

# Inspector's Report PL.07.247605

**Development** Ten year permission for the relocation

of 1 no. turbine (Turbine No 4) of the previously permitted Knockalough Wind Farm (Reg Ref No 14/12731).

**Location** Knockalough, Moycullen. Co Galway.

Planning Authority Galway Co Council.

Planning Authority Reg. Ref. 16/1211.

Applicant(s) Knockalough Wind Farm Ltd.

Type of Application Permission.

Planning Authority Decision To Grant Permission.

Type of Appeal Third Party

**Appellants** Peter Sweetman & Associates on

behalf of Ronan Browne & Others

Knockalough Community Group

Observer(s) Charles Troy & Dearbhaill Standun

**Date of Site Inspection** February 27<sup>th</sup>, 2017

**Inspector** Breda Gannon.

# 1.0 Site Location and Description

- 1.1. The site, which is located in the townland of Knockalough. Co Galway, is part of a larger wind farm site currently being developed. It is located 5km southwest of Moycullen and c.7km northeast of Spiddal. The site is accessed off the L-1320 local road that connects the N59 Galway-Clifden road with the R336 Coast Road.
- 1.2. The wind farm site occupies a ridge of ground that runs generally east to west. At the highest point it is 150mOD. To the west, there is a lower ridge running north south and reaching an elevation of c.126mOD. Beyond this lands to the northeast and southwest are in the order of 100mOD, characterised by more open landscape with agricultural land interspersed with lakes and open bogland. There are clusters of residential property to the northeast at Laughill and Finisklin and to the north at Slieveaneena.
- 1.3. Much of the site was originally under forestry, which has been progressively cleared. Site preparation works in connection with the overall wind farm development have commenced on the site. At the time of inspection, the site entrance and access road to the turbine locations had been constructed and ground works for the construction compound, sub-station and turbine foundations had commenced. Some tree felling had taken place in the location of the previously permitted Turbine No 4.
- 1.4. It is proposed to relocate Turbine No 4 into an area of higher ground to the northwest of the previously approved position. It will lie in an area of more recently planted commercial forestry with younger vegetation and scrubland. It will be necessary to clear additional mature forestry to construct the access road to the turbine.

# 2.0 **Proposed Development**

The proposal is to relocate Turbine No. 4 from its originally approved position within a permitted wind farm site. The proposal involves the relocation of the turbine foundation, hardstand, crane stand and assembly area and the construction of a new access road c.180m in length to the new turbine location. The new turbine location is c.82m to the northwest of the previously approved location. The turbine dimensions, layout, size of the associated infrastructure, turbine foundation, hardstanding etc.,

will remain unchanged. The maximum ground to blade tip height will be 131m, as originally permitted.

The application was accompanied by the following;

- Environmental Report, including Photomontages.
- Ecological Impact Assessment & Appropriate Assessment Screening Report.
- Letter of consent from Coillte, as registered owner of the lands.

# 3.0 Planning Authority Decision

#### 3.1. **Decision**

The planning authority decided to grant permission for the development subject to 17 no. conditions, which includes the following conditions of note:

**Condition No 2** – The permission shall expire at the expiry date of the parent permission approved under Reg Ref No. 14/1273.

**Condition No 3** – Micro-siting not permitted.

**Condition No 4** – Grid connection shall be as approved under Reg Ref No 14/1273.

**Condition No 5** – Mitigation measures set out in the Environmental Report, Ecological Impact Assessment Report and Environmental Management Plan shall be fully implemented.

Condition No 8 – Shadow flicker requirements.

**Condition No 9** – Noise levels and compliance monitoring.

**Condition No 10** – Ornithological monitoring.

**Condition No 11** – Archaeological monitoring of ground works.

**Condition No 17** – Financial contribution.

## 3.2. Planning Authority Reports

#### 3.2.1. Planning Reports

The **Planning Officer's** report of 28/10/16 notes the location of the site in an area designated 'Permitted in Principle' under the Wind Energy Strategy for the county. The proposal involves a minor revision to the previously approved windfarm providing for the relocation of Turbine No 4 to a position c 82m northwest of its original position. The environmental and ecological implications of the proposed development have been assessed and are considered acceptable by the planning authority. The base level of the turbine will increase from 116mOD to 120mOD. The landscape and visual impact of the re-siting would not increase in magnitude or severity.

It is stated that the planning authority considered the nature, scale and location of the proposed development, which represents a minor revision to a recently approved windfarm, the conservation objectives/qualifying interests of the nearby (c.100m) Connemara Bog Complex, the absence of any protected habitats or flora/fauna on the site, the Environmental Report, Ecological Impact Assessment and Appropriate Assessment and Screening Report etc., and concluded that Stage 2 Appropriate Assessment was not required.

The planning officer concludes that the proposed development is in accordance with the proper planning and sustainable development of the area, with respect to reducing greenhouse gases in energy production, together with meeting the requirements of the Wind Energy Development Guidelines for Planning Authorities and the Galway County Council Development Plan and the Wind Energy Strategy.

#### 3.2.2. Other Technical Reports

None.

#### 3.3. Prescribed Bodies

**Irish Water** in their submission of 1/2/17 raised no objection to the development, noting that the proposed relocation of the turbine does not have any impact on Irish Water assets.

The **Commission for Energy Regulation** (CER) in their submission raised no issues regarding the proposed development.

#### 3.4. Third Party Observations

A number of submissions were received by the planning authority raising broadly similar issues to those raised in the appeals.

# 4.0 Planning History

**11/1573**– Permission granted for the development of a 12 No. turbine wind farm on the site by Galway Co Council. The decision was appealed and the Board granted permission for 7 No. turbines, omitting 5 No. turbines from the original layout (T2, T3, T4, T5 & T12), due to concerns relating to peat stability and potential hydrological impacts downstream (PL 07.240612).

**14/1273** – Planning permission granted by Galway County Council for an 11 No. turbine wind farm and associated development on the site.

# 5.0 Policy Context

## 5.1. **Development Plan**

The operative development plan is the **Galway County Development Plan 2015- 2021**. It supports renewable energy development in general, including wind energy.

The following objectives of the Plan are relevant:

#### **Objective ER 5 – Wind Energy Development**

Promote and facilitate wind farm developments in suitable locations, having regard to areas of the County designated for this purpose in the County Galway Wind Energy Strategy. The planning authority will assess any planning application proposals for wind energy production in accordance with the County Galway Wind Energy Strategy, the DoEGLG Guidelines for Planning Authorities on Wind Energy Development, 2006 (or any updated/superseded documents), having due regard to the Habitats Directive and to the detailed policies, objectives and Development Standards set out in the Wind Energy Strategy.

#### Objective ER 6 – Wind Energy Strategy

The policies, objectives and development management guidelines/standards set out in the County Galway Wind Energy Strategy shall be deemed to the policies, objectives and development management guidelines/standards for the purposes of the Galway County Development Plan 2015-2021.

The Wind Energy Strategy is contained in Appendix IV of the Plan. It supports a plan led approach to wind energy development in the county. It designates strategic wind farm development areas in terms of their suitability for wind farm development based on strategic analysis in relation to wind energy resources, natural heritage designations, landscape sensitivity etc.

It designates wind farm development areas in the county as being: a) Strategic Areas, b) Acceptable in Principle, c) Open for Consideration and d) Not Normally Permissible. It is the policy of the Council to maximise wind energy development in the three designated areas, on a case by case basis, subject to meeting specific requirements and guidance contained within the strategy.

The site is located in an area designated 'Acceptable in Principle' described as follows;

'Smaller areas in suitable locations for wind farm development and without significant environmental constraints, based on strategic level analysis. Wind farm developments will be facilitated in these areas subject to detailed environmental and visual assessment and appropriate layout and design'.

The site is also within the area covered by the **Gaeltacht LAP 2008-2018**. Relevant policies include;

**P.B.19** -The development of renewable energy and its associated infrastructure will avoid negative impacts on Natura 2000 sites and new plans and projects adhere to the requirements of Article 6 of the Habitats Directive in consultation with the NPWS.

**P.P.H 3** – Proposals for development of electricity lines and windfarms should involve a constraints study/ecological assessment, a visual study and consultation with NPWS.

## 5.2. Natural Heritage Designations

There are no natural heritage designations within the subject site. The Ecological Impact Assessment & Appropriate Screening Report submitted in support of the application identifies designated sites within 15km of the subject site. These include European sites (SAC's & SPA's) and Natural Heritage Areas (NHA & pNHA).

# 6.0 **The Appeal**

#### 6.1. Grounds of Appeal

The grounds of appeal are summarised below;

# 1. Peter Sweetman & Associates on behalf of Ronan Browne & Lettergunnet & Shannagurraun Community Group.

- This is an application to vary 14/1273. The original application (14/1273) states that a connection to the national grid will be required. It did not form part of the application. The O' Grianna judgement concluded that the connection to the grid is an integral part of the development. The granting of planning permission by the planning authority resulted in project-splitting and is ultra vires the EIA Directive.
- The planning authority concluded that Stage 2 Appropriate Screening was not required. The test for screening for AA is as defined in the judgement of Finlay Geoghegan J in Kelly-v-An Bord Pleanala 2013/802 JR. Condition No 10 of the planning authority's decision regarding ornithological monitoring shows that the planning authority clearly considers that there may be such an effect. A full NIS should have been requested and a full AA carried out.

## 2. Knockalough Community Group

- Object to the development of a windfarm for a number of reasons, principally its impact on human health (noise, shadow flicker etc), the environment, landscape and tourism.
- The proposed windfarm is located on the highest ridge in the area and dominates the locality.

- The measurements and estimates for various criteria such as noise, shadow flicker, visual impact and habitat disturbance have been under estimated and understated.
- The cumulative impact of all windfarms granted planning permission in the area have not been properly assessed. These include the operating Shannagurraun and Lettergunnet windfarms and the proposed Ardderoo and Knockranny windfarms.
- The size and proportions of the wind turbines are underestimated in the 2014
   EIS photomontages. This influences shadow flicker effect.
- Visual impact on the community arising from the addition of this windfarm to the collection of windfarms already permitted.
- Disturbance to the environment at the Knockalough site will impact on river catchments and surrounding designated SAC, Moycullen NHA etc.
- Impacts on habitats in the area. Construction practices at Shannagurraun and Lettergunnet and impacts on Red Grouse, Otter and Freshwater Pearl Mussel leaves the community apprehensive regarding impacts on the fragile environment at Knockalough.
- Impacts on rural tourism.

There are a number of reports appended to the back of the submission.

#### 6.1.1. **Observer**

Human impacts arising from noise.

- The drumlin topography forms a 'basket and egg' topography where sound is reflected between the hills, forming an echo. Noise emitted from the granted Lettergunnet and Shannagurraun windfarms will have cumulative effects.
   Nosie will be augmented and increased by the echoing effect.
- The noise surveys in the EIS indicated a very low noise environment.
   Knockalough should have a noise threshold maximum of 35dB in compliance with DoE guidelines. This still represents a noise differential of c.15dB compared to existing background levels, a difference described as causing a Severe/Profound Impact.

- The noise report prepared by Mr Dick Bowdler in 2013 and 2015 state that to ensure compliance strict reductive measures will have to be applied. The proposed repositioning of Turbine 4 will increase the level of noise impact on neighbouring houses.
- Mr Bowdler's observations in his 2015 report state that at higher wind speeds
  the noise from the windfarm will not be in compliance. These observations
  concur with the findings of Mr Frank Clauson at the two nearby windfarms at
  Lettergunnet and Shannagurraun/Letterpeak (see attached report).
- Mr Bowdler states that the breach of guideline limits (which the applicant accepts will be the case in Knockalough) will be very substantially more than is suggested in the EIS.
- Cnoc Suain (cultural retreat) will also be impacted by the noise from Knockalough. It was not included in the Knockalough Noise Survey as a noise sensitive location.
- If noise levels of the magnitudes proposed in the 2014 EIS are permitted, windfarm noise will impact profoundly on the local community and Cnoc Suain. A 10dB increase will double the noise level.

#### Environmental Impact

 The issues raised previously regarding bog slippage, water quality and habitat disturbance persist (refer to separate reports commissioned by Knockalough Community Group from Mr Paul Johnson (Hydrologist) and Mr Shane Bennet.

#### Cnoc Suain

 Requests that the Board consider if it is right that the wind farm should be allowed to impact economically, environmentally and socially on an international award winning local family enterprise and an established indigenous innovative cultural retreat.

#### Landscape, Cumulative Impact and Visual Stacking

 Knockalough, Lettergunnet, Shannagurraun and Ardderoo windfarms are owned by the same windfarm developer. The incremental roll-out of these four windfarms is an example of project splitting. The four windfarms should have

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- been submitted for planning permission together so that the planning authorities and the general public could understand the extent of windfarm development proposed and the cumulative impact.
- The profound impact that Knockalough windfarm will have on the area has not been fully explained in the EIS.
- The cumulative impacts have been understated. No reference is made on the
  cumulative impact from viewpoints at Cnoc Suain. The tourist route, the L1320 was given scant recognition. The windfarm development will lead to
  profound cumulative impacts on the east Connemara landscape. The vista
  that will unfold will not fit with the suggested design concepts and explanatory
  notes of the DoE Guidelines.
- The four turbines on the western side of Knockalough will be within 640m of Shannagurraun, resulting in the two windfarms appearing as one unit. The visual stacking and cumulative impacts that will arise will be seen from viewpoints on the L-1320 tourist route and from the thatched cottage at Cnoc Suain.
- The photomontage taken at the sensitive viewpoint outside the thatched cottage at Cnoc Suain is not truly representative of what will be seen on the ground in terms of turbine size, cumulative impact and visual stacking.

#### Best Practice

- The EIS refers to best practise. The developer has not demonstrated best practice during the planning, construction and operational stages of the Shannagurraun and Lettergunnet windfarms. If the Knockalough windfarm continues with the construction practices used at Shannagurraun, it is likely that Knockalough Lake, Knock River and possibly Boluisce River will be seriously affected.
- There is excessive turbine noise, associated with Shannagurraun and Lettergunnet turbines in addition to shadow flicker and turbine reflection, which according to the EIS should not occur.

 For the reasons outlined above, it is considered that the proposed Knockalough windfarm is not in keeping with the proper planning and sustainable development of the area.

## 6.2. Applicant Response

6.2.1. The applicant's response notes that many of the issues raised in the third party appeals relate to the previously assessed and permitted Knockalough Wind Farm under Reg Ref No 14/1273. It was not intended to address such items or issues that have no relevance to the application for the proposed turbine relocation. The relevant issues are considered below:

## Project Splitting

The term 'Project Splitting' is use to describe breaking up a proposed development in order to avoid exceeding an EIA threshold and undergoing the EIA process. An EIS was previously prepared for the permitted windfarm and its associated connection to the national grid, which was subject to EIA by the planning authority in its decision to grant permission for the development.

The proposed development is a minor alteration to the previously approved development. It does not result in any increase in the relevant thresholds set out in Class 13 in relation to the permitted windfarm development. The proposed development does not therefore require mandatory EIA and the issue of project splitting does not therefore arise.

## **Ecology**

The appeal by Peter Sweetman & Associates raised concerns regarding the wording of Condition No 10, suggesting that it is evidence that a possible significant effect on a designated site could arise, which would trigger the need for a NIS and AA.

The wording of Condition No.10 mirrors Condition No.15 of the permitted windfarm (No 14/1273). It is one of a number of similarly worded conditions of the parent permission that have been replicated in the current decision.

The proposal is to relocate a turbine, permitted under 14/1273, previously subject to AA as part of the permitted development. The wording of Condition No.10 is of a standard nature and is consistent with the conditioning for ornithological monitoring

in conjunction with that for the permitted wind farm site. Its wording does not in any way provide evidence that the planning authority considers that the proposed relocation of Turbine 4 may have possible significant effects on a designated site and trigger the requirement for a full AA.

The planning authority concurred with the findings of the submitted Ecological Impact Assessment and Article 6(3) AA Screening Report and concluded that the proposed development is unlikely to have a significant effect on any of the conservation objectives of a Natura site. The submitted AA Screening Report provided an assessment of the ecological impacts associated with the relocation of the turbine. The overall conclusion was that impacts are not likely to warrant Stage 2 AA.

The application of Condition No.10 does not signify any concern that the proposed turbine relocation may impact on any European site.

#### Landscape and Visual Impact

The Board is referred to the landscape and visual impacts assessment undertaken for the proposed turbine relocation as presented in the Environmental Report and the photomontages accompanying the application. The relocation of the turbine by c. 82m and the extension of the proposed road by c.180m will have localised impacts on the landscape character of the site. Impacts on other landscape areas in the vicinity of the site will not be perceived.

The visual impact assessment considered that the views of the proposed relocation of the turbine will have an imperceptible visual impact when assessed against the permitted Knockalough Windfarm development. The turbine is located in a cluster of 11 no. turbines and its proposed relocation is a slight movement which does not extent the spatial extent, scale or size of the permitted windfarm. The dimensions of Turbine No. 4 remain the same as the permitted turbines. The proposed change is, therefore, one of minor magnitude and the overall visual impact as a result of the proposed relocation is assessed as being of long term, imperceptible visual impact.

The additional 180m of roadway, in addition to the roads permitted as part of the wind farm development, will not result in any change to the visual impacts assessed as part of the permitted wind farm application.

Cumulative impacts were assessed in Section 10.10.2.2 of the submitted Environmental Report. The permitted windfarm will be visible in conjunction with other permitted wind farms in a 20km radius of the site. The proposed relocation of Turbine No. 4 will not change the cumulative impact of the permitted wind farm with other existing permitted windfarms.

#### Noise Impacts

Noise impacts are raised mainly in reference to the permitted wind farm. Specific reference is made to the perceived impacts from low amplitude modulation, in addition to potential cumulative noise impacts with other wind farms. The response addresses the relevant noise issues raised in the context of Turbine 4.

The original EIS presented a detailed discussion in relation to the issue of amplitude modulation. It is acknowledged that since the lodgement of the EIS, further technical developments have occurred in relation to this area of wind turbine noise. Research and guidance in the area is ongoing with recent publications being issued by Renewable UK and most recently by the Institute of Acoustics (IoA) Amplitude Modulation Working Group (AMWG). The IoA group have issued a final report 'A Method for Rating Amplitude Modulation in Wind Turbine Noise'. It puts forward the 'Reference Method' to reliably identify the presence of amplitude modulated wind turbine noise.

It is intended that this Reference Method will be used in order to determine the presence of amplitude modulated noise in relation to the site in question. In the event that the presence of amplitude modulated noise is confirmed, it is proposed to use the guidance in the Proceedings of Institute of Acoustics paper 'A Review of Research into Human Response to the Amplitude Modulated Component of Wind Turbine Noise and Development of a Planning Control Method for Implementation in the UK' to rate the issue and to apply the appropriate corrections/ratings and to inform any further mitigation measures/actions that need to be applied.

With regard to cumulative noise impacts, these were assessed in the original EIS and the Environmental Report accompanying the current application. Noise predictions were considered for wind turbine developments in the local area including Lettergunnet (operating), Shannagurraun (operating), Knockranny (permitted) and Ardderroo (subsequently refused). The predicted noise levels presented in the original EIS considered the cumulative impact assuming all

developments are operational. The predicted noise levels provided in the EIS and the Environmental Report, demonstrate that the proposal is in accordance with national guidance in respect of noise limits.

The existing windfarm including the permitted Turbine No. 4 has been assessed and shown to meet the required noise criteria/thresholds to ensure no significant negative impacts on sensitive receptors. The proposed relocation will potentially have an imperceptible positive impact on the nearest sensitive receptor as the relocation will move the turbine further away from sensitive receptors. The planning authority has attached Condition No. 9 to the parent permission, which controls noise levels and requires monitoring.

#### Hydrology and hydrogeology

The proposed relocation of Turbine No. 4 and associated infrastructure is a minor amendment to a permitted wind farm. The issues raised in relation to hydrology and hydrogeology have already been assessed in the EIS. Due to the proximity of Turbine No.4 to its originally permitted location, the proposed development will be subject to the same drainage measures which are outlined in the original EIS. No existing natural drainage features will be altered to facilitate the proposed development or direct discharges made to any existing watercourse.

Should the proposed relocation occur, Turbine No.4 and associated infrastructure will remain in the Lough Kip catchment. A hydrological cumulative impact assessment was undertaken regarding other windfarm developments located within the Owenboliska River, Knock River and Lough Kip River catchments as part of the previously submitted EIS and no cumulative impacts were identified.

### Shadow Flicker

The issues raised in relation to shadow flicker relate to the previously assessed and permitted windfarm. The issue is comprehensively addressed in Section 4.3 of the submitted Environmental Report. It provides an updated assessment of the permitted and proposed layout, including the relocated Turbine No.4. The shadow flicker modelling assumes a worst case scenario and does not consider any natural mitigation measures such as localised topography, existing screening (either vegetation or existing buildings/structures).

From the permitted turbine layout, 16 no. properties were observed to be in exceedance of the DoEHLG guidance threshold. Following analysis of the proposed new layout, including the relocation of Turbine No. 4, it was observed that shadow flicker at two of these properties fell below the 30 minute threshold, resulting in 14 no. properties which may experience daily shadow flicker in excess of the DoEHLG guidance.

In relation to annual shadow flicker, of the 41 no. properties modelled, the DoEHLG total annual guidance limit of 30 hours is predicted to be exceeded at 14 no. properties for the proposed layout without accounting for the regional sunshine average. When the regional sunshine average of 25% is taken into account the number of properties at which the exceedance of the 30 hour annual guideline limit is predicted to be zero and accordingly no mitigation strategy is deemed necessary.

However, a suite of mitigation measures has been incorporated to ensure that the limits established in the current guidelines (and any future guidance that may be brought forward during the Board's consideration of the appeal) can be clearly provided for. For the avoidance of any doubt, the planning authority has attached a condition (Condition No 8) requiring the monitoring and controlling of any shadow flicker that may arise.

#### Conclusion

The current application includes a full and comprehensive assessment of all relevant environmental matters and has shown that the proposed development will not result in any significant environmental impacts. The response demonstrates that the principle of the proposed development, which represents a minor alteration to a permitted wind farm development that has already been subject to EIA and AA, is clearly in accordance with the policy context, having regard to the Galway County Development Plan and Government targets for wind energy development.

Due consideration has been given to protecting the established amenity of those residing near the site. It has been demonstrated that the proposed development is in accordance with the proper planning and sustainable development of the area. The proposed development is located in an area with a relatively low population density and has been designed to ensure that setbacks from existing dwellings exceed those required in the current wind farm guidelines. The proposed development would not

seriously injure the amenities of the area, or property in the vicinity or result in significant negative landscape of visual impacts.

## 6.3. Planning Authority Response

No response to the grounds of appeal were submitted by the planning authority.

## 6.4. Further Responses

The Knockalough Community Group, commenting on applicant's response, stated that while the proposal related to Turbine No 4, the activities associated with construction and operation of the turbine also related to the activities concerning the other turbines within the windfarm site.

The windfarm developer has already contravened the planning conditions laid down by Galway County Council. Activities such as rock blasting, rock breaking and unauthorised movement of plant have occurred within the wind farm site in contravention of the conditions of the permission. The activities reveal that the Construction Management Plan is not been adhered to. These activities are a repeat of what occurred in Shannagurraun, where the developer caused noise and nuisance and pollution of bogland and watercourses.

The operational phase of the Shannagurraun windfarm contravenes the ABP conditions regarding noise and nuisance. Cnoc Suain is subject to the loud swishing noise of turbine blades, the low hum of low amplitude modulation, almost day long moving images of turbine reflection in house windows (a phenomenon not mentioned in the EIS and to shadow flicker (notwithstanding that the information supplied by computer modelling and statistics in the EIS indicated that no nuisance would occur). The noise monitoring required by the conditions of the permission has not been carried out. Given the historic and current activities of the developer, can the planning authorities and local residents be confident that the planning conditions will be adhered to?

The assurances given by the windfarm developer in the Knockalough EIS and in the current submission cannot be relied upon. Regarding Turbine No. 4 there was no reference made to turbine reflection in the EIS or in the current submission. In addition, there is no clear action plan regarding 'remedial and reductive' measures of

turbine noise and nuisance. The Board is requested to attach conditions to this planning permission that will ensure that local residents are protected from noise and nuisance emanating from Turbine No. 4 and other turbines within the windfarm site.

#### 7.0 Further Information

The Board sought a geotechnical assessment of ground conditions at the proposed turbine location/new access track to include depth of peat soils, shear vane tests results, slope stability analysis and resultant factors of safety. It also required a revised Article 6(3) Appropriate Screening taking into consideration the results of the geotechnical assessment.

# 7.1. Responses

#### Knocknalough Community Group

- Contrary to the view expressed in the developer's submission, it is considered
  that the continuous pounding of the bedrock by rock breakers, rock blasting
  and the vibrations of heavy machinery is diminishing the adhesive properties
  of the peat at the interface of the peat and bedrock/subsoil. This will be
  compounded after heavy rain.
- The effects of climate change leading to extreme fluctuations in wet/dry
  weather results in the contraction of peat and soil creep and peat slippage
  following heavy rain. The uprooting of pine trees further destabilises the peat.
- Given the geological complexity of the underlying granite bedrock and the
  associated fissures, can the Board be satisfied beyond all reasonable doubt
  that peat slippage will not occur and that the surrounding SAC, and river
  systems will not be polluted. It is local knowledge that a broad network of
  underground streams flow throughout the area, in Knockalough forestry and
  beyond finally emptying into one of the three river systems in the area.
- On the basis of the recent history of the developer and his agent in the area, where the development of windfarms at Shannagurraun and Lettergunnet resulted in peat, rock silt and concrete laden effluent polluting the surrounding SAC and river systems, the Board is requested to refuse the appeal.

 The repositioning of Turbine No 4 will exacerbate the already devastating environmental impact that these windfarms are having on the bogland of the SAC and associated river systems. It is considered that the proposed relocation of Turbine No 4 will not be in keeping with the proper planning and sustainable development of the area.

#### Irish Water

Noted that the repositioning of the turbine does not have any impact on Irish Water assets and accordingly there was no objection to the development.

#### 8.0 **Assessment**

- 8.1. The main issues that arise for determination by the Board in relation to this appeal related to the following:
  - The principle of the development in this location.
  - · Project splitting.
  - Requirement for EIS.
  - Shadow Flicker.
  - Noise.
  - Landscape, Visual and Cumulative Impacts.
  - Flora & fauna.
  - Hydrology and hydrogeology.
  - Peat Stability.
  - Appropriate Assessment.

## 1. Principle of the development

The proposal is a minor amendment to a previously approved wind farm. It accords with International, National, Regional and Local policy which promotes the development of renewable energy resources, including wind. It is located in an area designated as 'acceptable in principle' in the Wind Energy Strategy adopted for the County, on a site that enjoys the benefit of an existing permission. I accept that the

proposed development is, therefore, acceptable in principle in this location subject to good planning practice.

## 2. Project Splitting

The appellants refer to the High Court judgement O'Grianna & Others -v - An Bord Pleanala [2014] IEHC 632. In this case, it was concluded by Mr Justice Michael Peart that the connection to the national grid is an integral part of a wind farm development and that the absence of information detailing the grid connection amounts to 'project splitting'. The judgement concluded that a wind farm and its connection to the national grid is one project and an EIS must be completed for the entire project to assess the impact of the total project on the environment. Prior to that judgement, grid connections for wind farm developments were typically considered to be a separate element, with the eventual route decided post planning permission.

The original application for this wind farm (14/1273) was submitted to Galway Co Council on 21/11/14. It pre-dated the High Court judgement of 12/12/14 and did not provide any information on grid connection. Cognisant of the High Court judgement, the planning authority sough further information from the applicant on 22/01/15, requesting that the matter be addressed.

The applicant confirmed that the windfarm would be connected to the new EirGrid 110/38 kV electrical sub-station located in the townland of Letter (to the north of the site), which was approved by the Board as Strategic Infrastructure Development in 2013 (07.VA0016). The response to further information included an addendum to the EIS, which provided an environmental assessment of the proposed grid connection under the same headings/criteria as the previously submitted EIS. The planning authority was, therefore, in a position to assess the grid connection as part of the overall wind farm development, ensuring that a complete assessment of the environmental impact of the entire development was carried out.

The current proposal is a minor alteration to the approved project, the entirety of which has been subject to environmental impact assessment by the planning authority. The issue of 'project splitting', therefore, requires no further consideration by the Board.

## 3. Requirement for an EIS

The proposed development does not require mandatory EIA as it is not of a class for which an EIA is required. In this regard, I draw the attention of the Board to Schedule 5 Part 2 Class 3(i) of the Planning and Development Regulations 2001, as amended, which sets the threshold for wind energy projects and states;

'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 overall windfarm permitted by the planning authority was subject to EIA. The current proposal is a minor amendment to this authorised development involving the relocation of one turbine. The environmental impacts associated with the proposed development have been assessed and it has been demonstrated that it will not result in significant effects on the environment to warrant EIA.

The applicant draws the Board's attention to Schedule 5 Part 2 Class 13(a) of the Planning and Development Regulations, 2001, as amended, regarding changes and extensions to development already authorised. The proposed development does not result any increase in the relevant thresholds set out in this class to warrant EIA.

#### 4. Shadow Flicker

The Board will note that the Environmental Report, which accompanies the application, provides an updated analysis of the shadow flicker effect on properties in the locality of the windfarm arising from both the permitted windfarm and the proposed layout involving the relocation of Turbine No.4. The analysis includes 41 no. properties within 1km of the site boundary (Fig 4.3) and modelled both potential daily and annual shadow flicker. It also considers cumulative effects with other windfarms.

In terms of daily shadow flicker, the results of the analysis reveal that an exceedance of the DoEHLG guideline threshold of 30 minutes per day (maximum) may be experienced at 14 no. properties, following the relocation of Turbine No 4. This compares with 16 no. properties predicted with the original layout. However, the actual occurrence and incidence is likely to be less than predicted, as shadow flicker will only occur under certain specific combined circumstances. The analysis assumes worst case conditions (including 100% sunshine during daylight hours

throughout the year; an absence of screening; the sun is behind the blades, which are also facing the property; and that the blades are turning all the time).

Modelling for predicted annual shadow flicker at the 41 no. properties was also carried out. When compared to the permitted location of Turbine No 4, the analysis indicated a decrease at 17 no. properties, no change at 18 no. properties and a slight increase at 6 no. properties. However, the increase was stated to be marginal when divided over an entire year. The analysis revealed that the DoEHLG annual guideline limit of 30 hours may be exceeded at 14 no. properties. Again this assumes worst case conditions including 100% sunshine. When the regional average of 25% sunshine of the daylight hours per year is taken into account, none of the properties will exceed annual shadow flicker thresholds and mitigation is not considered necessary.

The report details mitigation measures that will be implemented in cases where exceedances are reported. This includes the installation of a shadow flicker control unit in the turbine which can be controlled to prevent the occurrence or limit the duration of shadow flicker at affected properties.

Whilst it is contended in the submissions that the impact of shadow flicker on properties has been underestimated and understated, this has not been substantiated. The environmental report clearly indicates that there is potential for a number of properties to be affected and this will not increase as a result of the proposed relocation of Turbine No 4. Daily levels may exceed guideline levels, but these effects can be effectively mitigated. I note that Condition No 13 of the parent permission (14/1273) required monitoring of shadow flicker and this was repeated in the current decision at Condition No 8 (16/1211), which will address any residual issues that may arise,

Having regard to the separation distances to the houses, all of which are well in excess of 500m from the application site, I consider that it has been demonstrated that the proposed development both by itself, and, in combination with other windfarms in the locality, would be capable of operating within the limits set out in the Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006), and that shadow flicker, subject to mitigation as required, will not impact significantly on the residential amenity of properties in the vicinity.

#### 5. Noise Impacts

As part of the previous application, noise levels were modelled for the operational phase of the approved windfarm over a range of wind speeds. Cumulative impacts of other existing and permitted windfarms in the locality were also considered. The operational noise assessment for the wind farm concluded that the predicted noise levels at all noise sensitive properties complied with the adopted criteria in all cases once consideration had been given to the issue of curtailment i.e the control of wind turbine operation. It was concluded that the operating wind farm, including Turbine No 4 would meet the required noise criteria/thresholds to ensure no significant impacts on sensitive receptors. The proposed turbine specification is identical to that already considered under the previous permission.

It is noted in the Planning Guidelines-Wind Farm Development (June 2006) that noise is unlightly to be a significant problem where the distance to the nearest sensitive property is in excess of 500m. The nearest noise sensitive receptor is 893m northeast of the permitted turbine location. The proposed relocation of Turbine No 4 will marginally increase the separation to 903m and accordingly no additional impacts are predicted. The relocation of the proposed turbine will not create potential for additional cumulative impacts.

The issue of amplitude modulation raised by the appellants was also considered in the original EIS. It referred to published research conducted by Renewable UK in relation to 'Wind Turbine Amplitude Modulation: Research to Improve Understanding of its Cause and Effect (December 2013), which noted that it is a rare occurrence and there is nothing at the planning stage that can presently be used to indicate a positive likelihood of it occurring. The issue will only become manifest when the wind farm is operational. There is currently no guidance on this matter in this country, but it would appear that the focus in correcting the matter would be on the control and operation of the turbines.

The Board will note that the submission by Knocknalough Community Group, contains a report prepared by Dick Bowdler, Accoustic Consultant dated 16<sup>th</sup> September, 2015. It is critical of the noise assessment contained in the original application for the overall windfarm. The matters have already been addressed by the planning authority and accordingly I do not consider that the Board has any

further role in this regard. The parent permission contains a condition (Condition No 14) requiring the measurement and monitoring of wind turbine noise, (without specific reference to low amplitude modulation). This condition is repeated in the current decision of the planning authority (Condition No 9). Whilst the wording of the condition does not mirror what would normally be attached by the Board, it will, if properly enforced, ensue that the development can operate within guideline limits and residential amenity is adequately protected.

With regard to the matters raised regarding impacts on Cnoc Suain, I note that it is located c.1.5 km from the site and therefore is unlikely to experience any additional impacts arising from the relocation of Turbine No.4.

# 6. Landscape and Visual Impacts

The Board has already accepted the principle of a wind farm on this site. In its determination of a previous application (PL 07.240612) it concluded that it would be acceptable in terms of landscape and visual impact, by itself and cumulatively with other similar development in the area. It had regard to the 'Moderate' sensitivity of the landscape and to the location of the subject site within an area where wind farms are 'Acceptable in Principle', as identified in the Wind Energy Strategy, which takes account of landscape designations.

The proposal is a minor alteration to an approved windfarm. While the height of the turbine and its dimensions will remain the same as those already permitted it will be located at a slightly higher elevation within the site. Photomontages (3 No.) submitted in support of the application assesses the proposed relocation of Turbine No 4 against the permitted location.

As noted in the First Party response, the proposed amendments to the turbine location will not increase the scale or spatial extent of the windfarm. It has been demonstrated that the proposed development will not result in any significant additional impact on the landscape or visual amenities of the area either by itself, or, cumulatively with other windfarms in the locality. I do not accept as contended in the submissions hat the relocation of the turbine as proposed, being part of a permitted wind farm development, will detract from the scenic amenities of the area which would result in any additional impacts on tourist activity in the locality. It will be viewed a part of an existing clustered arrangement where the magnitude of impact

will not be significantly increased. In terms of concerns regarding the outlook from Cnoc Suain, there is no prescriptive right to a view from private property and it is not the function of the planning system to protect such views.

#### 7. Flora and Fauna

Ecological baseline conditions were established from desk top studies and field surveys. The relocated turbine and associated infrastructure will be located in an area of more recently planted conifers (trees between 1m and 2m high) with scrub and grasses providing ground cover. The new access track will cross a more mature area of conifer plantation, with trees in the area exceeding 10m in height, providing a closed canopy with no understory or ground flora. Both these habitats are of low ecological value. No habitats corresponding to Annex 1 of the Habitats Directive were recorded and no natural watercourses occur in the vicinity, which could act as potential conduits of pollutants on sensitive habitats downstream.

Various birds were recorded during the field survey, all of which are widespread and common in the area. No rare or listed species were recorded. With the exception of Common Frog, which is known to use the wider area but was not recorded in the study area, no other protected species were recorded. Common species such as pine martin, shrew, stoats, rats etc are likely to frequent the site.

The works associated with construction will result in permanent loss of forestry and scrub habitat within the development site. It will also result in disturbance to fauna and birds. Having regard to the low ecological significance of the habitat, the lack of birds of conservation concern/protected species and the availability of similar habitat to provide refuge, I accept that no significant additional impacts on fauna will arise as a result of the relocation of Turbine No 4 and the construction of the new access road as proposed. Once operational, there will be a low level of human activity and fauna and birds will continue to forage and breed in adjacent suitable habitat.

It is acknowledged in the Environmental Report that when operational there will be a low level mortality of birds associated with bird strikes. I note that this matter was considered by the Board in its determination of the previous application, where it concluded that the proposed development, by itself or cumulatively with other plans or projects would not be likely to have a significant adverse effect on birds in the vicinity. The relocation of Turbine No 4, whilst located at a higher elevation within the

site, will form part of the established windfarm and is not likely to result in significant additional impacts.

Peter Sweetman & Associates on behalf of Ronan Browne & Others raised issues regarding the wording of Condition No 10. It requires ornithological monitoring of the windfarm during construction and for the first five years of operation. It is a standard type condition attached to permissions for wind farms and mirrors the wording of Condition No 15 of the parent permission (14/1273). Having regard to the assessments carried out to support previous applications on the site, I do not accept that there is any merit in the appellants' argument, that the inclusion of this condition is evidence that a possible significant effect on a designated site could arise.

The collision risk to bats was also considered. During the original site surveys for the previously submitted EIS, it was confirmed that there was moderate use of the overall site by bats. It is not considered that the marginal relocation of Turbine No 4, which will be located in recently planted immature forestry, will significantly alter the original conclusion that there will be no significant impacts on bats arising from the proposed development.

The felling of trees, site clearance and preparation works associated with construction has the potential to impacts on surface water and groundwater, with potential damage to aquatic habitats and fauna. These potential impacts are discussed below.

Any issues regarding impacts on flora and fauna associated with construction of other windfarms in the area are matters for the planning authority to enforce.

## 8. Hydrology and Hydrogeology

Impacts on the water environment may arise during the construction stage due to the removal of forestry, peat and soil removal, stock piling of material etc., associated with the construction of the turbine base, access road and ancillary infrastructure. These activities have the potential to result in the migration of sediment/nutrient laden water into waterbodies. I note from the Environmental Report that impacts on groundwater are considered to be negligible, due to the nature of the granite bedrock (poor aquifer), the protective cover provided by the peat subsoil (low permeability) and the relatively shallow nature of the construction. Surface water is therefore the main sensitive receptor.

There are no natural watercourses within 150m of the proposed relocation of Turbine No 4. There will be no direct discharge to any natural watercourse and no watercourse crossing is required.

A suite of measures is proposed to mitigate impacts on the water environment and protect water quality. These are standard and well established protocols to protect the water environment during construction. These measures will be implemented in accordance with the Construction and Environmental Management Plan (CEMP) submitted in support of the application.

The site drainage proposals for the proposed relocation of Turbine No 4 will be similar to those to be implemented across the entire windfarm site. Subject to the effective implementation and monitoring of these measures, I do not consider that any additional impacts will arise as a result of the relocated position of Turbine No 4, which would impact on water quality.

The Board will note that the submission by Knockalough Community Group includes a report by Paul Johnson, Engineering Hydrologist, dated 21<sup>st</sup> September 2015, which raised raises issues regarding the assessment of drainage in the EIS for the parent application. As already noted, these matters have been adjudicated on and considered acceptable by the planning authority in its decision to grant permission for the overall windfarm site. It is not open to the Board to revisit these matters.

#### 9. Peat Stability

Peat Stability Assessment reports, carried out by AGEC Ltd, for the overall site are contained in Appendix 6.1 of the Environmental Report submitted with the application. It contains two reports, to support the original application on the site in 2011 and the subsequent application in 2014.

The 2011 assessment covered the entire site incorporating 12 no. turbine locations, access tracks etc. In its determination of this application (PL 07.240612) the Board omitted 5 no. turbines on the grounds of peat instability risk and local topography slopes (T2, T3, T4, T5 &T12). The 2014 assessment was carried out in 4 no. new turbine site locations and was considered acceptable by the planning authority (14/1273). The permitted Turbine No 4 granted permission under 14/1273 corresponds to Turbine No 10 in the 2011 application and is located in an area which the Board considered was acceptable and did not pose a risk to peat stability. The

turbines which were omitted by the Board under 07.240612 are well removed from the subject site.

The applicant considered that the assessment provides context for the proposed development and that it could be applied to the new location on the basis of the marginal difference in distance. The applicant's submission however referred to additional peat probes (43 no.) carried out in the new turbine location, but no details were not submitted and no site specific analysis was provided.

In response to the Board's request for additional information on this matter, the applicant submitted a geotechnical assessment of the relocated turbine location and new access track. Based on the information a peat stability assessment and risk analysis was carried out.

Information on peat depth, in situ peat strength and slope angles were recorded, which were used in the peat stability assessment. At the turbine location the peat depth varies from 0.3 to 0.9 with an average of 0.6m. Within the wider footprint peat depth varies from 0.1 to 5.2 with an average of 1.3m. The deeper peat is associated with flat topography away from the turbine location. The analysis of peat strengths showed peat shear strengths in the range 14 to 55kPA, with an average value of 32kPA. It is noted that the peat strengths recorded on the site are relatively high for peat and would be typical of relatively well drained peat, which is generally present at the newly proposed turbine location and access track. The peat strengths at sites of known peat failures (assuming undrained loading failure) are generally very low, for example approximately 2.5kPa at Derrybrien. The recorded undrained strengths at the new turbine/access track location are significantly greater and present less likelihood of failure. The slope angle ranged from 0 to 4 degrees indicating the relatively flat nature of the topography and the low risk of peat failure.

An analysis of peat stability was carried out for both undrained (short term) and drained (long term) conditions at the proposed location of the turbine/ new access track under different load conditions. A Factor of Safety (FoS) is calculated, which provides a measure of the degree of stability of the slope. The Factor of Safety (FoS) results are provided in Table 2 and Table 3 of the assessment. These indicate that the FoS for both drained/undrained conditions are significantly greater than the minimum acceptable FoS of 1.3

The risk assessment of the proposed relocated turbine and new access road compared to that previously permitted (Table 6) demonstrates that a similarly low level of risk exits for potential peat failure to the previously assessed and permitted location.

I consider that the assessment carried out by the applicant is comprehensive and is sufficiently robust to allow the Board to make an informed decision on this aspect of the application. I accept that the geotechnical information submitted and the peat stability assessment indicates that there is an acceptable margin of safety and a low risk of peat failure/slide associated with new relocated turbine location and access track.

#### 10. Appropriate Assessment

The potential for the proposed alteration to the previously approved layout to impact on Natura 2000 sites is assessed in the *Ecological Impact Assessment and Article 6(3) Appropriate Assessment Screening Report* that supports the application and the revised documentation submitted in response to the Board's request for additional information. The proposed development is not directly connected with, or necessary for the management of a European site.

Designated sites within 15km of the site were identified in the report in accordance with DEHLG (2010) guidance. Whilst consideration was also given to sites at greater distances with the potential for hydrological connectivity, none were identified which could potentially be impacted.

There are 6 no. Natura 2000 sites located within a 15km radius of the site of the proposed development. These include the following;

Connemara Bog Complex SAC (Site Code 002034) - 0.2km.

Lough Corrib SAC (Site Code 000297) – 6km.

Ross Lake and Woods SAC (Site Code 001312) – 6.9km.

Galway Bay Complex SAC (Site Code 000268) – 9km.

Lough Corrib SPA (Site Code 004042) – 8.4km.

Inner Galway Bay SPA (Site Code 004031) – 9.9km.

The nearest site is the Connemara Bog Complex SAC (0.2 km), which adjoins the southern, western and northern boundaries. Lough Corrib SAC is located 6km to the north. The AA Screening Report prepared in support of the parent application brought forward both these sites for further assessment on the basis that these were the only sites where there was potential for likely significant impacts to arise. Lough Corrib SAC was brought forward on the basis that part of the site lies within the Lough Kip River catchment which eventually flows into Lough Corrib. The Connemara Bog Complex was brought forward on the basis of proximity and hydrological connections with the SAC. Having regard to the localised nature of potential impacts this is considered reasonable.

There will be no direct impacts on the SAC's. The development footprint is well removed from Lough Corrib SAC and while proximate to the Connemara Bog SAC, it will not encroach into the designated site. There will be no direct loss or fragmentation of habitat arising from the proposed development and there are no areas corresponding to Annex 1 habitat within the site.

The main potential impacts for impacts would be indirect, associated with the discharge of sediment laden/polluted surface water discharges to water courses, resulting in reduced water quality in aquatic habitats. It has been demonstrated that these impacts can be effectively mitigated through an appropriately designed drainage system which will prevent the mobilisation of sediment and other pollutants to sensitive habitats. The drainage proposals incorporate recognised best practice well established measures to protect water quality.

The proposed development involves the relocation of a previously permitted turbine, the works required remain unchanged. The drainage measures approved for the overall site, will be extended to the subject site and accordingly no additional impacts will arise. The peat stability assessment indicates that the risk of peat failure/slippage is low. Subject to the mitigation measures proposed and incorporated into the Construction Environmental Management Plan, I consider that the Board can be satisfied that the potential for adverse impacts can be mitigated.

The cumulative impact of the proposed development was considered in conjunction with other permitted and operational windfarms in the locality. The closest are Shannagurraun (640m to southwest) and Lettergunnet (1.7km to southeast), both of

which are operational, which removes the potential for cumulative indirect impacts on surface water associated with construction. There are a number of other windfarms, either operational or permitted within varying distances of the site, which generates the potential for cumulative impacts on the water environment and on protected bird species associated with the SPA's. Subject to the implementation of similar mitigation measures to protect water quality, significant impacts will not arise.

Whilst there is potential for birds to collide with the blades of the turbines, I note that no rare or protected species were recorded within the site or flying over it during the site surveys. Whilst the proposed turbine will be at a higher elevation than the permitted turbine, it is not considered that it will generate additional impacts, over and above those generated by the overall permitted windfarm, which has already been assessed by the planning authority.

Having regard to the location of the development within a permitted wind farm site, the nature and scale of the development and the separation distance from Natura 2000 sites, I consider that the proposed development either alone, or, in combination with other plans or projects, would not be likely to have significant effect on the Connemara Bog complex SAC, the Lough Corrib SAC or any other European Site, in view of the sites conservation objectives and that, therefore, a Stage Appropriate Assessment and the submission of a Natura Impact Statement is not required.

#### 9.0 **Conclusion**

- 9.1. The proposed development accords with national, regional and local policy regarding the development of wind energy. It is located within an area designated for that purpose in the county development plan. It involves minor alterations to a permitted wind farm which has already been subject to EIA and AA.
- 9.2. The Board will note that many of the issues raised relate to the previously permitted windfarm and accordingly those matters are not of relevance to the subject application. I consider that it has been demonstrated that the proposed development will not give rise to additional environmental impacts, over and above those assessed in the EIS for the parent permission. I consider that the impacts arising can

be effectively mitigated and that the proposed development would not be contrary to the proper planning and sustainable development of the area.

**Note:** Under the provisions of the Development Contribution Scheme 2016, a charge is applicable to windfarms at €10,000 per megawatt capacity. There is no exemption for revisions to layout.

#### 10.0 Recommendation

10.1. Having considered the contents of the planning application, the decision of the planning authority, the further information received by the Board, the provisions of the development plan, the grounds of appeal and the responses thereto, my inspection of the site and my assessment of the planning issues, I recommend that permission be granted for the development for the reasons and considerations set out below

## 11.0 Reasons and Considerations

Having regard to the location of the site is an area designated 'Acceptable in Principle' in the Wind Energy Strategy adopted in the Galway County Development Plan 2015-2021, where it is the policy of the planning authority to maximise wind energy development and the extant planning permission for the development of a windfarm on the site, it is considered that subject to the conditions set out below, the proposed development by itself, or cumulatively with other wind farms in the area, would not seriously injure the residential or visual amenities of the area, would not pose an unacceptable risk to water quality or be seriously injurious to the ecology of the area and would, therefore, be in accordance with the proper planning and sustainable development of the area.

#### **Conditions**

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application as amended by the further plans and particulars received by An Bord Pleanala on the 17<sup>th</sup> day of May 2017, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of the development and the development shall be carried out and completed in accordance with the agreed particulars.

**Reason:** In the interests of clarity.

2. The conditions attached to the parent permission relating to the development of the overall windfarm granted by Galway County Council under reg ref no. 14/1273 shall continue to apply to this development.

**Reason:** In the interests of clarity and proper planning and sustainable development.

3. The permission shall expire on the expiry date of the parent permission granted under reg. ref no 14/1273 which shall be the 4<sup>th</sup> day of October 2025.

**Reason:** In the interests of clarity.

4. No micro sitting is permitted. The location of the proposed turbine shall not be altered without a grant of permission.

**Reason:** In the interests of clarity.

- 5. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard the developer shall-
  - (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development

- (b) employ a suitably qualified archaeologist who shall monitor all site investigations and other excavation works, and
- (c) provide arrangements acceptable to the planning authority for the recording and removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanala for determination.

**Reason:** In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

6. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanala to determine the proper application of the Scheme.

**Reason:** It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to this permission.

Breda Gannon Senior Inspector July 12th, 2017