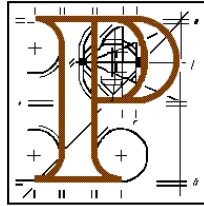

An Bord Pleanála



Inspector's Report

Ref.: PL04.243486

Development: Ten year permission to construct a wind farm and all associated infrastructure. The proposed wind farm will comprise the provision of a total of 12 No. wind turbines, with a maximum overall blade tip height of up to 131m, upgrading of existing and provision of new internal access roads, provision of a wind anemometry mast (height up to 90 metres), 4 No. borrow pits, underground electricity connection cabling, upgrading of site access junctions, an electricity sub-station with control room and associated equipment, temporary construction compound and all ancillary site and ground works. The planning application is accompanied by an Environmental Impact Statement (EIS) and a Natura Impact Statement (NIS).

Cloghboola, Gortnacarriga, Tooreenalour, Garryantorna and Shehy More, Dunmanway, Co. Cork.

PLANNING APPLICATION

Planning Authority: Cork County Council

Planning Authority Ref.: 13/551

Applicant: Shehy More Windfarm Ltd.

Type of Application: Permission

Planning Authority Decision: Grant subject to conditions

APPEAL

Type of Appeal: First Party v. Conditions
Third Party v. Decision

Appellants (Third Party): Anthony Cohu
Dan Kelleher & Others

Observers: An Taisce
Kevin Deering
Sarah Hodgkinson
Cllr. Declan Hurley
Jerry Lehane
Russell Barnett

INSPECTOR: Robert Speer

Date of Site Inspection: 23rd September, 2014

1.0 SITE LOCATION AND DESCRIPTION

1.1 The proposed development site is located in the rural townlands of Cloghboola, Gortnacarriga, Tooreenalour, Garryantorna and Shehy More, Dunmanway, Co. Cork, approximately 19km southwest of Macroom and 11.5km northwest of Dunmanway, on the north / north-eastern slopes of Shehy More on the eastern fringe of the Shehy Mountains. The wider area can be described as remote and is dominated by the Shehy Mountains to the west and Lough Allua to the northeast (which forms part of the Upper River Lee Valley) whilst the topography of the site and surrounding lands ranges in elevation from 170m OD to peaks of 546m OD (Shehy More), 303m OD (Mount Prospect) and 342m OD (Carrigmount). Agriculture and commercial forestry plantations are the predominant land uses in the area with intermittent instances and localised concentrations of individual farmsteads and one-off rural housing also prevalent. The site itself has a stated site area of 110.16 hectares, is irregularly shaped, and presently comprises a combination of coniferous forestry (some of which has been clear-felled), transitional woodland scrub, peat bog and grassland. It can be accessed via a series of local roads extending from the R585 Regional Road which travels in an east-west direction south of the site, or alternatively, from the R584 Regional Road which travels in an east-west direction north of the site via the network of local roads which extends southwards from same.

2.0 DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 The proposed development consists of the construction of a 36 Megawatt (MW) wind farm comprising the erection of 12 No. (2.0-3.0MW) wind turbines with a maximum base to blade-tip height of 131m (within this envelope it has been stated that various configurations of hub height, rotor diameter and ground to blade tip height may be used). Associated site development works include:

- An electricity sub-station incorporating a wind farm control building (floor area: 161.6m²) and associated facilities set within a compound measuring 60m x 30m.
- The provision of hardstanding and turbine assembly areas
- The upgrading of 3.94km of existing site tracks and the construction of 5.87km of new internal access roads
- The erection of 1 No. anemometry mast up to 90m in height
- The excavation of 4 No. borrow pits and the subsequent use of same as peat disposal areas

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- The provision of underground electricity cabling connecting each turbine to the substation.
 - The upgrading of 3 No. site access junctions
 - A temporary construction compound
 - All other associated site works and related ancillary development.

2.2 In respect of connection to the national grid, it is envisaged that the wind farm, if approved, will connect to the Dunmanway substation with the required cabling to be laid underground along the public road network. However, the works to lay the underground cable that will link the proposed wind farm to the Dunanway substation do not form part of the subject application and it has been stated that Eirgrid or ESB Networks will be responsible for obtaining all the necessary consents for the grid connection. Whilst possible connection routes have been identified as part of the Environmental Impact Statement, a preferred grid connection route is shown in Figure 3.11 of the EIS whereby the connection will run in a southwest direction along local roads until it reaches the R586 Regional Road and terminates at the substation.

3.0 ENVIRONMENTAL IMPACT STATEMENT

3.1 An Environmental Impact Statement has accompanied the subject application and this provides a generally satisfactory description of the receiving environment, the proposed development, its impacts and proposed mitigation measures. It has been accompanied by a non-technical summary and includes the information required by Schedule 6 of the Planning and Development Regulations, 2001, as amended, and complies with Section 172 of the Planning and Development Act, 2000 and Article 94 of the Regulations. In this respect I would advise the Board that Paragraph 3(i) of Part 2 of Schedule 5 of the Planning and Development Regulations, 2001, as amended, prescribes '*Installations for the harnessing of wind power for energy production (wind farm) with more than 5 turbines or having a total output greater than 5 megawatts*' for the purposes of Part X of the Act.

4.0 RELEVANT PLANNING HISTORY

4.1 A complete planning history of the proposed development site and the wider area is set out in Section 2.2 of the Environmental Impact Statement and this is supplemented further by the additional details provided in Planner's Report held on file and the various grounds of appeal, however, in the interest of

conciseness, I would suggest that the following planning applications are of particular note in the context of the subject appeal:

PA Ref. No. 00/6590 / ABP Ref. No. PL04.127297. Was granted on appeal on 30th May, 2002 permitting South Western Services Co-Op Limited permission for a development comprising the construction of a wind farm consisting of 10 wind turbines (hub height 50 metres), an electrical substation with control building, two 40 metre high meteorological masts, upgrading of site access, construction and extension of existing internal site tracks and associated works at Cappyboy Beg, Curraglass, Coomacroobeg and Maugha, Kealkill, Co. Cork.

PA Ref. No. 05/9688 / ABP Ref. No. PL04.219277. Was refused on appeal on 8th January, 2007 refusing Ecopower Developments Limited permission for the erection of eight number wind turbines, overall height up to 107 metres, access roads, control building and sub-station compound and ancillary site works at Derryvacorneen and Carraignamuck, Co. Cork, for the following reason:

- Objectives ENV 3-2 to ENV 3-5 inclusive, of the Cork County Development Plan, 2003, seek to protect the visual and scenic amenities of designated scenic landscapes and preserve the character of all important views and prospects, including those obtainable from designated scenic routes. These objectives are considered to be reasonable. The proposed development, by reason of its scale, height and prominent elevated location and lack of natural screening, would give rise to unduly prominent and obtrusive development when viewed from a number of Scenic Routes, in particular routes A34, A82 and A83 which are located within designated Scenic Landscapes, would be detrimental to the preservation of views obtainable from those routes and would seriously injure the visual amenities of the area. The proposed development, which is not located within a Strategic Search Area for Windfarms, as designated in the Cork County Development Plan, 2003, would, therefore, materially contravene the objectives of the Development Plan and be contrary to the proper planning and sustainable development of the area.

PA Ref. No. 08/2119. Was granted on 12th March, 2009 permitting George O'Mahoney permission for the erection of wind farm comprising 5 wind turbines with towers up to 46m in height and rotor diameter up to 62m and ancillary equipment for generation of electricity with control building and substation and 40m wind monitoring mast at Goulacullin, Dunmanway, Co. Cork.

PA Ref. No. 09/63. Was granted on 23rd December, 2009 permitting Organic Power Ltd. a ten year permission to erect 11 no. wind turbines on single site, of which 5 no. wind turbines with ancillary hardstand and assembly areas are in townland of Dromleena, 3 no. wind turbines with ancillary hardstand and assembly areas and 1 no. borrow pit are in townland of Inchanadreen, 3 no. wind turbines with ancillary hardstand and assembly areas and 1 no. electrical substation are in townland of Derrynasafagh; install underground fibre optic and electrical cables and ancillary works in townlands of Dromleena, Inchanadreen and Derrynasafagh, Dunmanway, Co. Cork; Install underground fibre optic and electrical cables and ancillary works along public road to 110kV Electrical Substation 1km east of Dunmanway town adjacent to the R586 and all ancillary associated site works including internal roadways and wheelwash facilities. All at Dromleena, Inchanadreen & Derrynasafagh, Dunmanway, Co. Cork.

PA Ref. No. 09/849 / ABP Ref. No. PL88.235028. Was granted on appeal on 5th August, 2010 permitting Ballybane Windfarms Limited a ten year planning permission for the construction of a wind farm extension consisting of up to six number wind turbines (hub height 64 metres and rotor diameter 71 metres – tip height of 99.5 metres), access roads, hard standings, underground cabling, rock borrow pit and ancillary site works – forming an extension to the existing Glanta Commons Wind Farm, all at Dromourneen, Lognagappul and Barryroe townlands, Bantry, Co. Cork.

PA Ref. No. 11/00050. Was granted on 9th December, 2011 permitting Environ Renewables Ltd. a ten year permission for a wind farm of up to 8 no. turbines with tip height of up to 110m, site substation with compound (to include grid transformer, end mast and electrical equipment), upgrade of existing entrance and existing forestry road, construction of new access roads, hardstandings, rock borrow pit, meteorological mast (74.5m high), underground cabling and all ancillary site works, at Killaveenoge East, Killaveenoge West, Curranashing, Derreenaspeeg, Kilnahera East, Garranes, Drinagh, Co. Cork.

PA Ref. No. 11/00059 / ABP Ref. No. PL88.240070. Was granted on appeal on 24th August, 2012 permitting James O'Regan permission for a development comprising 7 No. electricity generating wind turbines with a hub height of up to 70m and a rotor diameter of up to 71m, an electrical compound, substation building, a 70 m high permanent meteorological mast, 4 No. car parking spaces and associated site roads and site works. It is proposed to source stone from an on-site borrow pit, all in the townlands of Cashloura, Kilonane West and

Knockeenboy, Dunmanway, Co. Cork, as amended by the revised public notices received by the planning authority on the 24th October, 2011.

PA Ref. No. 11/318 / ABP Ref. No. PL04.240461. Was refused on appeal on 8th July, 2014 refusing Ardrah Wind Farm Limited permission for a development comprising a wind farm of five (5) number electricity generating wind turbines with a hub height of 64 metres and a rotor diameter of 71 metres, an electrical tail station compound and substation building, car parking space, access roadway and a temporary roadway to be used during the construction process, borrow pit, peat storage areas and all associated site works in the townland of Ardrah, Bantry, Co. Cork, with access roads in the townlands of Laharanshermeen and Maughanaclea, Bantry, Co. Cork, for the following reason:

- The Cork County Development Plan 2009 sets out policies and objectives in relation to wind energy development and identifies areas in broad strategic terms for the location and siting of such development, identifying “Strategic Search Areas” and “Strategically Unsuitable Areas”. The overall strategic approach as set out in the said Development Plan is considered to be reasonable. The proposed development, which is not located within a “Strategic Search Area”, is located immediately adjacent to areas designated as “Strategically Unsuitable Areas”, would be unsuitable for wind energy projects and where such projects would normally be discouraged.

The proposed development, which would by itself be visible over a wide area, would in conjunction with permitted and proposed development in the area, give rise to an undue concentration of wind energy development with significant negative impacts on the landscape character and visual amenities of the area, and in particular the Mealagh Valley, and its amenity, tourism and recreational potential. The proposed development would, therefore, seriously injure the visual amenities of the area and be contrary to the proper planning and sustainable development of the area.

PA Ref. No. 11/5245 / ABP Ref. No. PL04.240801. Was granted on appeal on 29th April, 2013 permitting Cleanrath Windfarm Limited a ten year planning permission for the development of a site in the townlands of Cleanrath South, Cleanrath North and Derrineanig, County Cork. The development will consist of a windfarm consisting of 11 number wind turbines with a maximum ground to top blade tip height of up to 126 metres with ancillary structures, one number permanent 85 metre meteorological mast, one number substation compound with

control house, internal road network and associated drainage features, one number wind turbine delivery entrance, one number light vehicle access entrance, two number borrow pits, underground cabling, temporary construction site compound and associated works.

PA Ref. No. 12/5270 / ABP Ref. No. PL04.242223. Was granted on appeal on 15th November, 2013 permitting Framore Limited a ten year planning permission to construct a wind farm consisting of six number turbines (each with a minimum hub height of 100 metres, maximum rotor diameter of 100 metres and with a total tip height of 150 metres), a substation including one control building and associated internal equipment, one borrow pit, new internal access roads, upgrading of existing internal access roads, underground cables and ancillary works in the townlands of Derragh, Rathgaskig and Lack Beg, Ballingearry, Co. Cork.

PA Ref. No. 13/635 / ABP Ref. No. PL88.242998. Was granted on appeal on 17th June, 2014 permitting Environ Renewables Limited a ten year planning permission to construct a wind farm. The proposed wind farm will comprise the provision of a total of up to 10 number wind turbines, with a maximum overall blade tip height of up to 131 metres, upgrading of existing and provision of new internal access roads (including the upgrading of site access junction), provision of a wind anemometry mast (height up to 90 metres), three number borrow pits, an electricity sub-station with control room and associated equipment, underground electricity connection cabling, temporary construction compound and all ancillary site works and associated infrastructure in the townlands of Killaveenogue West, Derreenaspeeg, Kilaveenoge East, Currranshingane, and Garranes, Drinagh, Co. Cork.

5.0 PLANNING AUTHORITY CONSIDERATIONS AND DECISION

5.1 Decision:

5.1.1 Following the receipt of a response to a request for further information, on 21st May, 2014 the Planning Authority issued a notification of a decision to grant permission for the proposed development subject to 38 No. conditions. Many of these conditions are generally of a standardised format and relate to issues including the undergrounding of cables, external finishes, construction management, emission monitoring and landscaping, however, the following conditions are of note:

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- Condition No. 2 – Clarifies that the duration of the grant of permission is for a period of ten years.
- Condition No. 4 – States that the tip height of any turbine shall not exceed 131m as detailed in the further information received by the Planning Authority on 2nd April, 2014.
- Condition No. 5 – States that a maximum of 10 No. turbines shall not be exceeded. Furthermore, prior to the commencement of development, a revised layout, including any stilling ponds, detailing the omission of Turbine No. T12 and the replacement of Turbine Nos. T1 & T2 with a single turbine, is to be submitted to the Planning Authority for written agreement.
- Condition No. 6 – Requires the relocation of Turbine No. T6 a distance of 70m due south with the details of same to be agreed in writing with the Planning Authority prior to the commencement of development.
- Condition No. 10 – Requires details of the turbine delivery route and any necessary works to the public road to be agreed in writing with the Planning Authority prior to the commencement of development.

Requires a Transport Management Plan, to include a Pavement Condition Index and a digital video survey of the 17.28km of local primary and local secondary roadway serving the site (both before and after construction work), in addition to a schedule of the dates and timings of turbine deliveries, the road network to be used by construction traffic, and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, to be agreed in writing with the Planning Authority prior to the commencement of development.

Requires a final road survey to be undertaken by the developer upon completion of the construction phase of the development with any road repairs identified in same to be carried out by the developer.

- Condition No. 11 – Refers to the lodgement of security in the amount of €200,000 to cover the cost of any remedial works in the

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- event of significant damage to the local access road, bridges and culverts as a result of construction traffic.
- Condition No. 17 – Refers to a requirement to undertake bat monitoring during the course of the development works with any necessary derogation license to be obtained.
- Condition No. 18 – Requires an independent peat geotechnical engineer / engineering geologist to be contracted by the developer during the detailed design phase and throughout the construction phase. Responsibilities will include the monitoring, supervision and avoidance of the risk of any slope instability and hydrogeological hazards in addition to the certification of the works upon completion.
- Condition No. 27 - Requires a final and updated Construction and Environmental Management Plan to be agreed in writing with the Planning Authority prior to the commencement of development.
- Condition No. 28 – Requires a ‘Revised Habitat Rehabilitation Plan to be agreed in writing with the Planning Authority prior to the commencement of development.
- Condition No. 33 – Prohibits rock blasting in any of the 4 No. borrow pits until such time as a Rock Blasting Management Plan has been agreed in writing with the Planning Authority.
- Condition No. 36 – Refers to the restoration / landscaping of the borrow pits.
- Condition No. 37 - Refers to the lodgement of security in the amount of €8,000 to secure the satisfactory completion of all landscaping works on site.

5.2 Objections / Observations:

A total of 52 No. submissions were received for interest parties in respect of the proposed development and the principle grounds of objection contained therein are reiterated in the grounds of appeal.

5.3 Internal Reports:

Area Engineer / Engineering: No objection subject to conditions.

Environment: An initial report recommended that further information should be sought in respect of a number of issues with regard to the noise impact assessment including the locations of all occupied dwellings within 500m and between 500m-1,000m of the proposed turbines, details of whether any of the occupied dwellings within the 500m zone are involved in the proposed

development, and details of the predicted noise levels on those occupied dwellings / noise sensitive locations within the 500m and 500m-1,000m zones.

Following the receipt of a response to a request for further information, a further report was prepared which stated that there was no objection to the proposed development subject to conditions.

Archaeologist: An initial report states that the submitted archaeological assessment has adequately addressed the known and potential archaeology on site and has established, as far as possible, that no known archaeological sites will be directly impacted by the proposed development (subject to mitigation). However, it subsequently recommends that a visual assessment should be sought in order to assess the potential impact of the development on CO093-013 (Stone Circle) which is known to be aligned on certain seasonal astronomical events.

RPS (Consulting Engineers): An initial report specifies a series of issues which should be addressed by way of condition in the event of a grant of permission. It also recommends that further information should be sought in respect of the disposal of any surplus peat, various drainage and water quality concerns, the suitability of the rock to be excavated from the proposed borrow pits for road construction purposes, and the provision of a maintenance contract with a permitted contractor as regards the disposal of wastewater / effluent from the proposed sealed storage tank.

Following the receipt of a response to a request for further information, a further report was prepared which states that there are no outstanding issues, save for concerns with regard to the siting of some water discharges etc. and the proximity of same to streams.

Engineering: No objection subject to conditions.

Ecologist: Recommends the inclusion of a series of conditions in the event of a grant of permission.

5.4 Prescribed Bodies / Other Consultees:

An Taisce: States that whilst the proposed development site is not within a Natura 2000 site, it is located in an area of blanket bog, a habitat listed on Annex I of the EU Habitats Directive. Accordingly, it is suggested that the proposed construction works could degrade, or even destroy, portions of the bog and in

this respect it is submitted that any activity that alters the hydrology of the site could have a significant impact on this habitat and, therefore, conditions should include measures to minimise damage to the surrounding bog, including damage during the construction phase arising from heavy vehicles being driven over bogland areas, as well as drainage.

In addition to the foregoing, it is noted that the area is known to support populations of bat species, including the Lesser Horseshoe Bat, a species listed on Annex II of the EU Habitats Directive. The report proceeds to state that wind turbines can be dangerous to bats, not only with regard to collisions, but also barotrauma. Additionally, if the project is approved, it is submitted that conditions must be attached to prohibit the use of lights at night, as these will inhibit the foraging ability of the bats.

The report also notes that the area is near to a Freshwater Pearl Mussel catchment and that this species is similarly listed on Annex II of the EU Habitats Directive. It subsequently states that the freshwater pearl mussel is particularly sensitive to changes in water quality and thus the potential for sedimentation or the release of polluted water is of particular concern. Therefore, it is recommended that conditions be attached to the project in order to ensure the monitoring of sediment levels in the water and that any wastewater is disposed of appropriately. Finally, the report concludes by referring to previous incidents of similar operations resulting in damage to nearby watercourses as a result of heavy vehicles being driven through the protected buffer zones established around watercourses. Specific reference is made to one incident at Glaskeelan in 2011 which resulted in serious damage to one of the top eight Freshwater Pearl Mussel catchments in Ireland. The report considers this matter to be of particular concern as Freshwater Pearl Mussel are present near the site and recommends that measures be put in place to ensure that watercourse in question is not impacted by the proposed construction activities.

Inland Fisheries Ireland: States that the lands in question contain tributaries of the Rivers Lee, Bandon and Owane before recommending the imposition of the following conditions:

- a) There is no drainage or other physical interference with the bed or bank of any watercourse without prior consultation with Inland Fisheries Ireland.
- b) Suspended solids and / or hydrocarbon-contaminated runoff waters be controlled adequately so that no pollution of surface waters can occur. More specifically, the following issues should be addressed:

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- i) Identifying and zoning the project for environmental impact should a peat slip occur.
 - ii) Setting out a contingency plan should a peat movement occur.
 - iii) Setting out a plan for the control of silt in such a scenario, including measures to be put in place at the initial stages of construction.
- c) In the event of any watercourse crossings being bridged or culverted, the following general criteria should apply:
- i) The free passage of fish must not be obstructed.
 - ii) The original slope of the river bed should be maintained with no sudden drops on the downstream side.
 - iii) Bridges are preferable to culverts.
 - iv) Inland Fisheries Ireland should be consulted prior to works commencing to determine specific fisheries requirements.
 - v) All in-stream works should be carried out only in the April-September period.

Irish Aviation Authority: Recommends that the applicant be required to provide the following by way of condition in any decision to grant permission:

- a) An agreed scheme of aviation obstacle warning lighting for the wind turbines.
- b) Coordinates and elevation details of the built turbines should be supplied to the Authority for charting purposes.
- c) The Authority should be notified at least 30 days prior to the erection of the development.

Department of Arts, Heritage and the Gaeltacht: Notes that while the proposed development does not directly impact upon any known Recorded Monuments or Places, it will necessitate extensive groundworks within a wider archaeological landscape of known prehistoric monuments such as stone circles and alignments which are particularly common in upland areas of West Cork and Kerry. Accordingly, it is considered possible that hitherto unrecorded subsurface archaeological features associated with prehistoric, and subsequent settlement of the area, may be disturbed during the course of groundworks required for the development. Therefore, it is recommended that a condition requiring archaeological monitoring of all groundworks / excavation required for the development be imposed in any decision to grant permission.

6.0 GROUNDS OF APPEAL

Third Party Appeals:

A total of 2 No. third party appeals have been lodged against the decision of the Planning Authority to grant permission for the proposed development and the respective grounds of appeal can be summarised as follows:

6.1 Anthony Cohu:

- Wind energy development is not, and cannot, be considered to constitute ‘*Strategic Infrastructure Development*’ at the scale proposed. The National Spatial Strategy does not require such industrial energy developments or their grid connections to be located in the most visually sensitive areas of the country and the Cork County Development Plan, 2009 does not require the development of wind farms in such areas.
- National and European renewable energy policies and programmes have not been subject to clear, comprehensive and verifiable Strategic Environmental Assessment in order to establish their veracity and viability as required under EU law and thus they are currently before the Courts in both jurisdictions. Until such time as these SEAs have been undertaken with full public participation, and the relevant policies and programmes amended accordingly, it is submitted that a moratorium should be placed on all wind farm development projects whilst all proposals based on such illegal policies and programmes currently before planning authorities (including the subject application) should be invalidated or refused on the basis of prematurity.
- The subject proposal does not conform to the Guidelines on Wind Energy Development issued by the Department of the Environment, Heritage and Local Government and the Irish Planning Institute nor does it comply with the provisions of the Cork County Development Plan or the principles of sustainable development.
- The proposed development is premature pending the compilation by Cork County Council of a comprehensive Sustainable Energy Policy with a Renewable Energy Strategy for the county which incorporates realistic and measureable targets for all the different technological options in appropriate locations and which has been subjected to a publicly verifiable SEA of its costs and benefits.
- Taken in conjunction with 12 No. existing and a further 13 No. permitted wind farms, the proposed development would result in an excessive density of 26 No. inter-visible wind farms comprising 202 No. turbines

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- within a 20km radius of its location in the highly scenic uplands of West Cork. If the radius were to be extended by a further 5km, it would include an additional 48 No. (existing and permitted) turbines.
- Any grant of permission for the subject proposal would be inconsistent with the refusal of similar proposals along skyline locations in West Cork i.e. PA Ref. Nos. 97/4390, 98/116, 99/1708, 99/5076, 99/5557, 03/2365, 03/6910, 05/1024, 05/9688, 10/781 & 11/676.
 - The proposed development materially contravenes a variety of provisions of the Cork County Development Plan since it is located adjacent to a '*Strategically Unsuitable Area*' and is not within a suitable '*Strategic Search Area*'.
 - The size, scale and layout of the proposal will have adverse cumulative effects due to the presence of similar projects, which have a significant visual impact over a wide area, thereby further damaging the character of such areas.
 - The proposal materially contravenes Objectives ENV 2-2, 2-6, 2-7, 2-9, 2-11, 2-12 & 2-13 of the County Development Plan as the subject site is highly visible over an extensive area of visual importance that has been designated as a Scenic Landscape and is also prominently visible from Scenic Route Nos. S28 & S29 - locally valued as a semi-wilderness area of historical, archaeological and ecological interest which has also been designated as a landscape of high value, high sensitivity and county importance.
 - The proposed development will be visibly prominent from Scenic Route Nos. S28 & S29 and will as appear as an incongruous feature against the skyline when viewed from Route Nos. S32, S33, S34, S35 & S111. Accordingly, the views and prospects available from these routes would be seriously damaged by the proposed development contrary to the provisions of the Development Plan which states that '*views from Scenic Routes are to be preserved or improved*'.
 - Hydroelectric power is the most appropriate form of renewable energy for the upland areas of southwest Co. Cork with fewer adverse visual and environmental impacts and superior efficiency when compared to wind energy development. At present, the 5 No. commercial hydroelectric power schemes operating in this upland area contribute sufficient capacity to the National Grid – when taken in conjunction with the 12 No. existing wind farms in the area – to adequately fulfil any renewable energy obligation for the region.
 - While planning authorities and An Bord Pleanala must have regard to national policies and objectives, if particular development proposals arise

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- that are considered to be in the national interest but have adverse effects or seriously conflict with the proper planning and sustainable development of the area, there is no obligation to continue to follow such policies especially when they are demonstrably deficient, inadequate or redundant.
- The (former) Minister for Energy (Mr Pat Rabbitte T.D.) stated at a recent conference of the Irish Wind Energy Association that no further wind farms other than those already planned were needed to meet the targets set out in the National Renewable Energy Action Plan, however, despite this, there has been no indication from the Department of Communications, Energy and Natural Resources that further wind farm development will be discouraged.
 - No ranking system has ever been prepared in relation to the different renewable technologies and their ability to meet the objectives of the EU Renewables Directive in terms of achieving greenhouse gas reductions whilst the resulting economic, social and environmental costs for the NREAP have never been assessed. No alternatives to wind energy have been given serious consideration.
 - There has been no independent verification to date of the emissions savings arising from existing wind energy developments. Similarly, there has been no measurement or accurate calculation of the greenhouse gas savings arising from the plan to implement the EU's 2009/28/EC Directive to achieve an EU 20% renewable energy target by 2020.
 - A key legally binding principle of environmental protection is the analysis of cost, benefits and consideration of alternatives, however, in relation to carbon dioxide there has been a complete failure to properly fund and execute the necessary studies of same.
 - Despite the increasing size of wind turbines, in terms of efficiency, the average output is only approximately 25% of the theoretical generating capacity.
 - The original '*Wind Farm Development, Guidelines for Planning Authorities*' published by the Department of the Environment in 1996 attempted to indicate which areas of the country were suitable for wind energy development, however, this did not include the South-West.
 - The current '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' have eroded the previous cautious approach to the siting of wind turbines and pay more attention to the promotion of same without a substantial analysis of their performance since 1996 or the land use implications of increased targets for their deployment. They overstate the strategic importance of wind energy in terms of reducing dependence

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- on fossil fuels and greenhouse gas emissions whilst offering no substantiating evidence.
- Present guidance fails to require grid connection details to be submitted as part of a planning application in contravention of EU case law on 'project-splitting'.
 - The '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' urgently require comprehensive updating and The Heritage Council presently considers same to be unfit for purpose for a variety of reasons.
 - The Cork County Development Plan, 2009 does not include a Sustainable Energy Policy for the county which places sustainable energy consumption, energy conservation measures and efficiency of generation at the head of its programme. Similarly, there is no renewable energy strategy for the county that assesses its natural resources in terms of renewable energy potential and indicates the most appropriate locations for the most suitable technologies in different areas of the county.
 - The proposed development site is not located within any of the '*Strategic Search Areas for Wind Energy Projects*' identified in the County Development Plan and a variety of the Plan's objectives would preclude the granting of permission for the subject proposal.
 - In terms of adhering to accepted 'Sustainable Development' criteria, the subject application:
 - Does not preserve the distinctiveness and character of the area; rather it alters these qualities significantly in ways which are not acceptable to those residents who will have to live with it;
 - Does not meet local needs for the production of electricity services of which the local population will be direct economic beneficiaries;
 - Does not prevent damage to the environment in providing infrastructure services;
 - Does not promote participation in decision-making of local residents since it is not a proposal generated by the community itself or one in which they have participated.
 - Does not value or protect natural diversity of a semi-wilderness upland habitat area;
 - Does not ensure that culture, leisure and recreational tourism opportunities are readily available to all.
 - Planning Authorities should seek their own EIS preparation from a panel of independent consultants with the costs of same to be levied on the applicant. The current failure of any Local Authority to produce its own

Environmental Impact Assessment on any particular qualifying proposal is illegal under EU law.

- The submitted EIS is not sufficiently scoped to establish the full range of social, economic and environmental impacts of the proposal and its connection to the national grid. Various factors have not been considered or have been inadequately addressed or misrepresented.
- It is submitted that the proposed development is unnecessary at a strategic and local level given that the existing land use is more sustainable in the long term. The application site is already partially covered by coniferous forestry, and rather than disturbing or removing these areas which act as carbon sinks, they could be planted with fast-growing deciduous high-calorific value tree species such as willow and alder to provide both biomass on a long-term rotation whilst maintaining habitat for existing and new fauna species.
- With regard to the further consideration of alternatives, the Board is referred to the BW Energy Biomass Initiative and the Hughes Energy Initiative.
- The proposed development site is located in a very sensitive and scenic upland area of West Cork which has historically been afforded some degree of protection from wind farm development by both the Planning Authority and An Bord Pleanala. However, in more recent years, this protection has been eroded with 26 No. inter-visible wind farms (totalling 202 No. turbines) either existing or permitted within a 20km radius of the subject site. If this radius is extended by a further 5km, it includes a further 48 No. turbines.
- In common with previous wind farm developments in the surrounding area, local residents will bear the environmental cost without gaining any social or economic benefit. Both they and the wider community will also bear the economic costs through paying more for their electricity in order to subsidise the construction and operation of this and other wind farms which no provision of a 'Community Fund' will be able to mitigate.
- The proposed development site is located adjacent to a notional line that delineates a '*Strategically Unsuitable Area*' identified in the County Development Plan which is defined as being of '*high landscape sensitivity*' and '*unsuitable for wind energy projects*'.
- The EIS states that the majority of the application site is located in a Landscape Character Area which comprises '*Ridged and Peaked Upland*'. Such areas are described in the Draft Cork County Landscape Strategy, 2007 as being of '*High Value*', '*High Sensitivity*' and of '*County Importance*'. Notably, the strategy for these areas states that '*wind farms*

can be seen off in the distance from certain elevated views within this landscape type. While their presence is noted, their visual impact is not major, but an accumulation of more wind farms could have a more intolerant visual impact in the future'. On the basis of the foregoing, it is submitted that there is now such an existing number of wind farms in the area and that the surrounding landscape will be altered beyond acceptability should permission be granted for the proposed development.

- The origins of the '*Strategic Search Map*' included in the County Development Plan are unclear and it is questioned how certain areas were categorised while other adjacent lands with similar wind-speeds and scenic qualities were not.
- The area within which the subject site is located is acknowledged in the County Development Plan as being of High Landscape Value, High Landscape Sensitivity and of County Landscape Importance.
- The fact that there is no absolute ban on wind energy development in areas of high landscape value and sensitivity is a major flaw in both national and county wind energy policy. Furthermore, the presence of the 4 No. existing wind farms permitted under PA Ref. Nos. 08/2119, 00/6590, 09/63 & 98/1482 in such areas is a reflection of the complete disregard for designations pertaining to landscape value and sensitivity. If a landscape is valuable it should be protected by the planning authorities and if it is sensitive then insensitive development should be prohibited.
- The EIS has confirmed that 40 No. properties in the vicinity of the subject proposal will experience a high level of visual intrusion.
- There is no major topographical differences between the landscapes of Cappaboy, Ardrah or Shehy More irrespective of '*Scenic Landscape*' designations.
- The Board is referred to its previous decision to refuse permission for wind farm developments under ABP Ref. Nos. PL04.117606 & PL04.117428(b).
- The subject proposal fails to conform with the recommendations of the '*Guidelines for Wind Energy*' published by the Irish Planning Institute in 1995 as the proposed turbines are twice the recommended height of 65m.
- The proposed towers and rotors will have a considerable visual impact over a large distance, not simply because of their height, but also because of their incongruity in a natural landscape and due to the rotor movements in an essentially static panorama. The proposal does not avoid the skyline and is not sited against the backdrop of a hill to lessen the impact.
- The submitted photomontages fail to demonstrate the likely visibility of the proposed development from a sufficient number of relevant viewpoints. For example, the visibility from the southwest, including from one of the

main touring routes around Bantry Bay, is significant and has not been thoroughly examined. Notably, in the Board's refusal of PA Ref. No. 05/9688, where the proposal was also located outside a Strategic Search Area for Wind Energy and was visible from designated scenic route, the degree of negative impact on a number of such routes was considered significant and excessive.

- Preserving the visual and scenic amenities of the surrounding area (which include the Beara-Gougane Barra Cycling Route and the Three-Valleys Walking Route) is essential to realising its tourism potential. The proposal does nothing to preserve the character of an important area of unspoilt upland scenic views and prospects or to protect the main features of its natural interest, including upland habitats.
- The proposed development, particularly when taken in conjunction with the proliferation of other sanctioned wind farm developments in this scenic landscape, will have a detrimental impact on tourism in southwest Cork.
- At no stage / level have the alleged benefits of wind power on climate change been comprehensively or accurately assessed.
- The documents referenced in the Planner's / Engineer's Reports, including the National Climate Change Strategy and the National Spatial Strategy, 2002-2020, which would appear to have formed the basis for the grant of permission, have not been subjected to the requisite Strategic Environmental Assessment.
- The applicants claims as regard the reduction in CO₂ emissions consequent on the proposed development are exaggerated in that they take no account of the energy emissions involved in the manufacture of the turbines, the extra transmission lines required to accommodate dispersed sources, or the additional emissions caused by the continued running of thermal-generating stations in stand-by mode to compensate for the intermittent nature of wind generation.
- Assessments of the economic and environmental benefits of wind power are not credible unless they are based on accurate emissions (and fuel) savings. The Wheatley study (2012) suggests that savings may be lower than contemplated by public agencies to date.
- The suggestion in the EIS that the dominant source of greenhouse gas emissions due to the proposed development will be caused by road vehicles, presumably bringing materials to the site, is misleading and fails to consider the emissions arising as a result of the production of the raw materials for the manufacture of the generators themselves, the supporting pylons, the road making materials, and the excavation works etc.

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- No reference has been made to the fact that the application site is a designated Grouse Sanctuary.
 - There is important birdlife present in the area with regular sightings of hen harriers, peregrine falcons, choughs and ravens whilst sea eagles have also been noted.
 - The site boundaries encroach into a freshwater pearl mussel catchment area which is protected under the Habitats Directive.
 - The EIS has failed to comprehensively assess the potential impact, particularly in visual terms, of the proposed development on archaeological features, including the surrounding locally important archaeological landscape.
 - There is increasing public concern as regards the health implications of the siting of wind farms in close proximity to dwelling houses as evidenced by a Bill introduced into the Oireachtas which aims to limit the proximity of future wind farm development to human habitation.
 - There is considerable evidence that a lack of Government guidance on the measurement of background noise levels has allowed questionably elevated levels to be set as the base criteria for defining the maximum noise levels permitted at nearby receivers.
 - The *'Wind Energy Development, Guidelines for Planning Authorities, 2006'* state that areas of special recreational amenity importance where a quiet environment is highly desirable may have noise limits imposed. Accordingly, it is submitted that the subject site is located within such an area, especially considering its proximity to a way-marked cycling route and the rights of neighbouring landowners etc. to continue to enjoy their current levels of amenity. Therefore, background ambient noise levels of 20dB would be more realistic than the 35dB figure used by the applicant.
 - It is critical that appropriate background noise levels are established prior to the commissioning of the proposed development as once the scheme is operational the original noise environment cannot be re-created.
 - An Taisce, the Irish Wildlife Trust and the Irish Peatland Conservation Council have all called for a moratorium on wind farm development on upland peat bogs, particularly after the recent wind farm bogslides of 2008 in Co. Leitrim and 2009 in Co. Kerry.
 - Potential hydrological impacts include an increase in runoff following a rainstorm thereby increasing peak flows to watercourses on site whilst further problems can be caused by large amounts of silt and peat debris being washed down the watercourses.
 - The assessment of the potential hydrological impacts associated with the construction of the proposed development is seriously deficient.

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- The calculation of the landslide risk has not used rainfall data for the immediate locality.
 - The subject application is premature pending the receipt of an offer for a grid connection under Gate 3 which is not scheduled for completion until 2013.
 - With regard to the duration of the planning permission sought, it is suggested that the current wave of wind farm applications has arisen due to the prospect of tighter regulation and reduced subsidies in the future. No explanation has been given as to the necessity for seeking such a long duration of planning permission and thus the proposal effectively amounts to permit-hoarding (similar to instances of zoned lands being hoarded).
 - The decommissioning of the proposed wind farm would reduce the claimed emissions savings thereby rendering the entire 25-year project an exercise in futility.
 - There has been no Strategic Environmental Assessment of the Draft Cork County Development Plan, 2013 or the Energy Background Paper which has served to underpin the energy policy set out in same.
 - The Energy Background Paper is based on grossly exaggerated energy demand figures.
 - On the basis of existing generation capacity, there is no issue of energy security, but rather concerns as regards the reliability of delivery through the local network in the aftermath of recent storms.
 - The Energy Background Paper has placed an over-emphasis on the promotion of renewables, particularly wind, over conventional sources rather than providing a cost-benefit analysis of each of the options to establish the degree of policy support required.
 - A Strategic Environmental Assessment of the Draft Cork County Development Plan Energy Policy should provide a structure for a new Sustainable Energy Policy for Co. Cork and should be based on a system of indicators, targets and monitoring of progress towards or away from sustainability.
 - The Energy Background Paper / Draft Cork County Development Plan Energy Policy resemble a simple promotion of the wind energy industry rather than of sustainable development. The Draft Energy Policy needs to become a really sustainable energy policy which places sustainable energy consumption, energy conservation measures and efficiency of generation at the head of its programme for the county. There is then a need for a more comprehensive Renewable Energy Strategy for the County that assesses its natural resources in terms of renewable energy potential and indicates the most appropriate locations for the most

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- appropriate technologies for the different areas based on an assessment of their costs, benefits and land use implications.
- From an economic perspective, Ireland now has two duplicate generating systems one of which has to be given priority but functions only when the wind speeds are significantly above the average. The other system using the existing fossil fuel plants has to be kept running for the many occasions when the wind isn't strong enough, but operates in a more inefficient manner due to the highly intermittent wind energy which it is required to balance thereby contributing to increased costs. In addition, wind energy is more expensive to produce than conventional electricity as it has to be given incentives, such as above market price guaranteed tariffs. The net result of the foregoing is increased electricity costs with a detrimental impact on economic productivity.
 - The Draft County Development Plan does not provide any evidence to support the need for any further wind power generation in Co. Cork. Consequently, policy objectives encouraging such land-use development are superfluous and unjustified.
 - A moratorium on further commercial wind power development would be a more logical approach based not only on the environmental evidence presented in the grounds of appeal, but also on figures contained in the Energy Paper that Cork's current wind energy capacity is 283.46MW from 20 wind-power installations, which is approximately 13.8% of Ireland's overall wind energy. When permitted and pending developments are included, there is a potential for a total of 720MW of wind energy to be produced in Co. Cork – amounting to 355MW of Ireland's total current wind energy output. Since the Cork region only consumes 12-13% of national electricity production, it has already contributed disproportionately more to the national supply than any other region and is now set to contribute further to unrealistic National Renewable Energy Action Plan targets.
 - The value of relatively unspoilt landscapes as a non-renewable resource far outweighs the intrusive and unnecessary contribution of wind energy development. National policy does not require such development to be located in upland semi-wilderness areas – this is only the result of poor planning and market forces.
 - The Energy Background Paper describes Co. Cork's wind energy resource as considerable yet the accompanying wind speed maps show that this is not the case. The range of wind speeds for most of the country lie between 7.5m/s and 9.5m/s which is at the marginal productive level for wind energy installation. It is likely that the wind speed maps indicate that

less than 10% of the county has sufficient optimum wind speed conditions for wind energy. Furthermore, the wind power technology presently deployed in Ireland has not been adapted for the mountainous upland areas typical of the permitted locations for wind farms in West and North Cork and the several of these are already being replaced after only 15 years of operational service.

- The methodology used to identify strategic areas for wind energy development is unclear, inadequate and inconsistent. This is partly because there has been no serious attempt to revise, update or extend the designation system for Scenic Landscapes or Scenic Routes in the last three County Development Plans using field survey data to inform the process.
- The national electricity network extension and renewal priorities were examined and set out in the National Development Plan, 2002-2020 and did not require the development of a completely new parallel grid to provide for wind energy or a spatial strategy to locate this form of development at such a distance from the main grid in Co. Cork.
- The inability to publicly present and justify unscheduled grid extension proposals is compounded when planning applications are lodged for wind energy installations without accompanying grid connection proposals. This project-splitting has been examined by the European Court of Justice which has ruled that such 'project-splitting' is invalid and undermines the effectiveness of the EIA Directive. Accordingly, any grant of permission for a wind energy development in the absence of a concurrent application for the necessary grid connection may well be invalid under European law.
- The lack of information on the connection to the national grid is a major cause for concern. The nearest option is a connection to the 38kV line to Dunmanway, and although a possible underground route for same is shown in the EIS, without such a link it is possible that permission could be granted for a wind farm that cannot be connected to the national grid, which would also apply to all the permitted wind farms within 20km of the subject site. This would be the equivalent of permitting multiple residential developments in the absence of the necessary existing or planned infrastructural services on unzoned lands.
- The Board is requested to have due regard to its previous decisions to refuse permission for ABP Ref. Nos. PL04.209745 & PL04.219277 in its determination of the subject appeal.

6.2 Dan Kelleher & Others:

- The proposed development does not have proper regard for the rural setting, the surrounding pattern of development, or its impact on residential amenity by reason of noise, shadow flicker and visual intrusion.
- The EIS Directive sets out the criteria under which an application of this nature must be assessed. With regard to the ecological surveys presented in the Environmental Impact Statement it is submitted that they are insufficient to allow for a proper assessment of the impact of the development on the receiving environment.
- The proposed development site is located in an area of significantly dense residential population and it is considered that inadequate care has been given to the proper assessment of the residential amenity surrounding the site.
- Inadequate consideration has been given to the cultural value of the surrounding landscape.
- The application site is located outside the Planning Authority's preferred location for wind energy and whilst Policy Objective INF 7-3 of the Cork County Development Plan, 2009 gives positive consideration to the principle of any wind farm proposal or other energy source, it is submitted that the subject proposal conflicts with the relevant criteria set out in Policy Objective INF 7-4 of the Plan.
- The proposed development materially contravenes Policy Objectives ENV 2-9, ENV 2-11 & ENV 2-12 of the County Development Plan as it will significantly detract from the views available along Scenic Route No. S34 which runs along the northern edge of Lough Allua.
- Having regard to the scale of the development proposed, the sensitivity of the receiving landscape and the proximity of the site to designated Scenic Routes, it is considered that the proposed development would conflict with the stated objectives of the Development Plan by reason of being excessively dominant and visually intrusive thereby seriously injuring the character of the local landscape and those views which are of amenity value.
- The Draft Cork County Development Plan, 2013 introduces 3 No. area designations with regard to the potential for the development of large scale commercial wind energy projects i.e. *'acceptable in principle'*, *'open for consideration'* and *'normally discouraged'*. Paragraph 9.3.14 of the Plan subsequently states in part that:

'Natura 2000 sites (SPA, SAC) or areas affecting their integrity, and natural heritage areas (NHA's) within this area are not generally

considered suitable for wind farm developments. Any proposals within Freshwater Pearl Mussel Sub-Basement Catchments or in the vicinity of SAC's designated for habitats or species which require the protection of high standards of water quality or stable hydrological regimes will need to ensure protection of water quality and levels in any such sensitive river catchments. The cumulative effect of wind energy developments with regard to landscape and visual impacts and also impacts on Natura 2000 sites will also be a consideration'.

Notably, Objective ED3-5: 'Open for Consideration' states the following:

'Large scale commercial wind energy development is open for consideration in these areas where proposals can avoid adverse impacts on:

- *Residential amenity, particularly in respect of noise, shadow flicker and visual impact;*
- *Are located in areas with unviable wind speeds (<7.5m/s);*
- *The development boundaries of urban areas and Metropolitan / Town Green Belts;*
- *Natura 2000 sites (SPA and SAC) Natural Heritage areas (NHA's);*
- *Architectural and archaeological heritage;*
- *Visual quality of the landscape and the degree to which impacts are highly visible over wider areas'.*

Accordingly, it is considered that if the Draft Plan were to be adopted in its current format the proposed development would fail to adhere to several aspects of the foregoing objective.

- The landscape of the Upper Lee Valley is cherished as both a local amenity and a national resource and the subject proposal will be the fourth such development to be permitted in the area in recent years.
- If the proposed development is permitted it will be impossible for tourists to access either Gougane Barra or the Muscraí Gaeltacht in the Lee Valley without coming in close proximity to industrial wind turbines.
- The development would be visible along Scenic Route Nos. S32 & S34. Notably, Scenic Route No. S34 is the main route for visitors entering the area from the Cork-Killarney National Road (the N22) which also carries visitors towards Bantry, Glengarriff and the Beara Peninsula.

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- The proposed development will be highly visible from a number of important vantage points, including Lough Allua. Considering the beauty and elevation of the surrounding landscape, the development will adversely impact on the scenic and recreational amenities of the area due to its overbearing and excessively dominant appearance.
 - The importance of the area in the development of tourism will be diminished as a result of the continued intrusion of industrial technologies such as that proposed into the landscape.
 - The subject proposal is significantly larger, both in expanse and height, than several previous applications in the area which have been refused permission. Considering its elevation and exposure across a wide area, it would be reasonable to conclude that the Shehy More Wind Farm, despite the mitigation measures proposed, would logically have a greater impact than those smaller developments previously judged to be a *'visually dominant and intrusive feature in the landscape'*.
 - It would appear that the applicant has been selective in identifying certain viewpoints for the preparation of photomontages in that several of the locations selected are either naturally screened by vegetation or are not representative of the places where a visitor / tourist would naturally chose to stop. This is contrary to the provisions of the *'Visual Representation of Windfarms, Good Practice Guide'* published by Scottish Natural Heritage in 2006 which states that *'If, on visiting a potential viewpoint, it is apparent that there will be no view of the proposed development, for example due to localised screening, this location should be amended or withdrawn'*.
 - In relation to visual impact assessment, the use of panoramic photomontages as detailed in the EIS is considered to be misleading. The photomontages do not reflect a reasonable representation of the visual impact of the proposed development and in this respect the Board is referred to Page No. 10 of SNH's *'Visual Representation of Windfarms, Good Practice Guide'* which states the following:

'It is important to stress that visualisations, whether they are hand drawn sketches, photographs or photomontages, will never appear 'true to life'. Rather, they are merely tools to inform an assessment of impacts; and, like any tool, their application requires careful use. Interpretation of visualisations always needs to take account of information specific to the proposal and site, such as variable lighting, movement of components, seasonal differences and movement of the viewer through the landscape. Thus visualisations in themselves can never provide the answers – they

can only inform the assessment process by which judgements will be made’.

Accordingly, there are concerns that the visual impact of the proposal as depicted in the panoramic photomontages has been under-represented to such a degree that members of the public potentially affected by same may be under the mistaken impression that this aspect of the EIA is entirely unproblematic.

- There has been insufficient effort and an inappropriate methodology applied to the survey of birds and the proper assessment of the risk to protected species on and around the site. In particular (but not exclusively), there has been an inadequate survey of winter birds such as the White-Tailed Sea Eagle and the Whooper Swan.
- There has been some inconsistency in the manner in which the Planning Authority has enforced the proper evaluation of the risk to protected species listed under Annex I of the Birds Directive 79/409/EEC. This inconsistency is demonstrated by a comparison of the information submitted in respect of three other wind farm proposals (i.e. PA Ref. Nos. 11/05245, 12/5270 & 13/551) within similar distances of Lough Allua which is recognised as a supporting habitat for both the Whooper Swan and the White-Tailed Sea Eagle.
- In relation to the scoping of the EIS, it is of relevance to note that there is no evidence of any direct contact having been made with the National Parks and Wildlife Service. Similarly, whilst contact was made with Birdwatch Ireland and the Irish Wildlife Trust, no conversations developed from same and thus it is misleading to refer to these bodies as consultees. Furthermore, despite the Department of the Environment, Heritage and Local Government (Development Applications Unit) advising the applicant in relation to species that *‘should be surveyed for and included in the EIA’*, including White-Tailed Sea Eagle and Whooper Swan, no surveys were undertaken to account for these Annex I species on site.
- The bird surveys carried out on site and presented in the EIS do not follow the appropriate methodology to identify whether the White-Tailed Sea Eagle may be using the site.
- The absence of a dedicated survey for the White-Tailed Sea Eagle is notable given that it was a requirement in previous applications for two other neighbouring wind farms.
- There is a requirement for a 12-month survey for be carried out in order to ascertain whether or not the White-Tailed Sea Eagle is present on site.

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- The applicant's consultations with Dr. Allan Lee, Project Manager of the Irish White-Tailed Sea Eagle Reintroduction Programme, as detailed on Page 5-11 of the EIS, are not considered sufficient nor are they an appropriate substitute for a proper methodical survey / assessment. The Lee Valley, from Gougane Barra via Lough Allua to the Gearagh, is known as a flight route for the eagle and a reliance on GPS data is misleading as only a small proportion of the birds are tracked. In addition, during the winter months the tracking data is only recorded twice a day and, therefore, it is unsurprising that a short survey such as that presented in the EIS would return a finding that no White-Tailed Sea Eagles were recorded at the site. Accordingly, the EIS does not include for an adequate assessment of the real risk to this particular species.
 - In subsequent correspondence issued to an observer, Dr. Allan Lee clarified the value of the site and surrounding landscape to the White-Tailed Sea Eagle as follows:

'The Golden Eagle Trust considers the Upper Lee Valley, especially the Gearagh to Lough Allua – Gougane Barra to be an important area for the future conservation of White-tailed eagles. White-tailed Eagles have been known to roost and use the Shehy More area of the Shehy Mountains for foraging while in the Upper Lee Valley. Windfarm developments inappropriately sited in areas used by White-tailed Eagles for nesting or foraging and roosting have the potential to kill dispersing and soaring birds through collision with turbine blades'.

- There are further concerns with regard to the adequacy of the survey work conducted in respect of the Whooper Swan.
- Whooper Swan use Lough Nambrackderg, which is within the boundaries of the application site, and sightings of the bird have been recorded by Birdwatch Ireland. However, Lough Nambrackderg was outside of the scope of visibility offered by the vantage points adopted for the bird survey.
- To the west of Lough Nambrackderg are 4 No. turbines, the closest of which (Turbine No. T9) is at a distance of approximately 350m. To the east of the lough in the direction of Lough Allua, turbines are arranged in a fan-like configuration offering a potentially serious obstruction to birds moving between Lough Allua and Lough Nambrackderg. Lough Beg is also located on site.
- The applicant's consultant has not recognised the presence or possibility of Whooper Swan either on site or within Lough Allua despite the

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- availability of documentation to the contrary. For example, despite the findings of a winter bird survey conducted in respect of the Derragh Wind Farm which recorded 12 No. Whooper Swans on Lough Allua, the Planning Authority did not request further information as regards the adequacy of the submitted winter bird survey for the proposed Shehy Wind Farm. Similarly, the NPWS has also noted that Whooper Swan use Lough Allua with a previous study having identified 12 No. birds there.
- Lough Nambrackderg is a supportive habitat for the Whooper Swan and the species has been recorded on same. Whilst there is no available data to indicate how often the swans use the lough it is nevertheless evident that Whooper Swans avail of the site. Whether this usage constitutes roosting and / or feeding activities should be determined through the compilation of adequate VP studies conducted on site in accordance with the recommendations of the NPWS. The omission of such studies in the subject application, and the absence of any recognition that Lough Allua is a suitable habitat for Whooper Swans in a previous planning application at Cleanrath, could be interpreted as repeated disregard for the protected status assigned to this species.
 - While there may be no legal obligation to protect habitats outside of SACs, the population of Whooper Swans at Lough Allua is likely to be linked with the swans that are known to visit Lough Nambrackderg.
 - Local flight paths, as opposed to migratory flight paths, have not been adequately assessed.
 - The absence of appropriate site specific bird surveys, particularly with respect to protected species, demonstrates an inadequacy in the material presented to provide for an appropriate assessment of the impact on species that use habitats on the site and in the adjacent pNHA (Lough Allua).
 - There are concerns with regard to the risk of sediment and peat entering local watercourses and the risk posed to the habitat and water quality that are essential requirements to the preservation of the Freshwater Pearl Mussel in particular.
 - There has been an inadequate investigation of the potential hydrological impacts arising as a result of the excavation of the proposed borrow pits.
 - Freshwater Peal Mussel (a protected species which is critically endangered) have been seen near the mouth of the Bealaphadeen Stream which is fed by Lough Nambrackderg to the north of the site, however, despite knowledge of two important populations downstream in both the Lee and Caha / Bandon Rivers the consultants failed to carry out either a bathyscope or snorkel survey for freshwater pearl mussel. In

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- addition, a more recent survey has indicated that there are also established populations right up to the borders of the survey area.
- It is submitted that displaced peat entering watercourses can travel several kilometres and that the sensitivity of the freshwater ecology could be subject to the potential hazards arising from the proposed development not alone because of the adverse effect on water quality on site but primarily because of the effects downstream and the consequential impacts on the Bandon Sub-Basin District and recorded populations of freshwater pearl mussel.
 - In correspondence issued by the Department of Arts, Heritage and the Gaeltacht the applicant was advised that there was a population of freshwater pearl mussel in the Bealaphuadeen River within 4km of the application site and that freshwater pearl mussel beds existed on three sides of the proposed development (In addition, a tributary of this river flows within approximately 60m of the base of Turbine No. T10). Whilst the Bealaphuadeen site is not yet designated as an SAC, as a critically endangered Annex I species the freshwater pearl mussel must still be afforded protection. The EIS has failed to include this freshwater pearl mussel site, either as a result of poor methodology, or in order to influence the decision of the Planning Authority.
 - There are known populations of freshwater pearl mussel which could be at considerable risk of severe damage or total destruction from the proposed development.
 - The proposed mitigation measures with regard to the protection of the freshwater pearl mussel are not fit for purpose. For example, whilst the use of 'vegetation filters' may be effective on relatively flat terrain, given the site topography and the level of precipitation, it is possible that prolonged periods of heavy rainfall would provide considerable opportunity for fine silt to drain to the watercourses.
 - There are serious concerns with regard to the adequacy of the proposed monitoring of site runoff and water quality.
 - The use of 30-year average rainfall data in the design of the proposed mitigation measures intended to protect the freshwater pearl mussel is inappropriate as the rainfall experienced on the application site will be not an 'average' and will instead be considerably higher as evidenced by data available from Met Eireann. Therefore, there is a very real possibility of a catastrophic rainfall event overwhelming the silt mitigation measures leading to severe damage or total destruction of the vulnerable freshwater pearl mussel beds.

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- With regard to water quality, it should be understood that the Habitats Directive and other legislative provisions protecting the freshwater pearl mussel and the purity of its environment are intended to ensure the protection of its habitats and thus the level of protection required is mandatory. The use of terms such as ‘reduced risk’, ‘unlikely’ and ‘minimise the risk’ are inconsistent with the duty of both the developers and the Planning Authority to ensure the safety of the freshwater pearl mussel.
 - Information supplied by the Department of Arts, Heritage and the Gaeltacht to the authors of the EIS confirmed the existence of freshwater pearl mussel beds in the Bealaphaudeen River and required their investigation and inclusion in the EIS, however, this requirement was not fulfilled.
 - It is intimated in the EIS that the possibility exists that the proposed mitigation measures may not of themselves be sufficient to protect water quality.
 - In the event of a failure of the main mitigation methods, no timeframe has been supplied indicating when emergency methods would be effectively established.
 - The monitoring periods proposed are inadequate to guarantee immediate identification of water quality failure.
 - The hydrology, effective rainfall, water balance calculations, drainage and mitigation measures sited in the EIS are based on inappropriate monthly rainfall figures which take no account of the daily maximum rainfall figures relevant to the site and are inaccurate by a factor of approximately 20.
 - No standard for referencing the quality of water allowed into the watercourses has been employed.
 - The proposed wind farm is located at the boundary of a number of freshwater pearl mussel catchments, however, the applicant has failed to provide a clear Catchment Boundary Map or details of how the proposed development will not pose a risk to freshwater pearl mussel populations in the area.
 - The survey for the Kerry Slug was carried out in mid-winter when this species would be in semi-hibernation and thus the findings presented in the EIS are likely to underestimate the population present on site.
 - Despite suggestions to the contrary, it is submitted that Arctic Char are present in Lough Nambrackderg as attested to by local fishermen.
 - Otters are seen regularly around the study area, including in Lough Nambrackderg, and are also breeding nearby on Lough Allua.

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- Red squirrel, and by inference Pine Marten, are present in growing numbers while their populations are declining elsewhere in the country. They are only alluded to in the report, while Coillte signs on the local road asking drivers to be careful of squirrels, indicating an important population, are not mentioned.
 - Considering the quality of the findings presented in the EIS in relation to bird species such as the White-Tailed Sea Eagle, it is reasonable to assume that the surveying of other species should also be reviewed. It is not possible to properly assess the environmental impact of the proposed development if the information submitted by the developer cannot be verified.
 - The process of drying excavated peat and its subsequent rehydration as a result of rainfall has the potential to result in difficulties with regard to the control of runoff and sedimentation.
 - Condition No. 5 as imposed by the Planning Authority requires Turbine No. 6 to be relocated to a position where there is a greater depth of peat present, however, there is no suggestion that any further assessment of the impact of same will be carried out.
 - Contrary to the provisions of the EIA and Habitats Directives, Condition Nos. 5 & 6 require the post-consent agreement of certain matters with the Planning Authority.
 - The cultural focus of the EIS is extremely narrow and primarily indexed to material culture in the form of architecture, archaeology and protected structures. It does not assess or evaluate the living heritage that plays a significant role in sustaining the culture of the human environment.
 - There are considerable concerns in the surrounding community with regard to the impact of noise from the proposed turbines.
 - The submitted noise surveys are not considered to be an accurate representation of the likely impact of the proposed development on residential amenity.
 - Concerns relating to sleep disturbance and consequential health impacts are regarded as a major issue in the community and the Planning Authority has not addressed this matter satisfactorily.
 - With regard to House Nos. H19 & H20, which are in the ownership of a contributing landowner, and the proposal to apply a 'relaxed' noise criterion of 45dB(A) in accordance with ETSU-R-97, these properties are not occupied by the landowner but by tenants with long-term lease agreements. Both houses are homes to families with children and the tenants of House No. H19 have an established farming business at Shehy More. Accordingly, the residents of both properties are extremely

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- concerned as regards the impact of noise, shadow flicker and visual impact on their quality of life and that of their livestock.
- Tables 4.10 and 4.11 of the EIS indicate that 35 No. houses would be exposed to shadow flicker from the proposed wind farm and that 8 No. houses would be exposed to over 30 minutes per day and 30 hours per year (H19 and H20 would be exposed to 63 and 54 hours respectively of shadow flicker per year).
 - The EIS states that mitigation measures which could be implemented in order to reduce the effect of shadow flicker include '*the provision of screening measures such as the installation of blinds or curtains, or the planting of hedgerows / trees*'. Such measures would effectively oblige local residents to alter the amenity of their own properties to ensure the compliance of the proposed wind farm with the appropriate guidelines. Nowhere in the application documentation is there any evidence of (or recommendations for) discussions with local residents in relation to the alteration of the design of their properties to accommodate the effects of shadow flicker.
 - No details have been provided of the use of wind turbine control software to switch off turbines at specific dates and times nor is there any explanation as to how such a scenario would be enforced.
 - The proposed revisions to the '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' state that no house should be subjected to any shadow flicker and, therefore, it is questioned how it would be acceptable for 35 No. houses to be subjected to the levels of shadow flicker caused by the proposed development. It should also be noted that the properties in question are 'rural' and in many cases a large part of the enjoyment of same is associated with the land or curtilage around the property.
 - In the case of farms, those persons working the land may be affected by shadow flicker outside of the immediate dwelling.
 - There are concerns with regard to the adequacy and effectiveness of the public consultation process with the local community, particularly in light of the scale of the development proposed, the technical nature of the issues raised, the volume of application documentation, and the limited timeframe allowed for the lodgement of third party submissions / observations.
 - Details of the connection to the national grid have not been included.
 - The surrounding road network does not have the capacity to accommodate the anticipated levels of construction traffic and is unable to cater for the transportation of large items of equipment and other components such as turbine blades. Substantial works would be necessary to upgrade the existing network of roads and bridges in order to

facilitate access and whilst some indication of the extent of these works has been included in the EIS it has not been assessed in any meaningful manner.

- The Planning Authority received further information from the applicant on a number of occasions after the cut-off date for public comment, however, this was not considered to be 'significant' and thus the public was not afforded the opportunity to comment on same. Given the reliance placed on this information by the Planning Authority in its decision to grant permission, with particular reference to the additional details provided in relation to noise, it is considered that provision should have been made for further public consultation.
- An appropriate assessment of the proposed development pursuant to the requirements of the Habitats Directive has not been completed. Furthermore, Condition No. 28 as imposed by the Planning Authority required compensatory measures which were apparently considered necessary in order to comply with Article 6(3) of the Directive, however, the condition is worded so vaguely that it will be impossible to enforce same. This constitutes a breach of the Habitats Directive on the part of the Local Authority.

6.3 First Party Appeal:

This appeal has been lodged by the applicant, Shehy More Windfarm Ltd., against the inclusion of Condition Nos. 5 & 6 as attached by the Planning Authority in its notification of a decision to grant permission for the proposed development. Accordingly, the grounds of appeal can be summarised as follows:

- The proposed development site has been accepted as an appropriate location for a wind farm (as evidenced by the decision of the Planning Authority) and in this context the turbines that are to be omitted by condition do not present an overbearing impact on the landscape or the residential amenities of dwellings in the vicinity.
- The issues of visual impact and residential amenity were comprehensively addressed in the Environmental Impact Statement and the accompanying application documentation.
- The proposed development accords with national and local policy relating to the development of renewable energy resources and complies with all relevant guidance for the wind energy industry. Therefore, the provision of a wind farm at this location is in accordance with the proper planning and sustainable development of the area and complies with the relevant planning policy context, having particular regard to the Cork County

Development Plan and Government targets for the production of renewable energy.

- The proposed development site is located in an area which has been designated as '*Open for Consideration*' for wind farm development in the Draft Cork County Development Plan, 2013.
- The imposition of Condition No. 5 effectively reduces the generating capacity of the proposed development from 36MW to 30MW (i.e. a reduction of approximately 16%). The two-turbine reduction stipulated by the Planning Authority would lead to a loss in annual generating capacity of 15,768MWH or the equivalent loss in capacity to supply 3,143 No. households with their annual energy requirements.
- The proposed wind farm has been designed to cater for and supply the grid connection offer that has been secured by the applicants via the Dunmanway connection node. The omission of 2 No. turbines would result in the need to accommodate an additional 6MW capacity at an alternative site in the vicinity of the connection node. In this respect it is submitted that if a site proves suitable for and capable of accommodating wind farm development it is in the best interests of proper planning and sustainable development to maximise the generating capacity of these locations, subject to satisfying planning policy and amenity constraints.
- The findings of the 'Landscape' section of the EIS and the additional details submitted in response to the request for further information demonstrate that the development as proposed, including Turbine Nos. 1, 2 & 12, can be accommodated within the landscape and without adverse impact on residential amenities.
- With regard to the inclusion of Condition No. 6 which requires the relocation of Turbine No. 6 by 70m, whilst this relocation can be provided without adverse impact on the overall layout of the proposed development, the Board is requested to reconsider the submitted layout in full.
- During the course of discussions with the Planning Authority it was confirmed that its concerns with regard to Turbine No. 12 centred on the potential impact on House Nos. 56 & 57 which are located at the end of a cul-de-sac, 810m and 720m respectively from the turbine.
- Photomontage FI-PM 5.1 shows that whilst Turbine No. 12 is visible towards the centre of this view (from a local road in the townland of Inch Roe approximately 0.8km southwest of the turbine), it is not visible in its entirety. The base of the tower is screened by intervening topography with further screening provided by coniferous forestry. The photomontage also shows that the turbine is framed within higher ground to the left and right of this view. Therefore, whilst Turbine No. 12 is visible, it is not considered

to have an overbearing or dominant presence in the landscape (*N.B.* The distance of this view is comparable to the distances between House Nos. 56 & 57 and the same turbine).

- The landscape cross-section A-A (Drg. No. 0502-FI H56) submitted in response to the request for further information shows the direct line of sight at a height of 3.5m between House No. 56 and Turbine No. T12. This drawing illustrates that the line of sight over the contours would allow most of the tower base to be visible, however, the intervening coniferous forestry serves to screen the base and slightly reduces the amount of the tower that would be visible.

The wireframe shown on this same drawing indicates that from this location, Turbine No. T12 is one of three turbines that will be visible in a worst case scenario, although it should be noted that the wireframe views only take account of the contour levels and do not consider or include elements of the built environment, roadside vegetation or field boundaries. The wireframe shows that Turbine No. T12 when viewed from this location is within a slight depression in the landscape which falls from a high point to the right of the view (which rises to a peak at Shehy More) towards lower ground to the left. The turbines that are visible from this point (including Turbine No. T12) are located within a very narrow / focussed section of the view.

Aerial imagery of House No. 56 shows that it faces north-westwards with the gable end of same addressing the proposed development to the northeast. The dwelling is therefore orientated away from the development so that its gable-end addresses Turbine No. T12, with the dwelling itself facing towards the more domineering view of Douce Mountain to the northwest. When taken in conjunction with the separation distance (810m) between the proposal and the dwelling, this serves to mitigate against the visual impact and dominance of Turbine No. T12.

- The landscape cross-section A-A (Drg. No. 0502-FI H57) submitted in response to the request for further information shows the direct line of sight at a height of 3.5m between House No. 57 and Turbine No. T12. This illustrates that the intervening topography would screen some of the turbine base and that coniferous planting provides additional screening of the turbine base from this view. The wireframe again demonstrates that the view towards the turbine is framed by higher ground to the left and right.

The aerial imagery of House No. 57 shows that this dwelling is orientated towards the northeast, albeit off-set slightly from the direction of the proposed wind farm, and as such views towards Turbine No. T12 will be at an oblique angle. Furthermore, there are significant farm buildings located adjacent to the dwelling house which will limit and screen views of the proposal and mitigate against visual impacts (It is also reiterated that the wireframe images only demonstrate a 'bare-earth' view and do not include elements of the built environment, roadside vegetation or field boundaries).

- The aforementioned photomontages, landscape cross-sections and wireframes, illustrate that although Turbine No. T12 will be visible from these locations, due to the nature of the landscape the impact will be mitigated through distance, orientation of the dwelling houses in question, the undulating topography and the presence of elements of the built environment and mature vegetation between the dwellings and the proposed development. Accordingly, Turbine No. T12 will not have an overbearing presence in the landscape or upon these residential properties.
- House Nos. H56 & H57 are both significantly in excess of the 500m separation distance stated in the targeted review of the current Wind Energy Guidelines as being sufficient to preserve amenity.
- In response to the Planning Authority's concerns, and to further inform the decision of the Board, the grounds of appeal have been accompanied by 2 No. additional photomontages which show Turbine No. T12 in the context of the wider landscape (from this viewshed).

- *Photomontage GOA PM1:*

This photomontage is taken from a position located 2.3km west of Turbine No. T12 in the townland of Inchiroe and shows an undulating, mountainous landscape. In the background, the terrain rises and the higher ground forms a backdrop thereby creating an undulating skyline. Coniferous forestry also appears on this higher ground. The land cover includes a variety of vegetation types and textures. In the middle-ground, agricultural fields as well as some scrub are visible, while in the foreground, a road and track with considerable vegetation are evident.

Although the wireframe shows 8 No. turbines to be visible, screening and topography combine to reduce this number in reality. A number of turbines are partially visible, with some screened by the topography and coniferous forestry. The turbines are visible as a cluster in the centre of the view and are framed by the higher ground and the domineering peak to the right.

- *Photomontage GOA PM2:*

This photomontage is taken from a position located 2.57km from Turbine No. T12 in the townland of Inchiroe and shows an undulating, mountainous landscape with the view dominated by the peak of Douce Mountain to the left and Shehy More to the right. The higher ground forms a dominant feature within this landscape, creating an undulating skyline. The land cover is composed of coniferous plantations on some of the higher ground as well as fields and areas of scrub in the background. In the middle-ground, some agricultural fields are visible as well as areas of scrub whilst a road and small fields are evident in the foreground.

The turbines appear as a cluster framed by the dramatic higher ground on both sides. The scale of this landscape and the nature of the topography demonstrate that the area is capable of accommodating the proposed development in that the turbines will simply appear as an element of the landscape whereas the natural topography is the dominant feature.

- The targeted review of the '*Wind Energy Development, Guidelines for Planning Authorities*' states that a separation distance of 500m between dwellings and wind farm developments is sufficient to preserve residential amenity. On the basis of the information provided, it is submitted that Turbine No. T12 is not visually dominant in the landscape nor would it have an undue or domineering impact on the residential amenities of House Nos. 56 & 57.
- With regard to Turbine No. T1, following further discussions with the Planning Authority, the two visually important locations referenced in the request for further information were identified as the picnic area to the west of Inchigeela and a local road junction in the townland of Monavaddra. A review of the relevant photomontages show that none of the proposed turbines are visible from the picnic area, and while Turbine Nos. T1 & T2 will be visible from the local road junction (which is located

just over 2km distant from the turbines) they do not represent dominant features in the landscape at this distance. It should also be noted that this junction does not form part of an identified scenic route.

- A further 3 No. photomontages were prepared in response to Item No. 4 of the request for further information which focused on Turbine No. T1 and its interaction with houses / housing clusters in the vicinity (These additional montages were taken along the local road network at locations proximate to housing clusters). Landscape cross-sections were also prepared from the two identified visually important locations and from positions at the nearest three dwelling houses (i.e. House Nos. 10, 67 & 68).

Whilst the Planning Authority has acknowledged that the proposed turbines (including Turbine No. T1) will not be visible from the picnic area, it continues to have concerns in relation to the location of Turbine No. T1 as viewed from the local road junction and the visual dominance / impact on House Nos. 10 & 11. In this regard it is submitted that Cross-Section Drg. No. 0502-FI-H10 and the associated wireframe clearly show that even in the absence of any landcover or vegetation no turbines will be visible from House No. H10. In relation to House No. H11, this is located 970m from Turbine No. T1 and a review of FI PM 4.3 & 4.4 confirms that whilst the turbine will be partially visible it does not represent an incongruous or dominant feature that would impact on residential amenity.

- In respect of the concerns raised by the Planning Authority as regards FI PM1, it should be noted that this image is taken from the R584 Regional Road approximately 3.25km distant from the nearest turbine and that whilst nine of the twelve turbines will be visible, they will be read as a single entity and thus are well accommodated visually within the landscape.
- The detailed visual assessments and analysis submitted with the application documentation and the further information response do not support the conclusions reached by the Planning Authority.
- The photomontages, wireframes and sections prepared in response to Item No. 4 of the request for further information demonstrate that Turbine No. T1 will not have a significant adverse impact on either of the sensitive locations identified by the Planning Authority nor will it impact significantly on residential properties in the vicinity.
- With regard to Turbine No. T2, it is noted that the Planner's Report has gone to great lengths to stress that the siting of same is problematic. It refers to a potential conflict between the predicted noise levels at House

Nos. 61, 65 & 66 in view of the amended limits set out in the draft revisions to the *‘Wind Energy Development, Guidelines for Planning Authorities’* and suggests that it would be *‘grossly unfair that two houses should benefit [from] being contributing landowners whilst the property actually nearest to any turbine arguably benefits nothing’*.

In response to the foregoing, it is submitted that the relative location of third party properties in the vicinity of the proposed development when compared to the separation distances of contributing landowners is not listed as an assessment criterion in the County Development Plan nor it is a matter for consideration in the current Wind Energy Guidance Document. Wind farm design and assessment is, however, guided by the potential for impact (if any) on residential amenity and compliance with the wind farm guidelines. In this respect the Board is advised that the subject proposal has been designed to achieve sufficient separation distances whilst maximising the renewable energy generating capacity of the site and protecting residential amenities.

- In its assessment of the suitability of Turbine No. T2, the Planning Authority gave consideration to matters including the details of a planning application for a separate wind farm on a different site as well as the relative proximity of House No. H17 to Turbine No. T2 when compared to the dwellings of contributing landowners. Neither of these issues appears to be a matter that should be considered in planning terms to inform the suitability of Turbine No. T2 at its proposed location.
- There are two significant factors for consideration in relation to the suitability of the proposed location of Turbine No. T2:
 - *Whether the location of Turbine No. T2 presents an incongruous or inappropriate feature in the landscape:*

This particular turbine was not referenced by the Planning Authority as being of concern in visual terms in the request for further information and it can be concluded that the turbine involved is suitably located within the landscape on visual grounds.
 - *Whether the location of Turbine No. T2 has a detrimental impact on the residential amenity of House No. 17:*

House No. 17 is located 520m to the southeast of Turbine No. T2. To further review the potential impact of Turbine No. T2 on House No. H17 an additional wireframe and landscape section is

appended to the grounds of appeal. The sectional drawing shows that the intervening topography (in the absence of landcover etc.) provides significant screening so that Turbine No. T2 will only be visible from the hub upwards in the bare-earth worst-case scenario. This is further evidenced in the wireframe. Aerial imagery also demonstrates that House No. H17 is set within a small plateau within a landscape which is steadily rising from the south to the north. The gable of the dwelling is orientated in a northwest to southeast direction and as such the gable wall faces towards Turbine No. T2.

- Due to the nature of the intervening topography Turbine No. T2 will not have an adverse visual impact on the amenities of House No. H17 based on a 'bare-earth' assessment. The presence of vegetation and field boundaries in conjunction with the orientation of the dwelling will also serve to further reduce any visual interaction or impact.
- In relation to noise, the proposed wind farm will not exceed the limits set by the Guidelines at any location.
- Whilst the proposal is compliant with all existing standards, should a reduced noise limit be necessitated in light of a revision to current guidance, it is the applicants understanding that the Board will impose an appropriate condition accordingly. Should this occur it is acknowledged that any future permitted wind farm at this location will have to adhere to same and adopt an appropriate technology or turbine curtailment regime as required.
- The submitted information clearly demonstrates that the proposed development can be accommodated at this location without adverse or significant impact on the amenities of landscape quality of the area. Accordingly, the Board is requested to re-examine the inclusion of Condition Nos. 5 & 6 and to grant permission for the scheme as proposed in its entirety.

7.0 RESPONSE TO GROUNDS OF APPEAL

7.1 Response of the Planning Authority (to third party appeals):

- The position of the Planning Authority as regards the merits of the application remains unchanged from that set out in the detailed assessment held on file.

7.2 Response of the Planning Authority (to first party appeal):

- The position of the Planning Authority as regards the merits of the application remains unchanged from that set out in the detailed assessment held on file.
- The applicant has essentially put forward the following case:

‘should the 2 turbines reduction . . . be upheld by the Board, an alternative site for the provision of an additional 6MW of generating capacity will have to be found within the vicinity of Dunmanway connection node . . . leading to the provision of an additional wind farm site . . .’

Such an argument could be used for each and every wind farm development and is ultimately flawed. An alternative site should be identified or, alternatively, it should simply be accepted that the 16% reduction in generating capacity is justifiable as the site at Shehy More cannot accommodate the proposed 12 No. turbines without serious damage to both the landscape and humans. There is no necessity to re-introduce the additional 16% generating capacity ‘at all costs’.

- The proposed development is only acceptable subject to the removal of the 2 No. turbines (Condition No. 5) and the relocation of a further turbine (Condition No. 6). In the absence of these revisions, and given the reservations as regards the 131m height of the proposed turbines, a recommendation to refuse permission would have been advanced.
- In its determination of ABP Ref. No. PL88.242998 which sought to increase the height of 7 No. turbines at the Killaveenoge Wind Farm by 131m, the reporting inspector recommended a refusal of permission on the basis of the anticipated significant impact on both visual and residential amenities in the area, however, the Board did not accept this recommendation and opted to grant permission. This has led to an increased perception in the local community that wind farm development is being allowed at all and every cost under the guise of *‘the national interest’* and it is not difficult to acknowledge the potential precedent such an appeal decision could set with particular reference to the implications for the Knockenboy Wind Farm (ABP Ref. No. PL88.240701), the Glanta Commons Wind Farm (ABP Ref. No. PL88.235028), the Millane Hill scheme (PA Ref. No. 98/1482) and also at the Lanaght Wind Farm (PA Ref. No. 00/805).
- An emphasis was placed in part on the importance of strategic infrastructural considerations in justifying the grant of permission issued

under ABP Ref. No. PL04.242223 for 6 No. 150m high wind turbines located approximately 7-8km north of Shehy More. Whilst the weighting attached to '*strategic infrastructure for the country*' could be used to justify all wind farm developments, in considering the subject proposal the Planning Authority has clearly acknowledged the national importance but has also carefully assessed the detail of the scheme at a local environment level.

- Having regard to ABP Ref. Nos. PL88.242998 & PL04.242223, the Board should form its own opinion as to whether or not the 12 No. turbines at this location are acceptable. It is the position of the Planning Authority that the proposed development is unacceptable in the absence of the revisions sought by Condition Nos. 5 & 6.

7.3 Response of the Applicant (to Third Party Appeal of Mr. Anthony Cohu):

- The proposed development enjoys the benefit of significant policy support, from European to local level, and these supporting policies are detailed in Section 2 of the Environmental Impact Statement and have also been summarised in the first party appeal.
- The comments attributed to Mr. John O'Connor, former chairman of An Bord Pleanála, have been taken out of context and have not been correctly cited.
- The comments of Minister Rabbitte at the Irish Wind Energy Association's annual conference in 2014 only confirmed that sufficient grid connection offers had been accepted to meet the Government's 2020 target for renewable energy production. They should not be interpreted as suggesting that a sufficient number of wind farms have either been constructed or permitted to achieve said targets.
- The National Renewable Energy Action Plan was prepared by the Department of Communications, Energy and Natural Resources on behalf of the Irish Government and submitted to the European Commission for approval. Therefore, it must be considered to comply with all policy and legislative requirements.
- The preference for wind energy set out in the National Renewable Energy Action Plan is confirmation of how eminently suitable Ireland is for the harnessing of wind energy and further demonstrates that while other renewable energy technologies offer future potential, they do not currently have the potential to contribute significantly to the State's legally binding EU targets in addition to its own national targets.
- The grounds of appeal frequently criticise Government and European Union policies and procedures as well as reports that have been carried

out and / or commissioned at national or European level, however, the appellant has failed to acknowledge the widely reported facts that renewable energy, and wind energy in particular, is having a real and significant benefit in reducing the carbon intensity of electricity generation across the EU.

- Ireland benefits from one of the best wind regimes in the world with Irish wind farms regularly achieving capacity factors in excess of 40%. Technological advances are continually finding ways to convert ever more energy from the wind into a more readily usable form in electricity and in recent years taller turbine towers enhanced with aerodynamic blade design and larger rotor diameters have significantly increased generation capacities in standard wind farms. The final turbine selected for use on the subject site will be matched with the wind data to ensure that the most efficient machines are utilised (within the parameters of the grant of permission).
- Over 40% of Ireland's installed wind capacity is located in Counties Cork, Kerry & Limerick thereby demonstrating that these areas are eminently suitable for same.
- The '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' were never intended to be prescriptive about what areas of the country might be considered suitable or unsuitable for wind energy development. They do, however, provide guidance for planning authorities wishing to draft wind energy strategies for their functional areas as evidenced by the Cork County Development Plan, 2009 and the Draft Cork County Development Plan, 2013.
- With regard to the appellants contention that the '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' are in need of comprehensive updating, these guidelines remain in force until such time as they are replaced with updated guidance.
- Concerns with regard to the formation of the wind energy policy contained in the current County Development Plan are outside the scope of this appeal.
- The subject proposal represents sustainable development in that:
 - It has been demonstrated by way of the EIS and accompanying documentation (followed by a comprehensive review by the Planning Authority) to be capable of being developed without resulting in any significant negative environmental impacts.

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- The local community / residents were given the opportunity to partake in the decision-making process as evidenced by the large number of submissions on file.
 - It meets the electricity needs of the local population thereby redressing the balance for the parts of the country that will not be able to meet their own electricity needs.
 - It does not significantly alter the distinctiveness and character of the area.
 - It does not have any significant direct or indirect impact on habitats or species of conservation concern.
 - It does not impact on the availability of tourism opportunities to individuals.
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- The appellants questioning of the impartiality and accuracy etc. of the submitted Environmental Impact Statement has not been substantiated by reference to any specific inaccuracies or shortcomings in the methodologies used in the assessment or evidence of where bias has influenced the findings of the assessment.
 - The Planning Authority undertook a comprehensive Environmental Impact Assessment as required by legislation and the Board will undertake its own EIA which will assist in the decision-making process.
 - With regard to the appellants comments regarding potential alternatives to the proposed development such as biomass-firing of power stations and bio-fuels, the subject application was brought forward with compelling policy support at European, national, regional and local level for wind energy development and as a grid connection offer had been secured from the Commission for Energy Regulation.
 - The consideration of alternatives set out in Section 2.8 of the EIS focused on demonstrating that the optimum site had been selected and that the most appropriate design had been prepared in order to satisfy the grid connection offer. In addition, the do-nothing scenario was considered, as were alternative land-uses.
 - The community-based, small-scale energy initiatives proposed by the appellant, while having some merit, cannot be delivered within any certain timeframe, policy framework or funding / financing model (unlike the subject proposal).
 - With regard to the planning history of the wider area and, in particular, the 'precedent' cases referenced by the appellant which predominantly concern applications for wind farm development in the late 1990s and early 2000s, it is submitted that each case must be assessed on its own

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- merits and that wind farm design, and the tools that are used to inform the assessment process, have all developed and significantly evolved over the last decade.
- The national and local policy frameworks within which applications for wind farm developments are assessed have also greatly evolved and improved over the last decade.
 - Section 10.6.4.2 of the EIS provides a detailed review of the cumulative visibility of the proposed development in the context of all other permitted wind turbines within 20km of the site and concludes that whilst there are areas where a larger number of turbines may be theoretically visible, these areas are generally located well away from the subject site and in this regard the visual impact will be mitigated by the intervening distance.
 - With regard to the grant of permission issued on appeal under ABP Ref. No. PL04.242223 in respect of 6 No. turbines on lands 7km north of the subject site, several aspects of the reporting inspector's assessment of that application could be said to hold true for the subject proposal:
 - There is no other wind farm in the immediate vicinity;
 - The proposed development is not visible from Gougane Barra, although it will be intermittently visible from Lough Allua;
 - There is sufficient separation distance between the subject proposal and scenic routes and thus it will not have an adverse impact on same;
 - The proposed development site does not benefit from any special or specific tourist designation in the Development Plan.
 - The potential for cumulative visual impacts has been fully reviewed and both the decision of the Planning Authority and the findings of the EIS concur that there will be no significant impact associated with the proposed development.
 - The claim that the wider community will have to pay more for its electricity in order to subsidise the construction and operation of the proposed development and all other wind farms has been proven to be unfounded by a 2011 study undertaken by the Sustainable Energy Authority of Ireland and Eirgrid entitled *'Impact of Wind Energy Generation on Wholesale Electricity Costs in 2011'*.
 - The site selection process was centred on the grid connection node at Dunmanway that had been secured for the project. Using a radius of 15km from this node a search area of 70,500 hectares was identified and strategic constraints were then applied accordingly. Arising from this

process 6 No. potential alternative sites were identified, however, following a more detailed review, which included an assessment of the locations of dwelling houses, the subject site emerged as the optimum location for the proposed wind farm development.

- The Planning Authority has concluded that the subject site is strategically acceptable from a policy perspective.
- The potential visual impact of the proposed development has been assessed in full in the EIS in addition to the comprehensive visual assessment submitted in response to a request for further information and the additional photomontages and landscape cross-sections that have accompanied the first party grounds of appeal.
- Having regard to the carrying capacity of the landscape, it is considered that the height and locations of the proposed turbines can be accommodated without significantly adversely impacting on sensitive receptors.
- When the Zone of Theoretical Visibility is imposed onto the scenic routes in the vicinity it is clear that the proposed development will not be visible from the majority of these routes. Where visibility does occur, the submitted photomontages establish that the proposal will not have an adverse impact on any scenic routes.
- The impact of the proposal in relation to tourism is discussed in full in Section 4.3 of the EIS.
- The report entitled '*Visitor Attitudes on the Environment – Wind Farms, Fáilte Ireland, 2012*' concludes as follows:

'While there is generally a positive disposition among tourists towards wind farm development in Ireland, it is important also to take into account the views of the one in seven tourists who are negatively disposed towards wind farms. The challenge lies in striking a balance between the maintenance of landscape character and scenery as a tourism asset, and facilitating the development of further wind farms to ensure Ireland meets with GHG reduction targets. This requires good planning on the part of the wind farm developers as well as the Local Authorities, particularly at the site selection, design and pre-planning consultation stages.'

In this respect it is submitted that the subject proposal has been fully considered in the context of the receiving landscape and tourism. It has been sited and located within an appropriate landscape which is capable of accommodating the number and size of turbines proposed.

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- With regard to Scenic Route No. S29, a review of Photomontage No. 11 in the EIS demonstrates that at a distance of approximately 9km, the turbines do not present a significant feature and sit comfortably within the landscape i.e. they will have a neutral impact on views from Scenic Route No. S29.
 - In relation to Scenic Route No. S30, it has been established that there are no views of the proposed development available from same due to the nature of the scenic route, its orientation, the nature of the topography and roadside vegetation at the relevant locations.
 - The proposal will not have an adverse impact on the local road network or its associated amenities (e.g. walking routes, cycling etc.)
 - The proposed development will not impact on tourism infrastructure or features in the wider area (e.g. Gougane Barra etc.) as it will not be visible from such locations.
 - Alleged shortcomings in relation to the Strategic Environmental Assessment of various plans and policies is not an issue relevant to the subject appeal.
 - Detailed calculations for the carbon emissions savings and the carbon balances are set out in Appendix 12 of the EIS which used a model developed by the Macauley Land Use Research Institute for the Scottish Government for calculating carbon savings from wind farm developments on Scottish Peatlands. The model's findings calculated that the carbon dioxide generated in the manufacture and transport of the turbines and in the construction and commissioning of the proposed wind farm, would be offset by 12.7 months of its operation, taking account of a relatively conservative capacity factor of 30%.
 - It is considered that if there were any doubt about the carbon saving benefits of wind energy developments, then wind energy technology would not have become a recognised method of decarbonising traditional electricity generation systems.
 - The impacts of the proposed development on natural heritage, protected habitats and species are addressed in full in Section 5 and Appendix 5 of the EIS. Additional details in relation to natural heritage were submitted to the Planning Authority in response to the request for further information.
 - The report of the Local Authority's Heritage Officer has concluded that the proposed development:
 - Will not have adverse impacts on the habitats and species for which the Bandon River SAC and the Gearagh SAC have been designated;

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- Will not give rise to negative impacts on rare or protected plant species;
 - Will not give rise to any significant impacts on the Kerry Slug;
 - Has low potential to give rise to significant impacts on protected bird species;
 - Is unlikely to give rise to negative impacts on bat species.
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- Extensive bird survey work was carried out at the site during the winter of 2011/2012, spring 2012 and summer 2012, including a Vantage Point methodology designed to survey for Hen Harrier and any other species of conservation interest that might use the site.
 - In order to survey for breeding birds on summer territories, a transect method, similar to that used by Birdwatch Ireland for Countryside Birds Survey was used. This survey method is suitable for recording breeding birds at their territories, especially small passerines in vegetation that will tend to be under-recorded by vantage point survey methods. Transect routes / sections in upland / open bog and heath areas also give the opportunity to detect breeding waders and Red Grouse.
 - With regard to the appellant's reference to a 'Grouse Sanctuary', no part of the study area for the proposed development has been designated under national legislation for nature conservation. Furthermore, the NPWS is unaware of any sponsored Red Grouse projects or sanctuaries within the immediate surrounds of the study area.
 - Red Grouse was not recorded, either by sight, call or other signs during extensive field work.
 - Red Grouse tend to fly infrequently and low to the ground, below the height of the turbines and therefore the potential for collision is low.
 - Dr. Allan Mee, project manager of the Irish White-Tailed Sea Eagle Reintroduction Programme (Golden Eagle Trust) provided information with regard to eagles known in the wider area. Tracking studies of these birds have shown that the proposed development site does not lie along a direct line between the known flight of Kilgarvan and the Lee Valley / Lough Allua.
 - Although not listed as a target species of the Vantage Point surveys, White-Tailed Sea Eagles were not recorded during bird surveys at or in the vicinity of the study area.
 - Freshwater Pearl Mussel was not recorded during kick sampling surveys within streams on the boundaries of the study area. In addition, these streams did not correspond to potential habitat for this species until they became much larger (as would be found downstream of the study area).

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- It is acknowledged that there is the potential for conifer felling and earthworks during the construction phase to negatively impact on water quality in the three river catchments (Caha/Bandon, Lee & Owvane) within the study area that contain freshwater pearl mussels at various distances from the site, however, there will be no direct physical alteration of the downstream watercourses. Indirect effects that were considered included the accidental release of pollutants or excessive volumes of sediment etc., however, the residual impact on the species would be *'imperceptible / negligible'* based on the proposed drainage design and mitigation measures.
 - Following a review of Section 11 of the EIS the County Archaeologist concluded that *'no known archaeological sites will be directly impacted by the proposed development and an adequate distance between the proposed development and the known archaeology has been accommodated'*.
 - With regard to a stone circle located 2km distant from the site, whilst a minor visual impact was identified it was considered that this would be negated by the separation distance involved.
 - There are no designated archaeological landscapes within or immediately adjacent to the proposed development site.
 - A comprehensive analysis of the impact of the proposed development in relation to noise is detailed in the EIS and the response to the request for further information.
 - In relation to the appellants suggestion that additional setback distances between dwellings and turbines would serve as a further measure to mitigate any potential noise impact, the accompanying correspondence from AWN Consulting states that *'a simple increase in minimum separation distances will not automatically ensure that sufficient protection is given to residential amenities of nearby sensitive locations. This protection can only be achieved by ensuring appropriately detailed and prepared noise impact assessments are carried out as part of the planning process. This has been undertaken here'*.
 - With regard to the appellants allegation as regards shortcomings in relation to surface water, rainstorms and peat stability, the findings of the independent environmental engineers commissioned by the Planning Authority are presented as follows:

- *Peat Stability:*

- 'Section 4.1.5 outlines that the Geotechnical Engineer will be responsible for the inspection and monitoring of the development'*

particularly in areas of peatland, at borrow pits and peat repository areas through all phases of construction to ensure that construction is carried out as specified in the EIS and in the relevant planning conditions. There are no outstanding issues in relation to peat and slope stability. The measures proposed are satisfactory to ensure that there is no impact on water quality’.

- *Comments in relation to Surface Water / Hydrology:
‘There is no significant issue with the proposed surface water drainage system. The applicant has demonstrated that the measures proposed are satisfactory to ensure that there is no impact on water quality. Minor alterations of the proposed drainage system will be required in the vicinity of T2 area (1) the compliance detailed will be required from the applicant’.*

The decision of the Planning Authority includes Condition No. 27(g) which deals with this issue in full.

- Information available from Cork Airport was used as this is the closest synoptic station from which average potential evapotranspiration rate could be sourced. The design of the drainage measures on site will in fact use highly localised rainfall data that will be sourced from Met Eireann with, for example, stilling ponds and ‘siltbusters’ being designed to retain the water volumes associated with a 1 in 10 year six hour return period.
- The duration of the planning permission sought (i.e. 10 years) is in line with Departmental Circular PD3/08 which advises that longer term permissions are appropriate for wind farm developments.
- The proposal is not premature as the applicant has secured a grid connection and in the event of favourable consideration the wind farm will be constructed as soon as practicable.
- The ten year permission sought is to ensure an adequate timeframe to complete the proposed development and all associated agreements and supporting infrastructure.
- It has been alleged that the decommissioning of the project has the potential to off-set any savings of emissions arising from the development, although this assertion appears to be based on the assumption that the turbine foundations will be removed. In this respect the proposed decommissioning programme is set out in Section 3.10 of the EIS and this states that the turbine foundations will not be removed but will remain in place and will be covered with earth and reseeded as appropriate. Such a

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- proposal is considered to be environmentally prudent as it avoids potential environmental nuisances such as noise, dust and / or vibration. This position is shared by the Planning Authority.
- The Draft Cork County Development Plan, 2013 builds on and further develops the established wind strategy for Co. Cork and is informed by the background paper on renewable energy as discussed in Section 2.7.3.2 of the EIS.
 - The appellants comments with regard to the Energy Background Paper, the Draft Energy Policy, Socio-Economic Issues and the Wind Energy Strategy contained in the Draft Cork County Development Plan, 2013 do not refer to or raise specific concerns with regard to the proposed development and instead read as a submission which should be made to the Planning Authority in relation to the Draft Plan process.
 - A grid connection has been secured for the proposed development via the Dunmanway substation and details of same are set out in Section 3.4.8 of the EIS. The eventual connection route between the site and the grid will be decided by ESB Networks or Eirgrid in consultation with the Planning Authority and thus is not within the control of the applicant at this time. However, a preferred grid connection route is shown in Figure 3.11 of the EIS.

7.4 Response of the Applicant (to Third Party Appeal of Mr. Dan Kelleher & Others):

N.B. This submission reiterates certain aspects of the applicant's response to the third party appeal lodged by Mr. Anthony Cohu and, therefore, in order to avoid unnecessary repetition, and in the interest of conciseness, I would refer the Board to my earlier summation of same. However, the following further submissions are of note:

- The proposed development complies in full with the criteria listed in Objective INF7-4 of the County Development Plan (*N.B.* A detailed critique of the manner in which the proposed development complies with each of the qualifying criteria is set out in the submitted response and I would refer the Board to same accordingly).
- The proposal accords in full with the relevant provisions, including Objective ED3-5, of the Draft Cork County Development Plan, 2013.
- The assessment of the Planning Authority in considering the proposed development site compliant with the relevant planning policy is consistent with the findings of the EIS and the project team.

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- The EIS, the response to the request for further information, the first party grounds of appeal, and previous response documents submitted to the Board, all indicate that the proposed development will not have an adverse impact on scenic routes in the vicinity or on other associated amenities.
 - The photomontages provided throughout the application process were selected to illustrate a representative image of how the proposed development would appear when viewed from certain vantage points and were chosen following a review of the Zone of Theoretical Visibility and following 'ground-truthing' of the ZTV outputs.
 - Section 10.7 of the EIS acknowledges the known limitations of the photomontage process and reiterates that they are provided as tools to aid in the assessment of the proposal. The panoramic views presented throughout the application documentation represent as wide a view as possible from the photo locations. The viewpoints selected and the photomontages developed are highly appropriate and representative and have been provided in order to demonstrate to all parties how the proposal will appear in the landscape.
 - With regard to the vantage points used for bird surveying, it is standard practice to make observations from the same physical position if the fields of view differ. If more than two relevant fields of view can be seen from the same viewpoint these should be the subject of separate watches and the selected amount of watch time should be made for each field of view. Therefore, a single high point within a site can be used for two separate watches to cover a 360 degrees view as was employed in respect of the subject application.
 - During the bird surveys neither the White-Tailed Eagle nor the Whooper Swan (or any other waterfowl species) were recorded. However, the type of vantage point used disclosed the presence of Hen Harrier within the site study area on two occasions of Golden Plover and Chough in the wider area.
 - In relation to the Derragh Wind Farm in the Ballingearry area, it should be noted that Ballingearry lies directly on the Upper Lee Valley and thus might be expected to be within wildfowl commuting routes whereas Shehy More does not.
 - The Heritage Officer was satisfied with the standard of survey work and concluded that the potential for the proposed development to give rise to significant negative impacts on protected bird species was low.
 - The appellant has referenced the importance of the Upper Lee Valley for the White-Tailed Eagle in addition to The Gearagh, Lough Allua and

Gougane Barra. Having regard to the locations of the foregoing, it is reasonable to conclude that the most logical and economical commuting route between same would be straight down the valley of the River Lee rather than through the Shehy More area.

- The appellants reference to a recorded sighting of Whooper Swan at Lough Nambrackderg is not disputed and it may well have been that the birds were migrating through the area. Additionally, small numbers of Whooper Swan often use oligotrophic lakes such as Lough Nambrackderg during the winter. Whilst the selected VP positions did not have a view of the lake or the ground around it, there was sight of the airspace above it. The fact that the Whooper Swan was not recorded on the survey days does not mean that they were not either present within the site flying over it on other days during that time, however, the lack of any sightings of groups of birds in flight and as no birds were heard in the distance, it can be taken to indicate that the area is not regularly used by Whooper Swan.
- The appellant's bird counts of Whooper Swan at Lough Nambrackderg are significantly below the threshold in order for that wetland site to be considered to be of either national or international importance.
- The most recent Freshwater Pearl Mussel records were obtained from the National Parks and Wildlife Service to check if there were any recorded within the Bealaphadeen Stream. These records were considered in the unsolicited further information submitted to the Planning Authority on 17th October, 2013 which indicated that the results were negative.
- Freshwater Pearl Mussel are found in the Bandon River, the River Lee and the Owvane River, all of which are downstream of the study area. Detailed drainage design mitigation measures are to be implemented to ensure that there is no adverse impact on the Freshwater Pearl Mussel.
- Surveying for the Kerry Slug was conducted in suitable conditions and was never intended to estimate the population size, but was rather a presence / absence survey consisting of representative transects across relevant potential slug habitat types. When Kerry Slug were found in the relevant habitats it was assumed that they would be present in all such habitats within the study area. Section 5.5.2.1.2 of the EIS concludes that the predicted residual impact on the population of Kerry Slug within the study area will be neutral or slight positive in the medium term.
- The Heritage Officer is satisfied on the basis of the submitted information that the proposed development will not give rise to any significant impact on the Kerry Slug.
- With regard to the possible presence of Arctic Char in Lough Nambrackderg, the design of the proposed development and the

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- mitigation measures proposed in respect of maintenance of water quality and water management during construction are such that no negative impact on the lough are anticipated and thus the carrying out of invasive lake study work was not warranted.
- Section 5.4.2.2 considers the presence of various mammals on site, including otter, red squirrel and pine marten, and concludes that the proposal will not have an adverse impact on same.
 - In relation to peat management, spoil material not reused as part of the construction phase will be removed from the vicinity of the access roads and turbine locations and will be disposed of in the 4 No. on-site borrow pits.
 - All peat stockpile areas will be selected with input from a geotechnical engineer to ensure that there is no risk of peat slippage and all such areas will be located within the site drainage network to be installed around the works area thereby ensuring that water draining from the temporary stockpile areas is captured.
 - The methodology for the management of surplus peat is set out in Section 13.3.3 of the response to the request for further information and is included within the Preliminary Construction Management Plan.
 - The independent environmental engineering firm commissioned by the Planning Authority has determined that the proposed peat management proposals etc. are appropriate.
 - A comprehensive analysis of the potential noise impacts on sensitive receptors is set out in Section 9 of the EIS and the Planning Authority has imposed a condition which requires that the operational noise levels of the development do not exceed 43dB(A) or a maximum increase of 5dB(A) above background noise levels at sensitive receptors. In order to adhere to such a condition a monitoring programme will be put in place and submitted to the Planning Authority.
 - The proposed development will have no adverse impact on sleeping patterns as confirmed by the accompanying report prepared by AWN Consulting.
 - Neither House Nos. H19 or H20 are within 500m of any of the proposed turbines and whilst a slightly relaxed noise criterion of 45dB(A) has been adopted for these properties as they are owned by contributing landowners, the noise levels at same are not predicted to exceed 43dB(A).
 - Contrary to the appellant's assertions, the direct management of turbines is included in the EIS as a potential mitigation measure in relation to shadow flicker.

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- Whilst House Nos. H19 and H20 are occupied by third parties they have been treated as contributing landowners in accordance with established practice. However, should the landowner wish to provide for additional mitigation in relation to shadow flicker at these dwellings this can be easily provided within the suite of mitigation measures discussed in Section 4.5.3.9 of the EIS.
 - It is considered that the public consultation undertaken by the applicant was adequate, appropriate and in keeping with accepted practice.
 - Section 11 of the EIS provides for a comprehensive review of the proposed delivery and construction routes to the site and includes an auto-track analysis of potential 'pinch-points'. Furthermore, neither the Planning Authority nor the Roads Engineers raised any specific concerns in relation to the capacity of the surrounding road network to accommodate the proposed development.
 - A single meteorological mast has been erected on site pursuant to the provisions of Class 20A of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended.
 - The decision not to deem the response to the request for further information as 'significant' is a matter for the Planning Authority.
 - A preferred gird connection route is shown in Figure 3.11 of the EIS, however, the final route will be selected by the ESB or Eirgrid.
 - With regard to the appellants concerns in relation to several of the conditions imposed by the Planning Authority, the Board will assess the application 'de novo' and (in the event of a grant of permission) will attach a new schedule of conditions accordingly.
 - The drainage measures and the proposed monitoring programme have been assessed in full by the Planning Authority and an independent engineering consultancy and have been found to be appropriate.

7.4 Response of Third Party Appellant (Mr. Dan Kelleher and Others) to First Party Appeal:

- The accompanying report prepared by Mr. Dick Bowdler, Acoustic Consultant, on behalf of the third party appellants, concludes that the noise assessments provided by the applicants are not fit for purpose and are seriously in error. Furthermore, the acceptance of these assessments by the Planning Authority is considered to be prejudicial to the interests of local residents and whilst it is asserted that inadequate information has been provided to allow for a proper evaluation of same, it is likely that 22 No. properties will fail to comply by a significant margin with the noise

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- levels specified in the '*Wind Energy Development, Guidelines for Planning Authorities, 2006*'.
- Notwithstanding the omission of the two turbines required by Condition No. 5 as imposed by the Planning Authority, the remaining 10 No. turbines will continue to have a detrimental impact on the residential and visual amenities of the surrounding area.
 - Contrary to the applicant's claims, the proposed development site is not suitable for the scale and type of development proposed.
 - The Planning Authority has failed to assess the reliability of crucial information furnished by the applicant. This is of particular relevance in terms of assessing the likely impact of the proposed development on the populations of freshwater pearl mussel in the Bandon Special Area of Conservation.
 - The proposed development will conflict with the criteria set out in the Draft Cork County Development Plan, 2013 as regards the assessment of proposals for wind energy developments in areas '*open for consideration*'.
 - Having regard to the physical characteristics of the receiving environment and the constraints presented by the application site, the apparent presumption must be to exclude development of the scale proposed.

7.5 Response of Third Party Appellant (Mr. Anthony Cohu) to First & Third Party Appeals:

- The request for further information issued by the Planning Authority was not circulated to third parties.
- The Planning Authority received further information from the applicant on a number of occasions after the cut-off date for public comment, however, this was not considered to be 'significant' and thus the public was not afforded the opportunity to comment on same. Given the reliance placed on this information by the Planning Authority in its decision to grant permission for the subject application, it is considered that provision should have been made for further public consultation.
- The appellant concurs with the third party grounds of appeal in respect of the provisions of the County Development Plan, landscape and visual impact, assessment of ecology, peat assessment risk, human impact assessment, public consultation, and appropriate access to information and the response to the request for further information.
- In support of the grounds of appeal, it is of relevance to note that for the past 18 months a pair of White-Tailed Sea Eagles have been observed roosting / nesting on Garnish Island in Glengarriff Harbour approximately

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- 20km west-southwest of the application site. This may be relevant if the birds are likely to travel to Lough Allua for feeding purposes.
- An accompanying photograph confirms the presence of a notice for a Grouse Sanctuary on site. This species and its sanctuary have been given inadequate consideration in the EIS.
 - There are significant populations of red squirrel spreading northeast along the Borlin Valley and thus it is more likely that they have extended into the Shehy area along the Gortloughra River.
 - The appellant has on occasion observed the Hen Harrier in elevated ground between Shehy More and Derrynafinchin.
 - The use of inappropriate rainfall data seriously underestimates the risk of landslide as well as the potential for siltation and the need for containment measures.
 - The revisions necessitated by Condition Nos. 5 & 6 as imposed by the Planning Authority are immaterial to the fundamental unsuitability of the application site for a wind energy development.
 - It is reiterated that the applicant's claims as regards the generating capacity of the proposed development and the associated carbon dioxide emission reductions are exaggerated.
 - ABP Ref. Nos. PL04.209745, PL04.219277 & PL88.240461 all set a precedent by which permission should be refused for the proposed development.

8.0 OBSERVATIONS

8.1 An Taisce:

- Whilst the proposed development site is not located within a Natura 2000 site, it is located in an area of blanket bog, a habitat listed on Annex I of the EU Habitats Directive. The construction works could degrade, or even destroy, portions of the bog and any activity that alters the hydrology of the site could have a significant impact on this habitat. Therefore, measures should be put in place to ensure that damage to the blanket bog is minimised during the construction phase from heavy vehicles being driven over bogland areas, as well as drainage.
- The area is known to support populations of bat species, including Ireland's rarest native bat species, the Lesser Horseshoe Bat, which is listed on Annex II of the EU Habitats Directive.
- Wind turbines can be fatal to bats through collisions and barotrauma.
- No lights should be used at night as these may inhibit the foraging ability of the bats.

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- There are a significant number of freshwater habitats within this eastern section of the Shehy Mountains. Lough Nambrackderg and Lough Beg are two of the largest lakes in this part of the Shehy Mountains whilst Lough Allua and the River Lee are located to the north of the proposed development with the River Bandon to the south. Notably, a number of tributaries flow from and through the proposed development site directly into Lough Allua, the River Lee and the River Bandon.
 - The River Bandon Special Area of Conservation (Site Code: 002171) contains good examples of two habitats listed on Annex I of the EU Habitats Directive – alluvial forest and floating river vegetation - and supports populations of 4 No. Annex II species i.e. otter (*Lutra lutra*), salmon (*Salmo salar*), brook lamprey (*Lampetra planeri*) and freshwater pearl mussel (*Margaritifera margaritifera*). The kingfisher (*Alcedo atthis*) which is listed under Annex I of the EU Birds Directive also breeds along the river. In addition, the presence of a number of Red Data Book plant and animal species adds further interest to the site whilst the populations of the freshwater pearl mussel are thought to be of national importance.
 - The freshwater pearl mussel is protected under the Habitats Directive and the Wildlife Act, 1976, as amended. Based on the most recent assessment, Ireland has 46% of the EU freshwater pearl mussel individuals, although the species is currently in decline throughout Ireland and the rest of Europe. The availability of mussel habitat and fish spawning and nursery habitats are determined by flow and substrata conditions. The habitat for the species is currently unsuitable in many parts of Ireland for the survival of adult mussels or the recruitment of juveniles.
 - Lough Allua is a proposed Natural Heritage Area (Site Code: 001065) located to the south of the proposed development and a number of tributaries run from and through the proposed development site into the lough. This pNHA is an important salmonoid lake and also has a good population of brown trout in addition to being an important spawning ground for sea trout.
 - The construction works associated with the proposed development, when taken in conjunction with the erosion of blanket peat as a result of drainage works, may result in significant sedimentation in tributaries of the Bandon River SAC and the Lough Allua pNHA. The consequent runoff of soil and nutrients to nearby rivers in areas where there are steep slopes and poorly buffered acidic land with peaty soil may result in a reduction in water quality and river substrate quality. This would have a significant negative effect on the recruitment of juvenile mussels and salmonids.

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- Adequate measures should be put in place to ensure that there is no degradation of water quality through sedimentation or water pollution.

8.2 Kevin Deering:

- The proposed development should be refused permission on the grounds that it will negatively impact on the local environment as well as the visual and residential amenity of the area.
- The local environment includes a significant area of intact blanket bog which is a Priority Habitat listed in the EU Habitats Directive 92/43/EEC and thus is afforded protection regardless of whether or not it is located within a designated Special Area of Conservation.
- The proposed development will significantly impact on the ecology of this sensitive area, particularly as a result of changes to the hydrological regime which is essential to the preservation of the blanket bog habitat thereby leading to erosion and the drying out of the bog. This is of further significance given the sites hydrological linkages with the Bandon River / Caha Special Area of Conservation which hosts a significant population of freshwater pearl mussel.
- The Caha River is a salmonoid river which drains much of the application site and the importance of protecting these waters cannot be downplayed. In this respect the Board is referred to the Water Framework Directive and the Freshwater Pearl Mussel Regulations which require that such waters be maintained as 'good' status by 2015.
- The subject proposal has failed to properly assess the likelihood of impacts on those Natura 2000 sites designated due to the presence of the freshwater pearl mussel pursuant to the Freshwater Pearl Mussel Regulations which are of national and international importance.
- There is confusion in the Environmental Impact Statement and the Natura Impact Statement as regards the exact location of the proposed development relative to the Bandon River Special Area of Conservation which has been described as '*six kilometres from the site*', '*eight kilometres*' and also '*ten kilometres distant*'. Therefore, it is unclear if the mitigation measures proposed would be sufficient to reduce or eliminate the likelihood of the development significantly impacting on this Natura 2000 site.
- The applicant has failed to identify or assess the presence of a population of freshwater pearl mussel in the Bealaphuadeen River within 4km of the site despite being notified of this fact in correspondence from the National Parks and Wildlife Service dated 19th February, 2013. This letter also noted that freshwater pearl mussel beds were present on three sides of

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- the proposed development site and that tributaries of the Bealaphuadeen River flowed within 60m of the base of Turbine No. 10.
- The appellants have detailed the likelihood of impacts associated with the proposed development and, in particular, the risk of siltation and pollutants entering local watercourses thereby negatively impacting on the freshwater pearl mussel, however, neither the applicants nor the Planning Authority have had due regard to the significance of these impacts and the inter-relationship that arises from the alteration of the peatland habitat, the increase in runoff as a result of hardstanding areas, the failure to submit / consider rainfall data for the area, and the consequences of the foregoing oversights on the successful development of mitigation measures.
 - The stockpiling of peat for drying purposes has not been properly considered in terms of the risk associated with heavily laden peat waters generating runoff that could enter local groundwater and watercourses.
 - The proposed haul route is extremely narrow and will involve a number of river crossings.
 - No evaluation has been undertaken of a number of stone bridges along the haul route to cater for the anticipated loads or the likely impact on the local environment of the widening of these roadways which form an integral part of the character and landscape setting of the area.
 - The impact on the historical significance of Pipe Hill and the Butter Road has not been investigated.
 - There is a likelihood of the siltation of local watercourses associated with the proposed road widening works. This has not been addressed in the Environmental Impact Statement and it is unclear how such works would impact on the preserved character and setting of the road network and the historical context which forms part of the attraction of the area.
 - It is questioned how this area has been deemed to be '*Open for Consideration*' for wind energy development in the County Development Plan.
 - It is estimated that construction works will take place over an 18-month period, however, it is considered that the high volume of construction traffic etc. accessing the site via the surrounding inadequate road network is not a feasible or sustainable prospect for the area.
 - The review provided by RPS Consulting Engineers on behalf of Cork County Council is limited to a desk-top review of the data provided by the applicant and cannot be considered a sufficient level of assessment given the nature and wide range of the environmental constraints presented by the site.

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- The proposed development will have a significant detrimental visual impact on the views available from a number of Scenic Routes identified in the County Development Plan. Shehy More is a significant feature in the landscape in West Cork and the surrounding area is heavily reliant on the preservation of this landscape as the basis of its tourism industry. The socio and economic benefits of a tourism product with long term prospects must be measured against the impact of a development of the nature proposed when alternatives are available. There is no overriding public interest that can categorically establish a case for setting aside the consideration of all the cumulative impacts associated with the proposed development when many more suitable alternative sites are available.
 - The arguments presented in favour of the proposed development are flawed as evidenced by the applicant's reference to the National Framework Policy for Renewable Energy and the proposal to export wind energy to the UK which have since been cancelled.
 - The suggestion that the site selection is justified as it is capable of harnessing the applicants grid offer is not a sufficient basis on which to allow the inappropriate scale and type of development proposed at this location.
 - The subject application has not been accompanied by an adequate assessment of the likely and significant impacts of the proposed development on the receiving environment and the implications of same for the local populace.

8.3 Sarah Hodkinson:

- The Draft Cork County Development Plan places a high value on the preservation and protection of the landscape of the county and its many established Scenic Routes. In this respect it is submitted that the proposed development will impact on 6 No. Scenic Routes i.e. S28, S29, S30, S32, S33 & S34. In particular, the proposal will have a severe impact on the views available from Scenic Route No. S33 which will face towards the wind farm for over half its length. With regard to Scenic Route No. S32, the proposed development will significantly detract from this exceptional prospect and will obstruct the dramatic outline of Shehy More Mountain. Similarly, the views of Shehy from Scenic Route No. S34 will also be obstructed despite this forming one of the main tourist routes between Cork City and Gougane Barra.
- Whilst the Environmental Impact Statement has stated that there are no way-marked trails close to the proposed development, it has failed to include the Cork-Beara cycleway which is directed along the road

bounding the northern edge of the application site (*N.B.* This same road has been designated as the haul route for all the goods, heavy plant and turbines). Furthermore, the Dunmanway Chamber of Commerce has also signposted a number of its own scenic routes and walking trails in the area, including the Pipe Hill Trail (i.e. Scenic Route No. S32).

- There are currently at least 12 No. wind farms visible from the summit of Shehy Mountain and, therefore, it is necessary to consider the cumulative visual impact of all the existing and proposed wind farms in this part of West Cork.
- The Planner's Report on file dated 25th November, 2013 details that there are 22 No. wind farms existing and proposed within 25km of the subject site whereupon it refers to the assessment of ABP Ref. No. PL88.240070 wherein the reporting inspector expressed concerns as regards the cumulative visual impact of so many wind farms in this one area before concluding that *'the landscape has not yet reached its limit for capacity for windfarm developments, although it is quite close to a reasonable limit for what it can take before any further developments result in a strongly negative impact'*. In this respect it is of relevance to note that since the Board's determination of ABP Ref. No. PL88.240070 two further wind farms have been permitted (at Derragh and Cleanrath) within 8km of the proposed development and that all three of these developments will be visible from Scenic Route No. S33 and Lough Allua. However, on 8th July, 2014 the Board refused permission for ABP Ref. No. PL88.240461 (the 'Ardrah Wind Farm' which sought to develop 5 No. wind turbines) with the reasons and considerations including the following:

'The proposed development, which would by itself be visible over a wide area, would in conjunction with permitted and proposed development in the area, give rise to an undue concentration of wind energy development with significant negative impacts on the landscape character and visual amenities of the area, and in particular the Mealah Valley, and its amenity, tourism and recreational potential. The proposed development would, therefore, seriously injure the visual amenities of the area and be contrary to the proper planning and sustainable development of the area'.

It is considered that the same considerations apply in respect of the subject proposal as the proposed turbines will be visible over a wide area and will greatly increase the cumulative visual impact of wind farms in the Upper Lee Valley and the surrounding area.

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- It is queried how the Board will assess the reliability of all the proposed mitigation measures and ensure that they work for all the turbines throughout their operational lifetime in order to protect the catchments of the River Bandon and the River Lee from adverse impacts.
 - There are concerns with regard to the accuracy of the bird survey carried out for the Environmental Impact Statement. At no point, either with the VP's or transects, was the western portion of the site surveyed. Similar concerns are raised as regards the bat survey as some species are known to seek out open bodies of water for foraging.
 - Only 2 No. viewpoints were chosen for bird observations to cover c. 2,500 No. acres whereas 4 No. viewpoints would be the accepted standard – the case for arguing 2 No. directions per viewpoint is fallacious as this would involve looking away from the survey area for half the time.
 - The consultants own website claims that they follow the standards set by the Scottish Survey Methodology which states that each viewpoint requires '*at least 36 hours observation time*', however, only 12 hours observation time was employed in the subject application.
 - The 2 No. viewpoints cover less than two-thirds of the survey area as it is not possible to see the north-western part of the area and, most importantly, to have any view of Lough Nambrackderg or Lough Beg.
 - Any discussion of Lough Nambrackderg appears to have been actively avoided. The report's author states that '*the two groups of birds most susceptible to collision with wind farms are swans, geese and ducks and soaring birds like raptors*' and this is similarly noted in Government guidance on the siting of wind farms. Both these bird groups are attracted to open bodies of water such as Lough Nambrackderg and species such as Whooper Swan and White-Tailed Eagles have been seen on the lake. Lake Nambrackderg is an important secluded upland lake and is located along the flight paths of waterfowl between the Gearagh and Lough Allua and also down to the sea at Bantry Bay. Accordingly, the proposed development would create an effective barrier for these birds. The Lee Valley is also an important migration route for all these birds.

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- Oligotrophic lakes are listed for protection in Annex I of the Habitats Directive, however, no reference has been made to Lough Nambrackderg which is such a lake.
 - The presence of Red Grouse (a Red List species) has only been partially acknowledged by the author of the report despite signs along the local road indicating a Grouse Sanctuary. Furthermore, accompanying correspondence from the Red Grouse Association confirms that there is an on-going grouse project in the Shehy area.
 - Contrary to the submitted report, the summit of Shehy is surrounded by exposed open cliffs and ravens and chough both nest on the mountain.
 - The transects chosen are not representative of the habitats within the study area as is required. Again, none of these transects are within view of Lough Nambrackderg.
 - Hen Harriers are present in the study area in greater numbers than have been recorded by the survey. They are also nesting on the ridge at Carrigmount, their preferred nesting habitat (as recorded by a member Bird Watch Ireland within the last 2 years).
 - No reference has been made to nocturnal predatory birds such as owls. These should have been considered as there is a population of barn owls in the area.
 - The Board should show how it will address the obligations under the EU Birds Directive which require member states not only to protect the birds but also to avoid the deterioration of their habitats, especially those listed in Annex I. It would appear that the proximity of the proposed development to known flight paths and breeding & feeding areas would be in contravention of the Directive.
 - It is queried how the Board will fulfil its obligations to conduct an 'appropriate assessment' of the proposal given its proximity and hydraulic connection to Natura 2000 sites
- The subject application has not included for a review of the potential impact of the proposed development on off-site (line-of-sight) archaeological features.
 - The visual relationship between the proposed development and surrounding monuments has not been shown, save for a stone circle in Coolmountain and only in response to a request for further information. Whilst reference has been made to the inter-visibility between monuments, this is considered to be irrelevant as it is the

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- effect the development will have on the monuments which should be addressed. For example, the wedge tomb on Lackabawn has a distinct equinox alignment which would overlook the application site.
- The application has dismissed any effect on monuments on the basis that the landscape has been altered in recent times, however, this has been the case since people first arrived and does not invalidate the observers understanding or appreciation of the monuments.
 - Amongst the list of monuments situated in close proximity to the development site are 12 No. megalithic / wedge tombs which amount to a significant cluster of such monuments given that it represents 10% of the overall total for the county. When combined with other megalithic monuments, this significant archaeological landscape is deserving of more discussion.
 - No reference has been made to the stone row at Farranheeney which is a National Monument.
 - The list of archaeological plates provided in Appendix 12 of the EIS is entirely inadequate and not fit for purpose.
- Having regard to the provisions of the County Development Plan with regard to the protection of archaeological sites, it is considered that not only should the site itself be protected, but also its setting within the wider landscape.
 - The heritage chapter of the EIS is inadequate as it only lists those architectural features included in the NIAH and no makes no reference to the importance of the area to the wider population both in folklore and history. For example, no reference has been made to Shehy and its connection with Douce Mountain to the north in folklore and legend. Similarly, the presence of both a butter path and a butter road (the local road is still called same by many in the area) has not been included and neither have the quarries within the development site which were used over generations to produce hone stones. In addition, the area known as 'The Lost Valley' has not been mentioned whilst the 'Butter Road' and most of the haul route for construction traffic is also considered to be of heritage value as it is denoted on 18th Century Grand Jury maps which record the coaching roads of the county from that time.
 - The distinctive shape of Shehy Mountain is visible from all directions in the greater area and the proposed development will be visible on the northern

slopes of same from many miles away, especially as the turbines approach its summit.

- Much of the 'Heritage' chapter of the EIS only appears to reflect a desk-top survey and does not provide enough information to make a fully informed decision.
- The proposed wind turbines could potentially impact on the quality of life of the observer's family by reason of noise and shadow flicker.
- There are concerns with regard to the safety of people living in close proximity to the proposed development given the fire at the nearby Cappaboy (Kealkil) wind farm on 19th June, 2014.
- Section 7.3.14 of the EIS states the following:

'the risk to possible well sources that are potentially down-gradient of the development is negligible, and this is due to the low permeability of the underlying bedrock aquifer, the large set back distances, and the elevation differences'.

Whilst the foregoing may apply to deep bore wells, it does not take into account those dwellings whose only water supply is obtained from shallow wells or springs which are much more likely to be affected by the development, particularly as explosives will be used in the excavation of rock in the borrow pits.

- House Nos. H64 and H65 are served by roadside gravity-fed spring wells located 750m and 790m downhill of Turbine No. 4.
 - House No. H68 (the old National School at Tooreenalour) has a roadside spring well where walkers and cyclists often stop for refreshment. This well is located 690m downhill from Turbine No. 1.
 - House Nos. H19 and H20 are supplied with water by means of a shallow gravity-fed well situated 550m downhill of Turbine No. 8.
 - The owner of House No. H58, whose water supply comes from a shallow spring downhill of Turbine Nos. 9 & 10, has a legal agreement which entitles the house to water rights from this land.
 - Many other dwellings located downhill of the proposed turbines are likely to have vulnerable shallow wells.
- Section 12.1.6 of the EIS states the following:

'The local road from the site access junction 2 at Tooreenalour to the site access junction 3 at Cloghboola is narrow and of variable width and

alignment. While most of this route is sufficient to provide for construction vehicles, localised widening and / or strengthening within the existing road corridor may be required'.

The ancient roadside wells which serve House Nos. H64 & H65 could be destroyed if the roadway were to be widened at this point.

- There are concerns with regard to the potential route for the power lines exiting the site and in this respect it is noted that Section 3.4.8 of the EIS states the following:

'The works to lay the underground cable that will link the proposed wind farm to the electricity grid network will not form part of the planning permission application that this EIS accompanies, although it is described in this EIS as being part of the proposed windfarm development'.

In view of the foregoing, it is queried how it will be possible to make an informed decision on the application when the necessary grid connection is not being addressed at the same time.

- The proposed grid connection would have to be made in Dunmanway which is almost 20km from the proposed development site and this will have a significant impact on the local area, however, no attempt has been made to describe its effect. Local residents along the proposed cable route should be made aware of this aspect of the development which should form part of the subject application.
- The developers have suggested that a high voltage cable could be run underground past the National School at Togher whilst the grid connection will also run directly past Dunmanway hospital and across the River Bandon Special Area of Conservation. It is considered that the grid connection route is an integral part of the proposed development and as such should be included in the subject application.
- The use of the local road network by construction traffic will be to the detriment of local residents etc. who may have to avail of a significant detour in order to access their properties.
- Inadequate consideration has been given to the capacity of the surrounding road network to accommodate the construction traffic associated with the proposed development.
- Given the many clear omissions in the EIS, it is important that the Board should explain how it intends to fulfil its obligations under the Planning and

Development Act, 2000, as amended, to carry out an assessment of the impact of the development on the parameters listed in Article 3 of the EIA Directive, particularly as the information provided by the applicant is neither reliable nor objective.

8.4 Cllr. Declan Hurley:

- There are concerns amongst local residents that the proposed development will have a detrimental impact on their quality of life given that the current minimum set back distance of 500m as specified in the *'Wind Energy Development, Guidelines for Planning Authorities, 2006'* does not take into account that the height of wind turbines has increased significantly since the adoption of the guidelines and therefore such developments are having an increased negative effect on residents and communities.
- In visual terms, Shehy More Mountain is an important feature in the landscape given that it is one of the highest mountains in the area.
- There are two scenic routes identified in the Cork County Development Plan (Scenic Route Nos. 32 & 34) from which the views of Shehy More and Shehy More Mountain would be considered to be of particular importance.
- The road immediately adjacent to the proposed development on its northern side forms part of the Gougane Barra Cycle Route which extends from Cork City to the Beara Peninsula.
- Table 1 as set out in *'Appendix 6: Policy Considerations for Wind Energy'* of the background paper prepared in respect of *'Energy'* as part of the County Development Plan Review states that Landscape Type *'12b'* *'would not lend itself to Wind Farm development'*. This table also states that Landscape Types *'12b'* and *'15b'* also form part of a Freshwater Pearl Mussel Catchment Area and a Special Area of Conservation i.e. a Natura 2000 site. In addition, the table states that Landscape Type *'15a'* has a high landscape value and sensitivity and that *'There are suitable concerns about the cumulative effect'*.
- Residents have concerns about noise levels as the wind generally comes from a westerly direction with residences situated downwind. Accordingly, there are concerns this may amplify the noise levels which may be underestimated in the measurements carried out. Residents are also concerned that there are no background noise measurements included in the EIS report for the four locations in which background noise readings were recorded.

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- Both the observer and his electorate are not anti-wind energy and there is no objection to wind farms in principle provided they are suitably located and are not causing disturbance through excessive noise, vibration or shadow flicker to the local community and, in particular, to those whose dwellings are located nearby. But from the representations received it is the observer's conclusion that local residents have major concerns that this wind farm will impact greatly on their lives.

8.5 Jerry Lehane:

- There are concerns with regard to the impact of the proposed development on the local environment, with particular reference to water quality in Lough Nambrackderg and the Sruhaunpadeen (Bealaphadeen) River which flows from same. Whilst the Bealaphadeen River is referred to as a stream on the OSi Discovery Mapping, it is actually a 6 / 7 order river with 6-7 No. tributaries upstream flowing into it. There are concerns that construction works and interference with natural drainage patterns will result in increased siltation and nutrient levels in both the lake and river.
- Lough Nambrackderg is a popular fishing area with both trout and Arctic Char known to be present.
- The accompanying '*Survey of Lough Nambrackderg and Sruhaunpadeen River (Inchigeela), Co. Cork*' undertaken by the Irish Char Conservation Group confirms that the lake could possibly support Arctic Char whilst salmon and the freshwater pearl mussel have also been confirmed to be present in the Paudeen River (as supported by the attached photographs).
- The proposed development could result in the deterioration of water quality thereby causing irreversible damage to the freshwater pearl mussel, salmon and char.
- Inadequate consideration has been given to the impact of the proposed development on the habitats of the aforementioned protected species pursuant to the requirements of the EIA and Habitats Directives.

8.6 Russell Barnett:

- The visual impact of the proposed development would be considerable when viewed from surrounding properties.
- There are concerns with regard to the impact of noise emanating from the proposed turbines on the quality of life, health and sleep patterns of the observer's family.
- A review of the noise section of the EIS by an acoustic consultant employed on behalf of one of the appellants (as appended to this observation) has concluded that the submitted noise impact assessment is

flawed and not fit for purpose. It notes a lack of detail which prevents a proper assessment of the application and states that there is a likelihood that noise levels at 22 No. properties will fail to meet the standards specified in the *'Wind Energy Development, Guidelines for Planning Authorities, 2006'*. That report references the observer's own property (House No. H17) as one of those properties that would significantly exceed the guideline noise limits and thus supports the contention that the proposed development would be seriously detrimental to the health and well-being of the observer's family.

- A number of international studies have identified turbine-generated noise as a significant threat to the health of young children with specific reference being made to sleep disturbance which has serious implications as regards long-term development and well-being. Further epidemiological studies have identified a range of health consequences associated with this phenomenon.
- The Board's attention is drawn to the Inspector's Report prepared in respect of ABP Ref. No. PL05B.240166 wherein the reporting inspector highlighted the inadequacy of the current wind energy guidelines as regards potential impacts on public health before suggesting that there is a need for greater guidance to allow planning authorities to make adequately informed decisions on such a critical issue.
- On the basis of the foregoing, the Board is requested to undertake its own evaluation of the noise impact on those dwelling houses within 2km of the proposed turbines. This should specifically address the fact that this area is a low noise environment as defined by the *'Wind Energy Development, Guidelines for Planning Authorities'*. Furthermore, given the exceptionally quiet environment it is considered that it would be appropriate for the Board to approach its evaluation having regard to the Environmental Protection Agency's *'Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities'*.
- With regard to the issue of safety it is noted that Section 4.5.3.2 of the EIS states the following:

'The operational phase of the proposed development poses little threat to the health and safety of the general public. The Department of the Environment, Heritage and Local Government's 'Wind Energy Development, Guidelines for Planning Authorities' state that there are no specific safety considerations in relation to the operation of wind turbines. Fencing or other restrictions are not necessary for safety considerations. People or animals can safely walk up to the base of the turbines.'

However, Section 2 of the Vestas V90 'Safety Regulations for Operators and Technicians' V90-3MW/V100-2.75MW states the following:

1. *'Do not stay within a radius of 40m (1,300ft.) from the turbine unless it is necessary.*
2. *If you have to inspect an operating turbine from the ground, do not stay under the rotor plane but observe the rotor from the front.*
3. *Make sure that children do not stay by or play nearby the turbine.*
4. *If necessary, fence the foundation.*
5. *The access door to the turbine mast must be locked in order to prevent unauthorised persons from stopping or damaging the turbine due to mal-operation of the controller'.*

Accordingly, the foregoing would seem to indicate that it is not safe for people or animals to be within 400m of the base of a turbine.

Whilst the observer's residence is 530m from the nearest turbine, areas of his property where he will be working and where his children play will be within 400m of a turbine, Similarly, parts of those properties identified as H19 & H20 will be within 400m of the nearest turbine. In addition, the forestry track to the north of the application site is very popular with walkers and cyclists etc. who would presumably also be putting themselves at risk given the close proximity of the turbines.

- On 19th June, 2014 a wind turbine within the Kealkil (Cappaboy) wind farm, which is located 5km from Shehy More, suffered a catastrophic fire that resulted in the destruction of the nacelle with two of the three rotor blades being thrown 50m and 200m away respectively setting fire to adjacent gorse and forestry. In addition, a wind turbine at the Glenconway Wind Farm in Co. Londonderry caught fire on 1st July, 2013 due to an 'electrical fault'. Therefore, it would seem that turbine fires are not uncommon.
- If a turbine were to catch fire at the subject site it would pose a serious threat to surrounding forestry and scrubland which could potentially carry the fire to nearby dwellings.
- A blade from one of the proposed turbines could potentially be thrown significantly further than 200m and thus the observer's dwelling house is at risk given its siting 530m downwind of Turbine No. 2.

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- A turbine fire could potentially impact on the environment through the release of toxic chemicals or as a result fire-fighting products being discharged to watercourses. In this respect it is submitted that the EPA requires any industrial installations to ensure that a concrete bund is in place around equipment of sufficient size to capture all losses in the event of a leak / spillage. It also requires the overflow from these bunded areas to be piped to a sealed concrete fire water retention pond which is large enough to retain all water necessary to extinguish a fire. The submitted EIS does not contain any details which would suggest that such plans form part of the proposed development.
 - There is a significant level of objection from local residents to the proposed development.

9.0 RESPONSE TO CIRCULATION OF OBSERVATIONS AND OTHER SUBMISSIONS (dated 21st July, 2014)

9.1 Response of the Applicant:

9.1.1 With regard to submission of Cork County Council:

- The submission of the Planning Authority defends its decision and whilst its opinion is acknowledged and respected, a first party appeal has been lodged to have the issue of the two omitted turbines and Condition No. 5 reviewed.

9.1.2 With regard to the observation of Cllr. Declan Hurley:

- It is considered necessary to correct a statement made in the observation concerning the alleged absence of any background noise measurements in the EIS. The background noise measurements recorded at the 4 No. monitoring locations were represented graphically in Figure Nos. 9.4-9.11 of the EIS. The individual noise measurement records extend into hundreds of thousands of measurements that were recorded during the 2-week monitoring period and whilst the raw data sets were not included in the EIS, they are available on request along with the measured and derived wind speeds for the survey period.

9.1.3 With regard to the observation of An Taisce:

- The detailed drainage measures set out in the EIS are proposed with the express intention of having no impact on the water quality of on-site and downstream watercourses or any species dependent thereon. These measures have been fully assessed by the Planning Authority and an

independent environmental engineering company engaged by same and were considered to be appropriate.

9.1.4 With regard to the observation of Mr. Russell Barnett:

- The potential visual impact on the residential amenity of House No. 17 has already been addressed in previous submissions to the Board.
- Awn Consulting has reviewed the report of Mr. Dick Boulder appended to Mr Barnett's observation and a response to same is included with this submission. However, the key points of this review include the following:
 - The conclusions presented in the original EIS have been confirmed in the updated assessment presented in response to the request for further information, which is to say that the proposed development has been designed in order to comply with the *'Wind Energy Development, Guidelines for Planning Authorities, 2006'*.
 - Wind shear was considered as part of the assessment of the baseline noise survey.
 - Information is presented to demonstrate that the non-use of double wind screens is not considered to have any significant impact on the average noise levels reported at the various locations.
 - Once consideration is given to the acknowledged transcription errors addressed as part of the EIS (as corrected in the response to the request for further information), the predicted noise levels are comparable to those presented by Mr. Boulder.
 - The predicted noise levels have been compared against the relevant criteria curves. In the limited instances where an exceedance is noted, it has been demonstrated through consideration of wind directionality and the application of a curtailment programme that the relevant noise criteria curves can be complied with in all instances. The statement that *'up to 22 properties fail to meet the 2006 guidelines by a substantial amount'* is incorrect once consideration is given to the facts.
 - The noise criteria adopted for the site are in line with the Guidelines and the noise predictions clearly demonstrate that these limits can be achieved with limited site curtailment. Furthermore, the proposed noise criteria are

directly comparable to those typically applied by the Planning Authority and the Board in relation to similar development.

- Based on:
 - o The minimum curtailment requirements identified in the response to the request for further information and the updated assessment;
 - o The fact that equivalent technologies available to the market have lower noise ratings associated with them than those considered for the assessment presented; and
 - o The strong likelihood that the final selected turbine model will have a lower noise emission;

it is likely that any curtailment strategy will not be necessary for the site.

- The overwhelming majority of international, peer-reviewed, scientific and trustworthy research on the issue of perceived health effects and wind farms, have conclusively found no evidence of any such link
- With regard to Mr. Barnett's concerns in relation to a recent fire at another wind farm in Co. Cork, it is submitted that as with any technology or industrial process / equipment, and particularly with the installation of hundreds of thousands of wind turbine units worldwide, it is almost inevitable that very occasional incidents of fire or turbine failure will be reported. In addition to the recent fire at the Cappaboy turbines there have been two other incidents of fire or turbine failure on Irish wind farms that have been reported in the press. With over 2,650MW of wind turbines installed on the island of Ireland, amounting to over 1,000 No. turbines, for there only to have been three such incidents actually shows how safe and reliable wind turbine technology is and thus Mr. Barnett's safety concerns are unfounded.

9.1.5 With regard to the observation of Ms. Sarah Hodkinson:

- The potential impact of the proposed development on scenic views in the area was considered at length by the Planning Authority which concluded that the proposal would not have an adverse impact on same.
- In relation to the potential cumulative impact, whilst the observer is correct as regards the number of permitted wind farms in the wider area up to

25km from the application site, it is inevitable that there would be some inter-visibility between same over such a large area, however, in this particular area of West Cork, the natural landform has a dramatic screening effect. While one of a small number of wind farms may be visible from certain locations, the inter-visibility with other projects is very limited from the majority of locations. Accordingly, the surrounding landscape is capable of accommodating the proposed development without giving rise to a significant cumulative visual impact.

- The bird surveying methods and Vantage Point selection are considered to accord with best practice.
- The VP bird surveys, combined with the transect surveys, were sufficient to provide a very good understanding of the extent and nature of bird activity on the subject site, including at Lough Nambrackderg and Lough Beg. Section 5.4.1.6 of the EIS also describes bird activity in the wider area beyond the site boundary and this information also formed part of the impact assessment.
- Whooper Swans and their potential usage of Lough Nambrackderg were previously addressed in response to the third party appeal lodged by Mr. Dan Kelleher (& others). Lough Nambrackderg was not avoided during the surveys as has been contended by the observer and is referenced throughout Section 5 of the EIS.
- Lough Nambrackderg is not designated for protection as an oligotrophic lake under the Habitats Directive and the detailed drainage design proposals follow established best practice for water quality protection.
- No red grouse were observed within the study area for the proposed wind farm during the extensive on-site bird surveys. Like most game birds, red grouse tend to fly infrequently and low to ground, below the height of the turbine blades. Therefore, the potential for this species to collide with turbines is low in any case.
- The rocky cliffs favoured as nest locations by Chough and Peregrine Falcons are typically close to vertical in profile as they provide a safe refuge from predators. What is described by the observer as '*exposed rocky cliffs*' at the summit of Shehy More is not suitable as Chough or Peregrine Falcon nesting habitat.
- The routes selected for the summer 2012 breeding bird transect surveys were never intended to cover every square metre of the site area. Instead, they were intended to supplement the vantage point surveys and to record species that might otherwise be under-recorded by the vantage point survey methods.

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- No Hen Harrier nesting or breeding activity was recorded on site during the vantage point watches in the summer breeding season.
 - The Barn Owl is not one of the species listed for protection under either the EU Birds Directive or the BoCCI Red List that were previously recorded in the Breeding Bird Atlas for hectad W16, in which the site of the proposed development is located, as referred to in Section 5.2.2.3 of the EIS.
 - The State's obligations under the Birds Directive are met through the designation of bird species and areas of bird habitat as Special Protection Areas. The closest SPA to the proposed development site is the Gearagh SPA and the Natura Impact Statement which has accompanied the application concludes as follows:

'Due to the distance between the SPA and the site of the proposed development and the apparent absence of the Special Conservation Interests of this SPA from the development site (i.e. as evidenced by bird surveys at the site study area), it is considered that any indeterminate or significant impacts on this Natura 2000 site can be excluded'.

- It is reasonable to expect that the Board will fulfil its obligation to conduct an Appropriate Assessment pursuant to the Habitats Directive with the benefit of the application documentation, including the EIS and NIS.
- The Cork County Archaeologist concluded that the application had adequately addressed the known and potential archaeology within the development site and established, as far as possible, that no known archaeological sites will be directly impacted by the proposed development and that an adequate distance between the proposed development and known archaeology had been accommodated.
- The EIS clearly states that due to the low permeability of the bedrock aquifers, groundwater flow paths are short. Therefore, shallow wells or springs are the only realistic source of water for dwellings in the area and the EIS has found there to be no potential residual impact in water levels or wells.
- The proposed grid connection does not form part of the subject application and this is standard practice for projects of the nature proposed. It is not at variance with the relevant guidance or legislation. When the full details of the grid connection are known, any consent application will be accompanied by all necessary environmental and ecological assessments.

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- The observer's concerns about the proposed development being a disruption to other road users are unfounded and it is not envisaged that any detour of local traffic will be required. Normal road users will not be inconvenienced by typical construction traffic.
 - The transportation of turbine components will be done with escort vehicles, in convoys of 3-4 trucks at a time, and mostly at night when the roads are quietest. During such transportation operations, the convoy escort vehicles and Garda Traffic Corps will manage other road traffic along the route. All turbine deliveries will be provided for in an agreed Transport Management Plan and procedures for transporting abnormal loads on the country's roads are well-established.
 - Although the roads along the proposed turbine transport route are narrow in places and are likely to require strengthening or improvement, such works are typically agreed with the Local Authority with the full cost of same being borne by the applicant.

9.1.6 With regard to the observation of Mr. Jerry Lehane:

- With regard to the findings of the report prepared by the Irish Char Conservation Group, whilst this provides significant additional information on various species of conservation concern, it should be noted that in adopting a precautionary approach, the EIS considered the potential for impacts on such sensitive ecological receptors as Freshwater Pearl Mussel and Atlantic Salmon and both the project design and site management mitigation measures were conceived to avoid deterioration in water quality and hydrological changes in downstream aquatic ecosystems.
- Irrespective of the distance to the nearest known Freshwater Pearl Mussel population, it has always been the intention to adhere to the best practice guidance published by the Forest Service over the entire site for all clear-felling operations required prior to the onset of the construction phase. This guidance includes the Forest Service (Draft) *'Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures'*. Accordingly, subject to mitigation, the residual impact of clear-felling operations at the site on water quality is characterised as a 'Direct, negative, slight, short-term, low probability impact'.
- The drainage design measures will ensure that surface water runoff from the developed areas of the site will be of a high quality and will not impact on the downstream surface water bodies. Any introduced drainage works will mimic the existing hydrological regime thereby avoiding changes to

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- flow volumes leaving the site. In addition, hydrological buffer zones for sensitive on-site features have been incorporated into the project design.
- During the operational phase control measures will ensure that surface water runoff from the developed areas of the site will continue to be of good quality and will not impact on the quality of downstream rivers and lakes.
 - No residual impact on the water quality requirements for Freshwater Pearl Mussel was predicted in the EIS based on the stringent measures to be implemented with respect of pre-commencement felling operations, drainage design and site management during the construction and operational phases of the proposed development.
 - Although it is acknowledged that the ICCG's findings demonstrate that Freshwater Pearl Mussel are found closer to the site than was previously recorded, the precautionary approach adopted during the design phase will ensure that the current hydrological regime is maintained.
 - Water quality monitoring during all phases of the project will provide on-going feedback on the efficacy of the drainage design and will allow for the opportunity to review and revise measures as appropriate.

9.1.7 With regard to the observation of Mr. Kevin Deering:

- The blanket bog habitats on site, which are acknowledged in the EIS as corresponding to Annex I habitats pursuant to the Habitats Directive, are found as either a mosaic of Upland Blanket Bog and Wet Heath or stand-alone Upland Blanket Bog. Section 5.5.2.1.1 of the EIS quantified the habitat loss resulting from the construction of the proposed development at 0.03 hectares of Upland Blanket Bog (or 0.28% of the on-site total). Annex I habitats are afforded no protection under European or Irish legislation where they are located outside of Special Areas of Conservation. Therefore, there is no legal impediment to the granting of planning permission for the subject proposal on the basis that it may impact on some Annex I habitats.
- Special Areas of Conservation are the only mechanism available under the EU Habitats Directive for the protection of habitats of conservation concern. Other habitats located outside SACs, regardless of whether they are listed in Annex I of the Habitats Directive, are afforded no legal protection.
- No other articles of Irish legislation afford protection to Annex I habitats outside of Special Areas of Conservation. Similarly, the European Communities (Environmental Liability) Regulations do not apply where

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- works are being undertaken with the benefit of appropriate consent, such as a grant of planning permission.
- The proposed development site is not designated as an SAC and although some of the habitats found on site may correspond to Annex I habitats listed under the Habitats Directive, a sufficient number and area of such habitats will have already been designated for protection elsewhere in the State. It was never the intention of the Habitats Directive to protect every example of a potential Annex I habitat across the entire State, nor would it be practical to do so without unnecessarily restricting development and potentially jeopardising the State's requirement to reach a measured balance between internationally binding climate change and renewable energy targets and nature conservation objectives.
 - With regard to the distance between the site and the Bandon River SAC, the NIS consistently refers to the Bandon River SAC as being 6km from the study area boundary and this distance is taken from a direct measurement 'as the crow flies'. However, the hydraulic distance from the study area boundary to the SAC is also provided as approximately 8km downstream. One reference in Chapter 7 of the EIS states that the '*Bandon River (SAC) exists approximately 10km downstream of the site*', although this may refer to a very approximate hydraulic distance.
 - Contrary to the observer's assertions, the extensive policy support for the proposed development has never been dependent on the export of the electricity generated to Britain.

9.1.8 With regard to the submission of Mr. Peter Crossan (Third Party Appellant):

- It is considered that the concerns detailed in this observation have already been addressed in the application documentation and the various responses to the grounds of appeal provided to the Board.

9.2 Response of Mr. Anthony Cohe (Third Party Appellant):

- Having regard to the provisions of the National Renewable Energy Action Plan, the Board must be mindful of short-term public policy and must balance this against the long-term public interest of protecting the landscape from any form of inappropriate / damaging development, particularly in remote and unspoilt rural locations.
- The applicant's claim that wind energy is having a real and significant benefit in reducing the carbon intensity of electricity generation right across the EU is rejected as evidenced by supporting papers / studies.

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- Each additional wind farm connected to the Grid is counter-productive in real terms (including environmental and economic considerations).
 - Assessments of the environmental and economic benefits of wind power are not credible unless they are based on accurate emissions, fuel and cost savings.
 - The CO₂ emissions savings claimed by public agencies are considerably lower in reality and do not include the life-cycle emissions involved in the construction and installation of wind farms which are estimated to be in the range of 0.02-0.08tCO₂/MWh, and at the upper end of this range become a significant fraction of operational CO₂ savings.
 - The subsidies (REFIT) required to induce the required investment in wind power in order to meet renewable targets are granted under the National Renewable Energy Action Plan which was enacted in breach of the Aarhus Convention and thus both the NREAP and REFIT are likely illegal. Grid 25 is also a component of a system which was imposed in breach of the Aarhus Convention. The only sustainable and legal solution is an energy policy based on sound engineering and which properly balances electricity demand, economic costs and environmental impacts.
 - It is reiterated that the most cost-effective means of CO₂ reduction for the energy sector is not through the generation of superfluous electricity supply, but by the reduction of demand through energy efficiency measures.
 - With regard to the increasing size of wind turbines, whilst re-powering with larger turbines might give the impression that more electricity can be generated from within the same spatial extent, this is unlikely to be true because as machine size and power output increase so does the necessary spacing between the turbines themselves thereby negating any gain. Simplistically, the amount of wind energy which can be collected from a wind farm of a given area is a constant.
 - Whilst increasing the diameter of the rotor is initially a very productive way of enhancing wind generation, it requires more investment in structural materials with increased strength capabilities for the construction of both the tower and rotor.
 - Wind / aero-generators are both relatively inefficient and ineffective. No more than 59% of the wind energy can be extracted by such a rotor system as the airstream passes through it, but once losses in the drive-train and alternator are accounted for the overall efficiency is around 30% (or less) which is lower than the fuel efficiency of thermal power stations. They are ineffective because they are frequently not in operation and for much of the time generate far less than the maximum theoretical output.

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- Due to the short-term variability of wind power, when more wind farms are built, maintaining security of supply will become progressively more difficult and steps will have to be taken to ensure adequate backup is available.
 - The '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' made no meaningful attempt to comprehensively advise planning authorities on the quantity of wind farms, the appropriate sizing of installations or appropriate locations in relation to normal planned infrastructure – in fact, they provide no land use planning guidance at all in quantitative or qualitative terms.
 - An appraisal of the '*Wind Energy Development, Guidelines for Planning Authorities, 2006*' by the Heritage Council has found them to be obsolete and unfit for purpose whilst the proposed revisions to same do not address the deficiencies.
 - The Cork County Council Energy Policy (as set out in the County Development Plan) is quite vague in relation to the quantity, quality and location of wind energy developments. In this respect it is submitted that there should be no ambiguity as regards the siting of wind farms or the level of such development to be permitted during the lifetime of the Plan. Consideration should be given to the use of an approach similar to that employed in the Housing Strategy whereby demand is carefully quantified, the required unit sizes are identified, and preferred locations are zoned accordingly. The use of areas of neutral stance, otherwise known as 'open to consideration' are extremely unhelpful and serve to encourage applications in areas that should never need to be considered. There should be a predominant proportion of clearly protected areas where such development is discouraged and a clear and compact zone of suitable areas identified which is based on the 220V grid network.
 - The use of UN-certified sustainable biomass in Ireland's thermal power plants would be preferable to wind energy.
 - The recent refusal of 3 No. wind energy developments in close proximity to the subject site is an acknowledgement by both the Planning Authority and An Bord Pleanála that this particular rural landscape and its host community cannot accommodate this form of development, notwithstanding the technical feasibility of the project.
 - The reference to the grant of permission issued by the Board in respect of ABP Ref. No. PL04.242223 on a site 7km further north is erroneous. The comment in the Inspector's Report that '*wind turbines are in the nature of strategic infrastructure for the country*' is mistaken as the Planning Regulations clearly set the threshold at what size a wind farm is

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- considered to constitute 'strategic infrastructure' and no such developments have been permitted to date in Co. Cork. It was also erroneous of both the inspector and the Board not to have judged the proposal in the same light as housing in the landscape (or any other form of non-strategic development) particularly as wind farms are not temporary since they have the ability to be permanently replaced structures.
- The applicant appears to have erected a wind anemometer which forms part of the planning application without the benefit of planning permission.
 - The recent fire / accident at the Cappaboy Beg wind farm highlights further environmental and health and safety considerations as regards the suitability of the location for the proposed Shehy More wind farm and its design parameters.
 - The appellant endorses:
 - The observations of Ms. Sarah Hodgkinson as regards the visual impact of the proposed development.
 - The observations of Ms. Sarah Hodgkinson and the Irish Char Conservation Group with regard to the potential impact of the proposed development on Red Grouse, Arctic Char and the Freshwater Pearl Mussel.
 - The observations of Ms. Sarah Hodgkinson in relation to the potential archaeological impact of the proposed development.
 - The observations made by Peter Crossan and Russell Barnett with regard to the noise impact of the proposal in addition to the findings of the detailed review of the Noise Section of the EIS by Mr Dick Bowdler (Acoustic Consultant).
 - Contrary to the applicant's response to the grounds of appeal, the appellant can find no evidence of any specific targets for renewable energy in either the County Development Plan, 2009 or the Draft County Development Plan, 2013.

9.3 Response of Mr. Peter Crossan (on behalf of Dan Kelleher & Others: Third Party Appellants):

9.3.1 With regard to the submission of Cork County Council Planning Dept.:

- The report of Mr. D. Bowdler, which accompanied the observation of Mr. Russell Barnet, clearly demonstrates that the concerns of local residents with regard to noise are well-founded. Indeed, Mr. Bowdler noted that there was insufficient information to make a proper assessment and it was

likely that noise levels at 22 No. properties would fail to comply with the requirements of the *'Wind Energy Development, Guidelines for Planning Authorities, 2006'*.

- There are 78 No. dwelling houses in close proximity to the proposed development, however, the Planning Authority did not seek the raw background data used in the compilation of the noise impact assessment. Furthermore, a request by Mr. Dan Kelleher (the appellant) to be provided with this data was refused by the developer.
- The Planning Authority has failed to suitably investigate the extent of the population of Freshwater Pearl Mussel in the surrounding area. In this respect the Board is referred to the observation of Mr. Jerry Lehane which was accompanied by a report that identified the presence of Freshwater Pearl Mussel in the Bealphaudeen River.
- The Local Authority should have been alerted to the possibility of the presence of Freshwater Pearl Mussel in the Bealphaudeen River, particularly as the Department of Arts, Heritage and the Gaeltacht had noted same during the course of pre-planning consultations. Therefore, the Local Authority had a duty to comply with its obligations under the EIA Directive 2011/92/EU to ensure that the proposed development was assessed in terms of its direct and indirect effects on the environment.
- Both the grounds of appeal and those observations lodged by third parties highlight other critical failings by the Planning Authority in its assessment (or lack thereof) of habitats within the application site, with particular reference to avifauna.
- It is considered that the Planning Authority's response to the First Party appeal is valid as it undermines the case put forward by the applicant that as it had obtained a grid connection which matched the generating capacity of the application site it should be granted permission. It is rightly recognised by the Planning Authority that such an argument could be used in any wind farm application and thus would serve to remove the necessity for any consideration of alternative sites regardless of what constraints were applicable to those sites.

9.3.2 With regard to the observation of Dr. Kevin Deering:

- The appellant concurs with the observations of Dr. Deering with regard to the significance of the local environment, including Priority Habitats and Blanket Bog, and the failure of the applicant to properly consider the protection afforded to same.

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- The importance of the sites hydrological links with the Bandon River / Caha SAC and the significance of the population of Freshwater Pearl Mussel has not been considered as part of the EIS Assessment.
 - It is reiterated that the applicant has failed to carry out a proper evaluation as regards the presence of the Freshwater Pearl Mussel in the surrounding area and thus the mitigation measures proposed are inadequate.
 - With regard to the proposed haul route, the applicant has failed to properly assess the direct and indirect effects of the proposed development as per Article 171 of the EIA Directive 2011/92/EU.

9.3.3 With regard to the observation of Cllr. Declan Hurley:

- Supports the reference to the importance and significance of the local landscape and the Freshwater Pearl Mussel Catchment which forms part of the Bandon SAC.
- Notes that the observer recognises the concerns of local residents in relation to noise as have been established in Mr. Boulder's evaluation of the submitted noise impact assessment.

9.3.4 With regard to the observation of Mr. Jerry Lehane:

- This submission is considered to be of particular significance in that it includes a report which confirms the presence of Freshwater Pearl Mussel in the Bealphaudeen River and the likely presence of Arctic Char in Lough Nambrackderg.

9.3.5 With regard to the observation of Mr. Russell Barnett:

- This submission includes Mr. Boulder's evaluation of the noise impact assessment which concludes that it is not fit for purpose.
- The observation draws attention to the impact of the proposed development on the quality of life, health and safety of local residents.
- Particular concerns have been expressed in relation to the observer's own property at House No. H17 which is located only 530m from Turbine No. 2.

9.3.6 With regard to the observation of Sarah Hodgkinson:

- Notes that this submission refers to the high value of the surrounding landscape and its scenic routes.
- Provides a detailed observation on the natural environment and the failure of the applicant to give recognition to the environment of the area.

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- Remarks on the deficiencies in the EIS and the obligations of competent authorities to carry out an appropriate assessment pursuant to Article 3 of the EIS Directive.

9.3.7 With regard to the observation of An Taisce:

- Draws attention to the site location within an area of blanket bog (a habitat listed under Annex I of the EU Habitats Directive). The observation also raises concerns in relation to activities that may alter the hydrology of the site that could significantly impact on this habitat.
- States that the proposed mitigation cannot address or minimise the reality of on-going and permanent damage to the protected habitats that will arise consequent on the proposed development.
- Raises concerns with regard to the impact of the development on the local bat population.
- Notes that the observation refers to the Bandon SAC and populations of 4 No. annex II species.
- Considers that the measures proposed to ensure no degradation of water quality through sedimentation and water pollution are inadequate.

9.3.8 With regard to the submission of Mr. Anthony Cohu (Third Party Appellant):

- Concurs with Mr. Cohu's observations on the appellants grounds of appeal.

9.4 Response of Dan Kelleher & Others (Third Party Appellant) to First Party Submission on their Third Party Appeal:

- Whilst the applicant's reference to various supporting policies is acknowledged, it should be noted that an application of this nature must be subject to full Environmental Impact Assessment, with particular reference to Article 4-11 of Directive 2011/92/EU. There is a requirement that such applications be assessed in respect of the direct and indirect effects that the proposed development will have on the receiving environment as set out in Article 171 of that Directive.
- The proposed development is required to be subjected to Appropriate Assessment pursuant to the Habitats Directive.
- The initial grounds of appeal have already identified a number of deficiencies in the submitted EIS and the failure of the Planning Authority to carry out an adequate 'Appropriate Assessment'.
- Notwithstanding the classification of the subject site as 'open for consideration' in the County Development Plan, the case has not been

made as to why a development of the scale proposed would be warranted at this location, particularly in light of the importance attached to the landscape and visual amenity considerations in the area. Therefore, the suggestion that the applicant's submission has demonstrated the appropriateness of the layout and scale of the submitted proposal is rejected. Similarly, it is not accepted that the information provided has established that the development will not have a significant adverse visual impact on the views available from scenic routes.

- The EIS does not adequately address issues pertaining to nature conservation and the conclusions with regard to the natural heritage of the area have not been properly informed either by the applicant or the planning authority.
- The noise impact assessment is seriously flawed and has been aggravated by the Planning Authority's failure to request the background noise data.
- There are continuing concerns with regard to the impact of shadow flicker.
- The visual and environmental impact of associated developments such as access roads, plant and grid connections etc. cannot be properly assessed in the absence of conclusive routes being identified for the grid connection and given the serious lack of detail in respect of other aspects such as how the haul route will be upgraded to facilitate delivery to the site.
- Objective ED3-5 of the Development Plan states that proposals for wind energy development in areas 'open for consideration' should avoid adverse impacts on residential amenity by way of noise, shadow flicker and visual concerns. It is considered that the subject proposal does not comply with these requirements, with particular reference to noise and water quality.
- It is reiterated that the proposed development will have an adverse visual impact on the surrounding landscape including views available from scenic routes.
- Whilst the Planning Authority retained independent consultants to review the impact of the proposed development on waters, this was based entirely on the assumption that the information provided in the EIS was correct which is not the case thereby rendering the report unfit for purpose.
- The vantage points used by the applicant for its bird surveys did not provide views of Lough Nambrackderg and therefore it would be difficult to record what water fowl may have been utilising the lake.

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- No effort has been made to determine if Freshwater Pearl Mussel are present in the Bealaphaudeen as has been confirmed in a report which accompanied the observation of Mr Lehane. This will require a complete review of the EIS and the assessment of the impacts of the proposed development on this endangered species. A revised assessment will also be required in respect of Arctic Char.
 - With regard to the assessment of risk for peat, the appellant maintains its objection given the confirmed presence of Freshwater Pearl Mussel and concerns relating to Arctic Char.
 - The section of the EIS concerning peat management will have to be completely reviewed in order to determine what measures, if any, may be appropriate to provide mitigation that will provide ensure that water quality will not be impacted.
 - There are continued concerns with regard to the adequacy of the applicant's noise impact assessment.
 - In relation to shadow flicker, it is unclear how the applicant can maintain a position that those houses retained by a contributing landowner, despite being rented to other parties, accord with established practice. The applicant then refers to the issue as being a matter of civil law, while noting that should the landowner wish to provide additional mitigation this could be easily provided within the suite of mitigation measures discussed in the EIS. This demonstrates a total disregard for the health and well-being of those families who find themselves in fixed-term residential lease agreements.
 - No permission has been sought with regard to the erection of the existing meteorological mast on site and no enquiry was made with the Planning Authority as to whether or not it constituted exempted development.
 - In relation to hydrology it is repeated that the applicant has failed to provide accurate and relevant rainfall figures for the application site. This is an essential consideration in determining how the hydrology of the site will be affected and, in particular, the mitigation measures for the prevention of silt laden runoff entering local watercourses and ground water. These proposed design features will include silt busters to retain volumes associated with a 1 in 10 year six hour return period calculated on the local rainfall records yet to be obtained. The applicant has indicated that it tends to acquire this data at a later stage and that it will then develop mitigation measures, including stilling ponds, based on this local rainfall data. This is considered to be unacceptable as such measures should have informed the environmental impact assessment. It would also

be contrary to the provisions of the Directives as such matters are required to be the subject of prior assessment.

10.0 RESPONSE TO CIRCULATION OF SUBMISSIONS (dated 25th July, 2014)

10.1 Response of the Planning Authority:

- The Board's attention is drawn to the detailed reports prepared in respect of the assessment of the subject application. That position remains unchanged, including the recommendation to grant permission subject to conditions.
- With regard to those issues raised in respect of operational noise from the proposed wind turbines, this matter was referred to the Local Authority Environment Officer who raised no objection subject to the inclusion of appropriate conditions.
- The Planning Authority wishes to re-affirm its decision to grant permission subject to conditions.

10.2 Response of the Applicant to Submission of Mr. Anthony Cohu (Third Party Appellant):

- With regard to Mr. Cohu's concerns that the response to the request for further information was not considered to be significant and should have been re-advertised, it is considered that this is strictly a matter for the Planning Authority, however, it should be noted that the Planner's Report on file states that the Planning Authority reviewed this matter and concluded that the response did not constitute '*significant further information*'. A comprehensive response was submitted to the request for further information, however, there were no alterations / revisions to the scheme as originally proposed. Furthermore, the information response was placed on the public file and has been available since its submission for public review and comments on same could have been made to the Board as part of the appeal process if necessitated.
- With regard to the first party appeal it should be noted that this relates to the provisions of Condition No. 5 only. Having reviewed the first party appeal as lodged, reference is made to Condition No. 6 in one location, however, this is a typographical error, and in the interest of clarity, it is submitted that the applicant has no objection to the relocation of Turbine No. 6 as requested by the Planning Authority.
- The carbon calculations take into account all of the relevant criteria and have been carried out using a model developed by the Macauley Land

Use Research Institute for the Scottish Government for calculating carbon savings from wind farm developments on Scottish peatlands as detailed in Section 8.2.3.3 and Appendix 12 of the EIS.

- With regard to Mr. Cohu's reference to a 'precedent' case in relation to a wind farm development at Cappaboy, 7km to the west of the site, it should be noted that this decision concerned modifications to a previously permitted 10 No. turbine wind farm and thus it cannot be considered a precedent in relation to the subject case because (a) the current proposal does not border or overlap with the Shehy Mountains Scenic Area, and (b) it is not visible from the majority of scenic routes in the vicinity. The Cappaboy application was lodged in excess of 10 years ago and assessment techniques and tools have greatly improved in the interim. The subject site has a limited visibility envelope to the south and west as demonstrated within the ZTVs contained in the EIS. Furthermore, where there is potential for visibility over distance, the turbines do not have any significant impact on views due to distance, topography and orientation. The current application has been reviewed in full by the Planning Authority which considered that the site is an appropriate location for a wind farm development in the context of the current plan and the surrounding landscape.
- In relation to a decision concerning a wind farm development at Ardah, approximately 9km to the southwest of the subject site, as cited by Mr. Cohu, that application sought permission for 5 No. turbines and was refused on appeal as it was located immediately adjacent to an area designated as being 'Strategically Unsuitable' where it would be visible by itself over a wide area and would give rise to an undue concentration of wind energy developments with adverse impacts on the landscape and amenity of the area, particularly the Mealagh Valley and its amenity, tourism and recreational potential. In relation to that decision the following must be noted:
 - The inspector reviewing the Ardah application found that the orientation of the site was such that it would feature prominently from the road network to the southwest (which is within a landscape deemed to be 'unsuitable' for wind farm development). The Shehy More site does not feature prominently in views from the southwest as demonstrated in the submitted photomontages. The images presented in the EIS demonstrate that views of the proposal from locations closer to the coastal plain (an area deemed to be unsuitable for wind farm development) are extremely limited and,

where available, the proposal will be barely discernible due to topography.

- The Ardah site is located within the Mealagh Valley which was considered by the Board inspector to be a '*distinct landscape unit enclosed by hills on three sides*'. The proposed Shehy More wind farm will not be visible from the Mealagh Valley as evidenced by the ZTVs included in the EIS and will not have any visual impact on this location.
- There are two permitted wind developments within the Mealagh Valley which were considered in combination with the Ardah proposal to have an adverse cumulative impact on the Mealagh Valley. Both these wind farms were included in the cumulative visual study for the subject proposal and are located in excess of six and eight kilometres respectively from the Shehy More site. Both the EIS and the Planning Authority have concluded that the proposed development will not give rise to adverse or significant cumulative impacts.

The Ardah site is within a different viewshed than the subject proposal and is located within an enclosed valley which already includes two extant wind farms. Therefore, the Ardah decision cannot be cited as a precedent relevant to the subject proposal due to the different site contexts in landscape terms. Furthermore, the site selection process that has been undertaken to accommodate the grid connection that has been secured for the Shehy More wind farm has identified the application site as the optimum location for the provision of a wind farm. In addition, the submitted Visual Assessment has demonstrated that the subject site is an appropriate location for a wind farm development and that adverse cumulative impacts do not arise.

- Under the provisions of the Draft Cork County Development Plan, 2013 the proposed development site is located within (and surrounded by) a landscape which has been designated as 'open for consideration' for wind farm development. The nearest pockets of land that have been designated as areas where turbines are 'generally discouraged' lie approximately 5km to the northwest and 7.5km to the southwest. A review of the ZTV demonstrates that the potential to gain views of the Shehy More proposal from these areas is extremely limited. By contrast, the Ardah site is located immediately adjacent to an area where wind turbines are 'normally

discouraged' to the north of Bantry and would appear to be highly visible from this location.

11.0 NATIONAL AND REGIONAL POLICY

11.1 The National Climate Change Strategy issued by the Dept. of the Environment and Local Government in 2000 advocates the expansion of renewable energy to reduce emissions and to meet commitments under the Kyoto Protocol and wind energy is identified as a means of achieving this.

11.2 The National Spatial Strategy 2002 – 2020 states “in economic development the environment provides a resource base that supports a wide range of activities that include agriculture, forestry, fishing, aqua-culture, mineral use, energy use, industry, services and tourism. For these activities, the aim should be to ensure that the resources are used in sustainable ways that put as much emphasis as possible on their renewability” (page 114).

11.3 'White Paper – Delivering a Sustainable Energy Future for Ireland 2007 – 2020' sets out as a strategic goal to accelerate the growth of renewable energy sources, reduce reliance on fossil fuels and to increase the ratio of renewable energy sources in the overall production of electricity to 33% by 2020.

11.4 Wind Energy Development, Guidelines for Planning Authorities:

The guidelines pertaining to wind farm development in Ireland are set out in the publication "Wind Energy Development, Guidelines for Planning Authorities" by the Department of the Environment, Heritage and Local Government in June, 2006. The presumption is in favour of wind farm development in suitable circumstances.

The Guidelines indicate:

- The need for a plan led approach.
- In section 4.3 there is reference to access to the electricity grid and that best practice would suggest having in applications for windfarms information on grid connection including indicative or feasible options but this may not always be possible.
- Noise is another important consideration and is referred to in paragraph 5.6 and account should be taken of the nature and character of nearby surroundings and developments in assessing noise levels and guidance on levels for different locations are outlined.

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- Chapter 6 relates to aesthetic considerations in siting and design.
 - Regard should be had to profile, numbers, spacing and visual impact and the landscape character.
 - Account should be taken of intervisibility of sites and the cumulative impact of developments.

The Guidelines consider that the following influence visual impact:

- Form and characteristics of the landscape;
- Design and colour;
- The existing skyline;
- Layout of turbines, and
- The number and size of turbines and intervisibility of sites.

12.0 DEVELOPMENT PLAN

12.1 Cork County Development Plan, 2009:-

Chapter 5: Economy and Employment:

Section 5.5: Rural Economic Development:

Development Plan Objectives: Rural Employment in Strategic Planning Area:

- *ECON 2-7: Rural Employment:*

It is an objective to recognise the contribution of rural employment to the growth of the economy in the strategic planning areas and to promote that growth by encouraging rural enterprise generally and promote certain kinds of rural enterprise, especially those activities that are resources dependant, including renewable energy production and small scale industry.

Section 5.6: Sustainable Tourism:

Development Plan Objectives: Environmental Protection:

- *ECON 6-2: Protection of Natural, Built and Cultural Heritage:*

- a) It is an objective to protect and conserve those natural, built and cultural heritage features that form the resources on which the County's tourist industry is based. These features will include areas of important landscape, coastal scenery, areas of important wildlife interest, historic buildings and structures and the traditional form and appearance of many built up areas.
- b) It is an objective to implement this environmental protection through the use of Council's powers under appropriate legislation and

through the application of other principles and objectives of this plan.

Chapter 6: Transport and Infrastructure:

Section 6.7: *Energy*

Development Plan Objectives: *Energy:*

- *INF 7-1: Energy Networks and Infrastructure:*
 - a) It is an objective to recognise the national importance of ensuring security of energy supplies for servicing a whole range of economic sectors in line with the Government's White Paper 'Delivering a Sustainable Energy Future for Ireland'.
 - b) It is a general objective, where strategic route corridors have been identified, to support the statutory providers of national grid infrastructure by safeguarding such strategic corridors from encroachment by other developments that might compromise the provision of energy networks.
 - c) It is an objective to protect areas of recognised landscape importance and designated sites including Special Areas of Conservation, Special Protection Areas and Natural Heritage Areas, from the construction of large-scale visually intrusive energy transmission infrastructure. In such circumstances, it is an objective to seek alternative routing or transmission methods.

- *INF 7-2: Climate Change:*
 - a) It is an objective to support the National Climate Change Strategy and, in general to facilitate measures which seek to reduce emissions of greenhouse gases.
 - b) It is an objective to adopt sustainable planning strategies, such as integrated approach to land-use and transportation and facilitate mixed-use developments, so as to reduce greenhouse emissions.

- *INF 7-3: Renewable Energy Production:*

It is an objective generally to encourage the production of energy from renewable sources, including in particular that from biomass, waste material, solar, wave, micro hydro power and wind energy, subject to normal proper planning considerations, including in particular the impact on areas of environmental or landscape sensitivity.

Development Plan Objectives: *Wind Energy*

- *INF 7-4: Wind Energy Projects:*

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- a) It is an objective to encourage prospective wind energy businesses and industries. In assessing potentially suitable locations for projects, potential wind farm developers should focus on the strategic search areas identified in the Plan and generally avoid wind energy projects in the strategically unsuitable areas identified in this Plan.
- b) It is an objective to support existing and established businesses and industries who wish to use wind energy to serve their own needs subject to proper planning and sustainable development. In particular, because of the potential for wind generated electricity to reduce the reliance of large scale industry on fossil fuel generated electricity, proposals located within the areas identified as suitable locations for large scale industrial development in objective ECON 3-2 of this plan will be considered on their merits, subject to compliance with Article 6 of the EU Habitats Directive.”
- c) It is an objective in the strategic search areas (and in those areas that are identified as neither strategic search areas nor strategically unsuitable areas), to consider new, or the expansion of existing, wind energy projects on their merits having regard to normal planning criteria including, in particular, the following:
- The sensitivity of the landscape and of adjoining landscapes to wind energy projects;
 - The scale, size and layout of the project, any cumulative effects due to other projects, and the degree to which impacts are highly visible over vast areas;
 - The visual impact of the project on protected views and prospects, and designated scenic landscapes as well as local visual impacts;
 - The impact of the project on nature conservation, archaeology and historic structures;
 - Local environmental impacts including noise and shadow flicker;
 - The visual and environmental impacts of associated development such as access roads, plant, grid connections etc.
 - The proximity and sensitivity of a recognised settlement,
 - The impact of the project on archaeology and historic structures,
 - The impact of nature conservation, in particular avoiding designated and proposed European sites.
- d) Similar criteria would be taken into account in the strategically unsuitable areas except that (other than in areas to which objective

ECON 3-2 relates) suitable projects will generally be on a smaller scale and on very special, carefully chosen sites.

Development Plan Objectives: *Overhead Powerlines:*

- *INF 7-5: Overhead Powerlines:*

It is an objective of this Plan to ensure that the siting of electricity power lines be managed in terms of the physical and visual impact of these lines on both the natural and built environment and the conservation value of European sites, especially in landscape character areas that have been evaluated as being of high landscape sensitivity. When considering the siting of powerlines in these areas, consideration will be given to undergrounding or the selection of alternative routes.

Chapter 7: Heritage and Environment:

Section 7.1: *Heritage*

Section 7.2: *Landscape:*

Development Plan Objectives:

- *ENV 2-2: The Landscape:*

It is an objective of the Planning Authority that landscape issues will be an important factor in all land-use proposals, ensuring that a pro-active view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability

- *ENV 2-6: General Visual and Scenic Amenity:*

It is a general objective to protect the visual and scenic amenities of County Cork's built and natural environment.

- *ENV 2-7: Scenic Landscape:*

It is a particular objective to preserve the visual and scenic amenities of those areas of natural beauty identified as 'scenic landscape' and shown in the scenic amenity maps in Volume 3 of this plan.

- *ENV 2-9: General Views and Prospects:*

It is a general objective to preserve the character of all important views and prospects, particularly sea views, river or lake views, views of unspoilt mountains, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty as recognised in the Landscape Strategy.

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- *ENV 2-11: Scenic Routes:*
It is a particular objective to preserve the character of those views and prospects obtainable from scenic routes identified in this plan. These routes are shown on the scenic amenity maps in Volume 3 and listed in Volume 2 of this plan. A profile of each route and the views to be protected are listed in Volume 2 of this plan.

 - *ENV: 2-12: Details of Scenic Routes:*
It is an objective to protect the character and quality of those particular stretches of scenic routes that have very special views and prospects.

 - *ENV 2-13: Development on Scenic Routes:*
 - a) It is also an objective of the Planning Authority to require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the proposed development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area.
 - b) It is an objective to encourage appropriate landscaping and screen planting of developments along scenic routes. Where scenic routes run through settlements street trees and ornamental landscaping may also be required. Refer to Objective ENV 4-13, which provides guidance in relation to landscaping.

N.B. The proposed development site is not located within a 'Scenic Landscape' as identified on Landscape Map No. 7 of Volume 3 of the County Development Plan, 2009, although it will be in relatively close proximity of Scenic Route Nos. S28, S29, S32, S33 & S34.

Section 7.6: *Environmental Quality*

Chapter 9: Local Area Development:

Skibbereen Electoral Area Local Area Plan, 2011

12.2 Draft Cork County Development Plan, 2013:-

Chapter 9: Energy and Digital Economy:

Section 9.2: Renewable Energy

Section 9.3: On-Shore Wind Energy

- **ED 3-1: National Wind Energy Guidelines:**
Development of on-shore wind shall be designed and developed in line with the 'Planning Guidelines for Wind Farm Development 2006' issued by DoELG and any updates of these guidelines.

- **ED 3-2: Wind Energy Projects:**
On-shore wind energy projects should focus on areas considered 'acceptable in principle' and 'areas open to consideration' and generally avoid 'areas identified as unsuitable' for wind energy developments in this Plan.

- **ED 3-3: Wind Energy Generation:**
Support a plan led approach to wind energy development in County Cork and identify areas for wind energy development. The aim in identifying these areas is to ensure that there are no significant environmental constraints, which could be foreseen to arise in advance of the planning process.

- **ED 3- 4: Acceptable In Principle:**
Large scale commercial wind energy development is normally encouraged in these areas subject to protection of residential amenity particularly in respect of noise, shadow flicker and visual impact.

- **ED 3-5: Open to Consideration:**
Large scale commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:
 - Residential amenity particularly in respect of noise, shadow flicker and visual impact;
 - Are located in areas with unviable Wind Speeds (<7.5m/s);
 - The development boundary of urban areas and Metropolitan/Town Green Belts;
 - Natura 2000 Sites (SPA and SAC), Natural Heritage Areas (NHA's);
 - Architectural and archaeological heritage;

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- Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.
 - *ED 3-6: Normally Discouraged:*
Large scale commercial wind energy developments will be discouraged in these areas which are considered to be sensitive to adverse impacts associated with this form of development (either individually or in combination with other developments). Only in exceptional circumstances where it is clear that adverse impacts do not arise will proposals be considered.
 - *ED 3- 7: Other Wind Energy Development:*
In considering these proposals, the Council will take account of impacts on:
 - Residential amenity particularly in respect of noise, shadow flicker and visual impact;
 - The development boundary of urban areas and Metropolitan/Town Green Belts;
 - Natura 2000 Sites (SPAs and SACs) and Natural Heritage Areas (NHA's) and protect their integrity as generally considered inappropriate for auto producers;
 - Architectural and archaeological heritage;
 - Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.

Section 9.6: Transmission Network

Chapter 13: Green Infrastructure and Environment:

Section 13.5: Landscape

Section 13.6: Landscape Character Assessment of County Cork

Section 13.7: Landscape Views and Prospects

N.B. The 'Energy Background Paper' referenced by several of the parties to this appeal was prepared as part of the County Development Plan Review and has informed the compilation of the Draft Cork County Development Plan, 2013.

13.0 ASSESSMENT

Whilst both First and Third Party Appeals have been lodged in respect of the subject application, in the interests of conciseness, and to avoid unnecessary repetition, I propose to assess the various grounds of appeal in tandem. Therefore, from my reading of the file, inspection of the site and assessment of the relevant local, regional and national policies, I conclude that the key issues raised by the appeals are:

- The principle of the proposed development
- Environmental impact assessment
- Appropriate assessment
- Other issues

These are assessed as follows:

13.1 The Principle of Proposed Development:

13.1.1 The provisions of the Cork County Development Plan, 2009 are generally in favour of the development of renewable energy, including wind energy, and acknowledge the economic and environmental benefits which can be derived from same. In this regard particular consideration should be given to the potential for the development of wind energy to aid in the achievement of Ireland's international, European and national commitments as regards the reduction of greenhouse gas emissions and the provision of energy from renewable sources. Accordingly, the Development Plan advocates a plan-led approach with regard to the siting of wind energy developments in accordance with the recommendations of the *'Wind Energy Development, Guidelines for Planning Authorities'* and, having studied both the wind speeds and the landscapes of the County on a broad level, it has identified, in broad strategic terms, two specific designations in relation to the development of wind energy projects i.e. *'Strategic Search Areas'* and *'Strategically Unsuitable Areas'* as set out in Figure 6.3 of the Plan.

13.1.2 The proposed development site is not located within either a 'Strategic Search Area' or a 'Strategically Unsuitable Area' and, therefore, it is necessary to determine the subject application in accordance with the provisions of Objective No. INF 7-4: *'Wind Energy Projects'* of the Development Plan which states that proposal for wind energy developments in those areas that are identified as neither strategic search areas nor strategically unsuitable areas will be considered on their merits having regard to normal planning criteria including the sensitivity of the receiving landscape, potential visual impact, concerns with

regard to the preservation of residential amenity, and the need to take full account of the presence and requirement to protect all Natura 2000 sites and (proposed) Natural Heritage Sites. At this point it is also of relevance to note that the subject site is located in an area which has been identified as ‘*Open for Consideration*’ for the development of large-scale commercial wind energy schemes in the Draft Cork County Development Plan, 2013.

13.1.3 Accordingly, it is my opinion that the identification of those areas with the potential for on-shore wind energy development as shown in Figure 6.3 of the Plan should not be interpreted as implying that the principle of developing a wind farm in a location outside of the ‘Strategic Search Areas’ is unacceptable. Instead, I would suggest that the Strategy simply serves to identify those areas which are favoured (or not) for wind energy development based on a strategic and plan-led approach and that any proposal for such development should still be assessed on its merits having regard to its environmental, physical and visual impact. Therefore, I propose to assess the subject proposal from first principles in order to establish its wider impact and to determine whether or not the application site is an acceptable location for same.

13.1.4 In terms of the wider debate as regards the overall merits of developing wind energy from both an economic and environmental perspective as has been set out in the grounds of appeal (and as supplemented in later submissions), in my opinion, it is not within the remit of the Board to undertake an in-depth analysis of such matters which pertain to the formulation of national, European and international policies and programmes. Instead, I would suggest that it is a function of the Board to ensure that physical development and major infrastructure projects in Ireland respect the principles of sustainable development, including the protection of the environment, in line with adopted policy programmes. In effect, it is presently Government policy to pursue the development of wind energy and therefore it is entirely appropriate to assess the subject proposal in this context.

13.2 Environmental Impact Assessment:

13.2.1 Outline of Process:

13.2.1.1 In accordance with the requirements of Article 3 of the European Directive 85/337/EEC, as amended by Council Directives 97/11/EC and 2003/35/EC and Section 171A of the Planning & Development Act 2000-2010, this process requires the Board, as the competent authority, to identify, describe and assess in an appropriate manner, in light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment

Directive, the direct and indirect effects of the proposed development on the four indents listed in Article 3 of that Directive as set out below:

- a) human beings, flora and fauna,
- b) soil, water, air, climate and the landscape,
- c) material assets and the cultural heritage, and
- d) the interaction between the factors mentioned in paragraphs (a), (b) and (c).

13.2.1.2 This assessment also requires consideration to be given to, where relevant, the indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the proposal, including those which arise during the construction phase, which are essentially short-term and temporary, as distinct from the likely long-term effects arising from the operational phase.

13.2.1.3 The Environmental Impact Statement which has accompanied the subject application follows a grouped format structure with each environmental topic presented in a separate chapter. It includes a generally satisfactory description of the receiving environment, the proposed development, its impacts and proposed mitigation measures, and has been accompanied by a non-technical summary. In my opinion, this document can be described as 'adequate' in that it accords with the minimum requirements of Schedule 6 of the Planning and Development Regulations, 2001, as amended, and is sufficient to comply with Section 172 of the Planning and Development Act, 2000, as amended, and Article 94 of the Regulations.

13.2.1.4 In general, this part of my assessment of the subject application is informed by the contents and conclusions of the EIS and also by information provided during the various stages of the application / appeal process in relation to the likely effects of the development on the environment and its likely consequences for the proper planning and sustainable development of the area in which it is proposed to be situated. My assessment also has regard to potential mitigation measures, including those indicated in the EIS, and any others which might reasonably be incorporated into any decision to approve the development through the attachment of conditions.

13.2.2 Consideration of Alternatives:

13.2.2.1 Schedule 6 of the Planning and Development Regulations, 2001, as amended, requires an EIS to include *'An outline of the main alternatives studied*

by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment'. In this respect I would refer the Board to Section 2.8 of the EIS which states that the strategic site selection process for the subject proposal was constraints-led from the outset with the initial site search area limited by the need to locate the development proposed within a distance of approximately 15km from the grid connection node at the Dunmanway substation in order to ensure viability. Within this study area potential alternative site locations were eliminated having regard to certain critical site selection criteria and other design constraints, including wind speeds, planning history, environmental designations such as Natura 2000 sites and Natural Heritage Areas, the provisions of the Development Plan (in reference to 'Strategically Unsuitable Areas') and other physical site considerations / characteristics. This process culminated in the identification of 6 No. potential alternative wind farm sites, however, by further refining the site selection criteria, with particular consideration being given to the dispersion, location and arrangement of dwellings in each of the prospective areas, the subject site was ultimately identified as the optimum location for the proposed development.

13.2.2.2 At this point it is of relevance to note that the *'Guidelines on the information to be contained in Environmental Impact Statements'* published by the Environmental Protection Agency in March 2002 acknowledge the existence of difficulties and limitations when considering alternatives in the context of Environmental Impact Assessment. In this respect it should be noted that whilst EIA is confined to the assessment of the environmental effects which influence the consideration of alternatives, it is important to acknowledge that other non-environmental factors may have equal or overriding importance to the developer such as project economics, land availability, engineering feasibility and planning considerations. Similarly, the consideration of alternatives also needs to be set within the parameters of the availability of land or the need for the project to accommodate demands or opportunities which are site specific.

13.2.2.3 Having regard to the foregoing, and following a review of the available information, including the consideration of alternatives as set out in the submitted EIS, in my opinion, the applicants have complied with the requirements of the Regulations insofar as they has provided a satisfactory examination of the main alternative locations studied with regard to the project in addition to a reasonable explanation for the selection of the subject lands.

13.2.3 Human Beings:

13.2.3.1 In terms of assessing the potential impact of the proposed development on human beings I would, in the first instance, refer the Board to Chapter 4 of the submitted EIS which focuses attention on population, tourism, employment, attitudes to wind energy development, and other socio-economic considerations

13.2.3.2 Whilst I would generally concur with the findings of the EIS as regards the likely impact of the proposed development on the foregoing aspects of human beings, it is of relevance to note that there are various inter-relationships between effects on the human environment and effects on other aspects of the environment such as air and water quality. Accordingly, in order to avoid unnecessary repetition, I would refer the Board to my assessment of the specific implications of the proposal as regards soil, water and air quality etc. as set out elsewhere in this report. Furthermore, although referenced in separate chapters of the EIS, I propose to focus the remainder of my assessment of the impact of the proposed development on human beings on the key issues of traffic, noise and shadow flicker.

Noise:

13.2.3.3 In assessing the impact of noise levels arising as a result of the proposed development I would refer the Board in the first instance to Chapter 9 of the Environmental Impact Statement which details the results of noise monitoring surveys carried out at identified Noise Sensitive Locations in the vicinity of the proposed development site. In this respect it should be noted that whilst a total of 78 No. properties which had the potential to be impacted by the proposed development were identified within the surrounds of the application site (See Figure 9.11), it was considered sufficient to undertake background noise monitoring at a series of 4 No. representative noise locations drawn from these properties in order to establish baseline noise conditions (*N.B.* This monitoring was undertaken over a 2-week in October, 2012). Regrettably, whilst a series of plates / photographs showing the noise monitoring meters in position has been included in the EIS, the actual identification of the precise noise monitoring locations is somewhat difficult to discern from Figure 9.3 which consists of an aerial photograph that purportedly shows same. In my opinion, it would have been considerably more helpful if these details were included in Figure 9.12 of the EIS in order to allow a comparison of same with the locations of the 78 No. dwelling houses in the vicinity of the site. Nevertheless, it would seem that Noise Monitoring Location (NML) 'A' is intended to be representative of House Nos. 56 & 57 to the west of the proposed development whilst NML 'B' seemingly corresponds with the wider clustering of housing to the south / southeast. Noise

Monitoring Location 'C' would appear to equate to House Nos. 19 / 20 to the east / southeast of the proposal whereas NML 'D' would seem to relate to a position along the roadway between House Nos. 61 and 64 to the north of the site. Notably, House Nos. 19 / 20 (as represented by NML 'C') are located 550m and 560m respectively from the nearest turbine and, with the exception of House No. 17 at 530m, are the closest dwelling houses to any of the proposed wind turbines. Table 9.14 of the EIS subsequently details those individual Dwelling Houses / NSLs / 'Assessment Locations' which are represented by the identified Noise Monitoring Locations.

13.2.3.4 Having reviewed the siting of the selected noise monitoring locations, in the first instance, I would suggest that the baseline noise monitoring undertaken at the 4 No. locations chosen essentially amounts to the absolute minimum necessary given the extent of the proposed development and the prevalence / distribution of housing within the wider site surrounds. In my opinion, it would have been preferable if further noise monitoring had been undertaken at a wider variety of locations throughout the study area in order to gauge a more in-depth understanding of the receiving noise environment. Secondly, I would have some reservations as to how representative the selected noise monitoring locations are of the identified housing / noise sensitive locations (NSLs) in the vicinity of the proposed development site, particularly given the absence of any apparent monitoring of background noise levels to the north / northeast of the site.

13.2.3.5 Notwithstanding the foregoing, Table 9.7 of the EIS details the results of the noise monitoring as regards existing baseline noise levels at the 4 No. NMLs at wind speeds of between 4m/s and 12m/s during both daytime and night-time periods.

13.2.3.6 Section 9.1.4 of the EIS details the methodology used in the monitoring of background noise levels and states that noise measurements were taken over a two week period (at 10 minute intervals) whilst the results set out in Table 9.7 of the EIS have been derived using regression analysis in order to establish the background noise levels at a height of 10m above ground level in line with the recommendations of *ETSU-R-97 ('The Rating and Assessment of Noise from Wind Farms', UK Dept. of Trade and Industry, 1996')*. Notably, the background noise levels have also been determined using the LA90 criterion as specified in the *'Wind Energy Development, Guidelines for Planning Authorities'* published by the Department of the Environment, Heritage and Local Government in 2006 with the 'A' suffix denoting the fact that the sound levels had been 'A-weighted' in order to account for the non-linear nature of human hearing.

13.2.3.7 At this point it should be noted that the *‘Wind Energy Development, Guidelines for Planning Authorities’* 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, in low noise environments where background noise is less than 30 dB(A), it is recommended that the daytime level of the LA90, 10min of the wind energy development noise be limited to an absolute level within the range of 35-40 dB(A). The Guidelines also advise that separate noise limits should apply for day-time and night-time and that a fixed limit of 43dB(A) will protect sleep inside properties during the night. Furthermore, it is stated that noise arising from wind turbines is typically unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property such as a dwelling house is more than 500m.

13.2.3.8 In my opinion, the prevailing noise climate in the vicinity of the application site is typical of a rural environment and in some areas is influenced by traffic movements along local roads and various farming / forestry activities. Indeed, in most rural areas the background noise environment is primarily influenced by the interaction of wind on items of foliage / vegetation with the result that the greater the wind speed the higher the noise level generated. This would seem to find support in Table 9.7 of the EIS where it is apparent that the background noise environment is inherently linked to wind speed. From a review of these baseline conditions, it would appear that in the majority of cases the use of a lower fixed limit of 45dB(A) or a maximum increase of 5dB(A) above background noise at nearby noise sensitive locations would be appropriate, however, it is noteworthy that in several instances the background noise levels recorded at NML ‘D’ were less than 30dB(A) and thus would correspond to the definition of a ‘low noise environment’ as per the *‘Wind Energy Development, Guidelines for Planning Authorities’*. However, notwithstanding the results set out in Table 9.7 which clearly indicate that the background noise levels recorded at NML ‘D’ are less than 30dB(A) (at wind speeds of up to 8m/s in the day-time) and thus correspond to the definition of a ‘low noise environment, Section 9.1.5.8 of EIS proceeds to state that an *‘Examination of the survey results presented in Figures 9.4 to 9.11 confirms at wind speeds above 4m/s existing noise levels are above 30dB(A) and therefore a requirement to set more stringent design goals is not required in relation to Locations A, B, C and D’*. Such a statement would seemingly directly conflict with the results as presented in Table 9.7, however, the EIS then states that a noise limit of 40dB(A) or a maximum increase of 5dB(A) above background during the daytime will be applied in respect of NML

'D' following a review which considered *'the number of developments permitted in the area and their associated planning decisions'*. The rationale for this reversal is somewhat unclear and at this point I would reiterate to the Board that the Guidelines recommend that the daytime level of the LA_{90 10min} for wind energy development noise be limited to an absolute level within the range of 35-40dB(A) at those locations when the prevailing background conditions could be considered as constituting a 'low noise environment'.

13.2.3.9 On the basis that the monitoring of background noise levels has established that NML 'D' is a 'low noise environment' as per the Guidelines, in my opinion, regard should be had to Paragraph 3.2.2 of *'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise'* as published by the Institute of Acoustics in 2013 which references the following criteria set out in ETSU-R-97 to be considered when fixing a limit within the range of 35 dB to 40dB_{LA90} during periods of quiet:

- i) the number of noise-affected properties;
- ii) the potential impact on the power output of the wind farm; and
- iii) the likely duration and level of exposure.

13.2.3.10 In assessing the subject proposal against the foregoing criteria, in the first instance I would advise the Board that it would seem that a total of 20 No. properties which are primarily to the north / northeast of the application site could potentially be categorised as experiencing a 'low noise environment' at low wind speeds and thus could possibly be affected by turbine noise in certain conditions (*N.B.* The inclusion of House No. H69 in Table 9.14 as a property purportedly represented by NML 'D' would appear to be an error considering that this NSL is situated to the south of the application site and would be more likely be represented by NML 'B'). With regard to the second criterion, the magnitude of any impact arising from the omission or de-rating of those turbines in the vicinity of these receptors on the overall power output of the wind farm is unclear and whilst any such impact may be perceived as low by the occupants of nearby properties this is not to say that the applicant would not object to same. In relation to the likely duration and level of exposure, it is of relevance to note that the NSLs in question only experience background noise levels of less than 30dB(A) at wind speeds of 8m/s or less whilst the cut-in speed of the prospective turbines is likely to be in the region of 3-4m/s.

13.2.3.11 Following a review of previous Board decisions as regards proposals for wind energy development, and having considered the foregoing criteria as per

ETSU-R-97, including the limited instances at individual properties when background noise levels at wind speeds in excess of the (likely) cut-in speed of the proposed turbines would be such as to correspond with the definition of a 'low noise environment' set out in the Guidelines, I am amenable to the adoption of a fixed limit of 40dB(A) as proposed by the applicant as such a provision would seem to adhere to current guidance, although I would not accept the alternative of a maximum increase of 5dB(A) above background during the daytime.

13.2.3.12 Table 9.13 of the EIS proceeds to set out the proposed noise limits which are to be applied at the various representative noise monitoring locations at different wind speeds and whilst I would generally concur with the contents of same, I would have some concerns as regards several of the instances when it is proposed to exceed the fixed limit of 43dB(A) recommended by the Guidelines during night-time hours.

13.2.3.13 Having established the baseline noise environment and the appropriate noise limits to be applied at the various NSLs, it is necessary to identify the various noise sources associated with the proposed development in an effort to predict whether or not operation of the proposed turbines would result in any increase in background noise levels. In this respect it should be noted that in order to determine the likely operational impact of the proposed development on the receiving noise environment the applicant utilised noise prediction modelling in accordance with *ISO9613-2 – Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation (ISO9613 2:1996)* as a means of predicting the noise impact of the turbines. This was used to calculate the predicted noise levels at varying wind speeds on the basis of data supplied by the turbine manufacturer. In this respect it is of relevance to note that in order to be representative of a 'worst-case' scenario the candidate turbine with the highest sound power level at a distance of 500m was used in the modelling i.e. an Enercon E82 E3 wind turbine with a hub height of 85m. Notably, from a review of the various input parameters used in the modelling as set out in the EIS, the methodology would seem to accord with the recommendations of '*A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*' as published by the Institute of Acoustics in 2013. For example, a ground factor of $G=0.5$ was utilised, a receiver height of 4.0m was adopted, and atmospheric conditions of 10°C and 70% humidity assumed, in order to represent a reasonably low level of air absorption. Therefore, in the absence of any evidence to the contrary it would appear that the noise prediction modelling undertaken by the applicant in this instance accords with accepted best practice.

13.2.3.14 The output from the modelling for the proposed development is shown in Table 9.15 of the EIS for the 78 No. properties identified within the site surrounds, however, in response to a request for further information, the applicant subsequently submitted a complete set of revised noise level predictions (as set out in Table 7.1 of that document) for the various NSLs. By way of explanation the applicant has indicated that following a review of the noise prediction data presented in the original EIS a transcription error was identified within Appendix 15, however, it is asserted that this error does not change the conclusions presented in the original EIS. Having reviewed these amended noise level predictions, I would advise the Board that there are some notable differences in the output of the modelling between the results set out in Table 9.15 of the EIS and those contained in Table 7.1 of the response to the request for further information. Notably, the Acoustic Report compiled by Mr. D. Bowlder, which has accompanied the response of Mr. Dan Kelleher & Others to the First Party appeal, has also expressed concerns in this regard, although it also acknowledges that the noise predictions contained in Table 7.1 are now correct.

13.2.3.15 Accordingly, from a review of the results set out in Table 7.1 of the response to the request for further information, it would appear that the maximum predicted noise level in the 'worst-case' scenario as modelled would be 42.6dBLA₉₀ and would occur at House No. H19 (the closest dwelling house to a turbine), although House Nos. H17 & H20 would also experience similar or comparable predicted levels. Therefore, the modelling for the 78 No. NSLs within the study area would seem to confirm that in a worst case scenario the maximum predicted noise output from the proposed development (when acting in isolation) would not breach the (fixed) night-time noise limit of 43dB(A) as per the Guidelines.

13.2.3.16 In relation to compliance with those instances when a lower noise limit of 40dB(A) is to be applied in respect of 'low noise environments', a review of the 'Noise Update' contained in Appendix 3 of the response to the request for further information would suggest that the predicted noise levels at NSL Nos. H61, H64, H67 & H68 would all exceed the operational limit of 40dB(A) to some extent in a 'worst-case' scenario (where the NSL is positioned downwind of all of the turbines at the same time), however, this is not supported by the data contained in 'Appendix A: Update to Appendix 15 of Original EIS: Predicted Noise Levels v. Noise Criteria Curves (Omni-Directional)' as appended to the aforementioned 'Noise Update' which shows that NSL Nos. H61, H64, H65 & H66 would exceed the 40dB(A) limit by up to 0.6dB(A) (N.B. This error has also been identified in

the Acoustic Report of Mr. Bowler). This 'Noise Update' proceeds to suggest that the predicted exceedances can be revised further when account is taken of wind directionality before ultimately suggesting, by way of mitigation, that in the event a detailed noise survey conducted during the operational phase of the proposed wind farm establishes any exceedances, a schedule of measures could be formulated and agreed with the Planning Authority to address same which would typically involve the control and regulation of selected turbines during certain atmospheric and meteorological conditions.

13.2.3.17 In terms of the potential cumulative noise impact of the proposed development when taken in conjunction with the other wind energy developments in the wider area the applicant has submitted that given the separation distances involved no such impacts are likely to arise and I am inclined to concur with the applicant in this regard.

13.2.3.18 On the basis of the foregoing, it would seem that the applicant has undertaken a minimum of monitoring at representative locations in the vicinity of the site to establish the prevailing background noise environment thereby allowing the determination of appropriate noise limit values at said locations pursuant to the recommendations of the *'Wind Energy Development, Guidelines for Planning Authorities, 2006'*. Furthermore, on the basis of the submitted information, and noting the separation distances between the proposed turbines and nearby occupied NSLs, it would appear that the predicted noise levels during the operational phase of the development will be below the recommended fixed (night-time) noise level of 43d(B)A, although there are some instances when a fixed limit of 40dB(A) is applied in the case of low noise environments when exceedances are predicted to arise and thus it will be necessary to mitigate the impact of same such as through the de-rating of turbines or the programming of some turbines to have a higher cut-in wind speed and / or reduced output at lower wind speeds to reduce potential noise levels.

13.2.3.19 On balance, whilst I would have some reservations as regards the adequacy of the background noise monitoring undertaken by the applicant, particularly with regard to the establishing of those instances of 'low noise environments', I am inclined to suggest that any impacts arising on the residential amenity of affected properties during the operational phase of the proposed wind farm can be satisfactorily addressed by way of condition.

13.2.3.20 In relation to the predicted noise impact during the construction of the proposed development, it must be acknowledged that due to the nature of the

construction activity to be conducted on site there is an inherent potential for the generation of increased levels of noise. Similarly, the flow of traffic transporting material to and from the site is also likely to be a potential source of increased noise. In this respect the applicant has submitted that regard will be had to the guidance set out in *BS5228: Part 1: 1997: 'Noise Control on Construction and Open Sites'* whilst Section 9.1.6.1 of the EIS outlines a series of measures which will be employed on site. In addition to the foregoing I would suggest that, in the event of a grant of permission, a condition should be imposed whereby a Construction Method Statement / Management Plan is to be agreed with the Planning Authority prior to the commencement of development. This Plan should detail the various means of reducing noise impacts during the construction period and I would envisage that any such document should include mitigation measures such as the use of mobile machinery with an inherently low potential for noise generation fitted with effective well-maintained silencers and the restriction of construction activity to day-time hours in order to minimise any noise impact arising during unsociable hours. Therefore, considering that the construction works will be temporary in nature, I am satisfied that the short-term noise impact arising from same can be satisfactorily mitigated by way of condition and adherence to best practice site management so as to avoid any undue impact on the amenities of nearby dwelling houses.

Shadow Flicker:

13.2.3.21 The effect known as shadow flicker occurs when the blades of a wind turbine cast a shadow over a window in a nearby house and the rotation of the blades causes the shadow to flick on and off. This effect lasts only for a short period and happens only during a specific set of combined circumstances such as when the sun is shining at a low angle, the turbine is directly between the sun and the affected property, and there is enough wind energy to ensure that the turbine blades are rotating.

13.2.3.22 Section 5.12 of the *'Wind Energy Development, Guidelines for Planning Authorities'* states that shadow flicker at neighbouring dwellings within 500m of proposed turbines should not exceed 30 hours per year or 30 minutes per day and that at distances greater than 10 No. rotor diameters from a turbine the potential for shadow flicker is very low. In this respect I would refer the Board to Section 4.4 of the EIS which details how computer modelling (WindFarm) was utilised to predict the occurrence of shadow flicker at a total of 78 No. identified receptors in the vicinity of the site. These calculations were based on 4 No. notional windows measuring 2m x 1m (facing north, east, west and south) with the centre height of each window assumed to be 2m above ground level. In

addition, it was assumed that there were no intervening features such as vegetation or buildings between the turbines and the receptor.

13.2.3.23 In order to provide for a comprehensive analysis of the extent of shadow flicker consequent on the proposed development, and pending the selection of a final turbine type, the submitted impact assessment has been based on a maximum rotor of diameter of 93m at the highest possible hub height while still fitting within 131m maximum turbine size envelope (i.e. a hub height of 84.5m).

13.2.3.24 From a review of Table 4.10 it is evident from the calculations that a total of 34 No. receptors will be subjected to some degree of shadow flicker, although only 8 No. of these properties (H19, H20, H59, H60, H61, H64, H67 & H68) will experience in excess of the recommended daily limit of 30 minutes of shadow flicker per day in a 'worst-case' scenario (with one additional property apparently experiencing exactly 30 minutes of shadow flicker daily). With regard to annual shadow flicker, Table 4.11 lists both the '*Maximum Predicted Annual Hours*' and '*Total Annual Hours, assuming 33% Average Sunshine*' and in this respect it has been calculated that 8 No. of these properties (House Nos. H16, H19, H20, H58, H61, H66, H67 & H68) will experience in excess of 30 shadow hours per year in a 'worst-case' scenario whilst the 'expected' number of shadow hours per year (when adjusted to take account of cloud cover) will all be below the recommended guideline limit of 30 hours.

13.2.3.25 Therefore, on the basis of the foregoing, it would seem that the total number of shadow hours 'expected' to be experienced at each of the identified receptors per year (when adjusted for cloud cover / mean sunshine hours) will not exceed the recommended limit of 30 hours as set out in the 'Wind Energy Development, Guidelines for Planning Authorities', although it has also been calculated that the 'worst-case' shadow flicker predictions per day at 8 No. properties will be in excess of the recommended limit of 30 minutes.

13.2.3.26 At this point of my assessment I propose to consider the difference between 'expected' and 'worst-case' shadow hours per year as is not entirely clear from current guidance whether the recommended limits relate to the outputs directly arising from the modelling process (i.e. potential 'worst-case' shadow flicker) or whether they are intended to apply to the 'expected' predictions when adjusted to take account of the prevailing meteorological conditions. This is of relevance as there are potentially 8 No. receptors which could receive in excess of 30 shadow hours per year in a 'worst case' scenario

whereas in no instance will the 'expected' number of shadow hours per year (as adjusted) exceed the recommended limit.

13.2.3.27 The shadow flicker limits as set out in the current 'Wind Energy Development, Guidelines for Planning Authorities' have been derived from the document '*Spatial Planning of Wind Turbines, Guidelines & Comparison of European Experiences*' (2004) prepared by Predac, a European Union sponsored organisation promoting best practice in energy use and supply which draws on experience from Belgium, Denmark, France, the Netherlands and Germany, which recommends that at neighbouring dwellings and offices flickering shadows should not exceed 30 hours per year or 30 minutes per day with normal variation in wind directions and a clear sky. This is reiterated in the '*Update of UK Shadow Flicker Evidence Base, Final Report, 2011*' prepared by Parsons Brinckerhoff for the UK Department of Energy and Climate Change which confirms that the Predac report recommends that shadow flicker should not exceed an astronomical worst case figure of 30 hours per year or 30 minutes per day at neighbouring offices and dwellings. Therefore, whilst I would acknowledge that there is perhaps a need to address both 'worst-case' and realistic shadow flicker in assessments, it would seem that contrary to accepted practice in some quarters, the limits recommended in current national guidance are intended to apply to the 'worst case' scenario in the absence of any adjustment or reduction for climatic factors. Accordingly, without mitigation it is apparent that the predicted number of shadow hours per year will exceed the maximum permissible at a total of 8 No. receptors.

13.2.3.28 In relation to the 'worst-case' shadow flicker predictions per day at House Nos. H19, H20, H58, H59, H60, H61, H64, H67 & H68, which will either equal or exceed the acceptable limit, whilst I would acknowledge that these results represent a theoretical maximum and do not take account of a variety of considerations including the possible non-occupation of affected rooms, the use of blinds in windows, or the presence of intervening features such as vegetation, in my opinion, a reliance on the use of such factors, several of which would be outside of the applicants control, is not conducive to a robust form of mitigation against the impacts of shadow flicker.

13.2.3.29 Therefore, having established that the levels of shadow casting (either per day or per year) at a combined total of 11 No. identified receptors will exceed the recommended limits, it is necessary to review the options for the elimination or mitigation of said impacts.

13.2.3.30 In this respect, I would suggest in the first instance that it would be preferable to consider mitigation by avoidance through the omission of those turbines which contribute to the excessive levels of shadow flicker, however, it would seem that no consideration was given to this option by the applicant and, therefore, I would refer the Board to Section 4.5.3.9.1 of the EIS which outlines a series of proposals whereby the applicant intends to mitigate the impact of shadow flicker through alternative means. In this respect the applicant proposes that if shadow flicker is perceived to be exceeding the recommended daily limit or is causing a nuisance at any home, the affected party will be requested to log the date, time and duration of shadow flicker events occurring on a least five different dates and that this log will then be compared to the predicted occurrence of shadow flicker events for verification. However, in the event that no agreement is reached, it is proposed that the wind farm operator will undertake a site visit to verify the occurrence of shadow flicker and if same is proven to cause an issue for the dwelling's occupants, mitigation options, such as the installation of blinds, the planting of vegetation and other site-specific measures, will be discussed and implemented as necessary with the co-operation of the affected party. If it is not possible to mitigate the impact locally, shadow flicker will be addressed through the pre-programming of selected turbines to prevent their operation on the dates and times when shadow flicker could cause a nuisance.

13.2.3.31 Having considered the foregoing, I would reiterate that a reliance on the mitigation of shadow flicker impacts through measures such as the possible non-occupation of affected rooms, the use of blinds in windows, or the presence of intervening features such as vegetation, several of which would be outside of the applicants control, are not conducive to a robust form of mitigation against the impacts of shadow flicker. Accordingly, I would suggest that in order to ensure that any instances of shadow flicker are within the recommended limits set by Department Guidelines thereby preserving the residential amenity of surrounding properties, a condition should be imposed in any decision to grant permission whereby cumulative shadow flicker arising from the proposed development should not exceed 30 minutes in any day or 30 hours in any year at any dwelling whilst all the relevant turbines as derived from the computer modelling should be fitted with appropriate equipment and software to control shadow flicker at nearby receptors. In addition, provision should be included for the implementation of a wind farm shadow flicker monitoring programme, the details of which, including the proposed monitoring equipment, the methodology to be used and a reporting schedule, should be agreed with the Planning Authority.

13.2.3.32 In terms of the potential cumulative impact of the proposed development when taken in conjunction with other wind farms planned in the wider area, no consideration of same is set out in the EIS, however, given the separation distances involved, I am inclined to conclude that the proposed development, when considered in conjunction with the other planned wind energy developments planned, will not give rise to any notable cumulative impact in terms of the levels of shadow flicker experienced at nearby receptors.

13.2.3.33 At this point I would advise the Board that at the time of writing the Department of the Environment, Community and Local Government has published *'Proposed Revisions to Wind Energy Development Guidelines, 2006 – Targeted Review in relation to Noise, Proximity and Shadow Flicker'* (with the consultation period on same having closed on 21st February, 2014) and that these seek to impose a significantly more onerous standard with regard to the control of shadow flicker than the present guidelines given that they require no shadow flicker at any existing dwelling or other affected property within 10 No. rotor diameters of any wind turbine. In this respect it should be noted that the revisions seek the cessation of the use of maximum limits for shadow hours and place a greater emphasis on the need to review the site design in the first instance which may involve the relocation of turbines to explore the possibility of eliminating or substantially reducing the occurrence of shadow flicker. Following such a review, if shadow flicker is not eliminated for any dwelling or other potentially affected property, the proposed revisions state that the measures which provide for the turbine to be shut down to eliminate shadow flicker are to be clearly specified.

13.2.3.34 Whilst the subject proposal will adhere to the current requirements of the 'Wind Energy Development, Guidelines for Planning Authorities' as regards the control of shadow flicker provided that appropriate mitigation and monitoring measures are out in place (in the event of a grant of permission), I would advise the Board that it would be prudent to review the status of the proposed revisions to this guidance prior to any decision being made on the application in order to allow any changes to same to be given due consideration as part of the assessment process.

Traffic:

13.2.3.35 The principle impacts in terms of traffic will arise during the construction of the proposed development and, in particular, during the transportation of the turbines themselves to the site along the surrounding road network, however, it should be noted that these impacts will be of an interim and

temporary nature. In this respect I would refer the Board to Chapter 12 of the EIS which details the route option considered as part of the development proposal with a view to determining its suitability for transporting the anticipated large-sized loads, although it should be noted that as the point of arrival (i.e. a port with suitable facilities) for the importation of the turbine components has yet to be identified (notwithstanding the reference in Section 3.5.2 of the EIS that turbines will be transported from Cork City) the detailed assessment of the turbine transportation route has been limited to that part of the overall route shown in Figure 12.1.1 which extends from the national road network at Castlemore to the site entrance. In this respect, whilst it would be preferable if the entirety of the proposed haul route were included in the EIS, I would accept that the selection of a final haul route for the transportation of the wind turbine components may not be possible at this stage of the planning process pending the appointment of a wind turbine supplier. In any event, given the prevalence of wind turbines within the wider Cork area and beyond, in my opinion, it is clear that the national road network has previously catered for the successful transportation of similarly sized turbine components from a variety of sea ports without undue delay or traffic impact and thus I am amenable to the restricting the assessment of the final haul route to that section which extends beyond the national road. Indeed, I would suggest that it is only after the haul route turns off the national road network that there is an increased likelihood of difficulties being encountered such as along narrower and increasingly poorly aligned stretches of regional and local roads.

13.2.3.36 Section 12.1.6 of the EIS proceeds to set out a preliminary evaluation of the proposed haul route with a more detailed assessment undertaken in respect of those locations considered as potentially presenting issues for abnormal loads as have been derived from site visits. For these locations preliminary road and junction alignments, based on OSi mapping or site surveys, were compiled which were then followed by the completion of a preliminary swept-path analysis in order to establish those locations where some form of remedial measures could be required to accommodate the wind turbine component transporter vehicles. In this respect whilst I would acknowledge that the swept-path analysis has identified several locations where it will be necessary to obtain the permission of third parties in order to facilitate the transportation of the various turbine components (either through land acquisition or to allow transportation vehicles to overrun / overhang their property), it would seem that the necessary letters of consent are included in Appendix 19 of the EIS. It has also been indicated that as the local road network between the townland of Gortaknockane and Site Entrance No. 1 at Gortnacarraige, in addition to that section of roadway between Site Access Points 2 and 3, is of

variable width and alignment that localised widening and / or strengthening within the existing road corridor may be required, although it has been submitted that the full extent of same will be confirmed by the specialist haulage company upon appointment with the extent and scale of the localised road improvements to be subsequently agreed with the roads authority.

13.2.3.37 In addition to the foregoing, I would suggest that it would be prudent to undertake a detailed road condition survey along the agreed haul route prior to the commencement of development in order to re-assess the condition of the route (in light of the potential for delay between any grant of permission and the commencement of construction works) and to identify any defects or damage to the existing road surface and the precise areas where road widening or strengthening may be required. This survey should also be used to check the condition of any culverts and bridges along the proposed route. Furthermore, upon completion of road deliveries and site works a further road survey should be carried out to determine by comparison any damage caused by delivery traffic to the wind farm site with any remedial works required to repair same to be agreed with the Local Authority. In this respect I would also suggest that the applicant should enter into a bond as security to ensure compliance with planning conditions and to cover the maintenance of access roads and the satisfactory reinstatement of any public roads which may be damaged by the transport of materials to the site.

13.2.3.38 Having reviewed the submitted details I am generally satisfied that the applicant has adequately established the overall feasibility of the haul route proposed whilst the presence of a number of wind energy developments in the wider area would suggest that the surrounding road network is capable of accommodating the likely traffic movements associated with the proposed development. Indeed, it would be prudent for delivery traffic associated with the subject proposal to utilise the same haul route as that utilised during the construction of other wind farms in the area, however, I would suggest that the selection of the final haul route can be best addressed by way of condition in order to permit the review of same closer to the time of construction in conjunction with Cork County Council thereby providing for the least amount of disruption as possible.

13.2.3.39 With regard to the wider traffic impact arising during construction of the proposed development, Chapter 12 of the EIS has provided a detailed analysis of the likely timescale and estimated volume of construction traffic and states that in order to mitigate the impact of these traffic movements on the surrounding road network it is proposed to agree a Traffic Management Plan with the Planning

Authority prior to the commencement of development which will include provisions such as the scheduling of site traffic and deliveries and details of any alterations required along the haul route.

13.2.3.40 On balance, whilst it is apparent that the construction of the proposed development will have a significant impact on traffic movements on the surrounding road network, I am generally satisfied that these impacts can be mitigated to within acceptable limits.

13.2.3.41 In respect of the on-going operation and maintenance of the proposed turbines I would anticipate that the traffic levels associated with same would be very low and would be unlikely to have any significant impact on the surrounding road network.

13.2.4 Fauna and Flora:

13.2.4.1 In the first instance, and in order to avoid unnecessary repetition, I would advise the Board that the proposed development site is not subject to any National or European designation and that my assessment of the impact of the proposed development on the qualifying interests of Natura 2000 sites in the surrounding area pursuant to Article 6 of the Habitats Directive, is set out elsewhere in this report under the section entitled '*Appropriate Assessment*'. Accordingly, I propose to focus the following aspect of my assessment on the broader environmental impact of the proposed development on the remaining ecological considerations (i.e. those aspects of flora and fauna which are not subject to a requirement for 'appropriate assessment').

13.2.4.2 Chapter 6 (*'Flora & Fauna'*) of the EIS indicates that the application site (as distinct from the wider study area as outlined in red in Figure Nos. 5.3 & 5.4) is dominated by conifer plantations (some of which have recently been felled) in addition to instances of both cutover bog and relatively undisturbed areas of upland blanket bog and wet heath which correspond with the following Annex I Habitats i.e. '*Blanket Bogs (if active)*' (Natura Code 2000 Code: 7130) and '*North Atlantic Wet Heath with *Ercia tetralix**' (Natura 2000 Code: 4010). Notably, several other habitats were recorded within the wider study area which would be considered to be of high ecological value in a local context as they correspond with Annex I Habitats (i.e. '*Oligotrophic to mesotrophic standing water with vegetation of the *Littorelletea unflorae* and / or *Isoeto-Nanojuncetae**', '*natural dystrophic lakes and ponds*', '*European dry heaths*' and '*Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles*'), although it should be emphasised that these areas were not encountered within the confines of the application site,

however, Turbine Nos. T6 and T7 (in addition to sections of the associated access roads etc.) will be located within areas of *'Upland Blanket Bog / Dry Calcareous Heath Mosaic'* as evident from a review of Figure 5.4.

13.2.4.3 In terms of the likely impact of the proposed construction works on habitats on site, it is clear that any such works will invariably include the direct loss of certain habitats and species from within the footprint of the proposed construction and in this respect it is anticipated that the proposal will result in the permanent loss of the following areas of habitats:

- Conifer plantation and recently-felled woodland: 8.6 hectares;
- Cutover bog: 0.72 hectares;
- Upland blanket bog / wet heath mosaic: 0.69 hectares;
- Dry siliceous heath / dry-humid acid grassland / exposed siliceous rock mosaic: 0.12 hectares; and
- Upland blanket bog: 0.03 hectares

13.2.4.4 In my opinion, given that the cutover bog is not in pristine condition due to a combination of factors including a history of peat extraction, and as those habitats such as conifer plantations are of a relatively low conservation value, the impact arising from the loss of these areas is not considered to be of significance. Indeed, the internal access roads and turbine bases etc. will be predominantly located on areas which are of low to moderate conservation value. However, I would advise the Board that Section 5.5.2.1.1 of the EIS confirms that 0.84 hectares of annexed habitat (upland blanket bog, wet and dry siliceous heath) will be lost as a result of the development, and although I would suggest that the impact arising from the loss of same will be of limited significance in a wider context, the applicant has sought to compensate for the loss of that area of blanket bog and wet heath resulting from the construction of Turbine Nos. 6 & 7 by submitting proposals to restore 1.02 hectares of blanket bog to the north of Turbine No. 5 as set out in the *'Habitat Rehabilitation Plan'* included in Appendix 7 of the response to the request for further information received by the Planning Authority on 2nd April, 2014.

13.2.4.5 With regard to avifauna, Tables 5.5 & 5.6 of the EIS detail the results of a series of vantage point surveys conducted for the study area during both the breeding season and winter months which, when taken in conjunction with the bird species recorded during walking transect surveys carried out on selected dates in the summer of 2012 as set out in Table 5.11, suggest that the site and its wider environs support a variety of avifauna. The EIS states, with regard to the

winter vantage point surveys, that bird species of conservation significance that could possibly be present on site and which would fly at heights at which they could collide with the blades of a wind turbine would include the Hen Harrier, Merlin, Peregrine Falcon, White-Tailed Eagle, Chough and wintering Golden Plover, however, it is of relevance to note that of these particular species only three sightings of Hen Harrier were recorded. In relation to the summer vantage point surveys it was anticipated that the same species (with the exception of wintering Golden Plover) could potentially use the site and whilst there were no sightings of same, I note that some 'amber-listed' species such as the kestrel and skylark were recorded. Finally, the transect surveys recorded a number of additional bird species that were not evident during the vantage point surveys. Therefore, in summary, the EIS claims to have established that the bird species recorded within the study area are typical of the habitat types found on site and that the only species of particular conservation significance sighted was the Hen Harrier which is listed in Annex I of the EU Birds Directive. It proceeds to state that no red-listed species (Birds of Conservation Concern) were recorded within the study area and that wader species were similarly not observed, although it is acknowledged that snipe would be expected to be present in the bog and heath areas on occasion during the winter. In addition, it is emphasised that none of the other potentially important species (i.e. Golden Plover, Red Grouse, Peregrine Falcon, Merlin, White-Tailed Eagles or Chough) were recorded in the study area. At this point I would also advise the Board that the Whooper Swan was not recorded within the study area during the survey work.

13.2.4.6 In respect of the wider environs beyond the study area, Section 5.4.1.6 of the EIS notes that a flock of 40 No. Golden Plover was sighted in flight on one day in February, 2012 approximately 1.3km further south, whilst Chough were recorded on a number of occasions in June and July, 2012 feeding in an area of upland sheep pasture located approximately 500m south of the study area with their departure route noted as being to the south / southwest i.e. away from the proposed development site (*N.B.* Both Golden Plover and Chough are listed in Annex I of the EU Birds Directive). In addition, further vantage point watches in the wider area also recorded sightings of kestrel and sparrowhawk (i.e. Peregrine falcon, Hen Harrier, Merlin and White-Tailed Eagle were not observed).

13.2.4.7 Notwithstanding the foregoing, concerns have been raised in the grounds of appeal as regards the overall adequacy of the bird surveys undertaken by the applicant, with particular reference to White-Tailed Sea Eagle and the Whooper Swan given that Lough Allua (to the north of the study area) is apparently a supporting a habitat for both species. In addition, reference has

been made to sightings of Whooper Swan at Lough Nambrackderg, which lies within the study area and is positioned directly between the two proposed groupings of turbines, and the potential for bird collisions due to the siting of the turbines along a flight path between Lough Allua and Lough Nambrackderg. Concerns have also been raised as regards the positioning of the proposed turbines relative to a flight path for the White-Tailed Sea Eagle between Gougane Barra Forest Park via Lough Allua to The Gearagh SAC / SPA further east.

13.2.4.8 Having considered the foregoing, I would be inclined to suggest that the likely potential impacts on bird populations within the site area would typically include:

- The disturbance of bird communities within the site and the surrounding area which may lead to the desertion of nest sites during the breeding season or avoidance of the site by new and returning birds for breeding purposes.
- The indirect habitat loss through site development works near the turbine locations and on access tracks to the site which may reduce the extent of suitable habitat locations for wintering and breeding birds.
- The direct loss of habitat from the construction of the turbine bases and hardstanding areas etc.
- The risk of collisions with turbine blades.

13.2.4.9 With regard to the appellant's specific concerns in relation to the White-Tailed Sea Eagle and the Whooper Swan, in the first instance, it should be noted that neither of these species were recorded during the bird surveys undertaken by the applicant, although I would concede that this in itself does not preclude the possibility that such species may visit the study area / application site. However, I would further advise the Board that although Lough Allua is listed as a proposed Natural Heritage Area (Site Code: 001065), following a review of the site synopsis for same available from the National Parks and Wildlife Service, it is of relevance to note that neither the lough nor the lakeshore are referenced as supporting either White-Tailed Sea Eagle or the Whooper Swan. Accordingly, on consideration of the evidence presented, I am inclined to suggest that whilst Whooper Swan may on occasion visit the surrounding area, including both Lough Allua and Lough Nambrackderg, given that neither of these sites has been identified by the NPWS as being of natural heritage value for this species (with Lough Nambrackderg not being subject to any existing or proposed statutory designation as either a SAC, SPA or NHA), on balance, it would seem unlikely that any impact on Whooper Swan arising as a result of the proposed

development could be held to be 'significant' and thus a refusal of permission on such grounds would be unwarranted.

13.2.4.10 In relation to the White-Tailed Sea Eagle, it is again of relevance to note that this species was not recorded during the bird surveys whilst the site synopsis for both the Lough Allua proposed Natural Heritage Area (Site Code: 001065) and the Gearagh Special Area of Conservation (Site Code: 000108) make no reference to same. The Natura 2000 Data Form for The Gearagh Special Protection Area (Site Code: 004109) similarly makes no reference to the White-Tailed Eagle. I also note that the Gougane Barra Forest Park has not been designated as an NHA, SAC or SPA.

13.2.4.11 Section 5.2.2.4 of the EIS states that consultations with Dr. Allan Lee, Project Manager of the Irish White-Tailed Sea Eagle Reintroduction Programme, have confirmed the presence of this species in the wider area with tracking studies purportedly showing that birds which nest at Kilgarvan in Co. Kerry commute daily to the Lee Valley / Lough Allua. However, on the basis that Lough Allua is located 1.4km north of the application site whilst Kilgarvan is located beyond same and 17.5km northwest of the application site, the applicant has submitted that the proposed turbines will not lie along a direct commuting line between Lough Allua and Kilgarvan. The applicant has also referenced a bird roost at Gougane approximately 6.9km northwest of the site and it would appear that any commuting along this route to Lough Allua would similarly avoid the proposed development.

13.2.4.12 In response to the foregoing, the appellants have again questioned the adequacy of the bird surveys, including the absence of a dedicated survey for the White-Tailed Eagle. It has also been submitted that the Lee Valley, from Gougane Barra via Lough Allua to The Gearagh, is a known flight route for the eagle and that a reliance on GPS data is misleading as only a small proportion of the birds are tracked. Furthermore, reference is made to correspondence received by an observer from Dr. Lee which states that *'The Golden Eagle Trust considers the Upper Lee Valley, especially the Gearagh to Lough Allua – Gougane Barra to be an important area for the future conservation of White-Tailed Eagles'* and that *'White-Tailed Eagles have been known to roost and use the Shehy More area of the Shehy Mountains for foraging while in the Upper Lee Valley'*.

13.2.4.13 Having considered the available information, whilst the White-Tailed Eagle would appear to visit the area in question, the daily commuting route

referenced would seem to suggest that the proposed turbines will not interfere with same. In relation to any flight paths along the Lee Valley and onwards to The Gearagh, whilst I would acknowledge the appellants concerns in this regard, I note that the proposed development site is located c.1.5km south of Lough Allua and thus this separation distance (and perhaps also the surrounding topographical pattern) may serve to obviate any potential risk to commuting / migrating birds as has been suggested by the applicant. Similarly, I would reiterate that neither the Lough Allua proposed Natural Heritage Area (Site Code: 001065) or The Gearagh Special Protection Area (Site Code: 004109) have been designated due to their importance to the White-Tailed Eagle. Therefore, I am not satisfied that the proposed development is likely to give rise to a significant impact on the species in question.

13.2.4.14 With regard to those recorded sightings of the Hen Harrier within the study area during the winter surveying period, I note that overall activity was low with the nearest known breeding site purportedly located 14km from the study area. Furthermore, collision risk modelling undertaken by the applicant based on the survey observations has essentially concluded that the overall risk of a bird colliding with a turbine is negligible.

13.2.4.15 Accordingly, having considered the available information, and noting the further observations with regard to other bird species which occur in the vicinity of the application site, including Red Grouse as submitted by the appellants, I am generally satisfied that the proposed development, subject to the implementation of the mitigation measures set out in Section 5.5 of the EIS, will not result in any significant adverse impact on bird communities either on site or within the wider area.

13.2.4.16 In relation to flora and fauna in general, including species such as bats and the Kerry Slug, the proposed development will inevitably result in the loss of some individual examples of plant and animal species from within the footprint of the proposed construction, whilst it is also likely that the disturbance arising during the construction period may also indirectly impact on fauna using the site, however, given the absence of any statutory designations on site and as the fauna present are typical of the surrounding area, I would suggest that any such impacts will be of limited significance. Similarly, any disturbance of fauna arising during the construction phase is likely to be short-term given the temporary nature of the works.

13.2.4.17 In terms of the aquatic environment, the EIS notes that the study area drains to three river catchments, namely, the Bandon / Caha, the Lee and the Owvane, by means of a series of upland streams and a number of other smaller drainage ditches, and that the Freshwater Pearl Mussel is found in the Bandon River, the River Lee and the Owvane River, all of which are situated downstream of the study area whilst a small population is also known to be present in Lough Allua. Accordingly, any deterioration in surface water quality within tributaries / watercourses draining to these river systems consequent on the proposed development could potentially have a significant indirect impact on both the Freshwater Pearl Mussel and other downstream species and habitats. For example, potentially negative impacts during the construction and operational stages of the proposed development on the wider aquatic environment and fisheries would include:

- Pollution of watercourses with suspended solids due to runoff of soil from construction and clear-felled areas;
- The contamination of surface waters during construction works through the accidental release or discharge of hydrocarbons or other contaminated site runoff;
- Sedimentation arising from peat erosion during construction;
- Obstruction of upstream movement of aquatic fauna due to culverting;
- Changes to the hydrological regime of the area such as through the alteration of the flow rates of streams / rivers;
- The generation of increased surface water runoff arising from impermeable surfaces with high suspended solids content entering watercourses;
- The creation of preferential flow paths for surface water resulting in a significant increase in the volume of water entering local watercourses which can place additional pressure on those watercourses and interfere with the sustained flow of water particularly during dry weather; and
- The leachate or slippage of disturbed / stockpiled peat soil into watercourses.

13.2.4.18 Section 5.2.2.4 of the EIS subsequently clarifies that the study area lies approximately 8km upstream of the nearest known mussel site in the Caha River, between 8-10km upstream of the nearest site in the River Lee and 17km upstream of the nearest known mussel site in the Owvane River. Section 4.6 of the EIS then states that the Freshwater Pearl Mussel was not recorded during kick sampling within any of the streams within the study area and that said streams do not present suitable potential habitats for this species until they

become larger as would be found downstream of the study area. However, it has been asserted by an observing party that the NPWS has recently confirmed the presence of the Freshwater Pearl Mussel in the Bealaphuadeen River within 4km of the application site and that tributaries of this river flow within 60m of the base of Turbine No. 10 (*N.B.* The northern part of the study area is drained by a stream which forms a tributary of the Sruhaunphadeen Stream before joining the Bealaphuadeen Stream which then flows into Lough Allua thus entering the flow of the River Lee). In response to the foregoing, the applicant has stated that irrespective of the distance to the nearest known Freshwater Pearl Mussel population, it has always been the intention to adhere to the best practice guidance published by the Forest Service over the entire site for all clear-felling operations required prior to the onset of the construction phase. This guidance includes the Forest Service (Draft) *'Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures'*. It subsequently states that, subject to mitigation, there will be no residual impact on the water quality requirements for Freshwater Pearl Mussel.

13.2.4.19 Having reviewed the submitted information, including the measures to be implemented with respect to pre-commencement felling operations, drainage design and site management during the construction and operational phases of the proposed development, in addition to the proposal to conduct water quality monitoring during all phases of the project which will allow for the opportunity to review and revise measures as appropriate, it is my opinion that the risk of the detrimental impacts on water quality downstream of the site can be satisfactorily mitigated.

13.2.4.20 In conclusion, it should be acknowledged that most forms of development will invariably impact on ecological considerations to some degree, however, in this instance, I am satisfied that on balance the residual impacts of the proposed development are both localised and of such limited significance and influence as not to warrant a refusal of permission. Accordingly, having considered the available information, in my opinion, the impact of the proposed development on the aforementioned flora and fauna on site is within tolerable limits.

13.2.5 Soils & Geology:

13.2.5.1 Chapter 6 of the EIS describes the soil and bedrock conditions underlying the subject site and I would advise the Board that this information is based on a desk study of the available information in addition to on-site investigations, including a peat probing survey.

13.2.5.2 With regard to the dominant bedrock geology underlying the study area, reference to the GSI database indicates that the majority of the lands are underlain by Devonian Old Red Sandstone, which comprises different combinations of sandstone, mudstone and siltstones that are regularly cross-bedded in areas, whilst the southern section of the study area is underlain by Dinantian mudstones and sandstones belonging to the Cork Group. In respect of the overlying soils and subsoils, mapping available from the Environmental Protection Agency has confirmed that the predominant soil types in the area are peaty podzols (Podzols are predominantly shallow soils derived from non-calcareous rock with a peaty surface horizon). Poorly drained peaty gleys have also been mapped in the lower lying valley areas and adjacent to watercourses whilst areas of blanket bog are evident with the central component of the study area. The subsoils map compiled by the GSI also shows that mineral subsoils are absent or thin over much of the study area with bedrock located close or at the surface over much of the land and blanket bog evident within the centre of the area.

13.2.5.3 Peat depths in the vicinity of the proposed turbines locations and along the access roads were established through a programme of approximately 190 No. peat probes whilst gouge cores were undertaken at each turbine location, substations and compounds to further investigate the peat and mineral subsoil lithology. Section 6.3.2 of the EIS states that peat depths recorded within the areas proposed for development ranged from 0.0m to 3.8m with an average of 0.8m. With respect to the proposed access roads it has been submitted that peat depths are typically less than 2.0m with some localised thicknesses of up to 3.2m recorded whilst at the turbine locations the peat thickness varied from 0.0m to 1.3m with an average of 0.7m (*N.B.* The average peat depths at each of the proposed turbine locations are detailed in Table 6.4 of the EIS).

13.2.5.4 Potential negative impacts on the underlying soil / geology / hydrogeology arising as a result of the proposed development will include the direct physical impact of excavations carried out during construction and the possible contamination of surface and ground waters due to accidental spillages / leakages or the release of suspended solids. However, perhaps the most significant potential impact arising as a direct result of the construction of the proposed development is the possibility of bog failure / slippage given the peaty subsoil conditions on site.

13.2.5.5 With regard to the operational impact of the proposed development on soil / geology / hydrogeology, it should also be acknowledged that the increase in surface water runoff consequent on the replacement of previously vegetated / peatland areas with concrete / hardstanding at the turbine locations could result in changes to the hydrological regime. Further impacts on the water environment may arise during the operational phase if regular maintenance, monitoring and auditing of mitigation structures and procedures is not undertaken during the lifetime of the project.

13.2.5.6 In order to minimise the potential constructional impacts arising from the development, it is proposed to implement a series of mitigation measures set out in Section 6.5 of the EIS which includes various mechanisms intended to minimise the accidental release or discharge of hydrocarbons and other contaminated site runoff, however, in my opinion, the principle issue of concern remains the likelihood of bog failure / slippage. In this respect I would refer the Board to the peat stability assessment contained in the EIS which concludes that the likelihood of a landslide occurring on site is 'insignificant' although drainage mitigation measures will be required to prevent the build-up of water in the peat and to reduce the risk of failure.

13.2.5.7 Having considered the foregoing, I am satisfied that, subject to the implementation of suitable mitigation measures, the construction and operation of the proposed development should not give rise to any significant impact in terms of soil, geological and hydrogeological considerations on site.

13.2.6 Water (Hydrology & Hydrogeology):

13.2.6.1 In order to avoid unnecessary repetition I would advise the Board of the need to consider any hydrological impacts arising on site as a result of the proposed development in tandem with my assessment of the potential impacts on the aquatic environment. Furthermore, any implications for Natura 2000 sites due to impacts on the hydrological regime of the area should be viewed in conjunction with the '*Appropriate Assessment*' of the proposal as set out in Section 13.3 of this report.

13.2.6.2 Chapter 7 of the EIS has chosen to focus on the likely hydrological and hydrogeological impacts arising as a result of the proposed development including the following:

- Additional surface water runoff thereby increasing the peak flow to streams draining the site;

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- Sediment release during clear-felling and construction phase earthworks and associated suspended sediment and nutrient loading of rivers via site surface waters;
 - Pollutant release such as hydrocarbons and cement to the aquatic environment;
 - Potential hydrological changes to the drainage regime of the area; and
 - Deterioration in water quality thereby impacting on downstream Freshwater Pearl Mussel sites within the River Lee, the Bandon River and the Owvane River catchments.

13.2.6.3 Most notably, with regard to the potential impact of the proposed development on those populations of Freshwater Pearl Mussel located downstream of the application site, I would refer the Board to Section 7.4.4 of the EIS which states that having screened the proposed development against the criteria set out in the *'Forestry and Freshwater Pearl Mussel Requirements: Site Assessment and Mitigation Measures'* published by the Department of Agriculture, Fisheries and Food, and as the nearest known mapped Freshwater Pearl Mussel site lies approximately 8km downstream of the development site, it is appropriate to implement the best practice mitigation measures set out in the Forestry Service Guidelines (as distinct from the more onerous 'requirements' of the aforementioned *'Forestry and Freshwater Pearl Mussel Requirements: Site Assessment and Mitigation Measures'*). In this respect I would draw the Board's attention to the comments by an observing party to the appeal that the NPWS has recently confirmed the presence of the Freshwater Pearl Mussel in the Bealaphuadeen River within 4km of the application site and, therefore, it would seem that as the proposed development will be within 6km of this identified population of mussel it will be necessary to adhere to the 'requirements' of the *'Forestry and Freshwater Pearl Mussel Requirements: Site Assessment and Mitigation Measures'* although I would suggest that this matter can be addressed by way of condition.

13.2.6.4 Further measures to avoid or reduce the potential impact of the proposed development on water quality are set out in Section 7.4 of the EIS and include the use of 50m wide watercourse / aquatic environment buffer zones during the construction phase, assorted drainage control mechanisms (such as interceptor drains, stilling ponds, check dams, sediment and slit traps, and diffused vegetation filters) and the implementation of a programme of surface water quality monitoring throughout the construction process.

13.2.6.5 With regard to concerns as regards the potential impact of the proposed works on private wells / water supplies in the vicinity of the site, I would refer the Board to Section 7.3.14 of the EIS which states that given the separation distances between the nearest (potential) down-gradient wells and the proposed turbines and borrow pits, in addition to the relatively poor permeability of the underlying bedrock aquifer, the potential risk to such well sources is negligible.

13.2.6.6 On balance, having considered the available information, I am satisfied that the potential hydrological and hydrogeological impacts associated with the construction and operation of the proposed development can be mitigated to within acceptable limits.

13.2.7 Air Quality:

13.2.7.1 During construction of the proposed development the principle impact on air quality will most likely arise from a combination of fugitive dust emissions emanating from the on-site construction activity, with particular reference to excavation works and to the movement of traffic and materials both within the site and along designated haul routes, and exhaust fumes from construction traffic and machinery.

13.2.7.2 In relation to dust emissions I would suggest that as the site is primarily composed of commercial forestry and bogland with a high moisture content, the wet nature of the underlying soil is less likely to result in the release of dust particles during construction works. Furthermore, given the separation distance to nearby housing it would seem unlikely that residential amenity would be affected by dust emissions arising from the construction of the proposed development, although there may be a localised effect on flora and fauna in the immediate vicinity of the site / works. Nevertheless, Section 8.1.5 of the EIS has outlined a series of measures which will be implemented on site in order to militate against the potential release of dust during the construction phase. These include the dampening down of haul roads and around the borrow pits during periods of extended dry weather and the minimisation of areas of excavation, although I would suggest that it would also be appropriate to implement a suitable dust-monitoring programme to be agreed in advance with the Planning Authority.

13.2.7.3 In specific reference to the proposed borrow pits and any fugitive dust emissions likely to arise from the operation of same, it is of relevance to note that the extraction areas will be located a significant distance (in excess of 600m) from surrounding housing whereas the *'Quarry and Ancillary Activities, Guidelines for Planning Authorities'* published by the Department of the

Environment, Heritage and Local Government in 2004 only make reference to residents living within 500m of a quarry as having the potential to be affected by dust with continual or severe concerns about dust most likely to be experienced within c.100m of the dust source.

13.2.7.4 With regard to exhaust emissions I would suggest that any adverse impact on air quality as a result of same will be short-term and of no significance.

13.2.7.5 Having reviewed the foregoing, given the inherent temporary duration and impact of the proposed construction works, coupled with the implementation of suitable measures to ensure best practice site management and dust minimisation, I am satisfied that the construction of the proposed development will not result in any significant impact on air quality in the surrounding area. Similarly, given the nature of the development proposed, I would not anticipate any significant detrimental impact on air quality during the operational phase

13.2.8 Climatic Factors:

13.2.8.1 Whilst the construction of the proposed development will invariably result in the emission of some greenhouse gases, this can be mitigated by adherence to best practice site management including the shutting off of equipment during periods of inactivity and the implementation of a traffic management plan. Accordingly, in my opinion, the impact of any such emissions on climatic considerations will be minimal.

13.2.8.2 With regard to the operational impact of the proposed development, I would concur with the findings of the EIS that the generation of renewable electricity by the proposed turbines will have a wider positive impact on climatic considerations in terms of reducing carbon emissions thereby contributing to the achievement of national and international emission reduction objectives through the displacement of traditional methods of energy generation by the unsustainable combustion of fossil fuels such as coal and oil.

13.2.9 Landscape:

13.2.9.1 The design of wind turbines necessitates increased height in order to avail of greater wind speeds and, therefore, such structures are typically visible over a wide area. In this respect concerns have been raised that the proposed development will appear unduly visually prominent on the surrounding landscape. Accordingly, in order to assess the visual impact of the subject proposal it is necessary in the first instance to consider the site context having

regard to the site location and the wider sensitivity and landscape value of the surrounding area.

13.2.9.2 In a local context, the proposed development site is located on the north / north-eastern slopes of Shehy More on the eastern fringe of the Shehy Mountains with views over Lough Allua to the northeast, which forms part of the Upper River Lee Valley, and beyond towards the Derrynasagart Mountains. The topography of the site and surrounding lands ranges in elevation from 170m OD to peaks of 546m OD (Shehy More), 303m OD (Mount Prospect) and 342m OD (Carrigmount). Agriculture and commercial forestry plantations are the predominant land uses in the area with intermittent instances and localised concentrations of individual farmsteads and one-off rural housing also prevalent

13.2.9.3 The site straddles two wider landscape types classified as *'Ridged and Peaked Upland'* and *'Rolling Marginal Middleground'* and is also divided between the *'Lough Allua (Composite Middle Valley of Rugged Scrub, Mosaic and Marginal Land)'* and *'Shanlaragh (Middle Valley of Rugged Moorland and Patchwork Moraines)'* landscape character areas as identified in the Landscape Character Mapping contained in Volume 3 of the County Development Plan, 2009. Notably, the site itself is not located within a designated *'Scenic Landscape'* as identified in the County Development Plan, although it will be visible to some extent from a number of Scenic Routes, with particular reference to Scenic Route Nos. S32 (*Local Roads from South Lake Road – Inchigeela and Ballingearry, via Curraheen to Tullagh: Views of Lough Allua & the surrounding mountains*), S33 (*Local Road between Ballingearry – branch off S. Lake Road and Kealvaugh: Views of Lough, surrounding lakes, hills & remote rural landscape*) & S34 (*R584 Regional Road between Inchigeela & Ballingearry to Keimaneigh: Views of Lough Allua, Lee River Valley, Shehy Mountains, hills & surrounding rugged landscape*), with the views from same listed for preservation in the Development Plan pursuant to Objective No. ENV 2-11 whilst Appendix B: *'Scenic Route Profile'* of the Plan confirms that said views are in areas of *'Medium'* overall landscape value.

13.2.9.4 Chapter 10 of the EIS (as supplemented by the response to the request for further information and the first party grounds of appeal) provides a detailed assessment of the overall visual impact of the proposed development and includes the use of photomontages and wireframes in order to illustrate the projected impact of the proposal from a series of 12 No. identified viewpoints. It also includes an analysis of the potential cumulative visual impact of the development when taken in conjunction with existing and permitted farms within

a 20km radius of the site through the identification of 'Zones of Theoretical Visibility'. Having conducted an inspection of both the application site and the wider area, in my opinion, the foregoing assessment of the visual impact of the proposed development is reasonable and I would generally concur with its findings as regards to the likely visibility of the turbines from within the wider area.

13.2.9.5 The most significant impacts will be felt within short-medium range views in the vicinity of the site and particularly from vantage points along the R584 Regional Road to the north, although I would note that the turbines will be located perpendicular to the regional road and thus they will not terminate the view forward along this road. Longer distance views of the site will also be available from within the wider area, although intervening landscape features such as buildings and hedgerows will serve to mitigate the overall visual impact of the scheme

13.2.9.6 Clearly, the erection of 12 No. turbines with a blade-tip height of up to 131m will result in some degree of visual intrusiveness in the landscape with the most significant impact being felt from along the R584, however, I am inclined to conclude that although the landscape at the appeal site location is visually attractive it is not unique. In my opinion, whilst wind turbines by their nature are typically visually prominent by reason of their height, having regard to the site location in a relatively sparsely populated area, the landscape character of the area within the foothills of the Shehy Mountains, the spacing and layout of the turbines, and the analysis of the visual impact of the proposal as set out in the EIS, on balance, I am satisfied that the development proposed can be accommodated on site and that the overall visual impact on the area is within acceptable limits. Furthermore, whilst I am conscious of the increasing proliferation of individual wind energy developments within this particular area of West Cork and the potential cumulative visual impact of same, in this instance, I am satisfied that the overall visual impact is within tolerable limits.

13.2.9.7 With regard to the first party appeal against the inclusion of Condition No. 5 which requires the omission of Turbine No. T12 in its entirety and the replacement of Turbine Nos. T1 & T2 with a single turbine *'in the interest of residential and visual amenity'*, on the basis of the available information, it is my opinion that the separation distances proposed between the turbines in question and nearby dwellings accord with national guidance which seek to protect residential and visual amenities and that the aforementioned revisions are not necessary to ensure such amenities are properly protected.

13.2.10 Material Assets:

Having reviewed the available information, I propose to focus this aspect of my assessment on the impact of the proposed development on architectural / archaeological heritage considerations in addition to any implications in respect of tourism.

13.2.10.1 Architectural Heritage:

13.2.10.1.1 Following a review of the available information, and in light of the absence of any protected structures either within the confines of the application site or in the immediate vicinity of same, I am satisfied that the proposed development is unlikely to give rise to any significant impact on items of built heritage.

13.2.10.2 Archaeological Heritage:

13.2.10.2.1 In terms of the archaeological heritage implications of the proposed development, in the first instance it can be confirmed from a review of the available information that there are 5 No. recorded archaeological monuments within the study area, however, the layout of the proposed development has ensured that no turbines, access roads or other structures will be located immediately adjacent to same. In this respect I would refer the Board to Figure 11.10 of the EIS which confirms that all recorded monuments are located outside of the proposed works area. Similarly, whilst 2 No. previously unknown 'hut' sites have recently been identified in the vicinity of Turbine No. 12, these are also located outside the extent of the proposed development works.

13.2.10.2.2 With regard to the potential for unknown sub-surface archaeological features on site, I am satisfied as regards the applicant's proposals to ensure that all ground works are subjected to archaeological monitoring under license from the Department of Arts, Heritage and the Gaeltacht.

13.2.10.2.3 In relation to those concerns that the proposed development could potentially impinge on the astronomical alignment of certain archaeological monuments, with specific reference to the Stone Circle (RMP Ref. No. CO093-013) located in the townland of Coolmountain, approximately 2.0km east of Turbine No. 8, I note that the applicant has undertaken an investigation of same which is included in Appendix 4 of the response to the request for further information. This study has been prepared by Tobar Archaeological Services and states that the stone circle in question has no known alignment and that as the majority of the stones are now missing with only two remaining it is not possible

to determine what particular alignment, if any, the site was associated with. It proceeds to review possible alignments and notes that whilst the majority of stone circles have a northeast-southwest alignment (although variations outside this norm have also been recorded), given the situation of the stone circle in question on a southeast-facing slope, it is considered to be unlikely that the stones had a northwest-southeast alignment since the hill to the west would have blocked any potential sun alignments in this direction. It is accepted that there is a possibility that the stone circle may have originally been aligned with the rising sun on the 21st June, although it is stated that the proposed turbine locations do not interfere with any such potential alignment as they are not located between the stone circle on its NE-SW alignment and the rising / setting sun. It has also been emphasised that the stone circle is no longer in its original context and is now located in a much altered environment whilst views from same towards the proposed wind farm are obscured by existing vegetation etc. The report subsequently concludes that the proposed turbines do not have the potential to impact on any astronomical alignments.

13.2.10.2.4 Therefore, on the basis of the foregoing, I am satisfied that the proposed development, subject to the implementation of suitable mitigation measures, is unlikely to have any significant impact on items of archaeological interest.

13.2.10.3 Tourism:

13.2.10.3.1 Whilst I would acknowledge the need to maintain and develop West Cork as a tourist destination, given the popularity of the region I am unconvinced that the development of the proposed wind farm would in itself deter visitors from coming to the area. Furthermore, I would suggest that the perception of wind turbines by tourists is likely to be strongly influenced by an individual's views on wind energy. Whilst some individuals / parties may object to wind turbines in principle, or in a given locality, others may welcome such developments or simply be indifferent to same. Similarly, with regard to the possible adverse impact of the proposed development on the use of local amenities in the area such as walking / cycling trails, it is difficult to predict whether these impacts will be of such magnitude as to discourage the use of these areas. Notably, in some locations in Ireland the development of wind turbines has attracted a certain curiosity factor, for example, at Carnsore Point, Co. Wexford, whereby increased visitor numbers are attracted to a particular area to view the turbines, although I would accept that over the passage of time and as wind energy development becomes more prevalent it is likely that this novelty factor will gradually diminish.

13.2.10.3.2 On consideration of the foregoing, it is my opinion that the erection of the proposed turbines will not directly prohibit or hinder the use of surrounding amenities, including nearby walkways, although some individuals may choose to not to avail of same given the presence of the turbines and their impact in terms of noise and visual appearance. This is a matter which is difficult to judge, however, on balance, I would suggest that the proposal is not incompatible with any amenity activities which may take place in the locality.

3.2.11 Interactions and Cumulative Effects:

3.2.11.1 With regard to the inter-relationships between several of the foregoing factors / impacts, in my opinion, these interactions have been satisfactorily addressed throughout the EIS and the further submissions received by during the application and appeal process.

13.3 Appropriate Assessment:

13.3.1 From a review of the available mapping, including the data maps from the website of the National Parks and Wildlife Service, it is apparent that whilst the proposed development site is not located within any Natura 2000 designation there are a number of protected sites in the wider area (as identified in Figure 1.2 of the Natura Impact Statement contained in Appendix 5 of the EIS) including the Bandon River Special Area of Conservation (Site Code: 002171) and The Gearagh Special Area of Conservation (Site Code: 000108) and Special Protection Area (Site Code: 004109). In this respect it is of relevance to note that it is the policy of the planning authority, as set out in Objective No. ENV 1-5: *'Natural Heritage Sites'* of Chapter 7 of the Cork County Development Plan, 2009, to protect all natural heritage sites, both designated or proposed for designation, in accordance with National and European legislation. In effect, it is apparent from the foregoing provisions that any development likely to have a serious adverse effect on a Natura 2000 site will not normally be permitted and that any development proposal in the vicinity of, or affecting in any way, the designated site should be accompanied by such sufficient information as to show how the proposal will impact on the designated site. Therefore, a proposed development may only be authorised after it has been established that the development will not have a negative impact on the fauna, flora or habitat being protected through an Appropriate Assessment pursuant to Article 6 of the Habitats Directive.

13.3.2 Having reviewed the available information, including the Natura Impact Statement that accompanied the subject application (as subsequently revised in response to the request for further information) and the screening exercises

conducted by the applicant and the Planning Authority in respect of the subject proposal, and following consideration of the 'source-pathway-receptor' model, it is my opinion that, in accordance with the precautionary principle, it is not possible to rule out the likelihood of the proposed development significantly impacting on a Natura 2000 site and that particular consideration needs to be given to the likelihood of the proposal to have a significant effect on the conservation objectives of the Bandon River Special Area of Conservation given the potentially significant impacts on water quality which could arise from any runoff of sediment and / or pollutants into the SAC during the construction of the proposed development thereby threatening the qualifying interests of the site and undermining the relevant conservation objectives which seek to:

- Maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:
 - [1029] *Margaritifera margaritifera* (i.e. the Freshwater Pearl Mussel)
 - [1096] *Lampetra planeri*
 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation
 - [3260] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

N.B. I would advise the Board that I would also accept the potential for significant impacts on The Geagh SAC as detailed in the applicants screening exercise (Please refer to Appendix 8 of the response to the request for further information).

13.3.3 Accordingly, it is reasonable to conclude on the basis of the information available, which I consider adequate in order to issue a screening determination, that the likelihood of the proposed development significantly and negatively affecting the aforementioned Natura 2000 sites cannot be objectively ruled out and therefore it is necessary to proceed to 'Appropriate Assessment (Stage 2)'.

13.3.4 The subject application has been accompanied by a Natura Impact Statement (as subsequently revised on 2nd April, 2014) and I would refer the Board to this document as a basis on which to assess the likely impact of the proposed development.

13.3.5 With regard to the Stage 2 Appropriate Assessment as set out in the (revised) Natura Impact Statement, I am generally satisfied that it has adequately identified the key characteristics of the potential impacts arising as a result of the proposed development which would be likely to undermine the stated conservation objectives of the designated site. These include the potential for contaminated ground and surface waters to impact on the integrity of the SAC and its qualifying interests. This '*Natura Impact Assessment*' subsequently concludes that, subject to adherence to a series of specified mitigation measures, there would be no significant effects on hydrology and, therefore, no significant adverse effects on the integrity of the site as a result of the proposed development.

13.3.6 In order to avoid unnecessary repetition I would refer the Board to my earlier comments with regard to the hydrological and hydrogeological implications of the proposed development as set out in my environmental impact assessment of the subject application. In my opinion, this outlines how the design of the proposed development, when taken in combination with specified mitigation measures, will not impact on the integrity of the Bandon River Special Area of Conservation and thus will not compromise its qualifying interests.

13.3.7 Therefore, I consider it reasonable to conclude, on the basis of the information available, and noting the conclusions of the Local Authority Ecologist, that the proposed development, when taken individually and in combination with other plans or projects, will not adversely affect the integrity of the Bandon River Special Area of Conservation (or any other Natura 2000 site) given the separation distances involved) in view of the sites conservation objectives.

13.4 Other Issues:

13.4.1 Public Health Concerns:

13.4.1.1 Having considered the submitted information, I am not in a position to undertake an extensive in-depth analysis of the wider debate as regards the alleged impact of wind turbines on human health nor do I consider it to be within the remit of the Board to undertake such an exercise.

13.4.1.2 Whilst I would acknowledge the concerns raised by the various third parties with regard to the alleged impact of wind turbines, with particular reference to noise (including infrasound and low frequency sound) and shadow flicker, on human health, the current national planning guidelines with regard to wind energy development do not specifically address the matter whilst the recently published targeted review of same expressly states that any such

impacts are beyond the remit of the guidelines. Accordingly, it is my opinion that the Board is restricted to considering the subject proposal in the context of the applicable current guidance and in this respect the submitted information serves to clarify that the development as proposed generally complies (subject to mitigation) with the applicable limit values and thus will not give rise to any overt loss of amenity. The wider debate as regards the alleged health impact of wind turbines is not a matter for the Board and I do not propose to comment further on same.

13.4.2 Grid Connection:

13.4.2.1 In respect of connection to the national grid, it is envisaged that the wind farm, if approved, will connect to the Dunmanway substation with the required cabling to be laid underground along the public road network. Whilst a preferred grid connection route is shown in Figure 3.11 of the EIS whereby the connection will run in a southwest direction along local roads until it reaches the R586 Regional Road and terminates at the substation, the connection itself does not form part of the subject application as Eirgrid or ESB Networks will be responsible for obtaining all the necessary consents for the grid connection. In my opinion, such matters can be clarified further by way of condition.

13.4.3: Public Safety:

13.4.3.1 With regard to public safety concerns, whilst I would acknowledge previous instances of turbine failure (including blade throw and turbine fires), such occurrences are infrequent, and in light of normal health and safety requirements, in my opinion, do not warrant a refusal of permission.

14.0 RECOMMENDATION

Having regard to the foregoing I recommend that the decision of the Planning Authority be upheld in this instance and that permission be granted for the proposed development for the reasons and considerations and subject to the conditions set out below:

Reasons and Considerations:

Having regard to :–

- a) the national policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions of greenhouses gases,

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- b) the guidelines issued by the Department of Environment, Heritage and Local Government in 2006 on Wind Energy Development,
 - c) the policies of the planning authority as set out in the Cork County Development Plan 2009 -2015, as varied, including objective INF 7-4 which specifically addresses wind energy projects
 - d) the character of the landscape and the topography surrounding the site,
 - e) the characteristics of the site and of the general vicinity,
 - f) the pattern of existing and permitted development in the area, including other wind farms,
 - g) the distance to dwellings or other sensitive receptors from the proposed development,
 - h) the Environmental Impact Statement,
 - i) the Natura Impact Statement, and
 - j) the submissions made in connection with the planning application

it is considered that, subject to compliance with the conditions set out below, the proposed development would not have a significant adverse effect on the landscape or the visual or residential amenities of the area, would not adversely affect the natural heritage or the integrity of any European site, including Natura 2000 sites or any protected species and would be acceptable in terms of traffic safety and convenience. The proposed development 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 submitted the 2nd day of April, 2014 except as may otherwise be required in order to comply with the following conditions. Where such conditions require points of detail to be agreed with the planning authority, these matters shall be the subject of written agreement and shall be implemented in accordance with the agreed particulars. In particular, the mitigation measures described in the Environmental Impact Statement, the Natura Impact Statement, and other details submitted to the planning authority, shall be implemented in full during the construction and operation of the development.

Reason: In the interest of clarity.

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2. This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.

Reason: In the interest of clarity.

3. The period during which the development hereby permitted may be carried out shall be ten years from the date of this order.

Reason: Having regard to the nature of the proposed development, the Board considered it appropriate to specify a period of validity of this permission in excess of five years.

4. This permission shall be for a period of 25 years from the date of commissioning of the wind farm.

Reason: To enable the planning authority to review its operation in the light of the circumstances then prevailing.

5. All of the environmental, construction and ecological mitigation measures set out in the Environmental Impact Statement, the Natura Impact Statement and associated documentation, and in the further information submitted to the planning authority shall be implemented in conjunction with the timelines set out, except where conditions hereunder specify otherwise.

Reason: in the interest of orderly development and environmental protection.

6.
 - a) The permitted turbines shall have a maximum tip height of 131 metres. Details of the turbine design, height and colour shall be submitted to, and agreed in writing with, the planning authority, prior to commencement of development.
 - b) Cables from the turbine to the substation shall be run underground within the site.
 - c) The wind turbines shall be geared to ensure that the blades rotate in the same direction.

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- d) Transformers associated with each individual turbine and mast shall be located either within the turbine mast structure or at ground level beside the mast.
 - e) The access tracks within the site shall be surfaced in suitable material and shall not be hard topped with tarmacadam or concrete.
 - f) Roads, hard-standing areas and other hard-surfaced areas shall be completed to the written satisfaction of the planning authority within three months of the date of commissioning of the windfarm.
 - g) Soil, rock and other materials excavated during construction shall not be left stockpiled on site following completion of works. Excavated areas including the borrow pits and areas of peat placement shall be appropriately restored within three months of the date of commissioning of the wind farm.

Reason: In the interest of the amenities of the area.

- 7. Details of aeronautical requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Subsequently the developer shall inform the planning authority and the Irish Aviation Authority of the co-ordinates of the as constructed positions of the turbines and the highest point of the turbines (to the top of the blade spin).

Reason: In the interest of air traffic safety.

- 8. Noise mitigation measures outlined in the environmental impact statement and in the further information submitted to the planning authority shall be carried out in full. The following conditions shall be complied with:
 - a) Noise levels emanating from the proposed development following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at third party noise-sensitive locations, shall not exceed 43dB(A)L90, 10 min; or a fixed lower limit of 40dB(A) at lower wind speeds in low noise environments.
 - b) All noise measurements shall be made in accordance with I.S.O. Recommendations R1996/1, 2 & 3 "Acoustics – Description and Measurement of Environmental Noise".
 - c) The developer shall arrange for a noise compliance monitoring programme for the operational wind farm. Details on the nature and

extent of the monitoring programme, including any mitigation measures such as the de-rating of particular turbines, shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: In the interest of residential amenity.

9.

- a) Shadow flicker arising from the proposed development, by itself or in combination with other existing or permitted wind energy development in the vicinity, shall not exceed 30 hours per year or 30 minutes per day at existing or permitted dwellings or other sensitive receptors. In the event of this limit being exceeded, the operation shall cease until mitigation measures have been agreed in writing with the planning authority.
- b) A report shall be prepared by a suitably qualified person in accordance with the requirements of the planning authority, indicating compliance with the above shadow flicker requirements. Within 12 months of commissioning of the proposed wind farm, this report shall be submitted to, and agreed in writing with, the planning authority.
- c) A shadow flicker compliance monitoring programme for the proposed development shall be submitted to, and agreed in writing with, the planning authority prior to the commencement of development.

Reason: In the interest of residential amenity.

10. Facilities shall be installed to minimise interference with radio or television reception in the area. Details of the facilities to be installed which shall be at the developer's expense shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.

Reason: In the interest of residential amenity.

11.

- a) Full details of the upgrading works to the existing site access arrangements and the associated road improvement works to be undertaken along the public road, including any road widening and strengthening, designed to facilitate the proposed development shall

be submitted to and agreed in writing with the planning authority prior to the commencement of development.

- b) Prior to the commencement of any further development works on the application site, the developer shall have completed, to the written satisfaction of the planning authority, the upgrading works to the existing site access arrangements and the associated road improvement works along the public road in accordance with point (a) above.
- c) The provision of the required upgrading of the existing site access arrangements and the associated road improvement works on the public road shall be undertaken at the expense of the developer.

Reason: In the interest of proper planning and sustainable development and in the interest of pedestrian and road traffic safety.

12.

- a) Prior to commencement of development, details of the following shall be submitted to, and agreed in writing with the planning authority:
 - i) a Transport Management Plan, including details of the road network/haulage routes, the vehicle types to be used to transport materials on and off site, and a schedule of control measures for exceptional wide and heavy delivery loads.
 - ii) a condition survey of the roads and bridges along the haul routes to be carried out at the developer's expense by a qualified engineer both before and after construction of the wind farm development. This survey shall include a schedule of required works to enable the haul routes to cater for construction-related traffic. The extent and scope of the survey and the schedule of works shall be agreed with the planning authority/authorities prior to commencement of development.
 - iii) detailed arrangements whereby the rectification of any construction damage which arises shall be completed to the satisfaction of the planning authority/authorities.
 - iv) detailed arrangements for temporary traffic arrangements/controls on roads.

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- v) a programme indicating the timescale within which it is intended to use each public route to facilitate construction of the development.
 - b) All works arising from the aforementioned arrangements shall be completed at the developer's expense, within 12 months of the cessation of each road's use as a haul route for the proposed development.

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

Reason: To protect the public road network and to clarify the extent of the permission in the interest of traffic safety and orderly development.

13. On full or partial decommissioning of the wind farm or if the wind farm ceases operation for a period of more than one year, the masts and the turbines concerned (including foundations) shall be removed and all decommissioned structures shall be removed within three months of decommissioning.

Reason: To ensure satisfactory reinstatement of the site upon cessation of the project.

14. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including:

- (a) Location of the site and materials compound(s) including area(s) identified for the storage of construction refuse;
- (b) Location of areas for construction site offices and staff facilities;
- (c) Details of site security fencing and hoardings;
- (d) Details of on-site car parking facilities for site workers during the course of construction;
- (e) Details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site;
- (f) Measures to obviate queuing of construction traffic on the adjoining road network;

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- (g) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network;
 - (h) Alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public road or footpath during the course of site development works;
 - (i) Provision of construction hours, including deliveries of materials to the site;
 - (j) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;
 - (k) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater;
 - (l) Off-site disposal of construction/demolition waste and details of how it is proposed to manage excavated soils, including peat;
 - (m) Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains.

A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan shall be kept for inspection by the planning authority.

Reason: In the interest of amenities, public health and safety.

15.

- (a) Prior to commencement of development, a detailed Environmental Management Plan for the construction stage shall be submitted, generally in accordance with the Environmental Impact Statement and the submissions made in accordance with the planning application and the appeal, for the written agreement of the planning authority.
- (b) The Environmental Management Plan shall incorporate the following:
 - i) a detailed construction programme,
 - ii) detailed method statements for construction, including a method statement for the excavation of rock from the borrow pits. Blasting is not permitted without a prior grant of planning permission,
 - iii) a site drainage management plan, in accordance with the submissions made in the Environmental Impact Statement and

the further information, incorporating a detailed silt management plan and pollution prevention plan, and including appropriately-sized silt traps and/or settlement ponds as required, to be prepared by a suitably qualified drainage engineer or equivalent professional, with experience of drainage design in forest environments, to the satisfaction of the planning authority. This plan shall have regard to the 'Forestry and Freshwater Pearl Mussel Requirements: Site Assessment and Mitigation Measures' published by the Department of Agriculture, Fisheries and Food,

- iv) a programme for the on-going monitoring of water quality during the construction period,
- v) a construction waste and demolition management plan, and
- vi) an emergency response plan.

- (c) The Environmental Management Plan shall be subject to ongoing independent audit (all costs of which shall be borne by the developer) in accordance with the requirements of the planning authority.

Reason: In the interest of protection of the environment and sustainable waste management.

16. All site development works shall be carried out to a standard not below the minimum specified in "Best Practice for Wind Energy Development in Peatlands" issued by the Department of the Environment, Heritage and Local Government.

Reason: In the interest of proper planning and sustainable development of the area.

17. Drainage arrangements, including the disposal of surface water throughout the site, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health and to ensure a proper standard of development.

18. The developer shall draw up an ecological monitoring plan in relation to the proposed development, to include monitoring before, during and after

construction and to include potential impacts on flora and fauna, including birds and bats. An annual report on the ecological monitoring shall be submitted to the planning authority, including for five years post commissioning of the project.

Reason: In the interest of ecological protection.

19. The developer shall facilitate 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 for the 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 Pleanála 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.

20. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of traffic safety and the proper planning and sustainable development of the area.

21. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of orderly development and visual amenity and to ensure satisfactory reinstatement of the site.

22. 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 the 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 the Board to determine the proper application of the terms 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 the permission.

23. The developer shall pay to the planning authority a financial contribution as a special contribution under section 48(2) (c) of the Planning and Development Act 2000, as amended, in respect of works to the public road in the vicinity of the site which are required to facilitate the proposed development. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board for determination. The contribution

shall be paid prior to the commencement of the development or in such phased payments as the planning authority may facilitate and shall be updated at the time of payment in accordance with changes in the Wholesale Price Index – Building and Construction (Capital Goods), published by the Central Statistics Office.

Reason: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority which are not covered in the Development Contribution Scheme and which will benefit the proposed development.

Signed: _____

Robert Speer
Inspectorate

Date: _____