be experienced at all receptors, at non-involved sensitive receptors, or that the maximum 30 minutes per day/30 hours per year threshold be attached for involved sensitive receptors (or, indeed, no limit).

8.69. In Section 11.5 (Mitigation Measures) it is stated a system for logging shadow flicker complaints will be put in place and made available. Additional screening measures could be provided. It is also stated that technology can be installed to automatically shut down individual turbines during periods of confirmed shadow flicker. In terms of residual impacts, these will be eliminated completely at sensitive receptors.

8.70. Chapter 11 concludes that, as there will be no non-involved sensitive receptor within 676 metres of a turbine, along with implementation of mitigation, there will be no post-mitigation impacts of shadow flicker on the local community.

8.71. In conclusion, I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts of shadow flicker can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts of shadow flicker.

Material Assets: Aviation, Telecommunications & Electromagnetic Interference

8.72. Chapter 12 states that 'material assets' can relate to finite and renewable resources, natural or anthropogenic in origin. Some of these are discussed in other chapters. The assessment includes input from sub-specialists in aviation and telecommunications.

8.73. In order to determine any potential impacts on aviation a consultation exercise was carried out. Following consultation with the IAA and the Dept. of Defence specialist assessments and reports were commissioned. These are submitted as Appendix 12-1 (Ummeras Wind Farm Impact on DME Flight Inspection) and Appendix 12-2 (Ummeras Proposed Wind Farm; Military Flight Operations Aspects). An extensive list of telecommunications providers and stakeholders were sent information about the proposed development and asked to inform the applicant of any links in the area, comments, or concerns in relation to existing networks. A Telecommunications Impact Study to evaluate the possible effects that the proposed windfarm could have on several telecom networks identified as possibly being impacted was carried out and is submitted as Appendix 12-3.

8.74. The nearest significant airport is Casement, approx. 39.5km to the north east. Weston is at a similar distance and direction. Local, smaller airfields are at Kilrush, approx. 17km to the south east, and Ridge Aviation approx. 17.5km to the south west. A list of telecommunications providers consultation information is provided in Table 12-1.

8.75. In the do-nothing scenario there will be no impact on aviation, telecommunications, and electromagnetic interference.

8.76. As regards the construction phase, 'It is not standard industry practice to consider the effects … with regard to aviation, telecommunications or EMI issues'. No impacts are likely to arise. A number of specific operational stage concerns were assessed in relation to aviation as raised during the consultation exercise by IAA and the Dept. of Defence. Based on the full findings of the specialist reports submitted as Appendices 12-1 and 12-2, 'there would be a long term, not significant neutral impact on aviation from the proposed development'. Turbines can interfere with microwave communications link systems. The specialist report submitted as Appendix 12-3 anticipated that, without mitigation measures, 'there would be a potential significant negative impact on a number of telecommunications links …' In addition, wind turbines have potential to impact on delivery of telecommunication signals. RTE highlighted

there may be a potential impact to localised places. No impacts are likely to arise during decommissioning.

8.77. In terms of mitigation measures, as with any excavations, particularly on roads, there is a potential to disrupt local underground services. A survey of existing services will be carried out prior to construction and digging around any existing services will be carried out by hand. There are no other impacts likely to arise during construction. Certain lighting requirements will be required during operation. An agreement will be signed as specified in consultations with RTE to ensure restoration of service to end users that may have their service disrupted. A detailed analysis of potential impacts (Appendices 12-3 and 12-4 (Correspondence with Telecommunications Providers)), found that the majority of telecommunications providers will have no impact to their services. Appendix 12-3 addresses specific mitigation measures that can be used if required.

8.78. A cumulative assessment for the construction and operational phases included other windfarms in the region. No cumulative impacts were found to be likely. Each project is designed and built to avoid impacts. Therefore, there can be no cumulative impacts. There are no residual impacts likely to arise during the construction phase. The specialist aviation reports found the development would not have any significant impact during the operational phase. The employment of mitigation measures would eliminate negative impact to telecommunications links as scoped with key operators in the area.

8.79. Chapter 12 concludes that, following consultation, specialist reports were carried out in relation to aviation and telecommunications. Mitigation would be able to eliminate potential telecommunications impacts. The EIAR considers that there will be no significant impacts at any stage of the proposed development.

8.80. The issue of aviation is a very significant issue with this planning application. The pre-application consultation with IAA and the Dept. of Defence led to specialist reports being prepared and the conclusion of Chapter 12 of the EIAR is that these reports found that the proposed development should not cause any significant issues in relation to aviation. Observations were made to the planning authority from both IAA and the Dept. of Defence. Impact on aviation was the basis of the planning authority's first reason for refusal and an element in the second reason for refusal. In the first-

party grounds of appeal, the applicant provided a robust defence of the aviation issue and justification for the conclusion that there would not be a significant impact. Notwithstanding, the Dept. of Defence submitted an observation to the Board on foot of the appeal reiterating its position.

8.81. I consider that the content of the EIAR, including appendices, and the first-party grounds of appeal are sufficient to identify, describe and assess the likely significant effects of the project on the environment. The applicant arrived at a different conclusion to the Dept. of Defence, and the planning authority, in terms of the significance of these effects. The Department's observations form an important consideration in the assessment of the application, and I consider that the impact of the proposed wind turbines on aviation is not acceptable. This is expanded upon in Section 10.1 of the Planning Assessment.

Noise and Vibration

8.82. Chapter 13 describes the assessment undertaken of the potential noise and vibration impact on local residential amenity. Noise and vibration impact assessments have been prepared for the construction and operational phases to the nearest noise sensitive locations (NSLs). To inform the assessment, baseline noise levels have been measured at several NSLs. The assessment methodology undertaken characterises the receiving environment, reviews the most applicable standards and guidelines to set acceptable criteria, undertakes predictive calculations to assess the potential impacts, specifies mitigation measures and describes the significance of the residual noise and vibration effects.

8.83. There is no statutory Irish guidance relating to noise levels during construction. Local authorities may consider noise limits at their discretion. Assessment criteria for construction phase noise and vibration is outlined.

8.84. The noise assessment is based on guidance in relation to acceptable levels of noise contained in the 2006 Guidelines. The Guidelines state that 'In general, a lower fixed limit of 45dB(A) or a maximum increase of 5dB(A) above background noise at nearby noise sensitive locations is considered appropriate to provide protection to wind energy development neighbours'. However, a caveat states that 'in very quiet areas, the use of a margin of 5dB(A) above background noise at nearby noise sensitive

properties is not necessary to offer a reasonable degree of protection and may unduly restrict wind energy developments … in low noise environments where background noise is less than 30dB(A), it is recommended that the daytime level of the $L_{A90,\ 10\ min}$ of the wind energy development be limited to an absolute level within the range of 35 – 40dB(A)'. A fixed limit of 43dB(A) at night is the guidance. These are the operational noise limits proposed, though 43dB $L_{A90,\ 10min}$ at night or a maximum increase of 5dB(A) above background noise (whichever is higher) is referenced in Section 13.2.1.4.

8.85. An extract from an EPA document is reproduced which states that 'There is similarly no significant infrasound from wind turbines … With modern active yaw turbines … this is no longer a significant feature'. A World Health Organisation (WHO) document states 'There is no reliable evidence that infrasounds below the hearing threshold produce physiological or psychological effects'. Various other international studies are referenced to support this general position on infrasound and low frequency noise. Amplitude modulation (periodic fluctuations in the level of audible noise from a wind turbine(s), the frequency of the fluctuations being related to the blade passing frequency of the turbine rotor(s)) is also described. It is stated that it is not possible to predict it at planning stage but UK research has shown it to be 'a rare and unlikely occurrence at operational wind farms'. In addition, where it has been reported 'its frequency of occurrence appears to be at best infrequent and intermittent'. In terms of health impacts on humans from windfarms, international studies are referenced which generally conclude there is no evidence windfarms cause adverse health effects. In terms of vibration, a 2016 German report on an operational 2.4MW turbine concluded that at less than 300 metres from the turbine vibration levels could not be differentiated from background levels.

8.86. Guidance documents informing the assessment methodology are outlined. The background noise survey was conducted through installing unattended sound level meters at four representative locations in the surrounding area (according to Section 13.2.3.3, but five locations are identified on Table 13-7 and Figures 13-3 to 13-8. However, Section 13.3.1 then states that Location C 'was found to have been impacted by steady water flow noise from the nearby canal lock-gate' so it was discounted). The noise monitoring locations were identified by preparing a preliminary noise model contour at an early stage of the assessment. The survey duration was typically 4 weeks, or until such time that a sufficient number of data point were

captured at each survey location. The EIAR also notes the potential of noise from construction activities. A series of computer-based prediction models have been prepared to quantify the potential turbine noise level associated with the operational phase. Cumulative noise impact was not considered necessary as the nearest operational windfarm is approx. 10km away.

8.87. The typical background noise levels measured in the vicinity of the NSLs in closest proximity to the proposed development site are set out in Section 13.3 (Existing Environment). In general, the significant noise sources in the area were noted to be local and distant traffic movements, activity in and around the residences, wind generated noise from local foliage and other typical anthropogenic sources. Table 13-11 presents the various derived $L_{A90,10min}$ noise levels for each of the monitoring locations for daytime quiet periods and night-time periods. A worst-case envelope based on the lowest average levels at the various wind speeds is also presented and the noise criteria curves will be based on this baseline envelope.

8.88. Potential Effects are set out in Section 13.4. In a do-nothing scenario the existing noise environment will remain largely unchanged. Noise prediction calculations for the construction phase are indicative only and predicted worst-case levels are expected to occur for only short periods at a very limited number of properties. Noise and vibration from general construction (turbines, hardstands and met mast) and construction of the access tracks and substation, and construction traffic, are set out. A description of effects for each is provided: a slight significance of short-term duration for general construction, a significant significance of temporary duration for the access tracks (primarily due to proximity of NSLs to the public road during the initial two-three day period), moderate significance of temporary duration for the substation, and a moderate significance of temporary duration for construction traffic along the R401/R419 construction materials haul route. The effect of the grid connection works is expected to be moderate significance of temporary duration.

8.89. Operational phase potential effects are outlined in Section 13.4.3. Proposed operational limits in $L_{A90,10min}$ are:

- 40 dB $L_{A90,10min}$ for daytime environments of less than 30 dB $L_{A09,10min}$,
- 45 dB $L_{A90,10min}$ for daytime environments greater than 30 dB $L_{A09,10min}$ or a maximum of 5 dB above background noise, whichever is higher,

- 43 dB $L_{A90,10min}$ or a maximum increase of 5 dB above background noise, whichever is higher, for night-time periods.

Relevant tables have been produced in Tables 13-17 to 13-27 illustrating noise criteria curves, reviews of cumulative predicted turbine noise levels against relevant criteria and summaries of exceedances standard operating mode in various wind directions for P041, the involved NSL for which noise levels are exceeded. Appendix 13-5 (Predicted Noise Levels (Omnidirectional)) is of note. This includes all NSLs. Appendix 13-6 comprises a noise contour drawing. Appendix 13-7 (Predicted Noise Levels (Directional)) is also of note and also includes all NSLs. The cumulative predicted noise levels at various wind speeds have been compared against the noise criteria curves and are within the criteria for all non-involved NSLs. Only one of the involved SNLs has exceeded noise levels and that by a maximum of 0.3 dB(A) at 7m/s and higher. The EIAR states that, at the relevant NSL, P041, 'Once wind direction is taken into account, there are no exceedances of the noise criteria'. The EIAR states that 'it is not considered that a significant effect is associated with the operation of this development, since the predicted noise levels … will be within the relevant best practice noise criteria curves for wind farms'. The effect is described as being of moderate significance (i.e. an affect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends) for a long-term duration. Substation noise is considered to be not significant and long-term in duration. At decommissioning stage, similar overall noise levels would be expected as similar tools and equipment will be used.

8.90. Mitigation measures are set out in Section 13.5. The proposed development is expected to comply with the identified criteria for both the construction and operational phases. However, to ameliorate any noise and vibration effects, a schedule of noise control measures has been formulated for the construction phase. These are set out in Section 13.5.1. The EIAR considers mitigation is not required at operational stage as 'the predicted operational noise levels are within the noise criteria once wind direction is taken into account'. The EIAR recommends post-construction noise surveys to ensure compliance with any noise conditions applied. Relevant corrective actions will be taken should exceedance of noise criteria be identified. Residual effects are outlined in Section 13.6 for the construction and operational phases. The significance and duration of these impacts are set out. For the construction phase the

construction of the access tracks is expected to be most impactful, with a significant significance of a temporary duration. For the operational phase the wind turbine operation will be most impactful, with a moderate significance and long-term duration. For most locations assessed the significance will be slight i.e. an effect which causes noticeable changes in the character of the environment without affecting its sensitivities. Residual effects of vibration are imperceptible.

8.91. The conclusion of Chapter 13 states that, 'In summary, the noise and vibration impact of the Proposed Development is not significant in the context of current national guidance'.

8.92. The issue of noise was raised in the third-party grounds of appeal and observations received by both the Board and the planning authority. Noise was also cited in the planning authority's Environment Section report relating to further baseline noise monitoring, a tonal assessment of the different elements of the proposed development, and detail of noise monitoring schedules. In response to these issues the applicant states that detailed information on potential noise and vibration in Chapter 13 was completed by specialist consultants. Their assessment found that there were no noise sensitive receptors which would have significant effects. Noise levels are expected to be within criteria during construction given distances of works from noise-sensitive locations. Best practice was adopted in relation to background noise monitoring where representative noise sensitive locations were selected, and the monitoring data was then extrapolated. The applicant does not consider that additional monitoring is necessary, but it could be carried out should the Board require it. In terms of tonal assessment, as the specific turbine model has not been selected and as the tonal data for each turbine model can be different it is difficult to know the precise tonal spectrum for the proposed development at this stage. However, the applicant states that most modern turbines do not give rise to clearly audible tones at receptors located at four times the tip height setback and post construction noise surveys can be used to inform any potential mitigation. In terms of tonal data from the substation, low levels of noise would be produced. An analysis carried out showed predicted noise levels at the ten nearest noise sensitive receptors would be 23-26dB LAeq. A noise monitoring schedule and methodology was also provided, divided into construction and operational phases.

8.93. I note that the planning authority did not comment further on the noise issues in the Planning Authority Response to the grounds of appeal.

8.94. In conclusion, I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts of noise and vibration can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts of noise and vibration.

Landscape and Visual Impact Assessment

8.95. Chapter 14 describes the landscape context and assesses the likely landscape and visual effects of the scheme on the receiving environment. Landscape Impact Assessment (LIA) relates to assessing effects on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. Visual Impact Assessment (VIA) relates to assessing effects on specific views and on the general visual amenity experienced by people. Cumulative landscape and visual assessment is concerned with additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments. The Landscape and Visual Impact Assessment report (LVIA) was prepared by Macro Works Ltd. As the blade tips are up to 169 metres in height the minimum Zone of Theoretical Visibility (ZTV) is 20km as per the 2006 Guidelines. The 'central study area' pertains to an area within approx. 5km of the site.

8.96. The desktop study for the LVIA comprised, inter alia, sensitive landscape and scenic view/route designations in the County Development Plans and selection of potential Viewshed Reference Points (VRPs) from key visual receptors. Assessment criteria for landscape effects are landscape character, value and sensitivity, magnitude of likely effects, and significance of landscape effects. Definitions of the different landscape sensitivity values and different magnitude of effect values are set out in Tables 14-1 and 14-2. The significance of a landscape effect is based on a balance between the sensitivity of the landscape receptor and the magnitude of the effect. Table 14-3 comprises a 'Landscape/Visual Effect Significance Graph'. The visual effect of the

proposed windfarm will be assessed as a function of receptor sensitivity versus magnitude of effects. Assessment criteria for visual effects comprise visual sensitivity, susceptibility of receptors, value of views, visual effect magnitude (Table 14-4 outlines definitions of the various criteria describing magnitude of visual effects), and visual effect significance. Assessment criteria for cumulative effects is outlined in Section 14.2.6.

8.97. Section 14.3 outlines the existing environment. The landscape baseline represents the existing context and is the scenario against which any changes to the landscape will be assessed. The landscape is broadly flat. The Grand Canal is a regular presence in the study area. Land cover within the central study area is a patchwork of cutaway peatlands and agricultural farmland. The site is within 300 metres of both Counties Offaly and Laois.

8.98. The EIAR considers two landscape types set out within the Draft 2019 Guidelines are potentially applicable. These are 'Flat Peatland' and 'Hilly and Flat Farmland' and guidance on both is produced in Tables 14-6 and 14-7. They are somewhat contradictory which 'is a regular occurrence when interpreting the Guidelines, as most wind farms traverse, or contain elements of more than one landscape type'. The design approach for the proposed windfarm is most consistent with 'flat peatland', as this is the predominant character type. The EIAR notes the site is located within the Southern Lowlands Landscape Character Area (LCA) in the Kildare County Development Plan 2017-2023, close to the River Barrow LCA. This LCA is described as having a 'Class 1 low sensitivity'. Similar Class 1 LCAs have a 'high' compatibility with windfarms.

8.99. Table 14-4 of the County Development Plan 2017-2023 is set out which relates to land use compatibility within 300 metres of Principal Landscape Sensitivity Factors such as canals i.e. Grand Canal in this case. The applicant distinguishes between a distance of 300 metres from the site boundary and 300 metres from a turbine, and I concur with this distinction. Peat bogs and agricultural land with natural vegetation are the relevant land uses/sensitivities and they have a compatibility factor of 3 (likely to be compatible with great care) and 4 (likely to be compatible with reasonable care) respectively. The Scenic Routes and Viewpoints in the Plan are noted including 'views to and from the County's waterways' and 'views to and from Hills'. A number of other general landscape policies and objectives are set out. Sections of the Laois County

Development Plan 2017-2023 (the area of the county close to the site is a 'lowland agricultural area') and Offaly County Development Plan 2014-2020 (noting the content of the Wind Energy Strategy) are also referenced.

8.100. The visual baseline (Section 14.4) establishes both the nature of visibility within the study area and the important receptor locations from which the development might be viewed. Only those parts of the study area that potentially afford views are of interest. A ZTV is the first part of the visual baseline to be established. It is computer generated based on topography alone and does not allow for screening provided by vegetation or buildings. It is a worst-case scenario with respect to visual exposure. Large format LVIA maps are contained in Appendix 14-2.

8.101. The EIAR notes that there is relatively consistent ZTV coverage within 5km as would be expected given the flat topography. ZTV coverage becomes more sporadic beyond 10km in most directions, particularly north east and south west due to hills. Where ZTV coverage exists the overwhelming majority of locations experience theoretical visibility of all turbines. The report reiterates the 'worst case scenario' element whereby the ZTV does not account for screening by trees and other vegetation, buildings etc.

8.102. A Route Screening Analysis was also undertaken which considers actual visibility from surrounding roads using current imagery captured in the field, then subsequently reviewed in the context of a digital model of the development. It bridges the gap between the ZTV maps and the actual nature of visibility in a given area. Sample points were taken every 25 metres along each road and canal section within 5km. There are open (conservatively judged to occur if the view of a full blade rotation of a single turbine is afforded), partial (view of less than a full blade rotation of any turbine) and fully screened visibility scenarios. Graphs illustrating the results are provided.

8.103. The EIAR considers there is a 'moderate to strong degree of wind farm screening from the local road and canal network'. Fully screened views dominate beyond the 1-2km band. The urban areas of Monasterevin and Rathangan show very little turbine visibility. A map has also been produced showing the 'open view' set in more detail establishing how many turbines are actually visible in each instance. This results in the most common view being of only 1-2 turbines. The development is also considered in terms of the visual receptors of centres of population and houses, transport routes, amenity and heritage locations and views of recognised scenic value. In terms of views

of recognised scenic value, three designated scenic routes and six protected/bridge views set out in the Kildare County Development Plan 2017-2023 are represented within the LVIA. One view designated in the Laois County Development Plan 2017-2023 is considered to be of potential relevance and is represented within the LVIA i.e. Rock of Dunamase. None of the views and prospects in the Offaly County Development Plan 2014-2020 are considered to be of potential relevance.

8.104. The results of the ZTV analysis provide a basis for selection of Viewshed Reference Points (VRPs). These are the locations used in the LVIA. A variety of receptor locations were selected that are likely to provide views of the development from different distances, different angles, and different contexts. The visual impact is assessed using categories such as key views, designated scenic routes and views, local community views, centres of population, major routes and amenity and heritage features. 25 no. VRPs were selected.

8.105. Potential significant impacts are considered most likely to occur in instances where highly sensitive landscape and visual receptors coincide with high order landscape and visual effects.

8.106. Section 14.6 (Mitigation Measures) states that, given the highly visible nature of windfarms, it is not generally feasible to screen them from view using on site measures. Instead, mitigation must be incorporated early into site selection and design. In this case mitigation employed is use of fewer taller turbines, consolidation of turbine layout, buffering of residential receptors and positioning of turbines within, between and in the direct vicinity of woodland.

8.107. Residual landscape effects are considered in Section 14.7. The site landscape designation in the Kildare County Development Plan 2017-2023 is ‘low’. In the Offaly County Development Plan 2014-2020 the immediately adjacent area is of ‘moderate’ sensitivity though most of the remainder of the study area in Offaly is ‘low’. No sensitivity is attached to the relevant landscape character area in Laois. The central study area (<5km) ‘is a robust, highly-modified and productive rural area without a high degree of distinction or uniqueness’. The sensitivity of the central study area is generally considered to be medium-low. The wider study area (approx. 5-20km) is less homogenous. Aside from some isolated landscape features, ‘the vast majority of the outer study area has a landscape sensitivity that is no greater than that of the central

study area: Medium-low'. The physical landscape will be affected by the turbines as well as the ancillary development. For the wider landscape, impacts relate exclusively to the turbines. The magnitude of landscape impacts is considered to be 'medium' within 3km, 'medium-low' between approx. 3-5km and 'considerably lower' beyond 5km. The significance of landscape impacts is considered to be 'moderate-slight' within 3km, thereafter reducing to 'slight' and 'imperceptible' at increasing distances as per Table 14-3.

8.108. Table 14-12 in Section 14-8 (Residual Visual Effects) summarises the full textual assessment of visual effects for each VP contained in Appendix 14-1 (Visual Impact Assessment at Viewpoints). This includes the professional judgements in relation to each view. The 'significance of visual effects' range from moderate to imperceptible. The four 'moderate' viewpoints all occur within 2.7km of the nearest turbine. Significant visual impacts are not considered to occur.

8.109. There is one existing and two permitted windfarms within the study area, 12km away at the closest point. In terms of cumulative impacts, the applicant considers that the siting and design of the proposed windfarm is consistent with the 2006 Guidelines given the separation distances and little sense of 'this vast midlands landscape becoming 'crowded' or 'dominated' by wind energy developments'. A cumulative ZTV map is submitted in Appendix 14-2. Table 14-13 analyses the nature of cumulative visibility using the same 25 no. VPs used for the main visual assessment. The EIAR considers the magnitude of cumulative effects to be 'low'.

8.110. The conclusion of Chapter 14 states that the proposed development 'will result in noticeable landscape and visual change, particularly within its immediate context. However, even these localised effects are not considered to be significant and will reduce rapidly with increased viewing distances and broader landscape context. Overall, it is not considered that the proposed wind farm will give rise to any significant landscape or visual impacts.

8.111. The issue of landscape and visual impact is one of the primary areas of concern raised in the third party grounds of appeal and observations received by both the Board and the planning authority, including its impact in terms of tourism etc. The EIAR, including appendices, has provided sufficient detail to assess the impact of the proposed development. I note initially that Kildare County Council does not have a Wind Energy

Development Strategy. Notwithstanding other references to wind energy within the County Development Plan 2017-2023, this results in a significant policy vacuum with regard to wind energy developments. The site is located within an area identified as the Southern Lowlands Landscape Character Area in Map 14.1 of the Plan. This is a 'Class 1 Low Sensitivity' area 'with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area'. It is an area of 'agricultural land with natural vegetation' and 'peat bogs'. Though 'Southern Lowlands' is not specifically identified in Table 14.3 (Likely compatibility between a range of land-uses and Principle Landscape Area), other Class 1 areas have a 'high' compatibility for windfarm development. It is reasonable to assume this also applies to the Southern Lowland area. Table 14.4 of the Plan (Likely compatibility between a range of land-uses and proximity to Principal Landscape Sensitivity Factors) outlines that, within 300 metres of agricultural land with natural vegetation and peat bogs a windfarm is 'likely to be compatible with reasonable care' and 'likely to be compatible with great care' respectively. The nearest turbine is over 300 metres from the Grand Canal, 'Canals' being cited as a Principal Landscape Sensitivity Factor. Having regard to the foregoing, and in the absence of a Wind Energy Development Strategy, I consider the provision of a windfarm at this location is acceptable in principle.

8.112. Maps have been submitted with the application, in Appendix 14-2, which attempt to illustrate the extent of the visibility of the development. A detailed LVIA, with written accompaniment in Appendix 14-1, has also been provided. By the very nature of the development, windfarms will be visible in the landscape. There is little or nothing that can be done to mitigate their impact once constructed. The applicant states that mitigation was carried out at an early stage such as reducing the number of turbines proposed. I note that the ZTV maps submitted are 'worst-case' scenarios and do not allow for screening by vegetation or built fabric etc. I consider that the quality and quantity of maps and photomontages submitted are sufficient to adequately illustrate the visual impact of the proposed development in the local and wider area.

8.113. The LVIA submitted is a comprehensive document illustrating views from VPs such as bridges and roads in the area, in proximity to residences, in/in the vicinity of more urban areas such as Rathangan, Bracknagh, Portarlington, Kilmeague, Edenderry, Stradbally, and Monasterevin and also at Emo Court Demesne, The Curragh, and the

Rock of Dunamase. There is no doubt that the development is very visible from many vantage points, not only in proximity to the site, but also from roads some distance away. However, this visibility is an inevitable consequence of windfarm development. The provisions of the Kildare County Development Plan 2017-2023, as well as national policy, are positively disposed towards development of the type proposed. As such, I consider the proposed development to be acceptable in terms of landscape and visual impact assessment and the proposed development is consistent with Chapters 8 (Energy & Communications) and 14 (Landscape, Recreation & Amenity) of the Kildare County Development Plan 2017-2023.

8.114. In conclusion, I have considered the submissions on file, this chapter of the EIAR and all supplementary documentation. I am satisfied that the potential for impacts on landscape and visual impact can be avoided and managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on landscape and visual impact.

Cultural Heritage

8.115. Chapter 15 comprises an archaeological, architectural, and cultural heritage impact assessment. The chapter addresses the three elements of the development: windfarm, grid connection, and TDR.

8.116. Cultural heritage broadly considers tangible cultural heritage, movable cultural heritage (artefacts), immovable cultural heritage (monuments etc.), underwater cultural heritage (shipwrecks etc.), and intangible cultural heritage (oral traditions, folklore etc.).

8.117. An historic examination of the area notes the construction of the Grand Canal, whiskey distilling in Monasterevin and the commercial exploitation of Ummeras Bog in the 'modern' era. There were three recorded archaeological monuments in the southern section of the windfarm site; two enclosures and a decoy pond. They are between 100-300 metres south and southwest of T1 (this appears to be a typographical error as these are south and southeast of T1). Two previously unrecorded archaeological monuments (enclosures) were recorded as part of the EIAR assessment. Monument record forms were submitted to the National Monuments Service which assigned SMR

Nos. KD021-015 (north of the met mast and approx. 280 metres south east of T4) and KD021-016 (approx. 740 metres south of T2) and listed the sites on the Archaeological Survey Database. In terms of architectural heritage, there are no protected structures within the windfarm project area. A cartographic analysis is set out and aerial photography discussed, including the discovery of the two enclosures. Detail of field inspections at the windfarm site are set out. The presence of protected structures in the vicinity of the southern section (two thatched cottages RPS Nos. B21-11 and B21-12, and Macartney's canal bridge and lock (B21-16)) were inspected. Protected structures at the north east side were also inspected i.e. Ummeras Bridge (B21-17) and a thatched cottage (B21-15).

8.118. Potential effects are set out in Section 15.4. Construction phase impacts can occur. There is moderate archaeological potential within the windfarm site, given the presence of recorded sites within 100 metres, with a high potential direct impact of works. No test excavation has been undertaken to assess the potential presence of below-ground archaeological remains. There is low architectural potential within the site with a low potential for direct impact of works. Operational phase impacts will be visual, and these have been assessed in the LVIA chapter. There are not anticipated to be any impacts at decommissioning. In a do nothing scenario there would be no impact or archaeology or architectural heritage.

8.119. Section 15.5 (Mitigation Measures) states that all designated heritage sites have been avoided as far as practically possible e.g. amending the access track. Construction phase mitigation includes archaeological monitoring. No architectural heritage mitigation is proposed. It is anticipated that no mitigation will be needed during the operational or decommissioning phases.

8.120. Residual effects (Section 15.6) will be visibility of turbines from archaeological monuments and architectural sites. The residual effects of the construction phase will be slight. There will be a slight cumulative impact on cultural heritage due to the visibility of the windfarm.

8.121. Chapter 15 concludes that there will be no direct impact on archaeological or architectural heritage though there will be some indirect, visual impacts. There remains a possibility for unrecorded archaeological monuments to be impacted but monitoring

of topsoil stripping and trenching prior to construction will identify and resolve any such discoveries.

8.122. I note that the National Monuments Service submitted a report and agreed with the recommendation made in the Archaeological Assessment Report that an archaeological monitoring condition should be required as a condition of planning.

8.123. In conclusion, I have considered the submissions on file, this chapter of the EIAR which includes the grid connection and TDR, and all supplementary documentation. I am satisfied that the potential for impacts on cultural heritage can be avoided and managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on cultural heritage.

Traffic and Transport

8.124. Chapter 16 presents the traffic and transport assessment of the potential for impacts arising on the road network. It envisages potential impacts and proposes mitigation to reduce these impacts. The construction phase is the critical impact period. A TMP is included in the CEMP. Scoping with the Roads Departments in each of the three affected County Councils was carried out.

8.125. As previously noted, while the planning application/appeal is for the windfarm development only, and the TDR works are being assessed by Offaly Co. Co. under a separate planning application, and future applications will be made for the grid connection works, all of the elements of the proposed development are considered within the EIAR as appropriate.

8.126. Access to the site is via a new priority junction on the east side of the L1002 and will be the only access. Construction materials will be delivered by standard HGVs. The materials deliveries estimated to have the largest impact on the road network are anticipated to be those associated with the stone/fill material for internal tracks and hardstanding areas and concrete for turbine foundations. These will be obtained from quarry(s) in proximity and a primary construction material haul route has been selected for the purpose of the report. In the event a different quarry(s) is selected, agreement with the Local Authorities will be sought.

8.127. The route identified commences on the L3002 in Co. Kildare travelling west, right onto L3003 and continues west on the R401 to Rathangan. Immediately south of the town centre it turns left onto the R414 and after approx. 600 metres south west it turns right across the Grand Canal on the L7300. There is a left onto the R419 into Co. Offaly and then south onto the L1002 as outlined in Figure 16-2. The existing road network identified as the primary construction materials haul route is described in terms of carriageway widths, centreline markings, verge types, footpaths, lighting, crossings, speed limit and condition of the road pavement. The existing traffic volumes or baseflow traffic volumes without development generated traffic are outlined. Due to the impact of Covid-19 on the traffic flows and distribution it was agreed through scoping that historical data should be used in the traffic assessment. Annual average daily traffic (AADT), % HGV and number of HGVs are set out for a 2021 Forecasted Baseflow (substantially heavier traffic flow on the R401 than the R419 but a much higher percentage of HGV traffic on the R419 than the R401). Forecasted Baseflow Traffic to 2023 (corresponding to construction commencing in 2022) is also provided. The road traffic accident history on the primary construction material haul route is set out.

8.128. In a do nothing scenario there will be no additional traffic generated and no effect on traffic.

8.129. At construction stage the potential effects include impacting the paving condition of the existing road network, the carrying capacity of the road and junction flows along the haul route, and traffic flow at the proposed site entrance. A description is provided of site works to be carried out, construction hours (0700-1800 weekdays, 0700-1400 on Saturdays though work outside these hours could be necessary), construction staff (varies, maximum of 40 no. at peak), and construction vehicles (standard rigid and articulated lorries for materials deliveries, cranes, and construction vehicles/machinery). Visibility splays for the proposed site access are achieved. There will be a moderate, temporary effect on traffic on the L1002 due to construction of the access. Peak and average traffic impact is outlined. Peak traffic has a high volume over a short period (5 days in this case) and average traffic has a lower traffic volume over a longer period. Trip generation are light vehicles for staff and HGVs for construction deliveries. Table 16-7 summarises the construction traffic for both the peak and average construction activities on a single day (40 no. daily two way

movements for light vehicles at peak with 20 for the average and 186 no. HGV two way movements at peak (concrete pours on five days) with 31 no. for the average). The concrete pour delivery traffic has been removed from the average because these will only occur on five days of the twelve month construction period and other deliveries to the site on these days will be limited.

8.130. A link capacity assessment is carried out. This is an assessment of the link (road) capacity to carry traffic flows based on the road classification. The R401 is utilised in excess of its AADT with a deficit in spare capacity of 67.8% (AADT capacity of 5,000 no. with 8,389 no. AADT in a 2023 Baseflow). There is 80.2% spare capacity on the R419. It is evident that construction traffic will result in an increase in both HGV content and AADT on the regional roads. At the 5 day peak, the capacity will reduce spare capacity to -72.3% and a 2.1% increase in HGV content. Peak construction will increase HGV content on the R419 from 10.2% to 23.6%. Impact on roads at peak will be brief, negative and significant over the five day period. Average windfarm traffic slightly reduces spare capacity on both regional roads (though there is ample capacity on the R419). During average construction activities the potential impact 'ranges from slight to moderate negative and will be temporary'.

8.131. During the operational stage small volumes of traffic will be generated for operational and maintenance purposes and will have a negligible impact on the road network. The traffic assessment assumes the development will be decommissioned after 30 years. The turbine foundations, access tracks and substation will not be removed. Therefore, traffic volume will be reduced, and the impact will be a 'slight adverse temporary effect'.

8.132. Mitigation measures (Section 16.5) include adequate visibility at the site entrance, positioning of the gate to allow for a large vehicle to wait clear of the L1002, only essential deliveries to be scheduled on the days of the turbine foundations concrete pours, pre-construction and post-construction visual pavement surveys on the primary construction material haul roads and the TMP in the CEMP.

8.133. Section 16.6 (Residual Effects) considers that the construction stage will have a 'brief significant negative effect' on the concrete pour days and a slight to moderate temporary negative effect from average construction activity. There will be minimal residual effects during operation of the windfarm. Residual impacts at decommissioning are considered to be slight and temporary.

8.134. In terms of cumulative effects, there may be a slight impact caused by traffic should both the proposed development and the permitted Moanvane Windfarm be constructed simultaneously. It does not appear the primary construction haul routes will overlap, though the TDRs do overlap.

8.135. Chapter 16 concludes that 'the traffic and transport impact of the proposed project will be slight to moderate for the 12 month construction with isolated brief/short duration significant to moderate impacts. The TMP will mitigate these potential impacts'.

8.136. Issues relating to traffic and transport formed a substantial element of third party observations received by both the Board and the planning authority and were also cited as a concern by the planning authority's Roads, Transportation & Public Safety Department. The content of these are noted. The issues in the planning authority's internal Roads report related to, inter alia, the suitability of the road network, possibility of damage from HGV/HCV traffic, liaison with local stakeholders and condition surveys.

8.137. The applicant's grounds of appeal address these issues in detail, as set out in Sections 6.1 and 6.4 of this Report. I concur with the applicant's comment that numerous windfarm projects have utilised similar road networks as haul routes. The construction phase would utilise the public road network and I consider it unreasonable that there should be any issue in this regard. Clearly there may be certain weight limits, bridge height restrictions etc. that may affect particular routes but, in general, the use of the public road network to facilitate the development is reasonable, in principle. Should road condition surveys illustrate that vehicular movement associated with the proposed development has affected the road network then appropriate remediation could be conditioned. The planning authority's Roads report states that significant damage from HCV traffic can be rectified by either intense and frequent repair of the road surface or provision of a designed road structure. The grounds of appeal state the applicant is willing to undertake the intense and frequent repair of the road surface through replacement of damaged surface layers during construction and provide a bond for the provision of repair to roads as determined once the post-construction road condition assessment has been completed. I consider this is acceptable. I also consider that the scale and frequency of vehicular movements associated with the construction phase is not of a scale that should result in a refusal of permission. I

further note that the planning authority did not comment further on this issue in the Planning Authority Response to the grounds of appeal

8.138. In conclusion, I have considered the submissions on file, this chapter of the EIAR which includes the grid connection and TDR, and all supplementary documentation. I am satisfied that the potential for impacts on traffic and transport can be avoided, managed and/or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts on traffic and transport.

Interaction of the Foregoing

8.139. Chapter 17 (Interaction of the Foregoing) assesses the interaction of impacts. Table 17-1 outlines the different environmental aspects which have potential to interact as a result of the proposed development.

8.140. Section 17-2 (Discussion of Interactions) summarises the primary interrelationships of aspects of the environment with the potential for significant effects as a result of the proposed development. The interactions of human beings with other environmental aspects is the main interaction, including the interaction of human beings and landscape and visual impacts. 'The landscape and visual impact of the development during the operational phase is often considered to be one of the primary environmental impacts for this type of development'. The EIAR considers that, in terms of the interactions between landscape and visual and tourism and amenities 'the addition of 5 no. wind turbines will not result in a significant level of landscape and visual impact. The proposal for the wind farm to support amenity projects being undertaken in the area as part of the community benefit scheme will have a positive impact on tourism and health in the area'. The issue of landscape impact on the Barrow Blueway/Grand Canal/Ummeras Bog/Ballykelly Distillery tourism developments was cited in many third party observations. While I note these concerns, I consider that the impact of the proposed development on these tourism projects is overstated. I also note that relevant bodies such as Bord Fáilte and Waterways Ireland have not made any objection to the proposed development.

8.141. Chapter 17 concludes that all environmental factors are interrelated to some extent. Having studied the interaction of potential impacts 'it has been determined that no

amplification effect is anticipated … the physical, environmental and landscape and visual impacts are almost entirely reversible upon decommissioning'.

8.142. I am satisfied those effects as a result of interactions, indirect and cumulative effects can be avoided, managed and/or mitigated for the most part by the measures which form part of the proposed development, the proposed mitigation measures detailed in the EIAR, and with suitable conditions, if permitted.

Reasoned Conclusion

8.143. I consider that the EIAR and supplementary information is sufficient to identify, describe and assess the likely significant effects of the project on the environment. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the developer, and the submissions from the planning authority, prescribed bodies, appellants, and observers in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development are, and will be mitigated as follows where relevant:

- Biodiversity – There will be some habitat loss due to the construction of access roads, hardstanding and turbines, and tree felling. Measures have been designed to mitigate potential negative and harmful effects as a result of the proposed development on the key ecological receptors identified as part of the impact assessment. Measures for the construction, operation and decommissioning phases are set out relating to general mitigation, habitat/flora mitigation, fauna mitigation, birds, and bats.
- Air Quality and Climate – There will be significant positive impacts on the environment as a result of the increase in renewable energy resources.
- Aviation – The site is located within restricted airspace. Specialist reports prepared for the EIAR found that the proposed development should not cause any significant issues in relation to aviation. However, the Dept. of Defence has objected to the proposed development.
- Noise – The proposed development will comply with national guidance for both the construction and operational phases. To ameliorate any noise and vibration

effects, a schedule of noise control measures has been formulated for the construction phase. Mitigation is not required at operational stage. Post-construction noise surveys are recommended to ensure compliance with any noise conditions applied. A noise monitoring schedule and methodology has been provided.

- Landscape and Visual Impact Assessment – The development site is in the Southern Lowlands Character Area with a 'Class 1 Low Sensitivity' as designated in the Kildare County Development Plan 2014-2020. Notwithstanding the absence of a Wind Energy Development Strategy in the Plan, Class 1 areas have a 'high' compatibility for windfarms. While the proposed development would result in significant landscape and visual change in the area, it is consistent with national and planning authority policy.
- Traffic and Transport – There will some increase in heavy traffic on the local road network during the construction phase. Notwithstanding the concern of the planning authority's Roads, Transportation and Public Safety Department, numerous windfarm developments have utilised similar public road networks for their construction. The applicant has proposed to undertake the intense and frequent repair of the road surface and provide a bond for the provision of repair to roads.

8.144. In conclusion, I consider that the issue of aviation and the Dept. of Defence observations are a significant concern that needs to be further assessed, as set out in Section 10.1 of the Planning Assessment.

9.0 **Appropriate Assessment (AA)**

Compliance with Article 6(3) of the Habitats Directive

9.1. The requirements of Article 6(3) of the Habitats Directive, as related to screening the need for appropriate assessment of a project under Part XAB, Section 177U of the Planning and Development Act, 2000 (as amended) are considered fully in this section.

Background on the Application

9.2. The applicant has submitted a 'Natura Impact Statement' (NIS) prepared by Tobin Consulting Engineers, dated January 2021, as part of the application. An AA Screening Report is included as Appendix A to the NIS.

9.3. The NIS incorporates the proposed windfarm development plus the proposed grid connection to the planned EirGrid Bracklone 110kV substation and the proposed road/junction accommodation works in Co. Offaly.

9.4. The Screening Report provides information to enable the competent authority to perform its statutory function to undertake screening for AA. Section 2.1 (Guidance and Approach) outlines the documents that were considered in preparing the Screening Report, which includes Irish and European guidance.

9.5. The AA Screening Report concluded that 'It cannot be excluded beyond reasonable scientific doubt, in light of best scientific knowledge, in view of the conservation objectives for the relevant European sites and on the basis of objective information, that the proposed development, either individually or in-combination with other plans or projects, will not have a significant effect on the following European site; River Barrow and River Nore SAC. Consequently, this proposed development requires an Appropriate Assessment and a Natura Impact Statement will be prepared'.

9.6. Having reviewed the documents and submissions, I am satisfied that the information allows for a complete examination and identification of any potential significant effects of the development alone, or in combination with other plans and projects on European sites.

Screening for Appropriate Assessment – Test of Likely Significant Effects

9.7. The project is not directly connected with or necessary to the management of a European Site and therefore it needs to be determined if the development is likely to have significant effects on a European Site(s).

9.8. The proposed development is examined in relation to any possible interaction with European sites designated Special Areas of Conservation (SAC) and Special Protection Areas (SPA) to assess whether it may give rise to significant effects on any European site.

Brief Description of the Development

9.9. The applicant provides a description of the project on Pages 8-9 of the AA Screening Report and elsewhere e.g. Pages 2-5 – 2-6 of the EIAR. In summary, the development comprises:

- 5 no. wind turbines with an overall blade tip height of 169 metres and all associated foundations and hard-standing areas;
- Site entrance onto the L1002;
- Improvements and temporary modifications to road infrastructure to facilitate delivery of abnormal loads including the N52, R420, R400, R419 and L1002. These works are subject of a concurrent planning application to Offaly Co. Co.;
- Temporary construction compound;
- Permanent meteorological mast up to 100 metres high;
- Approx. 3.9km of internal access tracks and associated drainage;
- Drainage and sediment control systems;
- 38 kV electrical substation including control building with welfare facilities, electrical infrastructure and grid ancillary services equipment, wastewater holding tank, rainwater harvesting equipment etc.
- Underground electricity and communications cabling between turbines and on-site substation;
- Connection of the windfarm to the national electricity grid via 9.8km underground cabling to the planned EirGrid Bracklone 110kV substation at Portarlington which is currently under consideration by Laois Co. Co. The connection route, via the L1002, L7049, R424 and R420, is shown in Figure 2.4 of the EIAR. Planning applications for future grid connection will be made to both Kildare and Laois Co. Cos.
- Related site works such as berms, landscaping, peat excavation and forestry felling;
- A 10 year permission and 30-year operational life from commissioning of entire windfarm.

9.10. The site location and receiving environment are described in Sections 4.0 (Site Location) and 6.1 (Overview of Receiving Environment) of the AA Screening Report. It is also described on Pages 10-11 of the NIS as being located within an agricultural landscape. Land use/activities are mainly pastoral agriculture with some areas of forestry. The surrounding landscape is a mixture of forestry, agricultural land and peatland and is predominantly flat. The site is approx. 2.9km long northeast to southwest and approx. 1.4km wide northwest-southeast. The site comprises two land parcels connected by a narrow corridor. The Ummeras Beg Stream traverses the southern section of the site before discharging to the River Figile approx. 400 metres west. The River Barrow is approx. 1.9km southwest of the proposed windfarm site at the nearest point.

9.11. Taking account the characteristics of the proposed development in terms of its location and the scale of works, the following issues are considered for examination in terms of implications for likely significant effects on European sites:

- Construction related – uncontrolled surface water/silt/construction related pollution
- Habitat loss/fragmentation
- Habitat/species disturbance (construction/operational/decommissioning)

Submissions and Observations

9.12. A number of observations received refer to the River Barrow and River Nore SAC.

9.13. Of particular relevance is the 'Peer Review of Ecological Information Submitted in Support of a Planning Application for the Proposed Development of Ummeras Wind Farm and Associated Infrastructure' prepared by FERS Ltd. on behalf of Monasterevin Rathangan Wind Awareness dated May 2021 which was submitted as part of the further response. The content of that document will be considered in this Section.

European Sites

9.14. The development site is not located in or immediately adjacent to a European site. The closest European site is River Barrow and River Nore SAC (Site Code 002162) approx. 2.1km to the south.

9.15. European sites within the zone of influence (ZoI) must be evaluated on a case by case basis. Figure 6-1 (European Sites) of the AA Screening Report illustrates the position of the site in the context of European sites in the wider vicinity. A 15km buffer zone around all proposed works is identified. In terms of the development subject of the planning application the other European sites within approx. 15km of the application site are Pollardstown Fen SAC (Site Code 000396, approx. 11.6km to the east), Mouds Bog SAC (Site Code 002331, approx. 13.4km to the east) and The Long Derries, Edenderry SAC (Site Code000925, approx. 13.7km to the north). There are additional European sites within 15km of the other works proposed as part of the overall development but not subject of this planning application i.e. works relating to both the grid connection and TDR. Given the nature of windfarms i.e. turbines, SPAs can be a concern. The nearest SPA to the site is Slieve Bloom Mountains SPA (Site Code 004160) approx. 23.8km to the west, which I consider to be a significant distance in this context.

9.16. The AA Screening Report used the source-pathway-receptor model to identify which European sites, and which of their qualifying interests (QIs) or special conservation interest species were potentially at risk. The only European site identified within the ZoI of the proposed windfarm area was River Barrow and River Nore SAC and I concur with this conclusion. This is the only site where a potential source-pathway-receptor link exists for the proposed windfarm development.

Summary Table of European Sites Within a Possible Zone of Influence of the Proposed Development

European Site (Code)	List of Qualifying Interest (QI) / Special Conservation Interest	Distance from Proposed Development (Km)	Connections (source, pathway, receptor)	Considered Further in Screening?
River Barrow and River Nore	Estuaries [1130] Mudflats and sandflats not covered	Approx. 2.1km at the closest point	Hydrological connection. The Ummeras Beg Stream runs through the	Yes

SAC (002162)	by seawater at low tide [1140] Reefs [1170] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows [1330] Mediterranean salt meadows [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] European dry heaths [4030] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Petrifying springs with tufa formation [7220] Old sessile oak woods with Ilex and		southern area of the site and discharges to the Figile River approx. 400 metres south west of the site on the opposite side of the L1002. The Figile flows in a south easterly direction and discharges to the River Barrow north west of Monasterevin after flowing approx. 2.9km.	

	Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior [91E0] Desmoulin's Whorl Snail [1016] Freshwater Pearl Mussel [1029] White-clawed crayfish [1092] Sea Lamprey [1095] Brook Lamprey [1096] River Lamprey [1099] Twaite Shad [1103] Salmon [1106] Otter [1355] Killarney Fern [1421] Nore Pearl Mussel [1990]			

Identification of Likely Effects

9.17. The conservation objectives of the SAC are set out in the 'Conservation Objectives River Barrow and River Nore SAC 002162' document published by the National Parks & Wildlife Service (NPWS). They are to maintain or restore favourable conservation condition. I note that, while 'Reefs [1170]' is set out as a QI on the NPWS website it is not included within the Conservation Objectives document published by the NPWS.

9.18. The AA Screening Report includes the other elements of the overall development of which the windfarm forms part i.e. TDR accommodation works and the grid connection. In terms of 'in-combination' assessment, other projects or plans considered 'include the planned EirGrid Bracklone 110kV substation, permitted wind farms in the region (Moanvane Wind Farm and Cloncreen Wind Farm), agricultural activities, and small development (single houses, etc.)'.

9.19. Taking account of the characteristics of the proposed development in terms of its location and the scale of works, the AA Screening Report considers the following issues for examination in terms of implications for likely significant effects on European sites:

Potential for direct impact – Loss of habitat. None of the habitats i.e. improved agricultural grassland, arable crops, coniferous forest, immature woodland, and hedgerow habitats correspond with Annex I habitat. The site is not within or adjacent to a designated European site and therefore there will be no direct loss or fragmentation to any Annex I habitat. I concur with this conclusion.

Potential for indirect impact – Elements that may give rise to potential significant effects are identified as:

- Release of sediment and construction pollutants to surface water via surface water runoff during rainfall events, mainly during the construction phase.
- Movement and maintenance of vehicles and machinery during construction phase. Potential for spillages and pollutants which could be transported to surface water during rainfall events.
- Storage of materials adjacent to dry or wet surface water drainage features risk runoff or slippage during rainfall events.
- Transportation and pouring of concrete risks entry into ground and surface water.
- Disturbance or displacement effects associated with habitat loss, increased human presence and noise/vibration during construction.
- Loss of habitat for resting, foraging, and commuting.

These potential impacts are associated with the construction phase more so than the operational or decommissioning phases. The proposed grid connection works would

involve crossing the River Barrow and crossing methodologies are set out in Sections 5.1.2.11 and 12.

I concur with the direct and indirect effects set out in the Screening Report.

Mitigation Measures

9.20. No measures designed or intended to avoid or reduce any harmful effects of the project on a European site have been relied upon in this screening exercise.

Screening Determination

Significant effects cannot be excluded, and Appropriate Assessment required

9.21. The proposed development was considered in light of the requirements of section 177U of the Planning & Development Act, 2000 (as amended). Having carried out Screening for Appropriate Assessment of the project, I conclude that the project individually (or in combination with other plans or projects) could have a significant effect on European site River Barrow and River Nore SAC (Site Code 002162), in view of the site's Conservation Objectives, and Appropriate Assessment (and submission of a NIS) is therefore required.

Appropriate Assessment

9.22. The requirements of Article 6(3) as related to appropriate assessment of a project under Part XAB, sections 177U and 177V of the Planning & Development Act, 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening the need for appropriate assessment
- The Natura Impact Statement and associated documents
- Appropriate assessment of implications of the proposed development on the integrity of each European site.

Compliance with Article 6(3) of the EU Habitats Directive

9.23. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires

that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given.

9.24. The proposed development is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3).

Screening Determination

9.25. Following the screening process, it has been determined that AA is required as it cannot be excluded on the basis of objective information that the proposed development of the windfarm, individually or in combination with other plans or projects, will have a significant effect on the following European sites i.e. there is the *possibility* of significant effect:

- River Barrow and River Nore SAC (Site Code 002162).

9.26. The possibility of significant effects on other European sites has been excluded on the basis of objective information.

9.27. Measures intended to reduce or avoid significant effects have not been considered in the screening process.

The Natura Impact Statement (NIS)

9.28. The application included a 'Natura Impact Statement' prepared by Tobin Consulting Engineers and dated January 2021, which examines and assesses potential adverse effects of the proposed development on the River Barrow and River Nore SAC. Relevant consultations were undertaken with IFI and Kildare Co. Co. An ecological desk study was undertaken. The NIS outlines the field studies carried out on various survey dates between December 2016 and July 2020. These field surveys related to habitat, non-volant mammals, bats, aquatic, wintering birds, and marsh fritillary surveys and also vantage point surveys, breeding birds transects, hinterland breeding bird surveys, lowland wader surveys, raptor surveys and woodcock surveys. Multi-disciplinary walkover surveys were undertaken at proposed infrastructure sites such

as the turbine locations, internal access tracks aiming to identify protected species, including otter, that occur within the site.

9.29. The document states that it has been prepared in accordance with Article 6(3) of the Habitats Directive and Part XAB of the Planning & Development Act, 2000 (as amended), providing information to enable the competent authority to perform its statutory function. It 'includes an examination and analysis of the best available scientific knowledge and data in the field to identify and assess the implications of the proposed development for any European sites in view of the conservation objectives of those sites'.

9.30. The applicant's NIS concluded that 'Following the implementation of the prescribed mitigation measures in Section 9.0 of this NIS, the proposed development will not, either individually or in-combination with other plans or projects, adversely affect the integrity of the River Barrow and River Nore SAC or any European site, in view of the best scientific knowledge in the field, and there is no reasonable scientific doubt as to that conclusion'.

9.31. The applicant notes that consultation was carried out with IFI prior to submission of the planning application. A relatively detailed observation was submitted to the planning authority by IFI when the application was submitted. IFI stress the importance to the Barrow River SAC of the population of salmon, and other Habitats Directive species, in the Black River system (the combined Figile, Cushina and Slate Rivers), even though it is not SAC designated. IFI outlines concerns about previous and likely future use of the peatland areas. The main concern expressed in relation to the proposed development is direct impact upon water quality/quantity relating to the construction and operational phases. I would note that many of the issues cited by IFI in their submission are unrelated to the specific development subject of this particular planning application e.g. fish passage issues on the Cushina and Slate Rivers, peat extraction works/pollution issues. The observation does outline concerns relating to water quality during the construction phase and requests the applicant include a commitment to river habitat restoration to the Ummeras Stream.

9.32. An observation was also submitted to the planning authority by the Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media (not the NPWS as cited in a number of observations) relating to nature conservation. The observation states that

the NIS was reviewed. The observation makes no direct or specific comment in relation to the NIS or AA.

9.33. The planning authority's Planning Report, with input from the Heritage Officer, does not identify any issue with the NIS or AA.

9.34. The observation received by the planning authority from Umeras Community Development CLG included a brief report prepared by FERS. This brief report stated that the AA Screening Report and NIS 'contains significant *lacunae* and deficiencies and is unfit for purpose'. The third-party appeal from Monasterevin Rathangan Wind Awareness also refers to this. However, it was not expanded upon. In their Further Response the applicant notes, in relation to this issue, that no specific examples have been pointed out. A full report, 'Peer Review of Ecological Information Submitted in Support of a Planning Application for the Proposed Development of Ummeras Wind Farm and Associated Infrastructure' prepared by FERS Ltd. on behalf of Monasterevin Rathangan Wind Awareness, dated May 2021, was submitted with the Monasterevin Rathangan Wind Awareness Further Response and with the observation received by the Board from Umeras Community Development CLG.

9.35. Having reviewed the documents, submissions, and consultations, I am satisfied that the information allows for a complete assessment of any adverse effects of the development, on the conservation objectives of the River Barrow and River Nore SAC alone, or in combination with other plans and projects.

Appropriate Assessment of Implications of the Proposed Development

9.36. The following is a summary of the objective scientific assessment of the implications of the project on the QI features of the European site using the best scientific knowledge in the field. All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed.

9.37. The River Barrow and River Nore SAC is subject to AA. A description of this site and their Conservation and Qualifying Interests/Special Conservation Interests, including any relevant attributes and targets for these sites, are set out in the NIS, and summarised in Sections 9.16 and 9.17 of this report as part of my assessment. Table 8-1 (Qualifying Interests, Conservation Objectives and Extent of Habitats or Species for the River Barrow and River Nore SAC) of the NIS sets out the 22 no. QIs (excluding

'Reefs' which, as noted in Section 9.17, is not included in the NPWS' Conservation Objectives document).

9.38. Section 8.2.1.2.1 (Direct Effects) considers that, as the windfarm site is located entirely outside a European site boundary there is no potential for direct habitat loss. No otter holts or couches were identified within the ZoI. Section 8.2.1.2.2.1 (Indirect Effects – Habitat Degradation (Surface Water Quality and Invasive Species)) notes that, in the absence of mitigation, there are a number of habitats and species that are potentially vulnerable to indirect water quality impacts which require good water quality to maintain or restore a favourable conservation status.

9.39. The effect of construction works on water quality and the potential for introduction of invasive species could cause indirect adverse effects on aquatic ecology. The potential for adverse effects at operational stage is not significant according to the NIS and the effect on water quality and invasive species during decommissioning is also possible. Disturbance or displacement of aquatic species and otter are possible during construction and decommissioning; otter spraints, slides and tracks having been recorded within the site. Section 8.2.1.2.2.2 (Disturbance/Displacement) states that watercourses within the windfarm site 'did not offer suitable supporting habitat for crayfish, salmon, lamprey or shad'.

9.40. Table 8-2 (Evaluation of Potential Adverse Effects on the Conservation Objectives of the River Barrow and River Nore SAC as a Result of the Proposed Development) of the NIS sets out 17 no. Qualifying Interests (the habitat/species), Conservation Objectives (generally to maintain/restore the favourable conservation condition) and the extent of the habitat or species. Five of the habitats/species identified by the NPWS as QIs are not included in Table 8-2. It would appear these have not been considered for the following reasons as outlined in Table 8-1:

- Freshwater Pearl Mussel – The status of this species is under review and the outcome will determine whether a site-specific conservation objective is set for the species. No detail on the distribution of the species was provided in the Conservation Objectives document. However, a 2010 Department of Environment, Heritage and Local Government report indicates populations of this mussel occur within three tributaries/catchments of the Barrow but do not

occur downstream of the site. These three tributaries (Aughavaud, Ballymurphy and Mountain) are located south of Goresbridge in Co. Kilkenny.

- Nore Freshwater Pearl Mussel – This species only occurs along a stretch of the River Nore.
- Killarney Fern – The species is not recorded on site and is mapped approx. 82km downstream of the site.
- European Dry Heath – The spatial extent is unmapped but occurs on steep, free-draining river valley sides especially the Barrow and tributaries in the foothills of the Blackstairs Mountains. The habitat is not on site.
- Old Sessile Oak Woods - The species is not recorded on site and is mapped approx. 82km downstream of the site.

9.41. The other 17 no. QIs were considered in Table 8-2 and the potential for adverse effects on each QI as a result of the proposed development was outlined. For the purpose of this planning application report the adverse effects relate to the windfarm development. These can be summarised as follows:

- Estuaries and Mudflats and sandflats not covered by seawater at low tide – There will be no adverse effect on the habitat area as it is over 85km surface water distance away. Notwithstanding that the scale of the proposed development and the hydrological distance between source and receptor means potential for adverse hydrological effects are unlikely it cannot be excluded that the development will not result in adverse in-combination effects from an accidental pollution event resulting in a change to vegetation communities.
- Salicornia and other annuals colonising mud and sand, Atlantic salt meadows and Mediterranean salt meadows – There will be no adverse effect on the habitat area as it is over 100km surface water distance away. The development will not obstruct sediment supply necessary for physical structure, impact on the tidal regime or impact on creek and pan structure. Notwithstanding that the scale of the proposed development and the hydrological distance between source and receptor means potential for adverse hydrological effects are unlikely it cannot be excluded that the development will not result in adverse in-

combination effects from an accidental pollution event resulting in a change to vegetation structure and composition.

- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitrico-Batrachion vegetation – Surface water run-off containing sediments, or a pollution event, could lead to an increase in suspended solids downstream, affect water chemistry or water quality resulting in adverse effects on this QI habitat such as changes to vegetation composition.
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels – Surface water runoff containing sediments, or an accidental pollution event, could adversely affect water quality downstream resulting in changes to vegetation structure and composition.
- Petrifying springs with tufa formation – Table 8-2 states surface water runoff containing sediments, or an accidental pollution event, could adversely affect water quality downstream resulting in changes to vegetation composition. However, in relation to this habitat I note that Map 6 of the NPWS's Conservation Objectives document identifies only one such QI habitat within the SAC and that is located on the River Nore. Therefore any contaminated surface water runoff would have no impact on this QI habitat.
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior – An accidental pollution event of sufficient magnitude could potentially negatively affect sensitive woodland plant species where the habitat has a direct interaction with the River Barrow through seasonal flooding.
- Desmoulin's Whorl Snail – The only known site on the River Barrow is at Borris Bridge over 70km downstream. An accidental pollution event of sufficient magnitude could potentially negatively affect vegetation composition of suitable supporting habitat where the habitat has a direct interaction with the River Barrow through seasonal flooding.
- White-clawed crayfish – Watercourses within the site did not contain suitable habitat for the species. Surface water run off containing sediment, or a pollution event, could adversely affect water and habitat quality in the SAC downstream.

- Sea lamprey, Brook lamprey and River lamprey – Surface water run off containing sediments, or a pollution event, could adversely affect water quality in the SAC downstream and potentially adversely affect the population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and the availability of juvenile habitat.
- Twaite shad – Surface water run off containing sediments, or a pollution event, could adversely affect water quality in the SAC downstream and potentially adversely affect population structure, extent and distribution of spawning habitat and spawning habitat quality.
- Salmon – Surface water run off containing sediments, or a pollution event, could adversely affect water quality in the SAC downstream and potentially adversely affect adult spawning fish, salmon fry abundance, smolt abundance and the number and distribution of redds.
- Otter – Evidence of otter activity was recorded during site surveys. It suggests the Ummeras Beg Stream and River Barrow provides commuting and foraging habitat. Disturbance of otter during construction and decommissioning may have short-term adverse effects on their distribution. No disturbance related effects are anticipated during operation. Surface water run off containing sediments, or a pollution event, could adversely affect water quality in the SAC downstream and potentially adversely affect fish biomass available to otter.

Mitigation Measures

9.42. The NIS contains a number of mitigation measures to avoid/reduce the potential for significant adverse effects on the SAC in view of the conservation objectives. Experts across the fields of ecology, hydrology and engineering were involved in preparing the proposed mitigation measures. It is stated that a suitably qualified full-time Ecological Clerk of Works (ECoW) will be appointed. The ECoW 'will ensure that all mitigation measures outlined within this NIS and within the accompanying CEMP are implemented correctly during the construction works'.

9.43. Habitat degradation mitigation measures are set out in Section 9.1 of the NIS. Section 9.1.1 (Emissions to surface water during construction, operation and decommissioning) set out pollution control measures and sediment and erosion control measures at construction phase. There are fewer operational stage measures

proposed. These relate to fuel storage, a hydrocarbon interceptor and wastewater for the sanitary facilities. Control measures will be put in place to mitigate any risks when carrying out maintenance. Measures to prevent introduction of invasive species are outlined which mainly involve washing machinery and sourcing screened material. Section 9.2 (Disturbance/Displacement Mitigation Measures) relate to otters as signs of otter were noted within the site. These include pre-construction otter surveys, a derogation licence if necessary, site lighting away from a watercourse and keeping construction noise to a minimum.

9.44. The NIS considers the outlined mitigation measures are best practice and proven technologies/methods and, correctly applied, 'will avoid or reduce the magnitude of potential impacts on the receiving environment, therefore ensuring avoidance of significant adverse effects on the integrity of the River Barrow and River Nore SAC'. I consider the mitigation measures proposed to be appropriate.

9.45. I consider that, notwithstanding that the NIS excluded five habitats and species from further consideration as set out in Section 9.40, the mitigation measures proposed would also be beneficial to those habitats and species in terms of water quality.

In-Combination Effects

9.46. In-combination effects are considered in Section 11 of the NIS. Projects considered in relation to in-combination effects are:

- Kilberry – This is a Bord na Móna group of bogs including Ummeras north of the site. An application for leave to apply for substitute consent under section 177C of the Planning and Development Act 2000, (as amended) to regularise the planning status of Bord na Móna historic peat extraction (and ancillary works) on the milled peat production bogs was granted in 2020. The NIS notes that the likely outcome of rehabilitation practices 'is that the site will become of greater value to protected species, including the qualifying interest of local designated sies, e.g. breeding waders and otters'.
- Trascan Solar Farm – A ten year permission was sought for a solar farm on an 86.7 hectare site and a 40 year operational life. (The application to Offaly County Council was deemed withdrawn on 11.02.2021).

- Mount Lucas Wind Farm – 32 no. wind turbines with a total height not exceeding 156 metres and associated development were granted by the Board in 2010 and the windfarm was commissioned in 2014.
- Cloncreen Wind Farm – 21 no. wind turbines with an overall tip height of 170 metres and associated development were granted by the Board in 2017.
- Moanvane Wind Farm – 12 no. wind turbines with a tip height of up to 169 metres and associated development were granted by the Board in 2018.
- Cushaling Wind Farm – An appeal was lodged to the Board in relation to 8 no. wind turbines. (This was granted by the Board in September 2020 under ABP Reg. Ref. ABP-306924-20).
- Drehid Wind Farm – An appeal was lodged to the Board in relation to 12 no. wind turbines with a tip height of up to 169 metres and associated development. (This was granted by the Board in September 2020 under ABP Reg. Ref. ABP-306500-20).
- Forestry Replanting Land Assessment – Statkraft are proposing to replant 5.01 hectares of new forestry to off-set the area of forestry proposed to be felled as part of this project, in Co. Cork.

9.47. Section 11.2 of the NIS states the County Development Plans for Kildare, Offaly and Laois were also considered as was the River Basin Management Plan 2017-2021.

9.48. The in-combination effect assessment states that, 'Considering the lack of residual effects of other plans and projects within the ZoI of the proposed development and the assessment of residual effects of the proposed development, no residual in-combination effects have been identified for any Qualifying Interest of any European Site. The proposed development therefore cannot contribute to any significant adverse in-combination effects on any European sites'. I concur with the NIS in terms of the in-combination effects.

<u>Report Submitted with the Further Response from Monasterevin Rathangan Wind Awareness</u>

9.49. A 'Peer Review of Ecological Information Submitted in Support of a Planning Application for the Proposed Development of Ummeras Wind Farm and Associated

Infrastructure' prepared by FERS Ltd. on behalf of Monasterevin Rathangan Wind Awareness dated May 2021 was submitted as part of the third party Further Response.

9.50. The Peer Review considers that there is potential for significant negative impacts on several of the European sites screened out in the AA Screening Report. Thirteen sites were identified within a 15km buffer of all development works associated with the overall windfarm project. The Peer Review considers that both Slieve Bloom Mountains SPA and Lough Ennell SPA should have been considered within the NIS. The reason for including Slieve Bloom Mountains SPA is based on hen harrier being the QI. The reasons for including Lough Ennell SPA are the nature of the proposed development, its location adjacent to wetland sites that support Annex I bird species and the potential for impacts of wind turbines on both staging migrating birds and birds travelling between foraging and roosting sites.

9.51. The Peer Review considers the NIS is critically flawed because the AA Screening Report that informs it is inadequate and bird surveys and collision risk modelling in the EIAR that informs it is inadequate. The Review states that there is no assessment of the conservation status of habitats or species for which the River Barrow and River Nore SAC is designated at a national or site-specific level. 'In the absence of knowledge as regards the conservation status of qualifying interests at a national and site-specific level, it is not possible to make a robust, informed assessment of the potential impacts of a proposed development'. The example is given of the white-clawed crayfish whose overall national status is 'Bad, with a deteriorating trend'. However, the baseline status within the SAC is excellent. Therefore, any negative impact on the species in the SAC 'would have profoundly serious ramifications for the conservation status of the species at a National level'. The Review considers that, in the absence of information as to the conservation status, the relevant authority 'cannot make a sufficiently informed decision as to the potential impacts of the proposed development'. The Review considers the conclusion of the NIS is misinformed.

9.52. Slieve Bloom Mountains SPA is approx. 23.8km west of the windfarm site. The only QI for this SPA is the hen harrier [A082]. The hen harrier was raised as an area of concern by the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media in their observation to the planning authority and stated it was aware of a winter roost within 2km of the proposed development. The first-party grounds of appeal states that 'Based on a consistent survey effort from 2016 to 2019, the species was recorded in

low numbers in winter months. The species was found to infrequently use the site for foraging'. The magnitude of habitat loss and fragmentation, and disturbance displacement and barrier effects were assessed to be of Low Concern. The applicant is confident there are no regularly active roosts within 1km. Usage of the 500 metres turbine buffer was exceptionally low, three records over three winters. The experience of the applicant's ecologists, as set out in the grounds of appeal, is that some hen harriers have a degree of tolerance to human activity and studies have shown that post-construction hen harrier activity around turbines returned to pre-construction levels/relatively small scales of displacement. Having regard to the content of the EIAR and first-party grounds of appeal with regard to hen harriers, and the distance between the windfarm site and the Slieve Bloom Mountains SPA, I am satisfied that the screening out of the SPA from the NIS is not a fatal deficiency and the proposed windfarm development would not have a significant effect on Slieve Bloom Mountains SPA.

9.53. Lough Ennell SPA is located within the 15km buffer set out in Figure 6-1 (European Sites) of the AA Screening Report because it is within that distance of road/junction accommodation works associated with the TDR. The SPA is approx. 37km north west of the proposed windfarm site. None of the four QIs associated with the SPA (pochard, tufted duck, coot and 'wetland and waterbirds') are specifically referenced referred to as being associated with the subject site. There are several, larger, windfarms between the subject site and Lough Ennell such as Mount Lucas, Cloncreen and Yellow River windfarms. Having regard to the separation distance involved, the relatively limited nature of the proposed windfarm, the presence of larger windfarms closer to the SPA and the QIs of the SPA I am satisfied that the screening out of the SPA from the NIS is not a fatal deficiency and the proposed windfarm development would not have a significant effect on Lough Ennell SPA. Table 6-8 (Designated Sites) of the EIAR discounts a pathway between the proposed windfarm and Lough Ennell SPA due to distance, nature and scale of the proposed development, coupled with a lack of connectivity (as with Slive Bloom Mountains SPA). Table 6-8 does identify a link to River Barrow and River Nore SAC.

9.54. As set out in EIA (Section 8.0), I am satisfied that the bird surveys and collision risk modelling is acceptable. The NIS is provided to enable the competent authority to perform its statutory function to undertake AA in respect of the proposed development.

In this case that is the development of a five-turbine wind farm and associated works. It considers whether the proposed development, by itself or in-combination with other plans or projects, would adversely affect the integrity of European sites. The Peer Review sets out that, because specific national or site level data is omitted, it is not possible to make an informed assessment of the potential impacts. Certain relevant detail is contained within the Conservation Objectives document for the SAC. However, the purpose of the NIS is to identify potential development consequences that could affect QI habitats and species for the relevant European site(s) and mitigate against them. In the example provided in the Peer Review it is stated that any negative impacts on white-clawed crayfish would have profoundly serious ramifications at a national level. However, the purpose of the NIS in this instance is to mitigate against any impact on the white-clawed crayfish, as a QI species for the River Barrow and River Nore SAC. The fact that the white-clawed crayfish might be declining at a national level is a separate issue. In my opinion, the detail contained within the NIS, including the implications of the proposed development and the mitigation measures proposed to address possible surface water contamination and species disturbance is sufficient to outline the possible impacts on all relevant European sites and address same.

9.55. Therefore, while I note the content of the Peer Review, I am satisfied that the AA Screening Report and NIS submitted with the application is sufficiently robust for the competent authority to carry out its statutory function.

Integrity Test

9.56. Following the appropriate assessment and the consideration of mitigation measures, I am able to ascertain with confidence that the project would not adversely affect the integrity of River Barrow and River Nore SAC in view of the Conservation Objectives of this site.

9.57. This conclusion has been based on a complete assessment of all implications of the project alone and in combination with plans and projects.

Appropriate Assessment Conclusion

9.58. The proposed windfarm development has been considered in light of the assessment requirements of sections 177U and 77V of the Planning & development Act, 2000 (as amended).

9.59. Having carried out screening for Appropriate Assessment of the project, it was concluded that it may have a significant effect on River Barrow and River Nore SAC (Site Code 002162). Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of that site in light of its conservation objectives.

9.60. Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of European site No. 002162, or any other European site, in view of the site's Conservation Objectives.

9.61. This conclusion is based on:

- A full and detailed assessment of all aspects of the proposed project subject of the planning application including mitigation measures in relation to the Conservation Objectives of the River Barrow and River Nore SAC
- Detailed assessment of the in-combination effects with other plans and projects including historical projects, current proposals, and future plans.
- No reasonable scientific doubt as to the absence of adverse effects on the integrity of River Barrow and River Nore SAC.

10.0 **Planning Assessment**

Having examined the application details and all other documentation on file, including all of the observations received in relation to the appeal, and inspected the site, and having regard to relevant local/regional/national policies and guidance, I consider that the main planning issues in this appeal, other than those set out in detail relating to EIA and AA, are as follows:

- Aviation
- Project Splitting (Grid Connection)
- Turbine Type

10.1. Aviation

10.1.1. The planning authority refused the planning application for two reasons. The first reason for refusal related specifically to aviation safety concerns due to the location of the site wholly within a low-level flight route used by the Air Corps. Impact on aviation is a direct impact of the proposed development.

10.1.2. Scoping was carried out by the applicant in advance of the EIAR. An 'Impact on DME Flight Inspection' report prepared by Flight Calibration Services Ltd. and dated 03.06.2020 was submitted as Appendix 12-1 of the EIAR. The IAA Wolftrap DME transponder is located approx. 20NM west of the site. The DME (distance measuring equipment) provides radionavigation information to aircraft in the en-route and terminal navigation phases of flight within 100NM of the DME site. This report concludes that the windfarm will 'have no adverse effect on flight inspection procedures and profiles associated with the IAA Wolftrap DME transponder'. A 'Military Flight Operations Aspect' report was prepared by Fintan Ryan dated 08.06.2020. This states that the proposed windfarm only covers approx. 0.05% of the restricted airspace below Restricted Area R-16 and the presence of turbines would be useful to familiarise pilots with the situation throughout the country where there are now approx. 1,500 turbines. The turbines are more than 2NM from the M7, should not have any effect on aircraft using the road as an aid to navigation, and the required safety margins for the operation of such flights will be met. 'Apart from operations in the area of the turbines, the windfarm will have little or no negative impact on the effectiveness of the Air Corps Operations or the Garda Air Support Unit. Traditional ground based radio navigation aids can be used to aid VFR (Visual Flight Rules), as recommended by IAA, as indeed can the various satellite systems such as GPS and its various augmentations'. Aviation was assessed in Chapter 12 (Material Assets: Aviation, Telecommunications & Electromagnetic Interference) of the EIAR. The chapter concludes that there will be no significant impacts at any stage of the proposed development.

10.1.3. On foot of the submission of the planning application, observations were received from both IAA and the Dept. of Defence. The IAA consider the applicant should engage with Clonbullogue Airport (approx. 8.5km north west of the site) with a view to ensuring no adverse impact on the safety of flight operations there. In the event of a grant of permission an aeronautical obstacle warning light scheme should be agreed and as-

constructed coordinates of the turbines provided. The Dept. of Defence had four areas of objection. These are set out in full in Section 3.3. of this Report. In short, the turbines are considered an en-route obstacle to aircraft in flight, the turbines lie within 3NM of the M7 which is a critical low level route, typical flight operations to regional areas may be affected and there would be an impact on navigability in the area.

10.1.4. The planning authority's Planning Report had 'serious concerns that the impact of the proposed development on aviation in the area has not been properly assessed, is understated and that the development would have a significant negative effect on aviation, particularly in light of the report of the Department of Defence'. Permission was refused for two reasons, with the first reason relating directly to the aviation/Dept. of Defence issue.

10.1.5. The detailed first-party grounds of appeal set out a robust defence of this issue and included a second report from Fintan Ryan, submitted as Appendix 2 of the grounds of appeal. The applicant does not consider that the issues raised in the first reason for refusal warrant a refusal of permission. The four areas of concern set out in the Department's report are addressed in detail in the grounds of appeal.

10.1.6. The first issue raised by the Department is that the turbines are considered to be an en route obstacle to aircraft in flight. The applicant states that while some aircraft may operate at the level of the turbines this is also the case for turbines elsewhere in Ireland. Safety lighting, daytime visibility and inclusion in the national aeronautical obstacle database will allow aircraft navigate safely and there is sufficient airspace above the 500 feet buffer. Lateral avoidance can be used if cloud cover is too low. Other obstacle avoidance measures include radio navigation and GPS. The applicant considers that there will be no practical impact on Air Corps operations.

10.1.7. The second issue raised by the Department is that obstacles within 3NM of the M7 centreline, which the turbines are, could affect ability to access the regions. The M7 is a critical low level route in support of Air Corps operational requirements. The applicant states other windfarms are also within 3NM of low level flight routes. The applicant considers that modern aviation practice uses newer navigational aids to fly more direct routes. Notwithstanding, the turbine locations will not cause a significant issue.

10.1.8. Thirdly, the Department states that flight operations to regional areas may be affected. In response to this the applicant considers that slight alterations would be required to

Limerick/Shannon which would add minimal time and limited deviation to the route. There would be no significant impact on flight operations.

10.1.9. The final area of concern expressed by the Department is that there would be an immediate impact on navigability in the area. The applicant considers that lighting, daylight visibility, and addition of the turbines to the national aeronautic obstacle database will allow all aircraft safely navigate.

10.1.10. The applicant also notes that the Kildare County Development Plan 2017-2023 restricts tall structures within 15km of Casement and the windfarm site is approx. 40km away.

10.1.11. Precedent for windfarms being permitted within low-flying areas and restricted airspace are set out in the grounds of appeal. The planning applications cited by the applicant can be summarised as following (the summaries are written by the undersigned):

- P.A. Reg. Ref. 18/1534 / ABP-306500-20 – An observation was made by the Dept. of Defence to Kildare Co. Co. in relation to Drehid Windfarm. Its location beneath restricted airspace EIR 16 and proximity of the M4, a critical route for access, were cited. Permission was refused by the planning authority for two reasons, both relating to the road network. The Dept. of Defence submitted an observation to the Board, less detailed than that submitted with the current application. Aviation issues were considered in the Inspector's Report. A grant of permission was the decision of the Board, in line with the Inspector's recommendation.

- P.A. Reg. Refs. 11510203 / 12510714 (Monaincha windfarm) – The 2011 application to Tipperary Co. Co. was for modifications and an amendment to conditions of a previous permission (P.A. Reg. Ref. 09/510084) and the 2012 application was for a five-turbine extension. The 2009 application was the parent permission. There was no correspondence from the Dept. of Defence in any of the three applications.

- ABP Reg. Ref. 19.PA0032 (Yellow River Wind Farm) – The reference number provided by the applicant, 19.PC0149, relates to a record of a meeting between the Board and Offaly Co. Co. regarding the proposed Yellow River Windfarm.

No correspondence was received from the Dept. of Defence in the planning application.

- ABP Reg. Ref. 19.PA0047 (Cloncreen Windfarm) – An observation from the Dept. of Defence for this application was summarised by the Inspector as follows; 'In line with Air Corps policy on tall structures it requires that in all locations where windfarms are permitted it should be a condition that they meet specific lighting requirements'. In consideration of the submitted EIAR the Inspector noted that the Department had not raised any concerns.
- P.A. Reg. Ref. 17/335 / ABP Reg. Ref. ABP-301619-18 – This relates to Moanvane Windfarm in Co. Offaly. The Dept. of Defence did not submit an observation to the planning authority, or to the Board on appeal.
- P.A. Reg. Ref. 07511827 – Permission was granted by Tipperary Co. Co. for a windfarm at Rathnaveoge. The Dept. of Defence did not submit an observation to the planning authority.

10.1.12. The Dept. of Defence submitted an observation to the Board in relation to the grounds of appeal. This observation is set out in detail in Section 6.3.3 of this Report. The content of the Department's observation did not contain any new or significant information, but it did expand upon the background to the Air Corps use of the EI-R16 and Military Operating Area 4 airspace. Some additional detail in relation to low level aircraft such as the Emergency Aeromedical Service and Garda Air Support Unit was also provided. Once again, the Department stated that they wished to object to the proposed windfarm development for the reasons set out in the observation. The applicant also addressed aviation in their Further Response.

10.1.13. Therefore, substantial detail has been submitted in relation to the issue of aviation. As set out in the Material Assets chapter of the EIA in Section 8.0 of this Report, I consider that the content of the EIAR, including appendices, and the first-party grounds of appeal are sufficient to identify, describe and assess the likely significant effects of the project on the environment. The applicant has a different opinion to the Dept. of Defence, and the planning authority, in terms of the significance of these effects.

10.1.14. Kildare Co. Co. does not have a robust wind energy strategy in terms of identifying areas of the county that are suitable for the provision of windfarm

development. Objective WEO 1 of the County Development Plan 2017-2023 states it is an objective of the Council to prepare and publish a Wind Energy Development Strategy following the completion of the Department's review of the Wind Energy Development Guidelines. This results in a significant policy vacuum with regard to wind energy developments. I also note that the proposed windfarm development is not dependant on this specific location. While, by their nature, windfarms are generally suitable in more rural areas, there are many rural areas that could accommodate windfarms that would not have the consequences to aircraft safety and navigability that the site subject of this application would have.

10.1.15. I have considered all of the documentation in relation to the disputed issue between the applicant and the Dept. of Defence. The Department's detailed observations form an important consideration in the assessment of the application, and I consider that the concerns cited in the observations are significant. The applicant has identified precedent for development of the type proposed, however each planning application is assessed on its own merits. The Department appears to be more concerned about the potential impact of this particular development than those identified as precedents by the applicant, notwithstanding its relatively limited scale. The applicant refers to only minor deviations having to be taken by aircraft to avoid the proposed turbines and also states that the turbines would be appropriately lit, would be visible in daylight, other navigational aids could be used, the turbines would be sufficiently far from the M7 so as not to cause a significant issue and the turbines would be included on the national aeronautical obstacle database.

10.1.16. Notwithstanding, the turbines would have a blade tip height of up to 169 metres, they are located within Military Operating Area airspace and beneath EI-R16 airspace, the site is located within 3NM of the M7, a route identified as a critical low level route in support of Air Corps operational requirements where aircraft, especially in poor weather, will routinely fly at the height of the turbines, and, according to the Department, 'there would be an immediate impact on navigability in the area'.

10.1.17. Having regard to the documentation submitted, I consider that the observations from the Department illustrate that the proposed development would have an adverse impact on aircraft navigability in the area and that permission should be refused on the basis that the proposed development would endanger or interfere with the safety of

aircraft or the safe and efficient navigation thereof, and would be contrary to the proper planning and sustainable development of the area.

10.2. Project Splitting (Grid Connection)

10.2.1. A number of observations refer to grid connection and project splitting.

10.2.2. It is proposed to provide a grid connection between the site and a proposed EirGrid 110kV substation at Bracklone, Portarlington, which is currently under consideration by Laois Co. Co. A 9.8km connection route is outlined in, and is considered as part of, the EIAR (and AA). The route is shown in Figure 2.4 of the EIAR. Alternative grid connection routes connecting to a substation in Kildare were considered. A planning application for future grid connection will be made to both Kildare and Laois Co. Cos.

10.2.3. In the conclusions of all chapters in the EIAR, the grid connection and TDR are considered along with the windfarm itself. All impacts of the overall development have been considered. Therefore, as required, EIA undertaken for the windfarm includes all cumulative impacts. However, there is no requirement that the grid connection works must be included in the planning application.

10.2.4. Therefore, no project splitting occurs.

10.3. Turbine Type

10.3.1. Throughout the application and EIAR the specific type and dimensions of the proposed turbines are not definitive. For example, the public notices refer to turbines with a ‘tip height of up to 169m’, drawings of the turbines state ‘Final turbine specification will be selected at detail design’, Section 11.2.3 in the Shadow Flicker chapter of the EIAR states that ‘The actual turbine which will be constructed may vary’ from the wind turbine dimensions inputted to the shadow flicker modelling, and Section 13.2.3.5 in the Noise and Vibration chapter states that ‘the actual turbine to be installed on the site will be the subject of a competitive tender process and could include turbines not amongst the turbine models currently available’.

10.3.2. On foot of the absence of specific dimensions, should the Board be of the opinion that the proposed development is acceptable, I recommend that further information is sought prior to the grant of permission requiring the applicant to confirm the nature

and extent of the development for which permission is sought, by reference to plans and particulars which describe the works to which the application relates, in compliance with the relevant provisions of the Planning and Development Regulations, 2001 (as amended). Alternatively, if a range of options is sought the applicant should clearly indicate in the application documentation the detail of all such options and confirm that each option has been fully assessed within the application documentation including within the EIAR and/or NIS as appropriate.

11.0 **Recommendation**

I recommend that the planning application be refused for the following reasons and considerations.

12.0 **Reasons and Considerations**

1. The site location for the proposed windfarm, where it is proposed to construct five turbines with a maximum blade tip height of 169 metres, is within a route identified as a critical low level route in support of Air Corps operational requirements by the Department of Defence. Obstacles to aircraft within a 3NM (nautical mile) corridor of the M7 Motorway could affect aircraft ability to access the regions, especially in poor weather conditions. The windfarm site is located beneath EI-R16 airspace and within Military Operation Area 4 airspace. Therefore, the proposed development would endanger or interfere with the safety of aircraft or the safe and efficient navigation thereof, and would be contrary to the proper planning and sustainable development of the area.

Anthony Kelly

Planning Inspector

20.09.2021