



An
Bord
Pleanála

Inspector's Report PL20.244347.

Development

Construction of wind farm comprising of 19 wind turbines (85 metres hub height), rotor diameter 100 metres, overall height 135 metres, ancillary site works including three temporary site compound areas, permanent anemometer mast (85 metres high), foundations, crane hardstandings, access tracks, underground cabling, avian monitoring system, 110kV substation, site entrance off the L7535 and proposed road works to include upgrading and widening of the L7535. The development would be located in the townlands of Boleyduff, Cam, Cloonacaltry, Cuilleenoolagh, Feacle, Milltown, Skeavally, Tawnagh and Tobermacloughlin, County Roscommon.

Planning Authority

Roscommon County Council.

Planning Authority Reg. Ref.

11/273.

Applicant

Gaeltech Energy Developments Limited

Type of Application

Planning Permission.

Planning Authority Decision	Grant planning permission subject to 30 conditions
Type of Appeal	Third Party
Appellants	<ol style="list-style-type: none"> 1. Skyvalley Concerned Residents Group 2. Wind Turbine Action Group South Roscommon 3. Department of Arts, Heritage and the Gaeltacht
Observer	Sky Valley Wind Company.
Date of Site Inspection	Main inspections 4 th , 12 th and 30 th May 2015. Inspections also on number of other occasions.
Inspector	Padraic Thornton

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1.0 Site Location and General Site Description:

- 1.1. The site is located in a rural area in County Roscommon. It is located to the south of the R363 which links from Athlone to Ballyforan. The eastern end of the site is located about 2 kilometres west of the village of Brideswell and the western end is located about 4 kilometres to the east of the village of Dysart. The Ballinasloe to Athleague Regional Road (R357) runs close to the south-western edge of the site. There are county roads linking the two regional roads to the north-west and south-east of the proposed wind farm. Local Road L7535 is to the north-west of the site and the access would be off this road. Existing accesses to the lands are from both the roads to the north-west and the local road network to the south-east. The overall landholdings involved also adjoin the R363.
- 1.2. The landform in the area is relatively flat with some minor hills giving a mildly undulating appearance to the landscape. The site of the proposed development occupies two of the higher points in the local landscape. There is a high point of 118 metres OD towards the north-east of the site and another high point of a little over 110 metres OD towards the south-western end. There is a slightly lower area between the two high points. The site occupies a slight ridge in the wider landscape with the lands sloping downwards towards the Ballyglass River to the north-west and towards Local Road L2024 to the south-east. There are some low-lying areas including Feacle Turlough or Lough and Corkip Lough to the east of the northern end of the site. These water bodies are subject to seasonal fluctuations.
- 1.3. The site comprises of a mixture of improved grasslands and areas of rough grazing some of which are overgrown by scrub. The lands are in agricultural use being used almost entirely for animal grazing. There was no evidence of any tillage being carried out in the area at the time of inspection. Field boundaries particularly in the improved grassland areas are of stone walls with some bush hedges at field boundaries. There is not a significant amount of mature trees or woodlands in the immediate vicinity although there are some groups of trees around residential properties in the general area. Many of the fields within the landholdings appear to have been reclaimed by bulldozing rocks into rock piles and spreading available soil over the

reclaimed land possibly during the 1970s when grants were available for such land reclamation projects. Other parts of the landholding still remain with boulders outcropping and some of these lands are overgrown with scrub.

- 1.4. There was no evidence of surface water drains in the lands during site inspection. The northern part of the landholdings overlooks Feacle Lough which is located at a lower level to the south of proposed Turbines Nos. 14 to 19. The Ballyglass River indicated on the Ordnance Survey maps to the north-west appears on inspection to be at least manually modified if not totally man-made at the location where it crosses beneath the R363 a short distance to the west of the junction of County Road L7535 with the regional road. The Killeglan River crosses the R357 about two kilometres to the south of the site of the proposed development.
- 1.5. The area is a rural one which is not intensively developed but there are a number of houses along both the regional roads and the local roads in the vicinity. There are some services available in the two villages referred to i.e. Dysart and Brideswell. There was a somewhat larger settlement located at Ballyforan which is approximately six kilometres to the west at the county boundary between County Galway and County Roscommon. The site is approximately 15 kilometres north-west of Athlone Town.
- 1.6. Apart from agriculture and residential uses the only other significant land use in the vicinity is a quarry which is located in lands fronting the R363 approximately half way between Dysart and Brideswell. The quarry lands extend southwards from the regional road into the lands between proposed Turbines Nos. 14, 15 and 16 to the east and Turbine No. 13 to the west.
- 1.7. There are two graveyards located close to R363 to the north of the site of the proposed development. One of those is located at Cam Hill to the north of Turbine Nos. 17 and 18. The other is located off a narrow laneway which joins the R363 about half a kilometre to the west of the junction with the L7535. There are ruins of churches located in both graveyards.

2.0 **Details of Proposed Development:**

- 2.1. The proposed development is described in Chapter 3 of the EIS which was submitted with the planning application. A document described as an Appropriate

Assessment and Natura Impact Statement was also submitted with the planning application. This document was attached to Chapter 7 of the EIS dealing with flora and fauna.

- 2.2. The documentation and EIS indicate that the development would consist of 19 turbines, an anemometer, a substation, access tracks and an avian monitoring system. It is stated that the area of the site within the red line indicated on the plans is 58 hectares. The site as indicated includes essentially the access tracks and areas with a radius of about 70 metres from the centre of the turbines proposed. The proposed turbines would have a hub height of 85 metres and a rotor diameter of 100 metres. The clearance height i.e. height from the ground to the lowest tip of the blade would be 35 metres. It is stated that the turbine blades would rotate clockwise when viewed upwind at speeds of between 5 and 14.05 revolutions per minute. The turbines would have a cut-in speed of 3 metres per second and a cut-out speed of 25 metres per second. Each of the turbines could produce 2.5 megawatts of electricity with a combined power output of 47.5 megawatts. It is stated that the colour of the proposed turbines and blades will be decided by Roscommon County Council subject to planning permission. The proposed anemometer mast would be 85 metres high. This would be a triangular lattice structure. There would be a hardstanding area adjacent to each turbine. Each hardstanding area would have an area of approximately 950 square metres. During the operational phase of the development the bulk of the hardstanding area would be soiled over and seeded so that only approximately 200 square metres would remain for operational purposes. It is stated that the typical minimum foundation depth for each turbine would be 2.775 metres and the depth of this may vary depending on the depth to bedrock. It is stated that the 19 turbine foundations would give rise to a total area of buried concrete of about 5,700 square metres. Turbines would be connected to the substation through buried cables. The cables would be buried in trenches 1 metre deep by 500 metres wide. It is stated that a total of 11,422 metres of underground cabling is proposed on-site.
- 2.3. The proposed substation would have an area of 221.4 square metres. The building would be 5.52 metres in height with a pitched roof. The substation would be within an area enclosed by a 2.4 metre high palisade fence. A total of 11,886 metres of access track is proposed to be constructed. The proposed width of the access track is 5 metres and it would be 1 metre deep. It is stated that additional excavated strips

will be required along the access tracks to accommodate drainage and the cable trenches. It is stated that the proposed avian monitoring system would be located on a hard surfaced area of 10 metres by 5 metres. The overall height of the system is 6.45 metres. It would be 2.5 metres wide and 7.86 metres long.

- 2.4. It is stated in the EIS the following detailed site investigations at construction stage, micro-siting of turbines and other components of the development form part of the proposal. The micro-siting allowance required is stated to be 20 metres radius from the proposed turbines subject to the constraints set out in Chapter 6 to 18 of the EIS.
- 2.5. Details of the haul route for components of the turbines are set out in the EIS. The haul route proposed is from the M6 at Athlone along the R362, the R363 and the L7535. The distance from the R363 to the proposed site entrance is stated to be 430 metres. It is proposed to widen and upgrade this section of road to provide a 6 metre road at the proposed site entrance. A total of 542 metres of the L7535 would be upgraded taking account of the proposed sight lines. A drawing of the upgrade at the site entrance was submitted with the application. More detailed plans of the proposed upgrade of the public road were submitted with the response to a request for further information from the planning authority.
- 2.6. It is stated in 3.2.14 of the EIS that it is anticipated by the applicant that the proposed wind farm will most likely be connected by an underground cable network to the existing 110kV substation at Monksland in Athlone subject to a grid offer from EirGrid. Supplementary information relating to the environmental effects of the proposed connection to the national grid was submitted to An Bord Pleanála on 18 May 2015.
- 2.7. Three temporary compounds are proposed to facilitate construction works. One temporary compound is indicated near the access track close to proposed Turbine No. 10. Another is indicated in the vicinity of the substation which would be located south of the R363 near the northern end of the site. The avian monitoring system would be located in this area also. The third temporary construction compound is indicated near Turbine No. 7 towards the western end of the development.
- 2.8. The layout of the turbines as indicated on the plans is somewhat irregular with a group of six turbines being located towards the north-eastern end, five being located

towards the western end and a central group of seven turbines to the north of a cul-de-sac laneway leading from Boleyduff.

3.0 Submissions to Planning Authority:

3.1. A total of 138 submissions were made to the Planning Authority during the period when the application was under consideration. The submissions are basically objections to the proposed development. Many of the same issues are raised in the objections. The following bullet points summarise the issues raised.

- Detrimental visual impact; out of character with the landscape and detrimental to visual amenity; detrimental impact on scenic views.
- Impact on residents in the area; devaluation of property; detrimental impact due to noise, shadow flicker, electromagnetic interference; health implications.
- Adverse impact on development potential of adjoining lands; impact on future opportunities to erect dwellings or other wind farm projects.
- Traffic implications and inadequate road network.
- Adverse impact on wildlife and the ecology of the area including impact on turloughs and on migrating birds; impact on bats.
- Contamination of drinking water and impact on regional water supply; impact on flooding not adequately considered.
- Safety concerns arising from ice throw, lighting strikes etc.
- Reference to greater separation distances being required in other jurisdictions including the UK.
- The objectors question the impartiality of the EIS having regard to the relationship between the applicant and the company preparing the EIS; inadequate information on grid connection including possibility of connection by means of pylons and inadequate information on decommissioning.
- Adverse impact on items of archaeological interest.
- Conflict with County Roscommon Development Plan regarding conservation of the built and natural environment and concerns in relation to the then draft Wind Energy Strategy for Roscommon.

- Issues in relation to the validity of the planning application having regard to issues such as project splitting and the submission of an NIS subsequent to the lodgement of the application and also the submission of an NIS for the application referred to on File Ref. PL20.244346 in conjunction with submissions in relation to the current application; inadequate assessment of alternatives; inadequate assessment of cumulative effects with the development referred to on File Ref. PL20.244346.

3.2. The submissions to the Planning Authority contained two detailed submissions i.e. submissions on behalf of the Wind Turbine Action Group South Roscommon and the Skyvalley Concerned Residents Group. The detailed submissions were prepared by Burke Jenkins and Sean Lucy and Associates Limited respectively. The submission by Sean Lucy and Associates was included with the grounds of appeal and is summarised under the heading Grounds of Appeal.

3.3. The submission by Burke Jenkins on behalf of the Wind Turbine Action Group South Roscommon is briefly summarised in the following bullet points:

- Planning history; project splitting; application is part of a larger development.
- Status of draft Roscommon Wind Energy Strategy and reference to the concerns raised in relation to the strategy by statutory bodies; submission that karst areas should be excluded from areas favoured for wind energy development.
- Inadequate investigation of geological and hydrogeological issues relating to the area; inadequate investigation of flooding and potential impact of proposed development; drainage proposals not following best practice for karst areas; importance of turloughs as a EU Directive priority habitat.
- Inadequate consideration of alternatives; no certainty in relation to underground connection to national grid as overhead lines generally preferred by EirGrid.
- Current wind energy guidelines out of date having regard to the increase in size of turbines; cumulative visual impact; excessive visual impact and level of impact significant if not profound; adverse impact on Clonmacnoise Archaeological Complex.

- Adverse impact on built and natural heritage and conflict with policies and objectives in the development plan relating to these issues.
- Adverse impact on human beings due to noise including low frequency noise and visual impact (lack of night-time noise data for some of the monitoring locations noted).
- It is submitted that there are insufficient site specific details provided by the applicant to allow for a proper assessment of the impact of the development on Natura 2000 sites. It is submitted that it is totally unacceptable to approve a project conditioned on the undertaking or completion of various surveys and research.
- A report by Scott Cawley Consultants highlighting deficiencies in the EIS and the NIS in relation to ecology and ornithology was included. It is submitted that the EIS had failed to adequately address potential groundwater impacts. It is submitted that the impact on Natura 2000 sites including the Killeglan calcareous grassland cSAC and the Feacle Turlough proposed NHA had not been adequately addressed. To consent to planning permission for development with potential significant impacts on NHAs would be contrary to Policy 259 of the Development Plan. It is submitted that adequate landscape and habitat management plans had not been submitted and that the report on the bat survey had made recommendations which had not been incorporated into the proposal. Collision risk modelling for bird strikes was also required. Inadequate information had been submitted in relation to the potential impact on curlews, skylarks and snipe. The flight paths of the Golden Plover wintering population had not been mapped. It was considered that the potential impact of the development, creating a barrier to the movement of the species, had not been addressed. There was also insufficient information in relation to the proposed Merlin Radar System. The bat survey carried out had not covered an entire season and there was confusion in relation to the proposed mitigation measures relating to bats. There is no clarity in relation to which mitigating measures would be implemented. The consultants questioned the qualifications of the person who prepared the NIS which appeared to be based on information contained in the EIS. The consultants questioned the scientific basis for a number of the conclusions in the NIS. The collision risk for Whooper Swans had

not been related to the relevant population and it had not been assessed whether or not this represented an impact on site integrity. It is submitted that in the absence of detailed breeding data and an assessment of barrier impacts the cumulative impacts of Phases 1 and 2 could not be assessed. The cumulative impact on the turlough habitats and the SACs had also not been adequately addressed.

- It is submitted that inadequate information had been submitted to allow for the impacts of the foundations and excavations to be assessed and the full scale of the development had not been adequately described. The drainage proposals were contrary to the best practice and recommendations for development in karst areas and mitigation measures proposed were inadequate. A report from Dr Michael Long indicated perceived weaknesses in the documentation submitted. It is stated here that it is important to define more clearly the depth to competent rock and how this varies across the site. This would have implications for the depth of excavations at the turbine locations. A technical paper by Mr. Michael J. Creed on the remedial measures applied as engineering solutions in karst areas was also submitted.
- In commenting on the hydrogeological information submitted it was noted that no site visits had been carried out in the winter time. There was no evidence of a detailed assessment of the site and the surrounding turloughs and no recognition of the protected status of the turloughs. A report by Dr Les Brown hydrogeologist was submitted. This report concluded that the development should not be allowed unless the risks from concrete wash- out or reactivation of palaeokarst on the public water supply and the turlough systems can conclusively be shown to be insignificant.
- It was argued that flooding in the immediate vicinity of the site and in the general area is likely to increase in the future due to climate change. Alterations to the natural surface water management, as a result of blocking existing active conduits or reactivating dormant ones may result in potentially significant impacts on the existing flooding regime. There is a danger of water pollution during the construction phase of the development. The impact of the extent of development works had not been adequately assessed. Drainage to soak-ways as proposed is unacceptable in such an area. It was submitted that no flood risk

assessment had been carried out. A report on flooding by Mr. James Naughton, Civil Engineer which was attached concluded that the impact of the proposed development on the flooding of the area had not been properly addressed and no valid mitigation measures had been proposed.

- A critique of Chapter 14 of the EIS on archaeology and cultural heritage was included in the submission. It was submitted that the statement that there were no recorded archaeological, architectural or cultural heritage features within the land-take of the proposed development created a skewed appearance of the archaeological landscape and its relationship with the proposed development as the red line had been drawn around the access tracks and turbine areas. The number of archaeological monuments in the vicinity is referred to. It was submitted that these would be severely impacted upon. The fact that the applicant proposed a number of post-planning and pre- development test trench exercises is noted. It was also submitted that photomontages should be prepared indicating the impact on all of the 56 monuments and places within the 750 metre study area. It was submitted that it could not be concluded that the development would be in the best interest of the archaeological or cultural heritage of the area.

4.0 Decision of Planning Authority:

- 4.1. The planning authority decided to grant planning permission subject to 30 conditions.
- 4.2. Condition No. 2 states that the permission is for a period of 10 years from the date of grant of planning permission. The reason for the condition is in the interest of proper planning and development.
- 4.3. Condition No. 3 requires that the wind farm be decommissioned after 25 years unless subsequent planning permission is granted for the operation of the wind farm outside the 25-year period.
- 4.4. Condition No. 4 requires that all the environmental, construction and ecological mitigation measures set out in the environmental impact statement and in the further information response received on the 8th June, 2012 shall be implemented except where conditions in the permission specify otherwise.

- 4.5. Condition No. 9 requires that the recommendations set out in the Bat Survey received by the Planning Authority on 8th June, 2012 referring to an increase in cut-in speed to 5.5 to 6 metres per second from 30 minutes prior to dusk and 30 metres after dawn shall be implemented for all turbines. The reason for Condition No. 9 is “to ensure appropriate monitoring of the impact of the development on bats” (the condition also refers to the potential for using the Merlin Avian Radar System to assess and mitigate bat mortalities).
- 4.6. Condition No. 11 requires, inter alia, at critical wind speeds (the speed at which the noise from the wind turbines and the blades are substantially in excess of the ambient noise levels) the noise from the development shall not, when measured externally at any neighbouring dwelling house, exceed 45 dBLA₉₀ or 5 dB(A) above background noise levels when measured over any 10-minute period between 8 a.m. and 8 p.m. and 43 dB(A) at all other times. The reason for the condition is to protect the amenities of residential properties in the vicinity of the development.
- 4.7. Condition No. 12 requires that shadow flicker at surrounding dwellings shall not exceed 30 hours per year or 30 minutes per day. In the event of this limit being exceeded the operation shall cease until mitigation measures have been agreed in writing with the Planning Authority. The reason is in the interest of residential amenity.
- 4.8. Condition Nos. 17, 20, 21 and 27 relate to contributions or bonds.
- 4.9. Condition No. 23 refers to sound pressure levels generated by the development. It would appear that this is intended to refer to noise levels generated during the construction phase of the development. The reason is to prevent injury to amenity and public health. The levels given in Condition No. 23 differ from those in Condition No. 11 referred to above.
- 4.10. Condition No. 25 requires an archaeological assessment including trial trenches prior to the commencement of development. The reason is in the interest of preserving items of archaeological significance affected by the development.
- 4.11. Condition No. 29 requires the lodgement of a bond 10 years prior to decommissioning to ensure the satisfactory reinstatement of the site.

5.0 Grounds of Appeal:

Skyvalley Concerned Residents Group Appeal:

- 5.1. The appellants refer to their submission to the planning authority when the application was being considered. It is submitted that the further information submitted by the applicant and the planning authority decision do not deal adequately with the concerns expressed in this submission. It is also submitted that the conditions of the planning decision to grant planning permission do not place adequate onus on the developer to ensure the health and safety of those who live in the locality and the protection of the environment.
- 5.2. In its commentary on the conditions the appellant questions the objectivity of the EIS having regard to the fact that the authors of the EIS were closely connected to the applicant with the same directors listed.
- 5.3. It is submitted that issues referred to in the conditions such as the colour and detail of the turbines referred to in Condition No. 5 and deviations referred to in Condition No. 6 should have been determined prior to granting planning permission. It is also submitted that permission should not have been granted if casualties to any Annex I species are envisaged as seems to be the case in Condition No. 8. It is argued that the development would impact on the local bat community throughout the night not just for 30 minutes at dawn and dusk as referred to in Condition No. 9.
- 5.4. It is argued that the development should not give rise to any noise or shadow flicker to houses in the vicinity and allowing the extent of shadow flicker referred to in Condition No. 12 will not protect the amenities of properties in the vicinity. It is also argued that noise monitoring should be carried out at the 10 closest residential properties to each turbine. Any impact on radio or television reception should be fully determined prior to granting approval. It is also argued that a final design of roadworks should have been determined prior to granting permission rather than requiring details in accordance with Condition No. 16. Working hours should be restricted to Monday to Friday and from 9 a.m. to 5 p.m. (rather than Monday to Saturday and 8 a.m. to 7 p.m.) as in Condition No. 22.

- 5.5. It is submitted that Condition No. 25 requiring additional archaeological testing demonstrates that sufficient analysis of the impacts of the development have not been carried out prior to permission being granted.
- 5.6. In relation to Conditions Nos. 28 and 29 dealing with cessation of activities it is submitted that a financial guarantee should be in place to deal with closure and restoration of the proposed wind farm. In the absence of such the taxpayer would have to rectify the situation or some organisation would have to be set up to deal with ghost wind farms.
- 5.7. It is submitted in the grounds of appeal that the development which is the subject matter of the current appeal is Phase 2 of a larger development and this should have borne in mind by the Planning Authority. It is submitted that the Planning Authority did not give sufficient consideration to the development which it is submitted is not in the interests of the proper planning and sustainable development of the area.
- 5.8. In the submission to the Planning Authority from the Skyvalley Concerned Residents Group it is stated that the group comprises a group of landowners who all live and own farmland in the immediate vicinity. It is stated in that submission that the individuals in the appeal were approached by another wind farm operator and had signed a wind option agreement for a period of 3 to 5 years. The individuals are opposed to any large scale wind farm in their location. They consider, however, that if such a wind farm is being developed it should not detrimentally impact on their landholdings. It is submitted that the proposed wind farm is laid out in such a way that it would effectively remove all development potential from their lands.
- 5.9. In its submission to the planning authority the appellants' objections stated that whilst the regional plan for the western region supported the promotion of wind energy development it clearly indicated that any development must confirm to the EIA Directive, the Habitats Directive and with the Wind Energy Development Guidelines. It is submitted that the proposed development fails to do this. It was submitted that cumulative impacts of the development had not been adequately addressed. The development also did not comply with the Habitats Directive in relation to impact on birds and the development did not comply with the Wind Energy Guidelines as it is of a scale which is not accepted in hilly and flat farmland landscape and 10 of the 19 turbines did not comply with policy regarding wind-take from adjoining land.

- 5.10. It was submitted that the proposed development did not comply with provisions in the development plan including, that by reason of its scale and height it would not be an appropriate development having regard to its impact when viewed from Clonmacnoise monastic settlement, the EIS was inadequate and did not deal with the cumulative impact when considered with the Dysart application and it did not comply with the Wind Energy Guidelines incorporated into the provisions of the development plan as 10 of the 19 turbines were located too close to site boundaries.
- 5.11. In its detailed grounds of objection submitted to the planning authority it was submitted that the application did not comply with the EIA Directive as it resulted in project splitting, did not adequately assess cumulative impacts and did not provide proper comparable alternatives.
- 5.12. The argument in relation to the development having a detrimental impact on Clonmacnoise which is considered by the Department of the Environment, Heritage and Local Government to be a World Heritage Site and the EIS's failure to properly examine the potential transboundary impacts on other counties are elaborated on in detail in the objection. It is submitted that the proposed development by reason of its scale and location would have a detrimental visual impact on the surrounding area and would seriously injure the amenities and depreciate the value of property in the vicinity. It is also submitted that the proposed development is to be served by an inadequate road infrastructure which is subject to flooding and which would be inadequate to cater for the construction phase of the development.
- 5.13. It is submitted in the objection that the proposed development would be likely to impact on birds which are protected under Annex I of the EU Birds Directive and it would have a detrimental impact on the existing archaeological landscape.

Wind Turbine Action Group South Roscommon Appeal:

- 5.14. The appeal in this case was submitted by Sean Lucy and Associates Limited, Town Planning Consultants.
- 5.15. The appellants raise questions in relation to the number of the conditions imposed by the Planning Authority.
- 5.16. In relation to Condition No. 2 it is questioned why a 10-year permission is being granted as there does not seem to be any evidence of any application for such. It is also stated that it is unclear whether the 10 years is for the period for construction or

the period of use. The consultants question the relationship between Condition No. 2 and Condition No. 3 which provides for the removal of the wind farm after 25 years.

- 5.17. It is submitted that Condition No. 6 relating to micro-siting leaves a significant amount of scope for changes to the proposed development and excludes any third party input. It is also submitted that the condition appears to leave scope for micro-siting outside the red line area. As the condition provides for an assessment of impacts after permission has been granted it is submitted that it is contrary to EIA legislation. It is submitted that the precautionary principle should apply and permission should be refused on the grounds that it cannot be proven that the proposed development will not have significant environmental impacts.
- 5.18. It is submitted that the “Merlin Avian Radar System and SCADA Subsystem” referred to in condition no.8 is untried and untested in this environment.
- 5.19. The appellants question the submission of a revised Natura Impact Statement as part of further information. This was not requested by the Planning Authority. It is also argued that the newspaper notice of the additional information did not indicate that a Natura Impact Statement was submitted as required by regulations. It was submitted that the revised NIS had not demonstrated with certainty that the proposed development would not adversely impact on the Greenland White Fronted Goose.
- 5.20. It is argued in the grounds of appeal that the proposed development involves project splitting having regard to the planning history of the site including pre-application consultations with An Bord Pleanála under the provisions of the Planning and Development Act 2000, as amended, relating to strategic infrastructure. It is submitted that the overall development has been deliberately split into a number of phases to avoid the strategic infrastructure process. It is submitted that the application cannot be considered in isolation. It is submitted that the EIS confirms linkages to the Phase 1 development referred to on File PL20.244346 and to other wind farm developments in the surrounding area. It is submitted that the grid linkage between the two sites also confirms this linkage.
- 5.21. It is submitted that inadequate investigations have been carried out to provide the necessary data to show that the proposed development would have no significant impact on the receiving active karst environment. The applicant’s statement that more detailed investigations will take place prior to construction proves this point. It

is submitted that the information, so far submitted, lacks any clarity in respect of the potential impact of the turbines, access roads and hardstanding areas in the active karst environment. The information submitted indicates significant areas under the proposed turbine bases where the proposed turbine foundations would be located on top of existing fissures and conduits. (A supporting submission from Burke Jenkins is attached to the appeal in this regard). It is submitted that additional information is required to determine what type of foundations would be required and what impact, if any, these would have on the existing hydrogeology of the site and on the Natura 2000 sites for which the karst is likely to act as a recharge. It is submitted that it is unacceptable that detailed investigations, as required, are left until after the grant of planning permission. It is also submitted that the proposed access roads will give rise to preferential flow paths routing higher volumes of surface water to unspecified locations on the site. This could cause the reactivation of dormant sediment filled conduits or lead to the formation of new flow paths. It is submitted that the relationship between the karst under the site and the Natura 2000 sites in the vicinity is lacking any detailed investigation. It is submitted that the development must be refused on the basis that it has not been established that the proposed development will not affect the integrity of the designated sites.

- 5.22. In the appeal it is noted that the planning officer's report accepted that the potential exists for bird disturbance and bird strikes arising from the proposed development located in the vicinity of a number of Natura 2000 sites. It is stated that the potential for disturbance may be viewed as materially significant. A report by Scott Cawley accompanies the appeal. This deals with issues relating to ornithology and impact on bats. The report refers to various perceived deficiencies in the EIS. It is stated that the most significant deficiencies are the doubts which remain over impacts on European site integrity and on the European protected bat species. Amongst the deficiencies identified are that no flight paths for Golden Plover have been identified. There accordingly can be no demonstrated certainty that the wind farm in combination with the phase 1 development will not act as a barrier to movement of Golden Plover flying north and east to Lough Croan and Four Roads turloughs from potential feeding areas to the south and west including the River Suck Callows SPA. It is submitted also that the information submitted does not demonstrate an absence

of reasonable scientific doubt about adverse effects on the integrity of Natura 2000 sites in the vicinity.

- 5.23. In relation to bats it is submitted that the primary mitigation measure recommended in the bat survey was the relocation of turbines a minimum of 50 metres from hedgerows and stone walls. This cannot be achieved within the 20 metre micro-siting referred to. A new planning application would accordingly be required to achieve the recommended setback from proposed turbines. 9 of the proposed turbines cannot achieve the recommended setback. It is also noted that the bat specialist had recommended additional surveying to include late summer and autumn. No clear plan for implementing the bat mitigation measures had been provided. It is noted that Condition No. 9 of the decision of the Roscommon County Council does not require the implementation of the comprehensive bat mitigation measures set out but simply conditions an increased cut-in speed. It is stated that the requirement for a setback from the hedgerows and stone walls is not included nor is it required that such linear features be removed (in the event of setback not being possible).
- 5.24. It is submitted that wider environmental benefits to be derived and research findings to be achieved from the proposed Merlin System as referred to in the planner's report could not be considered to be mitigating measures. It is submitted that permission could not be granted for the development as proposed.
- 5.25. In submissions relating to landscape and visual impact the appellants argue that the Wind Energy Guidelines indicate that in hilly and flat farmland landscape types, the spatial extent of wind farm developments should be generally limited to small wind energy developments and generally be of medium height. The guidelines also point out that due regard must be given to houses, farmsteads and centres of population. Sufficient distance from buildings must be established in order to avoid dominance of the wind energy development. The guidelines further state that it is important that wind energy developments are never perceived to visually dominant the landscape. It is argued that the receiving environment in this case is visually sensitive being open and panoramic in aspect. It is submitted that the development both by itself, and in conjunction with the Phase 1 development, would represent a hugely significant scale of wind farm development within the landscape. It is submitted that the development contravenes the primary considerations of the wind energy guidelines in terms of scale, size, siting and layout. The appellants reject the

planner's statement that the landscape is not attributed with exceptional visual quality. It is submitted that the development would have a dominant visual impact in the immediate locality and on medium and long distance views.

- 5.26. It is submitted on behalf of the appellants that the impact on the archaeological environment would be greater than that indicated in the environmental impact statement. It is considered that the impact would be significant rather than moderate and that the impact was unreasonably described as being temporary except perhaps when compared with the age of the archaeological monuments themselves. It is submitted that the impact would be long-term, negative and significant in nature. It is also submitted that interconnectivity between the archaeological monuments had not been assessed. Such connectivity is not simply physical but requires the appreciation of the visual setting of the monuments.
- 5.27. In discussing the impact of the development on third party lands it is submitted that a turbine must be considered to include both the tower and the blades. It is submitted accordingly that the tip of the rotor blade should be a minimum of 100 metres from any shared boundary. The grounds of appeal include a table indicating distances from each turbine to un-associated landowner site boundaries. In the table provision is made for micro-siting. The table indicates that only two of the 19 turbines are compliant with the requirement in the guidelines. It is submitted that any development outside the red line indicated in the application would require a new planning application.
- 5.28. In summary it is concluded that the proposed development represents project splitting and strategic infrastructure development which cannot be assessed in a piecemeal fashion. The cumulative effect of the entire development on the landscape, on the integrity of Natura 2000 sites and on the wider ecology of the area cannot be established based on the separate planning applications. It is submitted that the development would contravene Policy 261 of the Roscommon County Development Plan for the conservation and preservation of European sites insofar as the development would adversely affect a number of turloughs which are the natural habitat for Annex I species listed in the Habitats Directive. The proposed development would constitute a visually dominant feature detrimental to the sensitive receiving environment. It would also interfere with the likely inter-relationship between the visual settings of historic monuments.

- 5.29. The ecological consultant's report attached to the appeal refers to previous submissions made and the shortcomings in the applicant's assessment of impacts on wading birds and to the ill-defined landscape and habitat management plan which lacked prescriptive targets. It is stated however that the most significant deficiencies in the EIS related to European site integrity and European protected bat species. It is submitted that no clear plan for implementation of the bat mitigation measures had been provided and Condition No. 4 of the Planning Authority's decision cannot be enforced without this clarity. (The condition requires compliance with mitigation measures set out in the EIS and other submissions). It is also submitted that there is significant doubt about the adequacy and feasibility of the mitigating measures. The absence of Golden Plover flight paths is referred to. There is accordingly no demonstrated certainty that the development (in conjunction with Phase 1) would not adversely impact on the integrity of SPAs by reducing the number or range of Golden Plover within them due to the interference with traditional flyways. It is submitted that the NIS as submitted for both phases of the development did not demonstrate an absence of reasonable scientific doubt about adverse effects on the integrity of Natura 2000 sites. It is submitted that reasonable doubt remains. It is submitted that the Roscommon County Council could only grant planning permission where no doubt remained. Other benefits such as those referred in the planner's report could only be taken into account when considering imperative reasons of overriding public interest. The risk to European protected sites identified by the Department of Arts, Heritage and the Gaeltacht is referred to.
- 5.30. In the Burke Jenkins report, attached to the appeal, it is emphasised that the drainage of surface waters is potentially the most difficult engineering problem in an active karst site. The report refers to Dr Mike Long's statement that the use of soakways as a means of drainage is unacceptable in such areas. It is submitted that the possibility of reactivating karst features and the threat of loss of concrete into conduits during construction had not been addressed. It is submitted that the mitigation measure proposed to protect the aquifer are based on erroneous assumptions about the foundations and that Roscommon County Council had failed to understand the threat posed to the aquifer as the suitability of the foundations proposed by the applicants is not supported by the documentation. Foundations at depths of 2.775 metres would be on weak and karstified rock underlain in a

significant number of locations by conduits and cavities. The plans submitted indicate the proposed foundations superimposed on the geophysical profiles carried out by the applicant. It is submitted that in the unique landform in question it is unacceptable to rely on carrying out geotechnical investigation after a grant of permission. In conditions such as this, even investigations such as boreholes may themselves require statutory consent. It is submitted that the applicant's foundation proposals are completely inadequate and not supported by any documentation from suitably qualified persons.

- 5.31. In the Burke Jenkins report it is argued that the applicant has not adequately addressed the issue of the impact of the connection of the wind farm to the national grid. It was incorrect of the Planning Authority to conclude that the grid connection is a separate issue to be decided independently.
- 5.32. It is submitted in the Burke Jenkins report that the persons preparing the NIS were not suitably qualified to assess the hydrogeological impacts of the development on the surrounding turloughs. Roscommon County Council had also ignored the impact on the turloughs. It is submitted that the applicant had displayed a poor understanding of the hydrogeological connectivity between the site and the turlough network. An absence of reasonable scientific doubt regarding impacts on the integrity of the surrounding Natura 2000 sites and the Annex I priority habitats had not been demonstrated. In addition, no documentation, by suitably qualified professionals, had been submitted to address the flooding issues in the area.

Appeal by Department of Arts, Heritage and the Gaeltacht:

- 5.33. In its appeal the Department states that the site is situated within 12 kilometres of 17 sites of conservation interest in South Roscommon and at a location most likely to impact on species of conservation concern in the Lough Croan, Four Roads Turlough and River Suck Callows European Sites. The Department considers that the development would be likely to impact on populations of Whooper Swans, Greenland White Fronted Geese and Golden Plover all of which are listed under Annex I of the EU Birds Directive. The Department also submits that the development would likely disturb the feeding/roosting/commuting areas of Whooper Swans, Greenland White Fronted Geese and Golden Plover. The Department argues that the impacts would be caused by increased disturbance and interference

with natural flight lines/flyways. It is submitted that there is no stated or demonstrated certainty that the development will not have a negative impact on the Annex I species mentioned. The in-combination impact with the development referred to on File Ref. PL20.244346 is stated to be an added significant concern for the National Parks and Wildlife Service.

- 5.34. The Department submits that the protection of the River Suck Callows SPA, Four Roads SPA and Lough Croan SPA which have a long tradition of providing feeding and roosting resources for the Greenland White Fronted Geese is relevant and necessary for the conservation of Greenland White Fronted Geese at a national level.
- 5.35. In its submission the Department argues, in relation to the proposed deployment of the Merlin Radar System, that it had not been demonstrated to any degree of certainty that the system could be considered a proportionate mitigating measure. It is the Department's view that if the development is to proceed it would result in an unacceptable negative impact on habitats and species of conservation concern. The Department has concerns with the likely impacts on the qualifying interests of a number of designated Natura 2000 sites in the vicinity.

6.0 Third Party Observation:

- 6.1. An observation was received from Sky Valley Wind Company with an address at Kiltoom, Athlone. The observer is stated to be a locally owned commercial company operating in wind farm development. It is stated that the company is actively involved in land acquisition, planning and financing of Sky Valley Wind Farm. 10 landowners are stated to have a stake in the proposed wind farm. The landowners would receive an annual payment which would allow them to continue farming. It is stated that it is proposed to construct 14 wind turbines, hard-standings, a substation and associated works. A plan was submitted indicating the locations of the proposed turbines. The turbines proposed, as indicated on the plan, would generally be to the south of those proposed in the current application. A number of turbines are also proposed in a parcel of land between some of the turbines proposed on the current application. The observation contained details of activities carried out by an agent for the wind

company i.e. Jennings O'Donovan and Partners Consulting Engineers. It is stated that an environmental impact assessment has commenced for the project.

- 6.2. It is submitted in the observation that in the case of four of the turbines proposed blades appeared to extend beyond the applicant's landholding and into the lands leased by Sky Valley. It is requested that the layout be modified so that the turbines are located not less than 2.5 times the blade diameter from the boundary with adjoining properties. Where turbines are less than this from adjoining properties written consent of the relevant landowners should be submitted. It is submitted that if the turbines are so relocated excessive turbulence should not be a problem. It is stated in the submission that the wind company is fully committed to proceeding with the development and is mindful of the fact that this must be done in consultation with Galetch Energy Developments. The observation submitted to An Bord Pleanála is a copy of an observation which had been submitted to Roscommon County Council during the period when the application was under consideration.

7.0 Summary of Later Responses/Submissions:

Applicant's response to grounds of appeal:

- 7.1. In its response the applicant stresses the importance of the development in terms of Ireland meeting its "Europe 2020 Targets" and reducing Ireland's dependence on imported fossil fuels. It is noted that the site is located outside any designated site or important protected landscapes. It is submitted that the development would not be located within nor would it compromise the integrity of any Natura 2000 site or any other important habitat. The objections raised had been responded to in the 30 conditions imposed in the Planning Authority's decision, the detailed response to the request for further information and the original plans and particulars including the Environmental Impact Statement and the Natura Impact Statement. The history of the application and the designation of Lough Croan Turlough and Four Roads Turloughs as SPAs on the 16th June, 2011 and the 15th November, 2011 respectively are referred to.
- 7.2. It is submitted that the applicant was entitled to respond to the request for further information and submit a revised NIS which had been referred to in the public notice referring to the additional information. The issue relating to the red line not indicated

around 3 of the turbines had been addressed at further information stage also. The application had been accepted as valid by the planning authority and the appeals had been accepted as valid by An Bord Pleanála. The further information submitted to the planning authority set out the rationale for the application. All proper procedures had been followed. The application is a discrete one for a 19 turbine/47MW wind farm. It does not exceed the Schedule 7 threshold of 25 turbines or 50MW. The development cannot accordingly qualify as a strategic infrastructure development. A cumulative assessment of the impacts of the phase 1 and phase 2 developments had been carried out.

- 7.3. The applicant submits that the issue of hydrological connectivity with the turloughs had not been raised as a matter of concern by the Department of Arts Heritage and the Gaeltacht. It is submitted that the applicant recognises the location in a karst area and this is dealt with in chapters 9, 10 and 11 of the EIS. A suite of mitigation measures have been set out to ensure that there is no negative impact on ground water. This issue is also dealt with in the planning authority's report and decision.
- 7.4. The applicant submits that the European Communities (Birds and Habitats) Regulations (S.I. No. 479 of 2011) were published in Sept. 2011 after the lodgement of the application. A fully revised and up to date NIS for both the phase 1 and phase 2 developments was submitted to the planning authority as part of the response to the further information request in order to provide certainty that the 2 developments would not cumulatively have any adverse impact on the integrity of the Natura 2000 sites.
- 7.5. It is noted that the Skyvalley Concerned Residents Group's appeal consists of a commentary on conditions attached to the planning authority decision with the original objection to Roscommon County Council also included. The applicant states that it had previously responded to the objection in its response to the further information request. The applicant wishes the Board to note that the landowners involved in the group had signed a wind energy option agreement with another wind company and the appeal should be considered in this context.
- 7.6. It is submitted on behalf of the applicant that it is standard practice that detailed design is undertaken after consent is granted and as part of micro-siting as provided for in the Wind Energy Planning Guidelines. It would be un-usual for any project to

be investigated to the level suggested by the appellants prior to planning permission being granted. It is submitted that sufficient investigation had been carried out to understand the nature of the constraints and to know that appropriate construction methods are available. The detailed geophysical survey carried out is referred to. It is submitted that if fissures are present under a turbine site normal construction techniques would stop concrete from being washed down. All foundation sites will be subject to a drilling investigation before construction. Foundations will most likely be gravity foundations and piling will be avoided if at all possible. It is also submitted that gravity foundations at depths of 2.5 to 3 metres will most likely be the final design solution. The foundations would be designed to ensure the structural integrity of the turbines and to fully conform to the mitigation measures set out in the EIS. The construction options in question are not novel and are well within the experience of engineering practice in Ireland. Reference is made to a comment in the inspector's report on Case Ref. PL07.239118 relating to further tests on ground conditions being undertaken. The Board granted planning permission in that case and referred to the EIS in relation to mitigating measures in its decision. It is submitted that Conditions 4, 6 and 7 of the planning authority's decision in the current case are also relevant to the issue.

- 7.7. In response to objections on habitat and ornithological grounds it is argued that the site was purposely selected and the applicant did not locate the development within or immediately adjacent to any ecological designated sites or the buffer zones of European sites. A revised NIS was submitted to take account of the designation of the Lough Croan and Four Roads Turloughs as SPAs. The proposed Merlin Avian Radar System is also an additional insurance measure to ensure the protection of the avifauna. Reference is made to the conclusions of the revised NIS submitted in June, 2012 to the effect that the proposed development will not result in direct, indirect or cumulative impacts which would have the potential to adversely affect the qualifying interests/special conservation interests of the various European sites in the vicinity. It is submitted that the persons involved in the preparation of the NIS were highly qualified and experienced. The revised NIS unequivocally states and demonstrates scientific certainty that having regard to the detailed mitigation and monitoring measures proposed the development would not have a negative impact on any of the Annex I Bird Directive species. A revised NIS for the Phase 1

development was also prepared and submitted to Roscommon County Council at further information stage in order to deal with cumulative impacts. It is stated that both documents assess the in- combination and cumulative impacts of the two developments together with other permitted and proposed third party developments in the wider area. It is noted that in the Galway case previously referred to there would be a European site only 153 metres from the nearest proposed turbine and another such site 2.2 kilometres from the nearest turbine. Whooper Swans, Greenland White Fronted Geese and Golden Plover were all qualifying interests in the case of the Natura 2000 sites referred to. The Department, however, did not lodge an appeal in relation to that case. The Board's decision in that case required the preparation of a detailed environmental management plan in conjunction with the Department and ongoing ornithological monitoring. Reference is made to Condition No. 16 of the decision. Conditions Nos. 7 and 8 of the decision of Roscommon County Council in the current case would have similar effect.

- 7.8. The applicant submits that the effectiveness of the Merlin Avian Radar System had been discussed in detail with the Department and the revised NIS documents fully addressed the use of the Merlin System as a mitigation measure. It is submitted that based on 360 hours of ornithological surveys Greenland White Fronted Geese were not a regular occurring component of the avifauna in the vicinity of the site. No Greenland White Fronted Geese were observed during the surveys and they were accordingly not considered under threat from the development. It is submitted however, that mitigation measures proposed for any rare occasions when Whooper Swans pass through the development site will be equally effective in mitigating any potential threats to Greenland White Fronted Geese.
- 7.9. In response to criticism of the Habitats Management Plan and bat conservation it is argued that habitat management objectives are outlined in Section 4 of the Habitat Management Plan which was fully revised at further information stage to ensure full cognisance was taken of bat conservation issues. Reference is made to Condition No. 4 of the Planning Authority decision which requires the applicant to implement all environmental, construction and ecological mitigation measures set out in the EIS and the response to further information. Condition No. 7 also requires the establishment of an environmental monitoring programme for the construction phase. The applicant sees the Habitat Management Plan as being an evolving and

iterative process and this will be confirmed to the planning authority through the environmental monitoring programme. The applicant will therefore be required to retain the on-going advice of an on-site ecologist in respect of bats. It is submitted that since the response to further information a full season bat survey had been completed and the results generally tally with the surveys previously undertaken. This work was undertaken by Dr Tina Aughney who is a specialist in this area. It is submitted that micro-siting offers further scope to protect bat species. It is stated, however, that it must be recognised that due to the predominance of small field sizes in the locality a 50 metre setback from field boundaries will not be achievable in all cases. Where this is not achievable or the most efficient method to further protect bat species additional mitigation measures will be deployed including increased cut-in speeds and potentially bat scaring devices. Reference is made to Condition No. 9 in relation to increased cut-in speeds which are required for all turbines. This is in excess of that recommended originally and will further reduce potential for bat mortalities. A system of continuous data collection of bat activity from 30 minutes prior to sunset to 30 minutes after sunset (presumably this is a typographical error for sunrise) will be put in place. The data will be collected from April to September with options for further collection of data in March, October and November if necessary.

- 7.10. The applicants do not contest that the development will create a substantial and notable feature in the landscape and it will alter the character of the local landscape. Reference is made to the planning officer's report where it is noted that whether or not the introduction of notable man-made features in the landscape is visually acceptable is to a large degree subjective. A balance has to be struck between visual impact and the wider policies and objectives for the development of renewable energy. Reference is made to the detailed landscape and visual impact assessment where it was concluded that the overall magnitude of the impact would be moderate. It is noted that the site is not located in a protected or visually sensitive landscape and there are no designated scenic views in the vicinity nor is there any specific presumption against such development in the area. It is noted that landscape in the area is classified to be of moderate value in the character assessment of County Roscommon and landscape character area 34, where the site is located, has been characterised as one of the most favoured areas in relation to wind farm

development in the Draft Roscommon Wind Energy Strategy. It is submitted that the landscape around the site is more broad and open than would be found in typically hilly or flat farmland areas. It is submitted that the more open landscape types identified, in the wind energy guidelines, of mountain moorland or flat peatland are considered suitable for extensive schemes, grid layouts and tall structures. It is also pointed out that on hilly or flat farmland the wind energy planning guidelines state that tall structures may be acceptable. The response contains detailed quotations from the planning officer's conclusions to the effect that, on balance, the development would be visually tolerable in an area which is not attributed with exceptional visual quality. It is considered that this strikes the appropriate balance between utilising the natural wind resources of the area while keeping other unique and special landscapes free of significant visual intrusion.

- 7.11. The applicants submit that a very comprehensive archaeological assessment was undertaken for the purpose of the EIS. There are no recorded archaeological, architectural or cultural heritage features within the land-take of the proposed development and all monuments and places recorded within 750 metres have been addressed in detail in Chapter 14 of the EIS. It is submitted that the possibility of permission being granted for a period after the 25 years referred to in Condition No. 3 cannot be prejudged at this time. It is considered that the impact on recorded monuments will therefore be temporary as described in Chapter 14 of the EIS. It is also submitted that the impact on the recorded monuments will be moderate rather than significant as claimed by the appellants. Reference is also made to Condition No. 25 of the decision which requires the applicant to undertake post-consent monitoring in accordance with conventional good practice.
- 7.12. In response to comments made in relation to the impact on third party lands and the required setback the appellant submits that there is no clarity in the wind energy planning guidelines as to how the setback distances are to be measured i.e. whether the measurement should be from the tower or from the tip of the rotor blades. Common practice has emerged that all setbacks are measured from the tower. It is submitted that Section 5.13 of the guidelines dealing with wind-take refers to optimum performance and that this is a best practice guideline. The actual required setback depends on prevailing wind direction, topography etc. The setback referred to is to ensure optimum performance of wind turbines and not in respect of safety or

amenity issues. Due to the multiple fragmented smallholdings in the area it is not possible to provide a 200 metre setback to non-involved small landholdings in every case. It is submitted however that in all cases there would be no over-sailing of adjoining lands. As the appellants are opposed to wind farm development in the area the issue of wind-take setbacks cannot be considered as an additional matter of concern. There are no firm proposals for wind energy development on the non-involved adjoining lands.

- 7.13. The applicant concludes that the proposed development would be in accordance with the Roscommon County Development Plan and with the Roscommon Draft Wind Energy Strategy. It would also be in accordance with European and Irish national policy in relation to generation of renewable energy and with the Wind Energy Development Guidelines. Landscape character area 34, where the site is located, has been characterised as the most favoured area in relation to wind farm development. The site is outside any Natura 2000 site and the scientific case has been set out in the EIS and the NIS to the effect that the development would not have any adverse impact on the conservation objectives of any Natura 2000 site or species of conservation importance. It is submitted that the proposed development is fully in accordance with proper planning and sustainable development having regard to the assessment in the EIS, the further information submitted to the planning authority, the mitigating measures proposed and the conditions attached to the decision of Roscommon County Council.

Third Party Response to Appeals from Wind Turbine Action Group South Roscommon:

- 7.14. This response received on 15th October, 2012 essentially supports the other two third party appellants. The submission from Sean Lucy and Associates Limited questions the appropriateness of the applicant continuing to have discussions with the Department in the period when the appeal was being considered. The Wind Turbine Action Group support the contention that the in- combination impacts of the current development and that referred to on File Ref. PL20.244346 is an additional significant concern in relation to impact on the integrity of the European site. It is noted that the Department has serious misgivings in relation to the proposed Merlin Avian Radar System as an effective mitigation measure. In comment on the Skyvally Concerned Residents Group Appeal the Wind Turbine Action Group South

Roscommon state that the issues raised have been comprehensively covered in their own appeal letter.

Submissions received subsequent to the previous decision of An Bord Pleanála and the decision by the High Court quashing the Board's previous decision:

- 7.15. A submission from the applicant was received by the Board on 18th May, 2015. The documentation included a cover letter from the applicant referring to the High Court decision and also the decision of the High Court in the case of the Cullenagh Wind Farm in County Laois (People over Wind versus An Bord Pleanála). The cover letter sets out the applicant's overview of the application having regard to the decision of the High Court and also refers to the additional documentation submitted on 18th May, 2015. The documentation received included supplementary EIS and NIS information on the proposed grid connection, a report by Jennings O'Donovan on hydrogeological / geotechnical aspects of the development including the results of some additional rotary core boreholes drilled at the sites of Turbines Nos. 3, 8 and 19. The documentation received also included responses to affidavits from Mr. William Cormacan, Mr. Tony Nagle and Ms. Aebhin Cawley which had been submitted as part of the High Court proceedings. Also included with the documentation was an overview of the environmental information submitted on avifauna and a report on a wintering bird survey carried out from October 2014 to March 2015. A report from QuadConsult Limited responding to issues raised by Dr Michael Long, Professor Paul Johnson, Ms. Rose Burke and Ms. Aebhin Cawley and a response by WaterWise Environmental to affidavits and submissions by Professor Paul Johnson, Dr Michael Long and Ms. Rose Burke were also submitted. These submissions are referred to in more detail, where relevant, in the reports of Mr. Keohane and Mr. Arnold and in my environmental impact assessment and overall assessment of the application.
- 7.16. A submission dated 20th April, 2015 from the Skyvalley Concerned Residents Group was received by the Board on 22nd April, 2015. This submission sets out the group's objection to the proposed development and contains a commentary on a number of the conditions imposed by Roscommon County Council which the group considers are not appropriate to the development. The submission is similar to that which was submitted with the grounds of appeal.

- 7.17. A submission on behalf of Mr. Ted Kelly was received on 18th May, 2015. The submission welcomes and agrees with the decision of the High Court quashing the previous Board decisions. A report by Kavanagh Burke was attached to the submission on behalf of Mr. Kelly. The Kavanagh Burke report refers to and quotes from the decision of the High Court. The report lists aspects of the development which it is submitted can affect the adjacent European sites. These include the connection from Phase 1 to the substation in Phase 2, the connection to the national grid, turbine foundations, internal roads and tracks, on-site cabling and intrusive geotechnical site investigations which are required to design the elements of the development. It is submitted that all aspects of the development must be assessed. It is also submitted that the appropriate assessment must not have any lacunae or gaps. This must accordingly include an assessment of changes to the turlough habitat, an assessment of the existing hydrological/hydrogeological regime and of the proposed method of disposal of surface water, an assessment of conservation and non-conservation wetlands in the vicinity of both proposed developments, an assessment of invasive technical site investigations carried out or to be carried out and an assessment of the manmade connection between Cuilleenirwan Turlough and the Ballyglass River and its negative impacts on the local hydrogeology and the probability of similar negative impacts as a result of the development. The report lists what are described as a non-exhaustive list of the best scientific knowledge in the field as it pertains to the proposed development. This includes various articles in relation to karst hydrogeology and the Killeglan water supply scheme. It is submitted that in carrying out the appropriate assessment the competent authorities have not identified all aspects of the development likely to have an impact on the special areas of conservation, did not avail of the best scientific knowledge in the field and consequently could not have satisfied themselves that there is no reasonable scientific doubt as to the absence of adverse effects on the integrity of the European sites. It is considered that the development represented a significant potential risk to European conservation sites as well as to groundwater.
- 7.18. A submission from the Department of Arts, Heritage and the Gaeltacht was received on 18th May, 2015. In this submission the department states that its concerns regarding the proposed developments (that referred to on File Ref. PL20.244346 and in the current appeal) and the inadequacy of the information available to

demonstrate that they will not adversely affect European sites remain. The department draws attention to Ireland's obligations in relation to European Sites as set out in the Habitats and Birds Directives.

- 7.19. It is submitted that appropriate assessments are to be undertaken in view of the site's conservation objectives for the sites which may be significantly affected. It is submitted that the term "wetland and water birds" is included in the special conservation interests for the Special Protection Areas in the vicinity. The conservation objectives are generally to maintain or restore the favourable conservation condition the wetland habitats of the various Special Protection Areas as a resource for the regularly occurring migratory and water birds that utilise them. For Special Areas of Conservation, the conservation objectives are generally to maintain or restore the favourable conservation condition of the habitat and species for which the site has been designated. For turloughs this requires the maintenance and restoration of the groundwater and hydrological dynamics as this is an important ecological characteristic of the habitat. Turloughs are also important winter feeding grounds for water fowl and wading birds. The submission contains further guidance for carrying out Appropriate Assessment.
- 7.20. The department's submission lists key bird species of concern i.e. Greenland White Fronted Geese, Whooper Swans, Golden Plover, Shoveler, Wigeon and Lapwing which are listed as of special conservation interest for the various sites in the vicinity. The assessment must also consider the implications for the conservation objectives of all qualifying interest/species. In commenting on the adequacy of the information on which to conclude an appropriate assessment the department refers to the inspector's report on File Ref. 11/273 which refers to the number of currently designated European Sites in the vicinity (14 within 15 kilometres). The inspector was not satisfied that the applicant had demonstrated that the proposed development would not significantly impact on the relevant bird species which utilise the sites by way of disturbance, barrier effects to movement and collision risks. The submission refers to the concerns previously expressed by the Department in relation to the development. These concerns still remain as the Department considers that uncertainty still remains as to the potential effects on the nearby European Sites. It is the Department's view that the survey work, including the additional information submitted to the Board in relation to the application referred to

on File Ref. PL20.244346, was not sufficient in duration or scope to reach reasonable scientific certainty that the proposed development would not significantly affect the conservation objectives of the European Sites in question.

- 7.21. The Department submitted that it is necessary to understand the relationship between the proposed development sites and the European Sites, how species move between the sites and across the site and how the proposed development would affect that movement. The department acknowledges that the applicant has collected a body of data in relation to the proposed development including the further information submitted on the Phase 1 development. It is concerned however that up to 2013 the Greenland White Fronted Goose was not observed by the applicant on any occasion even though two of the vantage points were in close proximity to two SPAs which are known to support and are designated for the species. It is submitted that the winter data for 2008/2009 would be of limited value due to the severe weather which would have affected the use of the sites by birds. The survey of January to March 2013 was more informative regarding understanding the movements of the target/important bird species. The period, however, only covered half of the winter season. Further survey work would be required to obtain more robust information. It is stated that a two-year survey period may provide sufficient information to adequately assess the implications for the sites in question but this would need to be more closely considered in view of the level of uncertainty that still remains.
- 7.22. In commenting on the proposed Merlin SCADA Radar System the Department submitted that the technology had not been demonstrated to be effective in wintering grounds for the species in question and so it had not been demonstrated to any degree of certainty that the deployment of this system could be considered a proportionate and guaranteed mitigation measure.
- 7.23. The Department also considered that the investigation of the proposed development in conjunction with other plans and projects is insufficient. It is stated that consideration is given only to the interaction between the two wind farms and no other plans or projects were assessed. The cumulative level effects with other pressures including wind farms and agricultural activities in the area should be considered.

- 7.24. A submission from the Skyvalley Concerned Residents Group was received on 19th October, 2015. This submission included a copy of the appeal lodged by the Skyvalley Concerned Residents Group in which it had referred to its views in relation to a number of the conditions imposed in the decision of Roscommon County Council. The submission concludes that the applicant has not made any serious attempt to justify the magnitude of the proposed development. It is also submitted that the applicant had not stated the full facts of the matter in that the development is in a second stage of a three phase development taking into account the previous consultation with An Bord Pleanála. It is submitted that Roscommon County Council did not take into sufficient consideration that the proposed development is not in the interest of the proper planning and sustainable development of this area of South Roscommon.
- 7.25. In a submission dated 19th October, 2015 the applicant submitted comments on the observations of the Skyvalley Concerned Residents Group, the Department of Arts, Heritage and the Gaeltacht and O'Connell Clarke Solicitors on behalf of Mr. Ted Kelly. (The submission from O'Connell Clarke referred only to the phase 1 development but the accompanying report by Kavanagh Burke referred to both developments)
- 7.26. It is noted in the submission that the April/May 2015 submissions by the third parties had been made prior to the parties having sight of the detailed submissions of the applicant of 18th May, 2015.
- 7.27. In responding to the submission of the Skyvalley Concerned Residents Group it is noted that this reiterates planning arguments which had been fully vented during the course of the assessment of the planning application by Roscommon County Council and subsequently by An Bord Pleanála. The applicant submits that the judgement of the High Court extends only to issues of procedural legality and makes no findings whatsoever in relation to the substantive planning and environmental issues arising. It is submitted that the conclusions of the inspector's report have now been superseded by a suite of detailed further information submitted by the applicant to the Board which fully remove any uncertainty.
- 7.28. The applicant comments on the conditions of the Roscommon County Council decision which had been commented on by the appellant in their grounds of appeal

and subsequent correspondence. It is submitted that Conditions Nos. 3 and 29 of the planning authority decision deal with decommissioning and are standard conditions for wind farms. In relation to Condition No. 4 it is argued that the various chapters of the EIS have been prepared by highly qualified experienced and reputable professionals using the best scientific evidence and knowledge in the field. The applicant refutes any contention that the information in the EIS lacks objectivity. The information previously before the Board, and the Inspector at the time of reporting, had been supplemented by additional information submitted including that of the 18th May, 2015. The requirement in Condition No. 5 in relation to the external finishes of the wind turbines is also a standard condition. In relation to Condition No. 6 it is argued that the report of Jennings O'Donovan and Partners submitted on 18th May, 2015 indicates that the subsoil conditions correlate well with the results of the geophysical resistivity testing previously carried out. It is submitted that with the implementation of all the comprehensive mitigation measures previously proposed there will be no residual environmental impact on hydrogeology and no deviation outside the permitted planning envelope. Any micro-siting will be fully agreed with the planning authority.

- 7.29. The applicant submits in relation to Condition No. 8 that over seven years of ornithological survey work has been carried out and this has resulted in a full scientific understanding of the natural flight lines and flyways of the bird species of concern. Collision risk modelling had been carried out and submitted to the Board on 18th May, 2015. The modelling shows a highly conservative and unlikely worst case scenario which indicates the estimated number of collisions per annum for Whooper Swans to be 0.0494 or once every 20 to 25 years. It is also noted that swans flying through the site are more likely to fly through the lower ground between the two turbine clusters. They are also likely to be flying at an altitude below the rotor sweep height. The Merlin Radar System is proposed to mitigate any infinitesimal residual collision risk.
- 7.30. In relation to Condition No. 9 it is stated that a full season bat survey was undertaken from April 2012 to September 2012 and this compliments previous survey work undertaken on the site. A copy of the survey report was attached to the submission. It is concluded that having regard to all the mitigation measures the proposed development is unlikely to have any significant impact on bat species.

- 7.31. In relation to Conditions Nos. 11 and 12 it is noted that the original inspector had not raised any concerns in relation to noise or shadow flicker having regard to the mitigation measures proposed and the setback to dwellings. These issues had been dealt with in conditions imposed in the previous An Bord Pleanála decision. In a similar manner the inspector's report and the Board had raised no concerns in respect of telecommunications interference which were dealt with in Condition No. 14 of the Roscommon County Council decision. The issue is dealt with in Condition No. 12 of An Bord Pleanála's previous decision. Traffic issues and the requirement for a detailed construction management plan are dealt with in Conditions Nos. 17 and 19 of An Bord Pleanála previous decision. It is common practice on many development projects to employ an archaeologist for the period of construction. This is a precautionary approach and is dealt with in Condition No. 21 of An Bord Pleanála's previous decision. In its previous decision An Bord Pleanála did not raise any concerns in respect of archaeology.
- 7.32. In responding to the general comment made by the appellants of the proposal being part of a larger development by the applicant it is submitted that the applicant has no proposals for any future wind farms in the area apart from those referred to in File Ref. PL20.244346 and the current appeal file.
- 7.33. In commenting on the submission from the Department of Arts, Heritage and the Gaeltacht the applicant argues that the judgement in the High Court relates exclusively to procedural shortcomings of the Board in carrying out an Appropriate Assessment and specifically the obligation on the Board to correctly record the reasons for its determination which would meet the requirements of Article 6(3) of the Habitats Directive. The judgement of the High Court cannot be read as inferring any findings on the substantive or appropriate assessment conclusions reached by the Board. It is submitted that the extensive material submitted during the course of the planning appeal as now supplemented by that of the 18th May, 2015 constitutes the best scientific evidence in the field and is entirely appropriate to enable the Board to reach complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed development. The applicant finds it difficult to reconcile the Department's opposition to this development and its different position in relation to other planning appeals for wind farm developments.

- 7.34. It is submitted that the evidence submitted does not focus singularly on the Whooper Swans and Greenland White Fronted Geese although these are the species most at risk from collision with the wind turbine. It is submitted that the very extensive analysis undertaken to date has enabled the development of the most complete scientific understanding of the movement of key bird species in the South Roscommon area to date. No scientific or other empirical evidence was submitted by any third party including the Department to contest the evidence put forward by the applicant. Reference is made in the submission to documented regular patterns of deliberate and wilful disturbance of birds, including inside European Sites, caused by other human activities which has not provoked any response from the Department. It is submitted that this disturbance is likely to be a significant factor in explaining the absence of Greenland White Fronted Geese in the surveys.
- 7.35. In its response to the Department's earlier submission the applicant's response of the 19th October points out that the additional information received by the Board on 6th June, 2013 was not available to the inspector when she reported on the case. More recently the applicant had carried out additional investigations in the 2014 – 2015 winter period and the results of this have also been submitted. The unequivocal conclusion of these studies was that bird species of conservation concern cross the proposed development site very rarely and typically as a result of increased deliberate human disturbance. It is submitted that the proposed development cannot act as a barrier to movement and disrupt ecological links between feeding, wintering and breeding areas. It is submitted that one of the most important findings of the bird survey work was that the River Suck flock of Greenland White Fronted Geese remain almost exclusively on the River Such Callows. The applicant strongly refutes any doubts raised about the robustness or veracity of the surveys carried out.
- 7.36. In its submission the applicant refutes the Department's contention that the Merlin Avian Radar System is the main mitigation measure proposed. The system is a residual" belt and braces" mitigation measure designed to mitigate any residual risk of birds colliding with wind turbine. A suite of comprehensive mitigation measures are incorporated into the proposal including mitigation by location and mitigation by design.
- 7.37. In commenting on the submission on behalf of Mr. Ted Kelly it is stated that the issues raised have been previously extensively aired through the course of both the

appeal and the judicial review. The Board was satisfied in its previous decision that subject to normal good construction practice turbine foundations can be developed at this location without significant impacts on the hydrology or hydrogeology of the area. It is submitted that the additional information contained in the technical submission from Jennings O'Donovan Consulting Engineers submitted on 18th May, 2015 addresses in their entirety the issues raised in Mr Kelly's submission and fully removes any scientific doubt of the absence of impact on European sites. In its conclusion the applicant states that it is of the view that the original decision order made by the Board to grant permission is entirely appropriate and backed up by the comprehensive additional information now provided the decision is entirely undiminished. There is no reason for the Board not to reach the same conclusion and grant planning permission for the proposed development.

- 7.38. A copy of a bat survey of phases one and two with 2012 data prepared by Dr. Tina Aughney of Bat Echo Services, dated 2013, was submitted with the applicant's submission dated 19th October, 2015. The conclusions including proposed mitigation measures referred to in this document are commented on in the report of Mr. Arnold and in my assessment of the issues relating to bats.
- 7.39. By letter dated 19th October, 2015 the Department of Arts, Heritage and the Gaeltacht made a further submission on the application and the further information submitted by the applicant on 18th May 2015.. The Department submits that the duty on the Board, to comply with the decision of the High Court, is greater than merely recording reasons for its determination as implied by the applicant. It is submitted that an assessment or analysis must be conducted in reaching precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed development on the integrity of Natura 2000 sites. The Department refers to the proposed wind farm being located in an area with a relatively high concentration of wetland sites. The site is located within 5 kilometres of three SPAs. The reasons for the designations are referred to. It is submitted that it is known that geese, swans and waders do not stay within the confines of each of the SPAs during the winter. The Greenland White Fronted Geese move between three or four SPAs within 15 kilometres of the site. Whooper Swans and Golden Plover do to confine their feeding exclusively to the SPA network. There are gaps in the understanding of how these birds interchange with other SPAs and non-

designated areas. Knowledge of inter-seasonal movement of species which are listed for SPAs is also poor and it is known that the birds move around the area. Knowledge of migration patterns is also incomplete. It is submitted that the wetland sites in the area are subject to varying levels of disturbance and likely year to year and month to month habitat changes. The Department lists the potential impacts of the proposed development on water birds. It is stated that the primary cause for concern from a bird conservation perspective is the increased risk of bird mortality events that may occur through collisions if the proposed wind farm proceeds.

7.40. In commenting on the survey methodology and the results of the 2014 – 2015 Survey the Department states that the National Parks and Wildlife's own Greenland White Fronted Goose survey results indicate that on particular occasions some site counts were substantially higher compared to the Ecofact results e.g. the Four Roads SPA maximum Ecofact count of 21 in comparison to the National Parks and Wildlife Service maximum count of 131. It is noted that the Shoveler peak count of 235 individuals equates to almost 10% of the All Ireland population estimate for Shoveler. The report also does not describe the movements of this or other duck species. It is noted that ducks may migrate or perform local flights during the night. Reference is made in this regard to responses to various affidavits where it is stated that the ducks stay all winter long at particular water bodies. This does not acknowledge that some ducks migrate and undertake other flights at night. It is submitted also that it cannot be stated with any degree of certainty that the Whooper Swan flocks listed for both the River Suck and Lough Ree SPAs are independent of the birds recorded flying over the proposed wind farm site. It is pointed out that when comparing the results of the 2014 – 2015 survey with the 2013 findings differences are indicated. It is submitted that this supports the argument that in such a dynamic system water bird site use cannot be characterised sufficiently by a series of limited and varying survey initiatives to allow the applicant to predict with confidence how the system will behave over the next 25-year period.

7.41. The Department states that it is of the view that the sophistication and effectiveness of the proposed Merlin Radar System in reducing the risk of collision to a level which would ensure that there would be no adverse effect on the integrity of the nearby European Sites has not been demonstrated in the submissions.

- 7.42. The Department, in its response, refers to pressures on the Lough Croan SPA from agricultural activities such as slurry spreading etc. referenced in the applicant's bird survey for January to March 2013. It is submitted that the uncertainty surrounding the effects of the proposed development should be considered in conjunction with the cumulative effects arising from other pressures including wind turbines and agricultural activities. The Department is of the view that the information submitted does not give sufficient consideration to the uncertainty and lacunae which still remain as to potential effects of the proposed development over the lifetime of the development on the conservation objectives and integrity of the nearby European Sites including in- combination effects with other pressures and activities. It is accordingly not possible to conclude an Appropriate Assessment that is favourable to the proposed development and that is in keeping with the legal requirements.
- 7.43. A further submission was received from the Department in a letter dated 8th December, 2015. In this submission the Department states that it does not agree that a full understanding of the movements and flight patterns of relevant bird species have been reached. Reference is made to the issues raised in the submissions of 19th October, 2015. The Department submitted detailed information including count data for Greenland White Fronted Goose at various sites in relative close proximity to the proposed wind farm. This data had informed the Department's previous observations and submissions and the data is available to the public on request. With reference to the applicant's comments on the Department's previous statement that the Merlin Avian Radar System is the main mitigation measure proposed the Department referred to its October submission where it is stated that the primary cause of concern from a bird conservation perspective is the increased risk of bird mortality events which may occur through collisions. The Department is of the view that this is the case and apart from possible mitigation arising from re-siting or reducing the number of turbines the proposed Merlin Avian Radar System would be very relevant in this context.
- 7.44. A submission from Skyvalley Concerned Residents Group was received on 19th October, 2015. This submission and a later one which appears to have been received on 23rd November, 2015 reiterates the group's view that the facts of the development are not disclosed and that planning permission should not be granted. The group is concerned that the conditions of the Planning Authority do not place

enough onus the developer to ensure that the health and safety of those who live in the locality and the protection of the environment are adequately addressed.

Arguments similar to those made in the grounds of appeal are submitted in relation to the conditions in question.

- 7.45. A submission from Mr Eamonn Kelly was received by the Board on 19th October 2015. It is stated on the cover letter that the submission refers to the application referred to on file 20.244346. (The submission is attached to that file). The attached report from Kavanagh Burke, however, refers to the 2 applications i.e. those referred to on file 20.244346 and file 20.244347. It is stated in the Kavanagh Burke submission that no reference is made in the Jennings O'Donovan submission of 18th May 2015 to the boreholes in the phase 2 site. (File 20.244347 or current case). It is noted from the borehole logs that a cavity of 2.3 metres was indicated at turbine no.8 in the phase 2 development. It is submitted that this turbine would be within 500 metres of the zone of contribution for the Killeglan Water Supply Scheme but that there is no assessment of the impact on the water supply scheme or information on the design of the foundations for that turbine. It is submitted that the concerns expressed by the inspector prior to the previous Board decision remain valid.
- 7.46. In responding to the submissions in relation to the connection to the national grid the Kavanagh Burke report states that as previously pointed out the applicant will not determine the method of connection but EirGrid will do this. Reference is made to publication Grid 25 – A Strategy for the Development of Ireland's Electricity Grid. It is stated in that document that overhead lines are the standard form of transmission throughout the world and criteria are set for situations where undergrounding of cables would be considered. It is stated that these situations do not apply in the current case. It is submitted that the cumulative impacts of the connection to the grid have not been addressed. In relation to the connection of the Phase 1 and Phase 2 developments it is submitted that the route proposed would transverse an area of extensive flooding as shown on submitted photographs. It is argued that no scientific assessment of this excavation and its potential impact on the hydrogeology of the area is submitted. It is submitted that the applicant has not addressed the issue of drainage of surface water apart from a reference to SUDS principles. This issue of drainage is accepted by all karst experts to be the most difficult engineering problem in an active karst site.

- 7.47. A further submission from Mr. Eamonn Kelly was received on 7th December, 2015. This submission consists of a report from Kavanagh Burke. It is stated in the submission that the data and investigations which had been submitted prior to the previous Board decision did not satisfy the An Bord Pleanála inspector who had dealt with the case. There are quotations from the inspector's report contained in the Kavanagh Burke submission to indicate that the inspector was of the opinion that it had not been established beyond scientific doubt that adverse effects on the integrity of Lough Croan Turlough SPA, Four Roads Turlough SPA, and the River Suck Callows SPA would not occur. It is stated that a detailed analysis of the contents of the Jennings O'Donovan Consulting Engineers report of the 18th May, 2015 had been contained in their submission of 19th October, 2015. It is submitted that the inadequacies of the information submitted by the applicants as highlighted by the inspector previously were not addressed in the Jennings O'Donovan report. The Kavanagh Burke report synthesises problems relating to groundwater flow in karst areas and the impact on the recharge of turloughs.
- 7.48. In commenting on the proposed Merlin Avian Radar System the Kavanagh Burke report refers to a report by the Norwegian Institute of Nature Research which noted that the performance of the system in a particular site depended heavily on the specific environment at the particular location. Problems in relation to interference from ground clutter behind the turbines and echoes from the wind turbines themselves and from the ground are referred to. It is stated that the clutter will reduce the detection capability of birds in the affected areas.
- 7.49. The Kavanagh Burke report concludes that the latest information submitted did not address any of the gaps in the information as identified by the Board's inspector in the previous case. Neither did the information address the scientific facts regarding the hydrogeology which supports the surrounding Natura 2000 sites. Events such as the occurrence of sink holes in the area which had previously been referred to had not been addressed. It could not accordingly be concluded that the proposed development would not adversely affect the integrity of the surrounding Natura 2000 wetland sites.
- 7.50. A submission from the applicant was received on 8th December, 2015. In this submission the applicant refers to the dismissal by the Court of Appeal of an appeal challenging the judgement of Mr. Justice Haughton in respect of the Board's decision

to grant planning permission for the proposed Cullenagh Wind Farm in County Laois. (A copy of the High Court decision in this case was submitted at the Oral Hearing). It is submitted that this clarified three points of law of exception of public importance. The points clarified were that there is no obligation imposed by the Habitats Directive for a private developer to contribute positively to the restoration and conservation objectives of a European site. It was also clarified that the obligation placed on the Board is to have access to the best scientific knowledge that is reasonably available in order to ensure that the Appropriate Assessment meets contemporary scientific standards. It is submitted that the Board is fully entitled to rely on the detailed Environmental Impact Statement and the Natura Impact Statement and the several volumes of additional information submitted by the applicant in the current case. No empirical evidence had been submitted by other parties, including the Department of Arts, Heritage and the Gaeltacht, to contradict the weight of the scientific evidence. The decision also clarified that it was lawful and appropriate in the context of the Habitats Directive for technical aspects of mitigation measures to be left over for agreement between the Planning Authority and the developer by way of a condition of consent. It is submitted that the judgement of Mr. Justice Haughton and that of the Court of Appeal vindicate the approach taken by the applicant and by An Bord Pleanála in the original decision to grant planning permission.

- 7.51. It is not accepted by the applicant that no scientific hydrogeological information or assessment was presented in the Jennings O'Donovan Consulting Engineer's report which was submitted to the Board on 18th May, 2015. The purpose of that report as set out in Section 1.1 is referred to. The objective of the drilling was to secure a more extensive understanding of the underlying soil and rock conditions and to investigate some of the possible cavities or anomalies and karst features and to correlate the findings with the interpretation of the geophysical study.
- 7.52. In its submission of 8th December, 2015 in relation to the Phase 1 development i.e. PL20.244346 the applicant comments on the reference in the Burke Kavanagh submission attached to Mr. Eamonn Kelly's submission on that file in relation to a cavity being recorded at Turbine No. 8 in the Phase 2 development (that referred to on File PL20.244347). It is submitted that the issue of the cavity encountered at this location had been fully addressed and appropriate mitigation measures and engineering design solutions had been proposed. It is submitted that in just one of

the six high priority locations identified across both sides piled foundations are proposed as a mitigation measure. It is stated that as is normal practice in every civil engineering project further detailed geotechnical ground investigations and bespoke foundation designs will be required at all turbine locations prior to construction. It is submitted that with full implementation of all the mitigating measures proposed and normal good construction practices both raft and piled foundation types can be developed without any impacts on the hydrology and hydrogeology of the area including in respect of the local drainage regime. It is submitted that accordingly the proposed development would not have any impacts on European Sites.

- 7.53. The submission of the 8th December in relation to the application referred to on File Ref. PL20.244346 also referred to the issue of grid connection as this had been referred to in the Kavanagh Burke submission which had referred to both applications. It is stated that the applicant's intention is that the connection to the national grid will be constructed by way of underground cable under the public roadway. Reference is made to a similar underground connection being permitted by An Bord Pleanála in the case of a proposed wind farm in County Offaly (PL19.244903). It is stated that the submission by the applicants on 18th May, 2015 fully addresses the cumulative environmental effects of the proposed grid connection.
- 7.54. In responding to the submission from the Department of Arts, Heritage and the Gaeltacht of 19th October 2015 the applicant submitted that the High Court judgement quashing the previous decision was concerned with the quality of the Board's decision from the perspective of process and not with the quality of the application itself. The Court made no finding of any absence of scientific knowledge that would prohibit the Board from granting planning permission. It is submitted that all of the information which had been submitted to the Board and now supplemented with substantial further information represents the best scientific evidence and knowledge in the field. None of this information has been contradicted by evidence. No reasonable scientific doubt remains that the proposed development would not by itself or in- combination with other projects adversely affect the integrity of any relevant European site. The Board reached this conclusion previously but simply failed to properly and clearly record the assessment and the reasons for that determination.

- 7.55. It is submitted that all of the Department's submissions to date are confined to highlighting the innate uncertainty of natural ecosystems and critically commenting on the evidence put forward by the applicant but it had not submitted any cogent environmental or scientific evidence. It is submitted that this placed the applicant in an impossible position. It is submitted that the Department had adopted a different approach in other case e.g. PL19.244903 where the Department accepted that the EIS recorded no flight activity across the proposed development site.
- 7.56. The applicant submitted that the Department is misrepresenting the comment in the applicant's previous submission in relation to the court judgement. The judgement in the Kelly versus An Bord Pleanála case was not a novel core conclusion and the Board would have been well aware of its responsibilities in regard to conducting its original Appropriate Assessment. In the previous case there was an absence of evidence before the Court that the Board had properly carried out a lawful Appropriate Assessment but there was no evidence of any absence of scientific knowledge which would enable the Board to reach a lawful determination and to grant planning permission.
- 7.57. The applicant also referred to the judgement of Mr. Justice Haughton in the case of Cullenagh Wind Farm. The Court of Appeal had also given judgement in relation to this case. The Court of Appeal ruled that the Board is entitled to rely on scientific knowledge submitted during the course of the appeal and reasonably available in reaching its determination. It is submitted that the applicant had made every effort to address the concerns expressed by the Department. The unequivocal conclusion of the studies carried out was that bird species of conservation concern cross the proposed development site very seldom (typically as a result of increased human disturbance). It is accepted however that occasional movements do occur at the peak of the winter bird surveys. In 2013 Greenland White Fronted Geese were recorded crossing the site. The 2014/2015 survey did not find any evidence of Greenland White Fronted Geese at Lough Croan or near the proposed development site. Whooper Swans also interacted with the proposed site on a number of occasions. It is submitted that whilst Whooper Swans are listed under Annex I of the EU Birds Directive there is no SPA designated for the species in the vicinity of the proposed development site. Nationally important numbers (above 130) of Whooper Swans were never recorded near to the proposed development site. The range of

these swans is increasing and it is now an amber listed species in Ireland. It is submitted that mitigation measures proposed, including the Merlin Avian Radar System, were sufficient to protect local bird populations.

7.58. It was submitted that the Scottish National Heritage Guidelines allows for an adoptive approach when doing surveys and it is entirely appropriate to change survey locations in the light of new information. Lough Funshinagh was ruled out of the survey because of its distance from the site and not because of access issues. Lough Funshinagh is also no longer an important location for Greenland White Fronted Geese. It is argued that the Ecofact report did not suggest that the total population of Greenland White Fronted Geese in the area was 21 (in comparison to the National Parks and Wildlife figure of 131) at the Four Road Special Protection Area. It is accepted that Greenland White Fronted Geese move between the River Suck and the Four Roads Turlough. They would not however cross the site of the proposed development in these movements. The important issue is the pattern of use of Lough Croan by Greenland White Fronted Geese. They were not recorded at Lough Croan during the 2014/2015 survey. It is submitted that the extensive survey work carried out indicated that flocks of birds including ducks rarely cross the site of the proposed development. The nocturnal activity of Shoveler is not considered significant in the area. The presence of Shoveler was not recorded at any of the other water bodies near the site e.g. Lough Feacle during the 2014/2015 bird survey and they seem to use Lough Croan only. The surveys of the Whooper Swans indicated that the total number in the lakes in the area is usually consistent and there is no evidence of an influx from Lough Ree SPA or the River Suck SPA. The likelihood of occasional flocks of Whooper Swans crossing the site was identified in the surveys. There is however no evidence that the Whooper Swans move between water bodies in the study area at night.

7.59. The applicant reasserts that the Merlin System is a residual (belt and braces) mitigation measure, which following the results of the collision risk modelling would mitigate the very small risk of a bird colliding with the wind turbines. It is intended to mitigate the collision risk in relation to the rare overflight events by a small number of birds. It is submitted that the system represents the state of the art avian safety and bird control measure. It is the most advanced system available. The system is being provided in accordance with the precautionary principle and based on the applicant's

collision risk modelling it would reduce these events to an entirely insignificant level. It is noted that in its original decision the Board was of the view that the system may be of value as a means of minimising impacts. The Board was however satisfied that independent of the Merlin System there was reasonable scientific certainty as to the absence of impacts on any designated European Site or species of conservation value. The additional information confirms this conclusion.

8.0 Development Plan Considerations:

- 8.1. The current Roscommon County Development Plan is the 2014 – 2020 Plan. This plan came into effect on 12th May, 2014. The current plan accordingly was not in effect when the Roscommon County Council made its decision or when An Bord Pleanála previously determined the case.
- 8.2. In the current plan the nearest Tier 2, 3 or 4 settlements identified in the Plan are Ballyforan identified as a Tier 4 settlement, Monksland/Bellanamullia identified as a Tier 2 settlement, Hodson Bay on the edge of Lough Ree identified as a Tier 3 settlement and Creagh (Ballinasloe Environs) identified as a Tier 4 settlement. It is stated in the Plan that apart from the settlements referred to as Tiers 1 to 3 a significant cohort of the projected population allocation for the county for the relevant period will be directed towards smaller settlements and the countryside to what is referred to as one-off housing. It is stated that development of this kind would be assessed for consideration on a case by case basis within the context of the Sustainable Rural Housing Guidelines and other relevant policies of the development plan.
- 8.3. Part 2.5 of the Plan deals with the issue of landscape, natural heritage and built heritage. Reference is made to the rich, varied and diverse landscape of the county and to the landscape character assessment contained in the 2008 – 2014 Plan. (This appears to have been carried forward into the 2014 plan). It is noted that many features of the landscape are afforded European and National protection. Natura 2000 sites are referred to in this regard. It is stated that the Council is aware of the significance of maintaining the integrity of sensitive areas and will seek to limit development to that appropriate and considered sustainable in these areas.

- 8.4. Part 3.4.1 of the Plan deals with the issue of agriculture and diversification of agricultural activity. It is stated that the Council seeks to ensure the continuity of agriculture for reasons that are not solely economic. It is stated that the sector has important cultural significance, is the predominant land use in the county and has essentially shaped the landscape and settlement pattern of the county. The Council's rural settlement policy is centred on facilitating the continuity of agriculture and maintaining the integrity of viable farming areas. The Council recognises the need for a large proportion of farms to diversify into areas and seeks to provide for other vibrant, environmentally sustainable and well managed enterprises including horticulture, forestry, energy and the bloodstock/equestrian sectors. The Council supports the diversification of farm business into areas which do not militate against landscape or environmental protection policy and objectives of the plan. One of the objectives in relation to agricultural diversification is to ensure that the development does not have a negative impact on the scenic amenity of the countryside, in particular, in specified areas including those directly impacting upon scenic views or routes as identified in the County Roscommon Landscape Character Assessment.
- 8.5. Part 3.4.3 of the Plan deals with wind and other natural resource energy technologies. It is stated that the atlas of wind speeds indicates that large areas of Roscommon meet technical requirements for the development of wind turbine sites. It is stated that Roscommon County has a very dispersed settlement pattern and there are a few appropriate sites which are more than 400 metres from a dwelling. The total developed wind farm capacity in 2013 was 29 megawatts or about 1.4% of the national total. The plan refers to the energy white paper of March, 2007 which had a target of 33% of energy supply to be met by renewable energy sources by 2020. Wind energy is a significant component of this target. It is stated in the Plan that it is important that a balance is achieved between responding to government policy on renewable energy and enabling the county's energy resources to be harnessed in a manner that is consistent with proper planning and sustainable development. Roscommon County Council will be guided by the Wind Energy Development Guidelines 2006 in relation to the location of large wind turbines.
- 8.6. It is stated in the Development Plan that the Landscape Character Assessment of 2014 is one of the main policy areas which will inform the issue of suitability for wind farms in the county. In this assessment each of the landscape character areas are

classified into four categories ranging from exceptional value to moderate value. It is stated in the Development Plan that section 4 of the assessment gives examples of where potentially appropriate locations might be found. The areas referred to are Arigna Mountains, Brokagh Hill and surrounds, upland near Garranlahan, Braywood Hill uplands, Slieve Bawn and the high ground to the east of Lough Funshinagh.

- 8.7. Policies 3.47 to 3.52 relate to wind and other natural resource energy technologies. These policies include compliance with the Wind Energy Planning Guidelines 2006 and to the Landscape Character Assessment for the county. Particular attention is drawn to the immediate visual impact and long distance views, scenic routes and scenic views set out in the Landscape Character Assessment report and sites of special value which have been identified as of particular importance for their sense of isolation and tranquillity. The two areas referred to in regard to the latter are Landscape Character Areas 27 and 6. Reference is also made in Policy 3.50 to compliance with the County Roscommon Renewable Energy Strategy 2013 – 2020. It is stated that all wind turbine proposals irrespective of their size shall be subject to a full environmental assessment (EIA). Policy 3.52 states that no wind energy development will be considered in any Natura 2000 site or their surrounding buffer areas. Only proposals which will not adversely affect the integrity of any Natura 2000 sites will be permitted.
- 8.8. Part 4.2.4 of the Development Plan deals with the issue of groundwater protection. This part of the Plan refers to the inherent ecological and economic value of groundwater and identifies it as a major resource that needs to be protected. The Roscommon Groundwater Protection Scheme (2003) indicates that a large portion of the county is classified as being of extreme or of high vulnerability, in terms of risk of contamination. It is noted that areas in the north of the county where rock is generally at or close to the surface are extremely vulnerable. The Planning Authority will consider groundwater vulnerability in assessing development proposals. Objective 4.41 of the Plan is to control development within existing source protection areas in accordance with the recommendations of existing source protection plans and only allow development in these areas where no reasonable alternative exists.
- 8.9. Part 4.4 of the development plan sets out the planning authority's policies in relation to "flood risk and protection". The Council support the view that the precautionary approach should be adopted in carrying out flood risk assessments and it lists

guiding principles which should be followed including the avoidance of development in areas at risk of flooding unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced and managed to an acceptable level without increasing flood risk elsewhere. Reference is also made to the sequential approach to flood risk management and the incorporation of flood risk assessment into the process of development management. Areas in the general area of the site of the proposed development are identified as flood points on the OPW flood information on Map10 (flood risk) contained in the Development Plan.

- 8.10. Section 4.6 of the plan refers to the issues of energy generation and demand. The plan sets out government commitments to sustainable development and reducing energy demand. Reference is also made to Ireland's target for electricity generated from renewable sources being 40% of gross electricity production by 2020. It is stated in Part 4.6.2 that wind energy has the potential to be an important sector of the economy of Roscommon assisting in job creation and rural development whilst also reducing dependence on fossil fuels. It is stated that large areas of North County Roscommon are ideal for the development of wind energy. It is stated that the siting of wind turbines requires careful consideration.
- 8.11. In considering planning applications regard will be had to the criteria set out in the Wind Energy Guidelines 2006 and in the county's Renewable Energy Strategy which had been adopted as part of the development plan. No wind energy developments will be considered on Natura 2000 sites or their surrounding buffer areas. Proposals will also generally be discouraged in or close to proposed Natural Heritage Areas, scenic routes and protected views and highly sensitive rural landscapes. The landscape character assessment adopted as part of the Development Plan provides recommendations that should be taken into consideration.
- 8.12. Part 5.11 of the development plan deals with the issue of housing in the countryside. It is noted that Roscommon is a rural county with a long tradition of people working and living in rural areas. Reference is made to people living in the rural area travelling considerable distances to work and consideration must be given to how this movement of people in the countryside affects towns and villages as well as the landscape of the countryside and the environment. It is stated that the rural landscape, which is the vital tourist asset of the county, has being altered by the

amount of one-off housing that has occurred. It is stated that it is the aim of the Rural Housing Strategy to facilitate those with close economic and/or familial links to the countryside in residing in rural areas where they were raised and work. It is the aim to direct new rural housing into towns and villages. Reference is made to the Sustainable Rural Housing Guidelines for Planning Authorities 2005 as a response to the sustained pressure for rural housing which has prevailed.

- 8.13. Chapter 6 of the Development Plan deals with the issue of built heritage and archaeology. It is noted that there are over 4,000 monuments on the Record of Monuments and Places in County Roscommon. Policy 6.9 is to protect the archaeological heritage from damage. Objective 6.21 is to secure the preservation i.e. preservation in situ or at a minimum preservation by record of archaeological monuments included in the Record of Monuments and Places. Objective 6.22 is to ensure that any development either above or below ground within the vicinity of a site of archaeological interest will not be detrimental to the character of the archaeological site or its setting. Objective 6.24 supports the conservation of archaeological landscapes in conjunction with the National Monuments Service of the Department of Arts, Heritage and the Gaeltacht.
- 8.14. Chapter 7 of the Development Plan deals with natural heritage and landscape character assessment. It is the strategic aim of the Plan to protect, conserve and enhance the biodiversity and natural heritage of designated sites in County Roscommon. Policy 7.1 is to protect, propose and designate natural heritage areas, special protection areas and special areas of conservation. Policy 7.2 is to protect geological natural heritage areas. It is stated in Part 7.3 of the Plan that areas of conservation concern must not be considered in isolation and that linkages and wildlife corridors between designated sites and important habitats must be given consideration. In a discussion on turloughs it is stated that it is important to identify turloughs of local conservation importance and to be aware of the hydrological impacts of developments on turloughs. Objective 7.9 of the Plan is to retain where feasible and enhance important landscape features such as lakes, rivers, wetlands, stone walls, hedgerows etc. Objective 7.22 is to seek hydrological reports for significant developments within or close to turloughs so as to assess the impacts on the integrity of the turlough system and associated groundwater levels.

- 8.15. Part 7.6 of the Plan deals with landscape character assessment. It is stated that landscape character assessment of the county was carried out in 2008. Landscapes in the county were divided into four categories i.e. exceptional value, very high value, high value and moderate value. Objective 7.37 is to seek to minimise visual impacts on all landscape character areas. Objective 7.40 is to seek to protect important views and prospects in the rural landscape.
- 8.16. Chapter 9 of the Development Plan sets out development management guidelines and standards. Part 9.30 deals with renewable energy. It is stated that the Council is committed to assisting in the development of alternative energy sources for environmental as well as energy policy reasons. The section references the Wind Energy Development Guidelines 2006 and the Renewable Energy Strategy for County Roscommon. Table 2 of Chapter 9 sets out standards and considerations in relation to key environmental factors for renewable energy developments. Applications must demonstrate, inter alia, that there will be no significant adverse effects on human health arising from noise, shadow flicker or odour. Ecological monitoring at sensitive sites during construction and the use of sensitive construction techniques are also referred to. The removal of bat commuting and foraging habitats shall be avoided where possible during both the construction and operational phases of the development. Where such removal cannot be avoided alternative habitats should be established prior to the removal. The table includes provisions for protection of bats present in trees scheduled for felling. In relation to soils and geology it is stated that site investigations are to be undertaken to anticipate, avoid or minimise construction impacts arising from the disturbance of subsurface conditions. Where the development is in close proximity to archaeological sites the working area shall be kept to a minimum. Where relevant pre-construction archaeological investigations shall be carried out and where necessary archaeological plans shall be implemented including pre-construction works, watching briefs and excavations.
- 8.17. The Renewable Energy Strategy which is part of the County Development Plan is also effective from the 12th May, 2014. Part 1 of this document sets out the international, national, regional and local policies in relation to renewable energy. The policies and objectives of the strategy are set out in Part 1.4. The renewable energy strategy was supported by a strategic environment assessment and a

Habitats Directive Assessment. It is stated that the appropriate assessment concluded that the integrity of Natura 2000 sites could be adversely affected by wind energy developments within or adjacent to the designated sites. It was accordingly determined that all Natura 2000 sites and their surrounding buffers would be designated as areas not favoured for wind energy development. Additional mitigation measures were also recommended to preclude indirect effects on any Natura 2000 site. It is an objective of the strategy to encourage and facilitate the various forms of renewable energy considered in the strategy provided that they are in accordance with the principles of proper planning and sustainable development. Policy No. 2 is to ensure that renewable energy developments do not undermine the preservation and conservation of the natural and built environment and that an appropriate balance is achieved between development and the preservation of the natural environment.

- 8.18. Map No. 5 of the Renewable Energy Strategy indicates landscape values, scenic views and routes. The site of the proposed development would be located in an area indicated to be of moderate landscape value. The closest scenic views are indicated as being to the north-east of the site of the proposed development. The views in question are V20, R8 and V22. (V20 is a view eastwards from a minor county road over Lough Ree from a location approximately 10.5 kilometres to the north-east of the site. R8 is indicated a road from which there is a view towards the south-east towards Lough Ree from approximately 7 kilometres to the north-east of the site of the proposed development and a V22 is a view indicated to be in a north-westerly direction across Lough Funshinagh from a minor road on the east side of Lough Funshinagh. This viewpoint is approximately 6 kilometres from the site of the proposed development. The views and scenic road are also indicated in the Landscape Character Assessment for County Roscommon 2014-2020 which forms part of the development plan.)
- 8.19. Map No. 6 of the Roscommon Renewable Energy Strategy divides the county into most favoured, less favoured and not favoured areas of renewable energy development potential. The site of the proposed development is within one of the areas identified as being most favoured.
- 8.20. Chapter 5 of the Renewable Energy Strategy sets out development management standards for renewable energy developments. It is stated in this chapter than any

wind energy development proposal which would be likely to affect the future growth and development of an existing settlement will not be permitted.

- 8.21. Part 5.2.2 refers to the distance of wind turbines from adjoining boundaries. It is stated that the impact of a proposed wind farm on the development potential of adjacent sites would be a material consideration. Where permission for wind energy development has been granted on an adjacent site the principle or the minimum separate distances between turbines set out in the Wind Energy Guidelines 2006 “may be applied “. (It is stated that the minimum distance between wind turbines will generally be three times the rotor diameter crosswind and seven times the rotor diameter in the prevailing downwind direction.)
- 8.22. Part 5.2.3 deals with shadow flicker. It is noted that the guidelines state that shadow flicker is generally not a critical issue. A condition requiring the non-operation of turbines at times when predicted shadow flicker may adversely impact on an inhabited dwelling within 500 metres may be appropriate. Assessments of theoretical shadow flicker impacting on dwellings within 500 metres of any turbine shall be submitted. If deemed necessary mitigation measures shall be proposed.
- 8.23. It is stated in paragraph 5.2.4 that cumulative effect will be a material consideration in assessing applications and it is noted that Roscommon’s elevated areas tend to be open to view from considerable distances and the cumulative effect is more pronounced.
- 8.24. Part 5.2.5 requires the submission of an archaeological assessment for all sites in close proximity to areas of archaeological influence.
- 8.25. Part 5.2.6 states that the potential impact of a development on all birds including migratory patterns, flight paths etc. will need to be assessed in all wind farm applications. Where flight paths of wild birds or bats are identified mitigation measures such as relocation of wind turbines or reduction in the number of turbines will be required.
- 8.26. Part 5.2.8 of the renewable energy strategy deals with the issue of noise. It is stated that the Wind Energy Development Guidelines sets out parameters for acceptable noise limits “which are as follows”. The next paragraph, however, refers to the difference of approximately 10 dB(A) between the outside and inside noise in a building. It is stated “consequently an outdoor limit set at this level would generally

result in a noise level of 30 dB(A) or less inside a dwelling". The next paragraph states that a noise limit of 40 dB(A) attributable to one or more wind turbines should be applied in order to restrict noise from wind turbines at noise sensitive properties from 0.1 Hz to 20,000 Hz. It is stated that this limit is an outdoor limit which should not be exceeded at noise sensitive properties at any wind speed within the operational range of any turbine. It is also stated that the limit applies to the combined sound limit of all turbines in the area irrespective of which wind farm they may be associated with. The limit will apply irrespective of time of day or night. (This part of the strategy was discussed in some detail at the Oral Hearing and this will be referred to later in my assessment).

- 8.27. Part 5.2.10 of the strategy refers to issues which would need to be addressed in relation to the construction phase of the development. This relates, inter alia, to hours of construction, use of on-site borrow pits, drainage issues relating to the development etc.
- 8.28. Part 5.2.11 deals with the issue of access roads and tracks which are necessary ancillary developments. It is stated that it is important that the impact of these is minimised from both environmental and visual perspectives. The material used will be sourced locally and ideally should be crushed local stone which will minimise the visual contrast between the road and the surrounding land cover.
- 8.29. It is stated in Part 5.2.12 that the protection of all watercourses and aquifers is of paramount importance and that hydrological impacts should be fully considered.
- 8.30. Part 5.2.15 deals with the issue of the grid connection. It is stated that it is recognised that due to circumstances beyond the control of the developer it may not be possible to provide precise information about the grid connection at the pre-planning or planning stage. It is recommended, however, that the applicant provides indicative grid connection information and/or feasible connections for the assessment of the planning authority. It may be necessary to apply separately for planning permission for works to facilitate the connection to the grid.
- 8.31. Parts 5.2.16, 5.2.17 and 5.2.18 deal with electromagnetic interference, aeronautical safety and development contributions respectively.
- 8.32. Part 5.2.19 deals with safety considerations. It is stated that a minimum setback equal to the height of the turbine and the blades would be required from all public

roads and railways. Due consideration must also be given to overhead power lines. The section states that a management agreement to ensure that turbines and ancillary equipment do not deteriorate to a degree where they pose a hazard to the public shall be agreed with the local authority. Part 5.2.20 deals with decommissioning.

- 8.33. Part 5.3 of Chapter 5 set out the various criteria against which planning applications will be considered. This includes impact on, flora and fauna, designated sites, sites of ecological significance and on the built heritage. Ground conditions and the protection of waters, visual and landscape issues, the local environment and telecommunications, access to the site and transportation of materials, the site access and site facilities are all referred to.
- 8.34. Table 1 of Chapter 5 sets out minimum survey requirements for proposals potentially affecting important features using best practice approaches. This sets out the principle methodologies to be used in surveys for various species and the timing and duration of surveys. The survey methods for birds are referenced to the Scottish National Heritage Recommendations of 2006.
- 8.35. Table 2 contains a summary of recommendations for Natura 2000 site features. The recommendations for Greenland White Fronted Geese and Whooper Swans are to exclude areas up to 600 metres outside SPAs designated for the species from the most favoured areas for wind energy development. In relation to Golden Plover the recommendation is to exclude areas up to 1 kilometre outside any SPA designated for the species from the most favoured areas.
- 8.36. The Development Plan for 2014-2020 contains a Landscape Character Assessment document for County Roscommon. This is stated to be effective from the 12th May, 2014. This appears to be based on an earlier document dating from 2008. The site falls within Landscape Character Area No. 34 which is described as Lough Funshinagh, stone walls, grasslands and esker ridges. This is stated to be one of the largest landscape character areas in the county. This is an area of low-lying dry grassland with some eskers in the southern part of the area. It is stated in the character assessment that stone walls evolved as the system of enclosure throughout this area and in places that field sizes are small contributing significantly

to the landscape character and sense of place. The overall image is stated to be of a rolling stone walled grassland landscape with a distinctive esker area to the south.

- 8.37. The landscape in Landscape Character Area 34 is stated to be of moderate value. Lough Funshinagh located approximately 6 kilometres to the north-east is identified as an area over which there are good views. It is stated that the other feature of value in this landscape character area are the eskers. Moderate is the lowest of the four values given to landscape character areas in the plan. The values given are exceptional value, very high value, high value and moderate value. The scenic views and roads referred to in paragraph 7.17 above are identified in the Landscape Character Assessment document.

9.0 National Policy Considerations:

Planning Policy Statement 2015:

- 9.1. It is stated in this document that the Government has prepared this non-statutory planning policy statement to set out key principles that it expects planning authorities and other public bodies to observe and to set out high level priorities for the continued enhancement of the planning system in Ireland.
- 9.2. The policy statement contains 10 key principles which include that planning must be plan led and evidence based, pro-actively drive and support sustainable development in creating communities and further developing existing communities in a sustainable manner.
- 9.3. Principle No. 4 is that planning must support the transition to a low carbon future and adapt to a changing climate.
- 9.4. Principle No. 8 is that planning will conserve and enhance the rich qualities of the natural and cultural heritage of Ireland in a manner appropriate to their significance, from statutorily designated sites to sites of local importance, including the conservation and management of landscape quality to the maximum extent possible.
- 9.5. Principle No. 9 is that planning will support the protection and enhancement of environmental quality in a manner consistent with the requirements of relevant national and European standards by guiding development towards optimum

locations with the prospect of ensuring high standards of water and air quality, biodiversity and the minimisation of pollution risk.

- 9.6. Under the heading of emergent employment sectors it is stated that planning policies for the development of renewable energy and energy infrastructure will be updated to support the transition to a low carbon economy and community acceptance. In discussing the quality of planning outcomes in Part 4 it is stated that the planning process plays a very significant role in promoting patterns of development which help Ireland to meet international obligations by tackling sources of climate change by reducing Ireland's carbon footprint, facilitating the generation of energy from low carbon sources and adapting to the effects of climate change.

Adapting to Climate Change and Low Carbon Act 2015:

- 9.7. The Adapting to Climate Change and Low Carbon Act was passed in 2015. This Act sets a statutory framework for the adoption of plans to ensure compliance with Ireland's commitments to European and international agreements on climate change.

White Paper on Energy 2015-2030:

- 9.8. The aim of this document is to set out strategies for the state to adapt to a low carbon future and to provide for Ireland meeting its international and E.U. commitments on greenhouse gas reductions. The White Paper does not set new targets but it re-iterates existing ones.
- 9.9. It is stated in the White Paper that a radical transformation of Ireland's energy sector is required to meet climate policy objectives. It is stated that a low carbon future will involve, inter alia, greater use of electricity from renewable sources of which the country has a plentiful supply and greater use of electricity for heating and as a fuel for transport. The White paper repeats the target of generating 40% of the country's electricity from renewable sources by 2020. It is stated that in the longer term fossil fuels will be largely replaced by renewable energy sources. Renewable energy and increased energy efficiency will play vital roles in reducing greenhouse gas emissions.
- 9.10. The White Paper contains a commitment to introduce a new support scheme for a range of renewables. There is also a commitment to ensure that grid connection policies have due regard to current and future renewable energy policy.

9.11. The 2015 energy White Paper envisages on-shore wind driven plants continuing to be the main contributor to renewable electricity. It is stated in Chapter 4 that to achieve the target in relation to renewable energy the average rate of build of on-shore wind generation will need to increase up to 260MW per year from the current rate of about 170MW. A total of 3500-4000MW of on-shore renewable electricity generation is required in comparison to the December 2015 figure of 2500MW.

10.0 **Environmental Impact Assessment:**

10.1. This assessment forms part of my assessment on the implications of the proposed development having regard to the proper planning and sustainable development of the area. This part of the assessment deals with likely effects on the environment and such an assessment is required in order to comply with the European Union EIA Directive and Irish legislation transposing this Directive into Irish Law. The assessment considers the characteristics of the receiving environment, the characteristics of the proposed development, the likely significant impacts of the proposed development on the environment and any mitigating measures proposed in order to eliminate, reduce or control effects on the environment.

10.2. In order to facilitate the assessment by the competent body the developer is required to submit certain specified information. This has been done in this case by the submission of an environmental impact statement with the planning application. This has been elaborated on and expanded in various documents and in particular the response to the further information request from the Planning Authority. Further information is also contained in various submissions made during the period when the application was being considered by An Bord Pleanála prior to its previous decision. Further information was also submitted to and received by An Bord Pleanála on 18th May, 2015. In addition to information submitted by the applicant information was also submitted with various responses from other parties both to Roscommon County Council and to An Bord Pleanála. In my assessment I take account of all submissions made. My subsequent overall assessment of the planning application does not repeat the assessment on all of the various issues covered in the environmental impact assessment. My conclusions from the environmental impact assessment are carried forward into my overall assessment of the planning application.

- 10.3. Details of the application and a broad description of the site and the site location have been set out in the earlier part of this report. I do not intend to repeat those in this assessment. The assessment carried out by the applicant for the purposes of completing the environmental impact statement is based on a grouped format with individual topics being discussed having regard to the receiving environment and the characteristics of the proposed development. In my assessment I refer to the various topics which have been covered in the environment impact statement with particular emphasis on the areas where there are most likely to be significant effects on the environment. I note that no formal scoping of the information to be contained in the environmental impact statement was carried out prior to the application being submitted to the Planning Authority. The information submitted and the topics covered are accordingly considered having due regard to the requirements of the EU Directive and the Irish legislation transposing same into Irish law.
- 10.4. The EIS as submitted consists of three volumes i.e. Volume 1: Environmental Statement; Main Report, Volume 2: Environmental Statement; Photomontages and Accompanying Drawings, Volume 3: Environmental Statement; Non-Technical Summary. It is noted that a number of additional photomontages were submitted to the Planning Authority with the response to the request for further information. Table 1.5.3 of the EIS sets out the names of the various consultants and professionals involved in the preparation of the EIS and the particular chapters for which these were responsible.
- 10.5. Chapters 2 and 3 of the EIS deal essentially with the site location and context and with details of the proposed development. I have already set these out briefly in the first part of this report. Chapter 5 deals with the policy context. This has altered somewhat since the preparation of the Environmental Impact Statement and the previous decisions of Roscommon County Council and An Bord Pleanála on the application. This arises due to the adoption of the Roscommon County Development Plan 2014 – 2020 which came into effect on 14th May, 2014. I have already outlined the various policy provisions contained in the relevant County Development Plan, the Renewable Energy Strategy and the Landscape Character Assessment for County Roscommon which were adopted as part of the Development Plan. I have also referred to some national policy issues arising since the previous decisions. I will deal in more detail with compliance with the policy context in my overall assessment

of the application. The remainder of this part of the assessment will be done under headings generally corresponding to those set out in the EIS with some additional commentary particularly on the grid connection and the supplementary information in relation to this which was submitted to the Board on 18th May, 2015.

Impact on Human Beings:

- 10.6. The likely impact on human beings is dealt with essentially in Chapter 6 of the EIS although specific topics which would impact on people living in the area such as noise, shadow flicker, landscape and visual amenity and traffic are dealt with in separate. For convenience I will deal with these latter issues under the separation headings. The issues dealt with in Chapter 6 relate essentially to population, employment, community and tourism.
- 10.7. The documentation submitted indicates that approximately 70 people will be employed in the construction phase of the development for approximately 12 to 18 months. It is indicated that the number of people employed will vary depending on the particular construction activity being carried out at a particular time. It is estimated that following construction approximately 1 to 2 personnel will be required to maintain the proposed development when fully operational. It is estimated that the construction would involve an investment of in the order of €85 to €95 million.
- 10.8. Having regard to the short nature of the construction phase and the long-term employment projections I consider that it is reasonable to conclude that the proposed development would not have any significant long-term direct effect on the population level in the area. The short-term investment would however be of some benefit to the local economy and to local service providers in the area.
- 10.9. The site of the proposed development is owned by 23 landowners. These landowners will receive rent payments on an annual basis over the lifetime of the project. In the context of increased pressure on farming in marginal areas such as the area in question and the development plan policies in relation to the diversification of the rural economy the additional income to the landowners will be beneficial and will help to maintain incomes and spending power in the local area. This will also be beneficial to the various commercial outlets and service providers in the area. The development would accordingly make some indirect contribution to retaining the population level and services in the area.

- 10.10. The applicant proposes the establishment of a community fund to support local community groups. The legal basis on which such a fund might be operated was discussed to some extent at the oral hearing. There is no clear-cut legal basis for such a fund in the circumstances pertaining. This issue is discussed in more detail in my general assessment and is not considered further in relation to community impacts in terms of the impacts of the development on human beings.
- 10.11. The proposed development would interfere with existing farming activities on the lands during the period of construction. This however would be a relatively short-term period and following decommissioning of the wind farm there is no substantive evidence to support the contention that farming activities of the nature which currently exist in the area could not continue to operate.
- 10.12. It is submitted that the proposed development would result in the devaluation of existing properties in the vicinity as the proposed wind farm would be visually dominant in the local area. The development could possibly result in a reduced demand for houses at least in the short-term. In the long-term it is likely that a greater demand for and focus on the production of energy from renewable sources will result in developments such as wind farms becoming a more common and accepted form of development in rural areas if present government policies continue. The submissions made by the objectors to the wind farm and by the developer are not conclusive in relation to the impact and in particular the long-term impact on property values. If property values are not to be adversely affected, it is necessary to ensure that noise and shadow flicker levels are controlled in order to protect residential amenities. These issues are discussed later.
- 10.13. The area where the development is proposed is not a significant tourist destination. Whilst there are some recreational facilities such as angling on nearby waterways overall I do not consider that there would be a significant impact on tourism arising from the proposed development. I consider that there is not conclusive evidence that wind farms significantly interfere with tourism and wind farms may at least in the short-term act as a focal point for visitors to an area.
- 10.14. Table 6.9.1 of the EIS sets out what the applicant considers to be a summary of the potential socio-economic impacts of the proposed development. The long-term impacts listed are mainly in terms of income for landowners, the community fund and

the provision of electricity from renewable sources. Generally, this is a reasonable summary although apart from the additional income for landowners and the community fund most of the items listed would not have any significant impact on the local population. The note attached to the table states that long-term is as per the lifespan of the wind farm which is approximately 25 years. (I note that in a later section of the EIS when dealing with impact on sites of archaeological interest the impact is stated to be of a temporary nature).

Impact on Flora and Fauna:

10.15. This issue is dealt with in Chapter 7 of the EIS. Figure 7.3 entitled Habitat Map indicates the different habitats on site including improved grassland, calcareous grassland and scrub. It also indicates hedgerows, stone walls and the location of proposed turbines and access tracks. From an ecological or biodiversity perspective the unimproved calcareous grassland is the most valuable of the habitats in question. As can be seen from the figure a number of the proposed turbines including Nos. 2, 4, 5, 10, 11 and 13 would be located in the calcareous grassland areas. A considerable part of the access track network would also run through such areas. It was noted on inspection that a number of the improved grassland areas had been reclaimed presumably from similar calcareous grasslands through bulldozing stones and rocks into large piles and spreading available soil and re-seeding the modified areas. A significantly greater proportion of the development proposed in this case would impact on the calcareous grassland than would be the case with the application referred to on File Ref. PL20.244346.

10.16. Mr Arnold's report on ecological issues (Appendix 3) indicates the loss of about 3.2 Ha of dry calcareous grassland as a result of the proposed development. He estimates a net loss of about 2.4 Ha following re-instatement. Mr Arnold considers this grassland which may be EU Habitat Directive Annex 1 category 6210 to be of high conservation value. This would be the most significant habitat loss and Mr Arnold considers it to be of at least local significance even though there is a significant amount of similar habitat in the area. Mr Arnold also indicates that some of the area classified as improved grassland might be deemed to be semi-improved rather than improved. He considers the loss of dry calcareous grassland to be of local significance.

10.17. Having regard to the fact that the dry calcareous grasslands impacted upon have not been designated as sites of European or national natural heritage value I consider that the direct impact arising from the proposed development on the grasslands and flora of the site itself would not be such as to warrant a refusal of planning permission. In coming to this conclusion I have regard to the mitigation measures to protect any semi-natural habitats adjacent to the proposed access routes and turbines as set out in Section 7.6.2 of the EIS. The conclusion reached in relation to the overall residual impact of the development insofar as it relates to existing flora in the area as being moderate negative (as stated in paragraph 7.7 of the EIS) is reasonable although a number of the turbines and a considerable length of the access track would be located within the dry calcareous grassland or scrub areas.

10.18. One of the European Sites referred to in Table 7.1 of the EIS i.e. the Killeglan grassland has been designated for the protection of calcareous grassland of a somewhat similar nature to that located within the site of the proposed development. Although this site is located only approximately 700 metres from the location of proposed Turbine No. 1 I do not consider that the development is likely to result in any direct or indirect impact on the grassland in question having regard to any relevant impact pathway between the development and the site although I note that Mr. Arnold in his AA report suggests that impact on the Killeglan site should be considered in the Appropriate Assessment as it is indicated in Mr. Keohane's report that it is likely to be hydrologically linked to the site of the proposed development. It is likely that the dry calcareous grassland within the site was once part of a larger area of this habitat including the designated Killeglan calcareous grassland. As the dry calcareous grassland is not a habitat dependant on ground water variations in the same way as the designated turloughs I consider it unlikely that there would be an impact on the Killeglan designated site. I note, however, that Mr. Arnold also refers to the on-site calcareous grasslands as supporting habitat for the SAC. I also consider that there is unlikely to be any direct impact on the geomorphology or flora of the higher parts of the designated Castlesampson Esker located approximately 3.3 kilometres to the south-east of Turbine No. 19 having regard to the nature of the site and potential impact pathways. One of the qualifying interests of the Castlesampson, however, is a turlough habitat. There is potential for impact on this

and consequently that site should be included in the detailed Appropriate Assessment to ascertain if there is likely to be any impact on the turlough habitat in the Castlesampson site. Potential indirect impacts on the European designated SPAs and SACs and the NHA designated Feacle Lough listed in Table 7.1 will be considered in more detail in the appropriate assessment part of this report.

10.19. The habitats in the area are suitable for mammals such as the Irish hare and badger referred to in the EIS. It is also suitable habitat for foxes which were noted on inspection to be breeding within the landholdings involved in the application. There is a significant amount of similar habitat and vegetation located in the general area. I do not consider that the loss of the habitats impacted on would be significant from the point of view of the long-term preservation of the mammals referred to. Mr Arnold's report on flora and fauna impacts (Appendix No. 3 to this report) deals in more detail with the ecological impacts likely to arise. Whilst a more detailed and structured survey of invertebrates would have been useful I do not consider that the information submitted is inadequate or that there is any reason to believe that additional survey material is required in relation to invertebrates. There is a significant amount of similar undesignated habitat in the general area and the lands are not of unique or exceptional value. I agree with Mr Arnold's conclusion that impacts on invertebrates and mammals (other than bats) are not likely to be significant.

10.20. Chapter 7 of the EIS contains a report on a bat survey carried out by Dr. Tina Aughney in relation to the proposed development. An updated version of this was submitted in response to the request for additional information. A further updated survey and report was contained with the documentation submitted by the applicant on the 19th October, 2015. Dr. Aughney also responded to questions on this issue at the Oral Hearing.

10.21. Dr. Aughney stated at the Oral Hearing that it is important that separation distances of a minimum of 50 metres from turbines should be applied in the case of various turbines which in the current application included Turbines Nos. 3, 4, 6, 14, 15, 17, 18 and 19. These are proposed at locations that do not comply with her recommendations. Table 5.8.1 of the updated bat reports indicates that all proposed turbines with the exception of no.16 would be within 50 metres of a linear feature such as a stone wall or hedgerow. It appears to me that the distances given in the

original version of the report (Appendix 7.2) of the EIS were calculated from the turbine bases rather than from the outer edge of the blades. The potential difficulty in re-locating turbines appears to have been recognised by the authors of Chapters 7 of the EIS where it is stated in the first bullet point of 7.6.2 that it would not be possible to relocate turbines to the suggested 50 metres minimum distance from hedgerows due to layout constraints arising from narrow fields, plots/boundaries and considerations of visual and human impacts. (The recommended set back according to the formula given on page 33 of Appendix 7.2 of the EIS, which is derived from Natural England guidelines, is about 58 rather than 50 metres from the centre of the turbines. This would give the recommended distance of 50 metres between the top of the blades for linear features of 4 metres in height. Mr Arnold has calculated the recommended set-back to be about 55 metres from the base of the turbines for features 1.5 metres high such as the stone walls in the area). It is stated in the EIS that therefore it is proposed to remove short sections of hedgerow or relocate hedgerow/stone walls where possible at these turbines listed in the bat report i.e. Turbines Nos. 3, 4, 6, 8, 9, 10, 17, 18, and 19. This list includes 9 of the proposed 19 turbines and most of those listed by Dr. Aughney at the Oral Hearing where her recommendation was that turbines 3, 4, 6, 14, 15, 17, 18 and 19 be relocated. No plans have been submitted, however, to indicate the removal or relocation of stone walls or hedgerows as referred to in 7.6.2 of the EIS. I consider that the recommendations contained in the bat reports have not been comprehensively incorporated into the development proposal and no plans have been submitted to indicate how turbines could be relocated to the recommended distances from the linear features. I also consider that there is confusion in relation to what mitigating measures in relation to bats are to be complied with having regard to Condition Nos. 4 and 9 of the planning authority's decision. Condition No. 9 requires that the recommendations set out in the bat survey received on 8th June, 2012 referring to the increase in cut-in speeds at certain times shall be implemented but condition No 4 requires that all mitigation measures set out in the EIS and additional information must be implemented.

10.22. The revised bat survey which was submitted on 8th June, 2012 had indicated all turbines with the exception of Turbine No. 16 being located less than 50 metres from linear features such as hedgerows/stone walls. This is also indicated on Table 5.8.1

of the report submitted to An Bord Pleanála on 19th October 2015. The recommendations in the report had stated that it was especially important for Turbine Nos. 3, 4, 6, 14, 15, 17, 18 and 19 to be relocated the recommended distance i.e. a minimum of 50 metres. These are the same turbines as referred to by Dr. Aughney at the Oral Hearing. Removal of linear habitats is recommended as a last resort as No. 1 of the mitigations by reduction referred to by Dr. Aughney in the 2013 report. It appears from the planning authority's decision that the mitigation being required is the increase in cut-in speeds during the night-time period although it is not clear what effect condition no. 4, which requires compliance with the mitigation measures set out in the EIS and further information would have.

10.23. A Habitats Management Plan prepared by Mr. O'Donoghue in association with Dr. Patrick Moore and Dr. Aughney was submitted with the additional information. In relation to bats this stated that various measures would be considered with regard to bats. It is stated that turbines with potential major negative or moderate negative impact on bats as set out in a table contained in the documentation would, where possible, be relocated to minimum distances recommended. This applied to Turbine Nos. 3, 4, 6, 7, 8, 10, 14, 16, 17, 18 and 19 i.e. all those referred to by Dr. Aughney at the Oral Hearing plus nos. 7, 8, 10 and 16 but not 15 which is indicated on the Tables in Appendix 7.2 of the EIS and the revised Habitat Management Plan to have a minor rather than moderate or major negative impact on bats. Turbine 16 is stated to be the required distance from such linear features. The extent to which this mitigation measure is to be implemented remains unclear. I also note that the Habitats Management Plan contains a number of measures which it is stated will "be considered" with regard to bats. These include the removal of linear habitats in a radius of 50 metres around wind turbines. It is stated that this would be considered as a last resort. I also note that it is stated that in rerouting linear habitats any new treeline/hedgerow planted would be the minimum, referred to as 60 metres, away from wind turbine blade tips.

10.24. Having regard to Dr Aughney's submission at the Oral Hearing (in response to questions) in relation to the area not being of any specific significance at a national or regional level for bats I consider that if permission is being granted the increase in the night-time cut-in speeds would be adequate from the point of view of bat protection. In his ecology report Mr. Arnold states that the species of bat recorded

would generally be of local value although the status of the Nathusius' pipistrelle recorded is not clear. This species is rare in Ireland and it is not clear if there is a resident population or if that recorded was migrating. This species would be of more than local value. Mr Arnold also notes that Natterer's bat, which has been identified in the area, is relatively un-common and so could be of more than local importance. Mr. Arnold considers that higher cut-in speeds than those suggested may be desirable to substantially reduce the threat to Nathusius' pipistrelle and Leisler's bats as these fly in higher wind speeds. It should be clarified in any condition requiring increased cut-in speeds that the provision applies from 30 minutes prior to sunset until 30 minutes after sunrise during the season when bats are likely to be flying in the area. (Mr. Arnold's report contains a more detailed assessment of the potential impact on bats).

10.25. It is noted in Mr Arnold's report that 23 of the bird species identified in the area in the surveys carried out are of conservation interest. Mr Arnold also notes that bird species which are qualifying interests of the European Sites in the area also use wetlands close to the site including Feacle Lough, the Ballyglass River callows and Cuilleenirwan/Coolagarry Turlough. Mr. Arnold considers that the breeding birds identified, other than wetland birds, are common and widespread. These are of local interest only. He notes however that some wetland breeding birds identified are of greater significance. (Para. 3.8.4 of his ecology report) He also considers that the value of the site of the proposed development for wintering Golden Plover and Lapwing has not been fully established. He considers that these could use the site from time to time. He considers that there is a risk of disturbance and displacement of wintering birds at Feacle Lough during construction and operation due the closeness of the development to the turlough. (Nearest turbine about 500 metres and anemometer about 300 metres). He considers that the risks to birds which are resident or breed on the site are not likely to be significant.

10.26. I consider that the major issue arising in relation to flora and fauna relates to the potential impact of the proposed development on flora and fauna associated with the European Sites in the vicinity of the proposed development. This issue is dealt with in detail in Mr Keohane's and Mr. Arnold's reports and in the Appropriate Assessment contained in part 11 of this report. My overall conclusions on this issue are similar to the expert opinions of Mr. Arnold and Mr. Keohane. I agree with Mr.

Keohane's and Mr. Arnold's views that it has not been proven beyond reasonable scientific doubt that the proposed development would not adversely impact on the integrity of the European Sites in question having regard to the conservation objectives of the sites which include the preservation and restoration of the sites in question for the habitats and species for which they have been designated.

10.27. Apart from the impact of the proposed development on the habitats and species for which the European Sites in the area are designated I do not consider that the proposed development would be such as to warrant a refusal of planning permission on the basis of interference with species of birds or other fauna associated with the habitats identified within the landholdings and interference with the normal avian species associated with such improved and unimproved grassland in this area. There is an abundance of lands of a similar nature in the general area and I consider that any displacement of species associated with such farmland would not have such a serious or significant impact on biodiversity as to warrant a refusal of planning permission.

Impacts related to Geology, Hydrogeology and Hydrology:

10.28. These issues have been dealt with in detail in Mr. Keohane's report. (Appendix of this report) I will deal with issues relating to impact or likely impact on the turloughs or groundwater dependent ecosystems of the European Sites in more detail in the Appropriate Assessment contained in part 11 of this report.

10.29. The fact that the landscape hosts a number of karst features i.e. dolines was recognised in the EIS. The karst nature of the area is the major issue arising in relation to attempting to predict the impacts of the development and in particular its potential impacts on the groundwater regime and what impacts, if any, it may have on turloughs and flooding in the area.

10.30. None of the 7 trial pits in the initial investigations were dug to bedrock. Mr Keohane indicates that they were dug to 0.95 metres only. Table 9.6.4.1 of the EIS contains the applicant's interpretation of the soil/rock profile at the location of each turbine and at the site of the proposed sub-station. This interpretation is based on the results of geophysical investigations carried out. The recommendations include core logging/excavations to competent rock at the locations of 7 of the turbines and at the sub-station. The most recent investigations carried out and referred to in the report

on hydrogeology/geotechnical aspects of the Phase 2 development dated May, 2015 included boreholes drilled in Phase 2 in late April, 2015. Boreholes were drilled in or close to the locations of Turbines Nos. 3, 8 and 19. The results indicated overburden to 20 metres at No. 3 and over 30 metres at No.19. A cavity in the rock was indicated between 14.8 and 17.1 metres below ground level at No.8. The Jennings O'Donovan report recommends additional investigations at Turbine No. 8 and also at Nos.2, 4, 5, 9 and the site of the sub-station. It is stated that it is likely that Turbine No. 8 will require a piled foundation. It is stated that there may also be a cavity at the location of Turbine No. 9. It is concluded, in the report, that there are no obvious concerns relating to any of the other proposed turbines locations but additional investigations are recommended. A detailed geotechnical survey is also recommended.

10.31. At the Oral Hearing Mr. Kenny on behalf of the applicant recommended a further condition, which it was suggested would further remove the possibility of interference with the groundwater flow pattern. It was recommended that no turbine would be constructed above any karst feature. As stated by Professor Johnston at the Oral Hearing this would be an extremely difficult condition to interpret and with which to ensure compliance. There is also still confusion in relation to the design of foundations for the turbines e.g. statements in the NIS (June 2012) to the effect that turbines would be omitted in the event of a cavity or fissure being identified at the location of a turbine but piled foundations are also recommended in such circumstances in the Jennings O'Donovan report of May, 2015.

10.32. I am in agreement with the findings in Mr. Keohane's report to the effect that adequate investigations on the hydrology and hydrogeology of the site have not been carried out having regard to the level of certainty required in order to allow for permission to be granted having regard to the requirements of the Habitats Directive. Post consent additional investigations and surveys are common in engineering works and are often required by planning conditions. I do not consider, however, that the level of certainty required pre-consent under the Habitats Directive exists at present in this case for the reasons given in Mr Keohane report where he references the additional investigations which would be best practice in this situation. I accept that foundations can be designed to ensure the stability of the turbines. I consider however that the impact of such designs and of the proposed access tracks etc. on

the groundwater flow pattern and on connectivity with the turloughs in the area has not been adequately investigated. The table contained in Mr. Keohane's report indicates potential connectivity between the site of the proposed development or parts thereof and Lough Feacle proposed NHA, Lough Funshinagh SAC, Ballynamona Bog/Corkip Lough SAC, Castlesampson Esker SAC and the and low lying areas along the Ballyglass Canal/River. Lough Funshinagh, Ballynamona Bog/Corkip Lough and Castlesampson Esker are SACs with turlough qualifying interests. Whilst Lough Feacle has not been designated as SACs or SPAs there could be a potential impact on the European Sites in the area due to interference with the ecology of this turlough and consequently with bird species for which the European Sites in the vicinity generally have been designated. In the circumstances I consider that due to the absence of the investigations referred to by Mr. Keohane in his report there cannot be adequate certainty that the proposed development would not adversely affect the integrity of European Sites in the vicinity having regard to the requirements of the Habitats Directive.

10.33. I am in agreement with the conclusions of Mr. Keohane to the effect that the present understanding of the hydrogeological/hydrological environment is not adequate to eliminate any reasonable scientific doubt as to the absence of any potential adverse effects on the integrity of the turloughs or groundwater dependent ecosystems in the European Sites in the vicinity which are likely to have connectivity to the site of the proposed development or on Feacle Lough which I consider to be a significant water body in terms of the protection and preservation of the species for which a number of the European Sites in the vicinity have been designated. I accordingly consider that there is a lack of certainty in relation to the impact of the proposed development having regard to the need for further investigations as referred to in the final paragraph of Mr. Keohane's report.

10.34. The turbines and works proposed in the current application would not be located in areas which are prone to flooding. The issue of turbines being located in flooded areas which might be used by migrating birds in the winter time accordingly does not arise in this case. It has been argued that on occasion the public road off which access would be provided has been subject to flooding. There is however no evidence of the road in question being subject to regular flooding and this appears to be an issue which if necessary can be overcome by way of condition in that the

finished levels of the road can be subject to agreement with the Planning Authority. I refer to the road improvement works proposed at a later stage in discussing traffic and roads issues. The results of the additional investigations referred to by Mr Keohane would also help to clarify whether or not the development works proposed would have any impact on flooding in the general area.

10.35. I accept Mr. Keohane's conclusion that the investigations carried out by the applicant would generally be adequate and acceptable in the absence of the necessity for the heightened level of certainty required under the provisions of the Habitats Directive. I consider that the development, carried out in compliance with all recommended mitigation measures, would be unlikely to have significant effects on the ground water regime in the area but the investigations carried out do not give the level of certainty required.

10.36. A small part of the site is indicated as being within the source protection area of the Tobermore springs which provide water for the Killeglan Water Supply Scheme. The intake to this scheme is located some distance away to the south-east close to the R375. Some tanks etc. associated with the regional water supply scheme are located on a hillside a short distance to the south of proposed Turbine No. 5. Mr. Keohane has considered the issue of any potential impact on the water supply scheme in question and has concluded that subject to compliance with the mitigation measures set out any adverse impact on the water supply scheme is unlikely. I would point out that only a small part of the scheme would be located within the source protection zone. I consider that it is unlikely that any adverse impact on the water supply scheme would result from the proposed development.

Impact due to Noise:

10.37. This issue is dealt with in Chapter 12 of the EIS and noise related issues were also discussed at the Oral Hearing.

10.38. The nearest noise sensitive properties to the proposed development are dwelling houses located close to the public roads in the vicinity of the site. There are houses located alongside the regional roads to the north and to the south-west and also adjoining the local road to the north-west and the network of local roads to the south-east. The documentation submitted indicates that there are a total of 60 houses located within 1 kilometre of the proposed development. The dwellings in question

are indicated on Drawing No. 5232-01/CMP/EISD/004 attached to Chapter 2 of the EIS. It is stated that 9 of the 60 properties, of which 59 are habitable houses and one is an extant planning permission, belong to landowners involved in the proposed development. The table at the end of Chapter 6 indicates that two houses would be located between 500 and 600 metres (at 536 and 561 metres of a turbine). Table 12.8.2.2 containing predicted noise levels to be generated at the 60 properties in question indicates that one of the houses in question belongs to an involved landowner. The table at the end of Chapter 6 indicates that there would be seven houses located between 600 and 700 metres of the proposed development. Three of those belong to landowners involved in the application. The remaining 51 houses would be 700 metres or more from any turbine.

10.39. It is stated in the Guidelines for Planning Authorities on Wind Energy Development that in general noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres. None of the turbines proposed in the current application would be within 500 metres of any of the dwelling houses.

10.40. Table 12.8.2.2 of the EIS in Chapter 12 indicates predicted noise levels at all properties within 1 kilometre of a turbine. These predicted levels are compared with what are stated to be the applicable lower fixed noise levels. The levels used in the tables are 45 dB(A) for involved landowners and 43 for non-involved landowners. The lower fixed noise level limit of 43 dBL_{A90} for non-involved houses is stated to be based on the night-time criteria given in the Department of Environment, Heritage and Local Government's Guidelines. The basis for the 45 dB(L_{A90}) level appears to be the UK Guidance Document ETSU-R-97 where it is stated that both the day and night-time lower fixed levels can be increased to 45 dB(A) where the occupier of the property has some financial involvement in the wind farm. This is referenced in Part 12.7.3.4 of the EIS.

10.41. In response to a query at the Oral Hearing as to whether or not the noise criteria set out in Condition No. 11 of the Planning Authority's decision could be complied with particularly having regard to the requirement that background noise levels should not be increased by more than 5 dB(A). It was suggested by the applicant's representatives that the Planning Guidelines recommend 45 dB(A) or 5 dB(A) above background whichever is the higher. This latter provision has not been included in

the planning authority's decision but the applicant's representative stated that it had been included in the previous decision of An Bord Pleanála. (I note that the condition referred to the greater of 43 dB(A) or 5 dB(A) above background levels). Having considered the relevant provision contained in the Planning Guidelines it appears to me that the recommendation or guideline is that a limit of 45 dB(A) or 5 dB(A) above background noise levels, whichever is the lower, applies except in situations where the existing background noise level is less than 30. In the latter situation the wind energy development noise level should be limited within the range of 35 to 40 dB(A). I accept however, that the wording in the guidelines is confusing and unclear. If, however, the intention was that the higher of 45 dB(A) or 5 dB(A) above background noise levels should apply, the latter part of the relevant paragraph referring to low noise environments where background noise level is less than 30 dB(A) would not appear to be relevant.

10.42. There was a discussion at the Oral Hearing in relation to the noise level of 40 dB(A) which is stipulated in the Roscommon Renewable Energy Strategy. I accept the argument made on behalf of the applicant that the standards or guidelines set out in the Wind Energy Development Guidelines should apply. I also consider, however, that in some situations, as referred to in the Guidelines, this could require compliance with a level of 40 dB(A) or lower.

10.43. The daytime prevailing background noise levels were measured at four locations for various wind speeds. Table 12.5.1 indicates that at all of the measurement locations the daytime levels exceeded 30 dB(A). Having regard to the locations of House Nos. 9 and 40 on the minor road network one would expect that these locations would be representative of low noise level locations at some distance away from the main road network. The higher noise levels at the higher wind speeds at House 40 may, however, be influenced by some local circumstances e.g. the presence of trees in the vicinity of the property in question. It is noted that no prevailing background noise levels for two of the properties were obtained for the night-time period. It is stated in the documentation that a correlation was not observed between wind speeds and noise levels. It is further stated that the main reason for this was low wind speeds during the periods in question. This is confusing as it is indicated that the prevailing background noise levels were measured at various wind speeds from four to nine metres per second. In any event I would point out that the Guidelines for Planning

Authorities state that separate noise limits should apply for daytime and for night-time. During the night the protection of external amenity becomes less important and the emphasis should be on preventing sleep disturbance. It is stated that a fixed limit of 43 dB(A) will protect sleep inside properties during the night. Table 12.8.2.2 of the EIS indicates that wind turbine noise at none of the 60 properties would exceed 43 dB(A).

10.44. Part 12.8.2 of the EIS deals with the interaction in noise terms between Phases 1 and 2 of the development. This issue is also dealt with in Appendix 12.1 of the EIS. It is stated in the Appendix that the noise levels presented in Appendix 3 of Appendix 12.1 of the EIS take account of the presence of both the current application i.e. Phase 2 and the application referred to on File Ref. PL20.244346 (Phase 1). The figures given are similar to those contained in Table 12.8.2.2 of the main EIS report.

10.45. Having regard to the distance of the sites of the turbines and access roads from noise sensitive properties and to the relative short duration of the construction phase I consider that, subject to good construction practices and conditions if necessary in relation to hours of construction, noise arising from the construction phase of the development would not be such as to merit a refusal of planning permission for the proposed development.

10.46. Having regard to the distance of the proposed turbines from noise sensitive properties and to the noise predictions as contained in the EIS I consider that noise emissions from the development could be adequately controlled by conditions if the development was otherwise acceptable. If permission is granted I consider that the development should be required to comply with the recommendations in the Wind Energy Development Guidelines in relation to noise. It should be specified in any such condition that noise from the proposed wind farm or cumulative noise from both phases of the development, if that proposed on File Ref. PL20.244346 is also permitted, must comply with the specified noise levels.

Impacts due to Shadow Flicker:

10.47. The issue of shadow flicker is dealt with in Chapter 13 of the EIS. The issue was also discussed at the Oral Hearing where it was submitted on behalf of the applicant that monitors or detectors could be attached to the wind turbines to ensure compliance with the requirements set out in Condition No. 12 of the Planning Authority's

decision. Condition No. 12 requires that shadow flicker at the surrounding dwellings shall not exceed 30 hours per year or 30 minutes per day. This condition is in accordance with the recommendations contained in the Wind Energy Development Guidelines 2006.

- 10.48. The shadow flicker assessment contained in Part 13.8 of the EIS indicates that no dwelling has been predicted to exceed 9.55 hours of shadow flicker per annum. The maximum number of hours predicted at 9.55 is less than a third of the recommended maximum in accordance with the Guidelines. The predictions have, however, taken account of average sunshine hours and accordingly could potentially be increased in years when the sunshine hours are above average. In response to a question from the inspector at the Oral Hearing it was stated that if the de-rating contained in the calculations which included the averaging of sunshine hours was excluded 23 of the properties would potentially exceed the 30 hours per annum criteria. Other assumptions, however, are built into the model including what is described in Table 13.2 of the “greenhouse mode” and the absence of screening vegetation or buildings.
- 10.49. Having regard to the distance of the proposed wind farm from that proposed on File Ref. PL20.244346 and to the statement in the Wind Energy Development Guidelines to the effect that at distances greater than 10 rotor diameters from a turbine the potential for shadow flicker is very low, I do not consider that there would be any significant cumulative impact arising from shadow flicker taking account of the existence of both wind farms. (Figure 13.1 of the EIS indicates a distance of 3.43 kilometres between the nearest turbines in the two proposed developments and a distance of 1.43 kilometres between the areas within 1 kilometre of a proposed turbine in each of the respective developments). There would, accordingly, be no house within 1 kilometre of both proposed developments.
- 10.50. Subject to compliance with a condition similar to Condition No. 12 of the Planning Authority’s decision I consider that the impact of shadow flicker on residential properties or on the environment does not give rise to any concern which would justify a refusal of planning permission.

Impacts on Archaeological, Architectural and Cultural Heritage:

- 10.51. The main issue arising in relation to cultural heritage arises from the presence of a number of archaeological sites in the general vicinity of the proposed development. This issue was dealt with in Chapter 14 of the EIS.
- 10.52. The EIS indicates that there are a number of archaeological sites within 750 metres of the site. These include nine ringforts, eight enclosures, five earthwork sites and five field systems. A number of other features including churches, graveyards and a wayside cross are also indicated in the vicinity. The townland boundary along which the access track from Turbines Nos. 4 to 7 and 9 to 13 would run is also identified on the Record of Monuments and Places. This boundary which currently consists of a stone wall appears to co-inside with the boundary between the Keogh territory to the south and the O'Fallon territory to the north which was marked on the Stafford map of about 1636. This is also the boundary between the Clonfert and Elphin dioceses.
- 10.53. Of the sites listed in the Record of Monuments and Places that closest to and potentially the most impacted upon site is that identified as RO048-098 referred to above. This feature which consists of a stone wall is stated in the EIS to measure approximately 5 kilometres in length. The access road from Turbine No. 5 to No. 7 and from Turbine No.9 to 13 would run alongside a section of this wall. The access road from Turbine No. 14 to 19 would also be alongside the wall in question. Turbines Nos. 4, 5, 7, 9, 11, 13, 14, 17 and 18 and 19 would be located in close proximity to the wall. The substation would also be located in close proximity. The access track would cross the wall in a number of locations and the link from the access track to the substation would also cross the wall. The wall in question, according to the EIS, is described in the sites and monuments record as a dry stone wall. It is described as being 1 metre wide and 1.2 to 1.6 metres high, well-built but collapsed in places. It is stated in the EIS that the wall is slightly stronger than other walls in the area but there is no evidence of an older wall on the line although it follows the line depicted on the Stafford Map of 1636. There is no conclusive evidence that it is the wall represented on that map. The existing wall at this location is as described in the EIS and is generally more substantial than the normal field boundary walls in the area. It does not however stand out as being visually significant. If permission is granted however it is desirable that post-construction archaeological test trenching is carried out particularly at locations where the wall

would be demolished and also that archaeological monitoring would be carried out during the construction phase of the development.

10.54. The site identified on the Record of Monuments and Places 048-097 comprises a large area of land on both sides of the stone wall referred to above. Site 97 is identified as containing a number of field- systems, a cashel and a road. The road in question would appear to be the laneway which ends in a cul-de-sac near where Site 048-117 is located. Site 117 is stated to be a cross on the Record. On the Ordnance Map it is identified as a cross on the site of a former dolmen. The EIS indicates that the access road serving the wind farm would cross the road in question. One of the proposed mitigation measures is that test trenching be carried out at the location where the access track crosses the road. There are a number of field systems identified as sites or monuments in the Record in this general area. The field systems in question in the vicinity of the proposed development have not been identified. Field boundaries in the area however have been considerably altered due to various land reclamation schemes which have been carried out. Having regard to the prevalence of such field systems in the area and to the relative small scale of the development works in the context of the overall area I do not consider that the proposed development would have a significant impact on archaeological heritage due to any interference with the field systems identified in the Record of Monuments and Places.

10.55. On inspection it was noted that the site of the development proposed in the current application does not contain as many ringforts/clachans as are contained in the site of the development proposed on File Ref. PL20.244346. There were a few identifiable archaeological sites in close proximity to the proposed turbines. There is an identifiable stone and earth constructed bank to a ringfort at Kilnacaltry approximately 280 metres to the south-west of proposed Turbine No. 16 and another relatively well-preserved stone and earth banked ringfort just outside the landholding of the proposed development approximately 300 metres to the south-east of Turbine No. 16. The ringfort indicated on the 1:2500 map submitted, directly to the east of proposed Turbine No. 16 and approximately 200 metres from same, is not visible on the ground. I was also unable to identify the presence of the cross indicated on the remains of the site of a dolman at the end of the narrow laneway leading northwards towards the site from Boleyduff. This however would be located in a rough area

which is quite overgrown. The site of the cross as indicated on the 1:2500 map is approximately 220 metres south-east of proposed Turbine No. 9.

10.56. Whilst there are a number of archaeological sites in the general area the development proposed would not have direct effect on any of the sites listed in the Record of Monuments and Places. The turbines would also have much less indirect impact on ringforts and other features of archaeological interest in the immediate vicinity than the development proposed on File Ref. PL20.244346. There is no proposal in the current case to provide an archaeological walkway such as that proposed for the Phase 1 development. Given the lack of identifiable sites in the vicinity of the proposed track this is understandable. There is already a track leading to and along the southern boundary of the field where the ringfort to the south-west of where Turbine No. 16 is proposed. There is also a laneway leading northwards from Boleyduff to the location where the cross on the site of the former dolman is indicated on the Ordnance Map to the south of proposed Turbine No. 9. In the circumstances I do not consider that the proposed development would result in significant damage to items of archaeological interest or the settings of such sites. Having regard however to the number of such sites in the vicinity I consider that if permission is granted a condition along the lines of Condition No. 25 of the Planning Authority's decision should be imposed. I also consider that archaeological monitoring during the construction works is required having regard to the number of sites listed in the Record of Monuments and Places in close proximity to development works proposed and to the fact that the access road through the wind farm would cross a number of townland boundaries.

10.57. Table 14.6.1 of the EIS lists six protected structures within a 5 kilometre radius of the proposed development. I do not consider that the proposed development would significantly impact on the structures in question or their settings although the wind turbines would be visible from the location of the structures. The turbines would also be in close proximity to the ruined church and graveyard at Cam located a short distance away to the north. The wind turbines would also be clearly visible in the distance and along the skyline from a historically important church, graveyard and stone cross at Commeen. I do not however consider that the proposed development would have such an impact on the setting of these ruined churches and graveyards as to justify a refusal of planning permission.

- 10.58. Subject to compliance with the mitigation measures set out in the EIS I do not consider that there would be a significant adverse impact on the archaeological, architectural or cultural heritage of the area as a result of the proposed development. I note the proposed mitigation measures include a recommendation that test trenching be carried out in the location of former potato ridges south of Turbine No. 10. I also noted on inspection that there are some lazy beds or former potato ridges close to the proposed track leading to proposed Turbine No. 5. Construction works should be monitored here also to ensure that any archaeological items impacted upon are preserved.
- 10.59. In relation to residual impacts I consider that it is reasonable to refer to the visual impact on the setting of the archaeological features on the area as a moderate residual visual impact. I consider however that the impact would be long-term rather than temporary as stated in the EIS. I consider that it would have been more reasonable to refer to the noise impact as a long-term minor impact rather than temporary negligible one as stated in the EIS.
- 10.60. The EIS submitted identifies the various sites of archaeological interest within 750 metres of the proposed development. It would have been helpful, however, if greater focus had been given to the sites in close proximity to the proposed access tracks and turbines and if these had been identified clearly on a map indicating the access tracks and turbines. Figure 14.3 of the EIS purporting to show the monuments and places on the official record within 750 metres of the study area is not drawn to scale and the map is of little benefit in terms of trying to identify precisely the relationship of the archaeological monuments with the proposed development.
- 10.61. It has been strongly argued in the grounds of appeal and in submissions made by the appellants that the proposed development would adversely impact on the setting of the monastic settlement at Clonmacnoise. The settlement has been proposed as a World Heritage Site. The development would be located approximately 17 kilometres from the site in question. Whilst the wind turbines could be seen on the skyline in the distant horizon I do not consider that the development would have a significant adverse effect on the setting of the settlement. I consider that the impact of the turbines on the monastic settlement have been overstated in the submissions made by the appellants.

10.62. The EIS refers to an historic garden and designated landscape identified in the National Inventory of Architectural Heritage. The garden in question is that of Feacle House which is located approximately 1.2 kilometres to the south-east of Turbine No. 16 and to the south of Turbine No. 19. The plans submitted indicate that Feacle House and grounds is within the landholding involved in the application. It is stated in the EIS that few features of the designated landscape shown on the 1836 - 1846 Ordnance Survey Map are visible on aerial photography. In checking the original six-inch map of the area against the up-to-date aerial photography I consider that there is a clear resemblance between the original layout and the current situation. There would appear, however, to have been significantly more vegetation in the mid-19th century. I do not however consider that the development now proposed would have any significant adverse impact on the existing setting and curtilage of Feacle House.

10.63. It is stated in the EIS that the access track for the wind farm would truncate the road/track identified in the Record of Monuments and Places as RO048-097003. I assume that this is intended to mean that the access track in the wind farm would cut across the track/road. The plans submitted indicate a wayleave continuing past the location where the track would cut across the existing laneway. It also appears from the documentation submitted that the lands on both sides of the laneway to the north of the location where the wind farm access road would cross the laneway are not under the control of any of the landowners involved in the application. In the circumstances it would appear that it is not possible for the applicant to actually block off the existing laneway at the point where the internal wind farm access road would cross the laneway. The somewhat peculiar line of the wind farm access track at this location appears to arise from landownership issue. A direct access track from the location of Turbine No. 7 towards the location of Turbine No. 9 would appear more logical if the lands were under the control of the applicant. In any event it would seem undesirable to block off the access lane to the archaeological site identified as RO048-117 which is referred to as a wayside cross in the EIS.

Impact on Landscape and on Visual Amenity:

10.64. This issue is dealt with in Chapter 15 of the EIS.

10.65. The site is located in an area which is not of any exceptional scenic amenity value. The area is not designated as an area of special scenic amenity or of natural beauty

in the current County Roscommon Development Plan. The Development Plan for 2014-2020 contains a landscape character assessment document for County Roscommon. This is stated to be effective from the 12th May, 2014. This appears to be based on an earlier document dating from 2008. The site falls within Landscape Character Area No. 34 which is described as Lough Funshinagh, stone walls, grasslands and esker ridges. This is stated to be one of the largest landscape character areas in the county. This is an area of low-lying dry grassland with some eskers in the southern part of the area. It is stated in the character assessment that stone walls evolved as the system of enclosure throughout this area and in places that field sizes are small contributing significantly to the landscape character and sense of place. The overall image is stated to be of a rolling stone walled grassland landscape with a distinctive esker area to the south.

- 10.66. The landscape in Landscape Character Area 34 is stated to be of moderate value. Lough Funshinagh located approximately 6 kilometres to the north-east is identified as an area over which there are good views. It is stated that the other feature of value in this landscape character area are the eskers. Moderate is the lowest of the four values given to landscape character areas in the plan. The values given are exceptional value, very high value, high value and moderate value. In the Renewable Energy Strategy for County Roscommon, which is also part of the development plan, Landscape Character Area 34 is identified as one of the most favoured areas for wind farm developments.
- 10.67. Because of the lack of mountains or high hills in the general area the wind farm proposed would be visible over a wide area. As stated previously the wind farm would be visible in the distance on the horizon from Clonmacnoise monastery approximately 17 kilometres away to the south. The wind turbines, which would occupy a north-east to south-west ridge in the local landscape, would be clearly visible and dominant in views from Ballyforan to Brideswell along the R363. This is a distance of approximately 12 kilometres. They would also be a dominant element in the views from the R357 to the west over a similar distance. The turbines would also be dominant features in the landscape in views from the county road network extending up to 5 kilometres in all directions from the turbines.
- 10.68. The Wind Energy Development Guidelines for Planning Authorities identify six landscape character types and give some guidelines as to siting and design

principles for each landscape character type. The landscape characteristics of the area would indicate that the hilly and flat farmland character type is the most appropriate of the six character types indicated. I have some reservations however about including all hilly and flat farmlands in a similar landscape character type as there can be considerable differences between hilly rural areas such as one might associate with the drumlin belt and open relatively flat farmland such as that in question in the current case. Although the wind farm in question in the current case is being referred to in the documentation as the Seven Hills wind farm the area is generally relatively flat and whilst there are some ridges and higher points in the landscape the area is generally a flat open one with broad expansive views being available. It is argued in the submissions that the proposed development does not comply with the guidelines particularly in relation to spatial extent and height. I note that the guidelines do indicate that location of ridges and plateaus is preferred although this seems designed to ensure a reasonable distance from dwellings rather than or compatibility with landscape characteristics. In relation to spatial extent it is stated that this can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls. I noted on inspection that some of the fields particularly in the reclaimed areas are relatively large by West of Ireland standards and the broad expansive views available in the area suggest that the relatively large wind farm such as that proposed would not in itself be out of character with the scale of the landscape. It is stated in the guidelines that turbines should relate in terms of scale to landscape elements and will therefore tend not to be tall. When the landscape in the current case is viewed as a unit rather than individual elements I consider that the scale of the landscape is such that it could accommodate taller wind turbines such as those proposed although these would be quite dominant in local views. I note that in the guidelines it is stated an exception to the recommendation that height should tend not to be tall would be where the wind turbines would be on a high ridge or hilltop of relatively large scale. Having regard to the profile of the landscape in the area I consider that, although a ridge of 118 metres maximum height would generally not be regarded as being relatively large, the ridge on which the turbines would be located could be considered to be relatively large scale in terms of the surrounding area.

10.69. A number of photomontages were submitted with the application and in response to the request for further information. The photomontages with the response to the request for further information comprise of additional photomontages taken from the vicinity of houses within 700 metres of the turbines. I consider that the photomontages submitted give a reasonable impression of what the development would look like from various vantage points in the vicinity in particular. I note however that a number of the locations from which the photomontages were prepared have buildings or mature vegetation in close proximity which screens significant parts of the development which could be visible from locations close by.. Whilst I accept that such buildings and vegetation exist in the area and would provide some screening, the photomontages at least in some cases do not provide a worst case visual impression of the development. The photomontages indicate that the wind farm would be prominent and indeed a dominant element in the landscape from locations up to 5 kilometres. I consider that this is demonstrated in views from locations such as LC5 on the R357 to the south-west of the proposed wind farm, LC3 from the minor road running along the north-west side of the development, LC2 on same minor road at the location of the proposed junction of the access track with the public road, LC1 on the R363 at Cam to the north of the proposed development and also from some of the householders' properties within 700 metres submitted with the additional information e.g. H2, H9, H10, H11, H12 and H13.

10.70. The landscape character assessment document which forms part of the current development plan does not indicate any scenic views or scenic roads in the immediate vicinity of the proposed development. The nearest such views or scenic roads are located to the north-east. These are views V 20 which is off a minor road and essentially is a view eastwards towards Lough Ree, V 22 also a view from a minor road but towards Lough Funshinagh towards the west and Scenic Road R8 is the same minor road from which V 22 is available with the view from Scenic Road R8 being eastwards towards Lough Ree. The wind farm would be visible in the view from Viewpoint 22 but at a distance of about 6 kilometres from the nearest turbines. The photomontage produced from DR4 in the documentation submitted indicates the proposed wind farm and that proposed in File Ref. PL20.244346 in the view from Viewpoint V22. In the view from DR4 I consider that neither of the wind farms on its own is particularly dominant nor do they individually significantly impact on the view.

I have reservations however about the two wind farms insofar as their cumulative impact on the landscape is concerned. This is discussed in more detail later.

10.71. I consider that having regard to the character of the landscape, the value of the landscape as set out in the Landscape Character Assessment for County Roscommon and the guidelines given in the Wind Energy Development Guidelines for Planning Authorities the wind farm proposed on its own would not be significantly out of character in the landscape nor would it significantly detract from the visual amenities of the area although it would alter the visual character of the area. In the circumstances I do not consider that a refusal of planning permission would be justified on the basis of impact on the landscape or on the visual amenities of the area.

10.72. Whilst I consider that the wind farm on its own would be acceptable from a landscape and visual amenity point of view I consider that if the development which is the subject matter of the application on File Ref. PL20.244346 is also permitted the cumulative impact of the two wind farms in combination would be such as to result in wind farms and wind turbines being the dominant element in the local landscape. I consider that one of the two wind farms proposed on its own would be acceptable but I do not consider that both are acceptable. I consider that in some viewpoints for example MR3 of the photomontages submitted with the current application the visual impact of the Phase 2 development to the rear of the Phase 1 development is such it is to give rise to undesirable and unacceptable clutter of turbines in the landscape. I consider that a similar situation arises from Viewpoint CP7 where the opposite is the situation and the turbines in Phase 1 are seen to the rear of Phase 2 i.e. the current application. I also consider that the cumulative impact when travelling along either Regional Road 363 from Ballyforan to Brideswell and Athlone in either direction and the R357 from Toommaconnell to Four Roads in either direction would extend the dominance of wind turbines in the landscape on a consecutive basis to such an extent as to significantly detract from the landscape and visual amenities of the area. I consider that the landscape has the capacity to absorb one but not both of the developments proposed. I note in this regard that Objective 7.37 of the County Roscommon Development Plan is to seek to minimise the visual impact of development on all landscape character areas irrespective of the assigned visual value. I do not consider that there would be any significant

cumulative impact with the small three turbine (two constructed) scheme at Skrine located approximately 10 kilometres away to the north.

10.73. In the EIS the overall landscape and visual impact of the development is considered to be moderate. This level of impact is defined as “an impact that changes the character of the environment in a manner that it consistent with existing and emerging trends”. Apart from the development of wind turbines and similar wind farms it is unclear what the existing and emerging trends are which would change the character of the environment in a similar manner. I also note that it is stated that the degree of cumulative impact is deemed to be acceptable as both schemes are seldom clearly visible from the same locations. I consider however that this does not adequately take account of the cumulative consecutive impact of the wind turbines as one becomes visible after one passes the other. There are also a number of locations from which both wind turbines would be clearly visible even if from some locations one may have to look in a different direction.

10.74. Part 15.16 of the EIS sets out proposed mitigation measures. These include the requirement that matt non-reflective finishes should be used on all turbine components. Mitigation measures also refer to the extent of new tracks/roads being kept to a minimum and properly landscaped. In general I do not consider that the access roads or substation would have a significant impact on the landscape of the area. Any landscaping should be in character with the existing landscaping in the area and should have regard to the habitat management plan submitted in response to the request for further information. I find some of the mitigation measures proposed vague and difficult to understand for example the second last bullet point states that the proposed development should, insofar as possible, not detract from the enjoyment of amenities, both visual and physical within or adjacent to the site. It is difficult to comprehend how this mitigation measures could be complied with insofar as the landscape and visual impacts of the development are concerned.

Impact on Air Quality and Climate Change:

10.75. This issue is dealt with in Chapter 16 of the EIS. Appendix 2 of Chapter 16 contains a dust minimisation plan for the construction phase of the development.

10.76. The proposed development would be located in a relatively remote rural area. There is no reason to suspect that the air quality in the area is not good or that there are

any exceedances of specified air quality standards. The only emissions into the atmosphere likely to arise from the proposed development would be dust emissions at the construction phase of the development. The dust minimisation plan contained in Appendix 16.2 of the EIS contains standard mitigation measures to suppress dust during a construction project of this nature. I do not consider that the proposed development would give rise to any significant problems in terms of local air quality or emissions to the atmosphere.

10.77. By generating electricity from renewable source such as wind the proposed development would reduce the requirement to generate electricity from fossil fuels and consequently would contribute to a reduction of the emission of greenhouse gases into the atmosphere. This would be a positive impact of the proposed development. The greenhouse gas benefits from the proposed development are set out in Table 16.9.2 of the EIS. The total annual savings in tonnes CO₂ equivalent given in Table 16.9.2 is 69,640. It is stated however in the public exhibition information documentation contained in chapter 1 of the EIS that the saving would be the equivalent of 83,556 tonnes per annum of CO₂. It was stated in response to questions at the Oral Hearing that the difference arises from employing different methods of calculation in terms of the fossil fuel mix used for electricity generation. The proposed development would, in either calculation, have a positive impact in terms of reducing CO₂ emissions into the atmosphere. I have reservations however about the equivalent carbon emission savings referred to in Table 1 of the public exhibition information. It is stated that the saving would be equivalent to not using 15,303 cars or light trucks per annum. This is multiplied by 25 to give the equivalent savings over the 25-year life span of the proposed development. I consider that there is no logical reason for multiplying the number of cars and light trucks not used per annum by 25 because the saving would be equal to a similar number of cars and light trucks used during the 25 years. The calculation for the acreage of forest absorbing carbon also multiplies the per annum acreage by 25. Whilst there is a positive impact in the terms of carbon emissions I consider that these have been overstated in the documentation. The public exhibition information indicated that the development would supply adequate electricity to serve approximately 25,650 houses.

Impact on Telecommunications and Air Traffic Radar systems:

10.78. This issue is dealt with in Chapter 17 of the EIS. The documentation indicates that the applicant has signed or is willing to sign a protocol agreement with RTE in relation to any potential interference with television reception in the area. It would appear that this issue is now not as significant having regard to the transfer of television transmission to a digital rather than an analogue system. The documentation and consultations indicate that there are no particular problems likely to arise due to interference with telecommunications. Any problems likely to arise are amenable to technical solutions. The Irish Aviation Authority has not raised any objection in principle to the proposed development from the point of view of air traffic safety.

Impact on Road Network:

10.79. The haul route for abnormal loads which would arise during the construction phase of the development would be from the M6 at Athlone along Regional Road 262, Regional Road 363 to the junction with local road L7635. Traffic would turn left at the junction and travel along the L7535 to the site entrance. The L7535 would be upgraded for a distance of about 540 metres to the access and to provide adequate vision splays at the junction. Details of the road upgrade were submitted with the application and also in response to the request for further information.

10.80. Subject to the agreement of a Transport Management Plan for the construction phase of the development and particularly for the transport of abnormal loads, with the Road Authority, and to compliance with the agreed plan I consider that the access arrangements proposed are reasonable. Some damage could be caused to the road network but I consider that this can be adequately covered by conditions such as those imposed in the Planning Authority's decision. There would also be some inconvenience to local traffic during the construction phase of the development. This phase however would be short term and there should be no long term adverse impact on the road network. The necessity for a Transport Management Plan for abnormal loads is a common requirement for developments of this nature and it would be particularly required in this case where at one location it will be necessary for traffic to travel on the right hand side of the road and in an anti-

clockwise direction on one of the roundabouts. This manoeuvre is indicated on Figure 7 of Appendix 18.1 of Chapter 18 of the EIS.

10.81. The proposed development would involve an upgrading of approximately 500 metres of the L7535 from its junction with the R363. The existing road is a narrow country lane and it is difficult for vehicles to pass on the road. The upgrading of this section of road would be of benefit to local residents and landowners. It would be particularly beneficial to the occupants of the eight residential properties along the road. Reference has been made previously to the submission to the effect that the access road in question had been flooded in early 2016. In order to ensure that the road improvement works are to the full satisfaction of the Road Authority a condition similar to Condition No. 16 of the Planning Authority's decision would be desirable in the event of planning permission being granted. This requires that the applicant shall consult with the Planning Authority in relation to final design solutions for all roadworks proposed including road alignment etc. The condition, also, requires that all road improvement works shall be carried out to the satisfaction of Roscommon County Council. Such a condition would be desirable as the Road Authority may need to take cognisance of the most recent information available in relation to any flooding which may have occurred on the road in question.

Impact of Connection to the National Grid:

10.82. It is stated in the EIS that wind farm would be connected to the national grid from the sub-station proposed in the townland of Cam. It is stated that there are a number of potential grid connection points but it is anticipated that the proposed connection will be to the existing 110kV substation at Monksland in Athlone via an 110kV connection. An application for a grid connection was made in 2008 and an offer from EirGrid for a grid connection is awaited. It is confirmed at the Oral Hearing that this remains the situation. It is stated in the EIS that the connection to the national grid will be carried out by EirGrid and will be subject to a separate planning application. It is stated in the documentation that a contestable connection agreement would be applied for. This would allow the applicant to construct a connection to the national grid. It is stated that it is the applicant's intention that the connection to the national grid would be by underground cable.

- 10.83. On 18th May, 2015 the applicant submitted supplementary EIS and NIS information to the Board in relation to the grid infrastructure and the connection thereto. Reference is made in this submission to the High Court judgement in the O’Grianna versus An Bord Pleanála case where it was held that the grid connection could not be separated from the remainder of a project and that the cumulative effects of the wind farm and the grid connection must be assessed in order to comply with the EIA Directive.
- 10.84. The drawing submitted on 18th May, 2015 indicates a connection from the sub-station at the northern end of the site to Regional Road R363 and along Regional Road R362 to the 110kV substation at Monksland in Athlone. The written statement, submitted, however, states that the cable would be taken along the L7535 to the R363. The cable would be laid in a duct along the public road. The road would be backfilled and reinstated. The cable trench would be approximately 1 metre deep and 500 millimetres wide. It is stated that the duct would be constructed in agreement with the local authority including a bond for reinstatement works. The construction phase of the development would be 9 to 12 months.
- 10.85. In response to questions from the inspector the representatives of the applicants stated at the Oral Hearing that in the event of both Phase 1 and Phase 2 of the overall development being granted planning permission i.e. the current application and that referred to in File Ref. 20.244347 the switch-room in Phase 1 would connect to the substation in Phase 2 via a 38kV underground cable. If only Phase 2 was granted it would connect directly to the national grid along the public road to Monksland by means of a 110kV underground cable. It was also stated at the Oral Hearing that the connection to the national grid would not be along the section of the R362 distributor road where the roundabouts are located close to the M6. The route would follow the old road (L2047) to access the 110kV substation at Monksland. An enlarged map of the route within the built-up area was submitted at the oral hearing.
- 10.86. The route of the proposed cable connection along the public road does not adjoin any designated European site of conservation interest. The construction works involved including excavations, laying of cables and backfilling would give rise to some inconvenience for traffic and would have to be carried out in conjunction with the agreement of the local authority. I do not consider however that the grid connection as proposed would give rise to any significant effects on the environment.

10.87. In Part 3 of the supplementary information submitted in May, 2015 the applicants indicate that three options for connection to the national grid were considered. One of the options considered was an overhead connection to Monksland substation by means of a 38kV/100kV powerline. It was considered not possible to follow this alternative for various reasons including that the line would be required to pass close to a number of designated European sites and may have impacts on the environment including in respect of landscape and visual impact. Presumably it was envisaged that such an overhead line would take a more direct route to Athlone rather than following the line of the public road. I agree with the conclusion that the underground cable indicated would have less impact on the environment. I consider that the greatest impact would arise during the construction phase.

10.88. The opponents of the development have argued that it is likely that the connection to the national grid would be by means of overhead lines and pylons. The proposal as submitted for assessment as part of the EIA process is for an underground connection. In the event of a modification or an alternative to this being proposed the developer would have to ensure that the requirements EU Directive on EIA are complied with. There are also instances of underground cables connecting wind farms to the national grid over even longer distances than the approximate 15 kilometres proposed in the current case.

10.89. There is a Local Area Action Plan for the built up area of Monksland/Bellanamullia. This plan is dated 2010 – 2016. This plan covers the section of the route of the proposed cable within the built up area. The plan does not indicate any site contained in the Record of Monuments and Places located in close proximity to the road along which the cable would be laid. The plan however does indicate a number of buildings and features of interest in relative close proximity to the road. The laying of a cable along the public road would not however appear to potentially have any impact on the buildings and features of interest referred to.

Interaction between Foregoing Impacts:

10.90. This issue is dealt with in Chapter 9 of the EIS.

10.91. The major interactions arise from the various issues or impacts which might impact on human beings. These are identified in Chapter 19 as noise, shadow flicker, lighting and visual impact, electromagnetic interference and traffic impacts. Table

19.1.1 contains a matrix of interactions. The chapter also sets out the major conclusions of the EIS in relation to the issues covered.

10.92. I consider that the second major interaction likely to arise relates to the impacts on flora and fauna due to impacts on hydrology. This issue is dealt with in more detail in the reports of Mr. Keohane and Mr. Arnold and in my Appropriate Assessment. Mr. Keohane has stated in his report that he does not consider that there is adequate information in relation to hydrogeology and hydrology to fully assess the impacts on the ground water flow to the turloughs in the vicinity. This could impact on the flora in the turloughs and consequently on the suitability of the habitat for the wintering birds which frequent them. It is noted in the EIS that the filling mechanisms and catchments of these turloughs are not fully understood as tracer testing had not been undertaken but it was assumed that water enters the topographic depressions via both rainfall and groundwater. It was submitted that the distance between the proposed turbine locations and the turloughs were sufficient to eliminate the risk of any interaction or impact. The consultant's report indicates that adequate investigations have not been carried out in order to scientifically state that the risk is eliminated. I accept Mr Keohane's expert opinion on this issue.

10.93. The interaction between landscape and visual impact and archaeology is addressed in Part 19.8 of the EIS. The conclusion in the EIS is that the significance of landscape impact in respect of archaeological features is moderate and temporary. I consider the impact to be moderate but long term rather than temporary.

Consideration of Alternatives:

10.94. This issue is dealt with in Chapter 4 of the EIS. Some alternatives in relation to the grid connection were also considered as previously noted.

10.95. Part 4.4 of the EIS indicates that alternative locations, uses and designs were considered. There is reference in the EIS to sites in the vicinity including that referred to in the appeal on File Ref. 20.244347 being considered. A site north of Roscommon and another further south from the current proposals near Corkip Lough were considered. Sites were discounted on the basis of closeness to European Sites or bog-lands and distance from Athlone. The EIS contains brief reasons for discounting sites within the six areas referred to in the landscape character

assessment for Roscommon as being potentially appropriate locations. The highland area on the east side of Lough Funshinagh was deemed to be unsuitable due to the proximity to Lough Funshinagh SAC and to the landscape value of the area. (This is the closest of the six locations referred to in the landscape character assessment). Lough Funshinagh and Lough Ree are both European Sites. Lands along the west side of Lough Ree are indicated as not being suitable for wind farms in the Roscommon Renewable Energy Strategy and Scenic Route R8 and Viewpoint V22 are located to the east of Lough Funshinagh. In the circumstances I can appreciate the applicant's reluctance to pursue a site in the high ground to the east of Lough Funshinagh, which is indicated to be a potentially appropriate location in the landscape character assessment. The applicant's consideration of alternative uses as referred to in 4.4.2 of the EIS is somewhat vague as it seems to be suggesting that any alternative use other than agriculture is unlikely and that a wind farm could co-exist with agricultural developments. While this, in itself, is reasonable it does not appear to comprise of a realistic alternative considered in terms of the application. The EIS indicates that some alternative turbine types were considered and alternative layouts were considered during the course of developing the application in order to provide greater distances from sites of archaeological interest.

10.96. The Directive is somewhat vague in relation to the requirement to consider alternatives although such a requirement is contained therein. A formal scoping of the EIS might have given greater guidance in relation to what alternatives should have been considered. Such a formal scoping was not carried out in this case. In the absence of such and in the absence of any specific requests from the Planning Authority I consider that the EIS contains a reasonable and adequate consideration of alternatives for the purposes of complying with the Directive.

Compliance of EIS with Legal Requirements:

10.97. The requirement to submit an environmental impact statement with an application such as that proposed results from Ireland's transposition of the European Union Directive on EIA. The directive sets out a requirement that a developer must submit

specified information with an application. I consider that it is reasonable to interpret the requirement as including the original EIS, the response to the request for further information and all subsequent submissions containing additional information in relation to the environment and potential impacts of the development on the environment. The relevant directive as applying to this application is Directive 2011/92/EU which was a codification of the directive as of the 13th December, 2011. Article 5 of that directive requires Member States to adopt the necessary measures to ensure that the developer provides in an appropriate form the information specified in Annex IV insofar as the Member State considers the information is relevant to a given stage in the consent procedure, to the specific characteristics of the particular project and to the environmental features likely to be affected. The information to be submitted must also be that which the Member State considers a developer may reasonably be required to supply having regard, inter alia, to current knowledge and methods of assessment.

10.98. In general, I consider that the applicant has complied with the requirements of the European Directive on environmental impact assessment and the Irish Regulations implementing same (Articles 94 and Schedule 6 of the regulations) in that the EIS supplies the relevant information and assesses the likely impact of the development on the various relevant environmental factors. The EIS does not refer specifically to material assets which are referenced in Annex IV of the Directive. It does, however, refer to impact on architectural and archaeological heritage which are included in material assets in Annex IV of the Directive. It also assesses impacts on roads, telecommunication facilities, houses, etc. which comprise material assets. I consider that the relevant environmental factors are adequately covered. With the exception of issues relating to the need for Appropriate Assessment arising under the Habitats Directive and the level of information and certainty required in order to allow for consent to be granted as set out in Article 6(3) of that Directive the EIS and the subsequent information submitted is adequate for determining the application.

10.99. The Appropriate Assessment requirement is considered separately. In this particular case I consider that the level of information and investigation submitted is not adequate to give the certainty necessary to allow consent to be granted. The issues on which there is uncertainty and on which further investigations would be necessary are set out in detail in the reports of Mr. Keohane and Mr. Arnold. They are also referred to in summary in my Appropriate Assessment below.

11.0 **Appropriate Assessment:**

- 11.1. This section of the report should be read in conjunction with Mr. Keohane's report attached as Appendix no.2 and Mr Arnold's AA report attached as Appendix no.4. My comments and conclusions are based, to a large degree, on the expert opinions of Mr.Keohane and Mr Arnold.
- 11.2. Article 6(3) of the EU Habitat's Directive requires that any project not directly connected to or necessary for the management of a European Site but which is likely to have a significant effect thereon either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site's conservation objectives. The sub-article states that (subject to the provisions of paragraph 4) the competent authority shall agree to the project only having ascertained that it will not adversely the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
- 11.3. Table 1 of the Natura Impact Statement submitted as Appendix 7.3 of the EIS identifies 14 Natura 2000 sites within 15 KM of the site (9 SACs and 5 SPAs.) 4 of the European Sites in question are both SACs and SPAs. The locations of the sites are indicated on Figures 2 and 3 of the report by Ecofact entitled Report to inform the Appropriate Assessment process which was submitted to Roscommon County Council with the response to the request for additional information on 8th June 2012. Table 1 of Appendix 7.3 of the EIS also lists 3 NHAs or proposed NHAs within the 15 kilometre radius. One of these i.e. Feacle L ough or Turlough is the closest designated site to the proposed development. (It is indicated to be approximately 507 metres from the nearest turbine)

- 11.4. The proposed development is clearly not necessary or required for the management of the European Sites. A screening for a full Appropriate Assessment is accordingly necessary.
- 11.5. The closest European Site to the site of the proposed development is Killeglan Grassland SAC. This site is stated to be 682 metres from the nearest turbine. The next closest European Site is Ballynamona Bog and Corkip Lough at a distance of 1 kilometre approximately from the nearest turbine. The closest proposed Natural Heritage Area is Feacle Turlough located approximately 507 metres to the south/south-east of proposed turbine no. 6. In addition to the sites referred to above there are a number of non-designated areas prone to flooding in the vicinity of the proposed development. The closest of these is Ballyglass River callows, which are prone to periodic flooding, and are located approximately 1.5 kilometres to the north-west. I refer to the non Natura 2000 sites as these could be of some significance in terms of use by the bird species associated with and which are qualifying interests of the Natura 2000 sites.
- 11.6. Mr. Keohane's report indicates that the majority of the site, where turbines 1 to 16 are proposed, is potentially hydrologically connected to Feacle Turlough and the Killeglan Grassland SAC, Mr Keohane also indicates connectivity between this area and the callows of the Ballyglass River and the River Suck Callows (an SPA). He indicates connectivity between the area where turbines 17, 18 and 19 and Feacle Turlough, Ballynamona Bog /Corkip Lough SAC, Castlesampson Esker SAC, Lough Funshinagh SAC and both the River Suck Callows SPA and the Middle Shannon Callows SAC and SPA. The possibility of connectivity with the Lough Ree SAC and SPA is also indicated. Corkip Lough, Castlesampson Esker and Lough Funshinagh include a turlough habitat as a qualifying interest for designation. Turbines 17, 18 and 19 are the three turbines located at the north-eastern end of the proposed development. In addition to the turbines referred to, the proposed 85 metre high lattice structure anemometer and the substation with an enclosed compound would also be located in this part of the site.
- 11.7. Having regard to the interconnectivity referred to above and to the excavations and other works required to construct the wind farm I consider that it cannot be excluded that the proposed development would have a significant effect on the nearby ground water dependent turloughs which are qualifying interests for the Ballynamona Bog/

Corkip Lough, Castlesampson Esker and Lough Funshinagh SACs. I accordingly consider that an Appropriate Assessment as referred to in Article 6(3) of the Habitats Directive is necessary to determine if the development would adversely affect the integrity of the turlough habitat qualifying interest of the SACs referred to. I also consider, having regard, to its proximity to the proposed development and its use by birds which are qualifying interests of many of the nearby SPAs that the assessment of impacts on turloughs should include impacts on Feacle Turlough although this site is not itself a designated Natura 2000 Site.

- 11.8. It has been argued on behalf of the applicant that whilst further investigations post-consent are required in order to design foundations etc. there is adequate information available in order to conclude with certainty that the proposed development would not adversely impact on the integrity of the European Sites in question. I do not accept this conclusion for the reasons set out in Mr. Keohane's report.
- 11.9. The applicant has also referred to the High Court and Court of Appeal decisions in relation to the Cullenagh Wind Farm in County Offaly and has argued that this has established that it is appropriate to leave some details of a development to be agreed with the planning authority post-consent even where European Sites and Appropriate Assessment are involved. I fully accept that in some situations this is appropriate and the court case in question gives a legal basis for this. I agree that it would be impractical and unreasonable to require that all details of a development should be worked out in full prior to consent being granted. I consider however that the current case differs from the situation referred to in the Cullenagh Wind Farm case in that conditions imposed in that case had specified the required standards to be achieved in the waters discharging from the site in order to prohibit any deterioration in the water quality in the relevant European Site. The details left over for agreement were essentially details in relation to how the specified standards were to be achieved. I consider that the additional investigations required in the current case are much more significant in that these investigations are required to ascertain whether or not the proposed development would adversely impact on the integrity of the European sites and could also result in the necessity for some turbines to be omitted or re-located. I consider that the additional investigations required as referred to in Mr. Keohane's report are required in order to establish prior

to consent whether or not there would be an adverse impact on the integrity of the European Sites. This was clearly not the case in the situation referred to in the High Court and Court of Appeal judgements referenced by the applicant. (The issue of the scope of conditions appropriate to a case involving Appropriate Assessment is dealt with in more detail in part 12 of this report).

11.10. The site of the proposed development is in close proximity to a number of SPAs which have qualifying interest bird species which were identified in the vicinity of the site. The site is also within the foraging distance of a number of the Natura 2000 sites for a number of the qualifying interest bird species as referred to in Mr. Arnold's report. I consider accordingly that it cannot be excluded that the proposed development would have a significant effect on the qualifying bird species interests due to displacement, disturbance, barrier effect or collision impact. I consider that a full Appropriate Assessment is required to assess the likely effects on the qualifying bird species interests.

11.11. Mr. Arnold in his report discusses the findings in the applicant's report to inform the Appropriate Assessment process and agrees that a full Appropriate Assessment as referred to in Article 6(3) of the Directive is required to assess the impact on various Natura 2000 sites. He concludes that the following European Sites, also recommended for inclusion in the Ecofact report of June 2012, should be considered Lough Croan SPA, Four Roads Turlough SPA, River Suck Callows SPA Lough Funshinagh SAC, Ballynamona Bog and Corkip Lough SAC, Castlesampson Esker SAC. He considers that the potential impact on two additional SPAs should also be assessed i.e. Lough Ree SPA (based to some extent, at least on the submission from the Department of Arts Heritage and the Gaeltacht dated 19th October) and the Middle Shannon Callows SPA (which is within 15 kilometres of the site). He also considers that the impact on the Killeglan Grassland SAC should be considered on the basis of Mr Keohane's finding that this site is hydrologically connected to the site of the proposed development. I have some reservations about the need to include this site as it does not have a ground water dependant qualifying interest and I consider that any impact on the qualifying interests are unlikely although I note that Mr Arnold also refers to a possible ecological link with the appeal site. I agree with Mr. Arnold that it is not necessary to include some sites included by the applicant's

consultants e.g. Lough Croan and Four Roads Turlough SACs because they are unlikely to be hydrologically connected as indicated in Mr Keohane's report.

- 11.12. Having regard to the potential impact mechanisms summarised by Mr. Arnold in paragraph 3.6.3 of his AA report, attached as Appendix 4 to this report and to the qualifying interests of the sites in question, I consider that it is reasonable to conclude at screening stage that the development could potentially have a significant effect on the sites referred including the ones added by Mr. Arnold.
- 11.13. Mr. Keohane has concluded in his report on hydrological and hydrogeological issues that the investigation process undertaken by the applicant has not addressed the onerous requirements and constraints which apply when carrying out an Appropriate Assessment of impact on a turlough habitat. Mr Keohane refers to the Department's submission of 18th May 2015 where it is stated that for habitats such as turloughs the maintenance or restoration of habitat requires the maintenance or restoration of ground-water and hydrological dynamics. He refers to other submissions to like effect and to Professor Johnston's submissions at the oral hearing in relation to the type of investigations required. Mr Keohane refers to the need for definitive positive findings following a rigorous analysis and assessment to the effect that the integrity of the European Sites would not be adversely affected. Mr Keohane notes that it was acknowledged at the oral hearing by the applicant's experts that the initial ground model was at variance with the findings from the bore-holes drilled in 2015 and that the results of the latest bore-holes suggested the need to re-interpret the geophysical profiles which would be done, it was stated, as part of the post-consent investigations. (I also note that the report of Jennings O'Donovan of May 2015 at 3.7 recommends a suite of further geotechnical investigations including rotary coring at the centre of each turbine)
- 11.14. Mr Keohane has concluded that the nature and extent of the investigations which have been carried out in respect of the proposed development do not meet the standard and certainty required to arrive at complete, precise and definitive findings in relation to the protection of the turlough habitat. In the final paragraph of his report Mr. Keohane outlines the nature of additional investigations required and the key deficiencies in the investigations carried out to date.

- 11.15. I consider that Mr. Keohane's reasoning and conclusions are reasonable and I concur with his finding to the effect that the investigations carried out to date do not give the degree of certainty to definitively conclude that the development would not adversely impact the turlough habitats of European Sites in the vicinity with turlough qualifying interests e.g. Ballynamona Bog/Corkip Lough, Castlesampson Esker and Lough Funshinagh. It is also possible that the development would impact on areas subject to periodic flooding in the Ballyglass callows and on the proposed NHA at Feacle. Such impact could have effects on the birds which are qualifying interests of the nearby European Sites.
- 11.16. Mr. Arnold's report on the AA requirement contains an in-depth assessment of the potential effects of the proposed development on each of the European Sites which he has identified as requiring assessment in his screening exercise. The assessment has been carried out having regard to the qualifying interests of each of the relevant European Sites. The assessment compares the current conservation condition of each of the qualifying interests with the favourable reference value which is related to the condition at the time of designation and is explained in Appendix no. 3 of Mr. Arnold's report. This helps clarify the conservation objective relevant to each qualifying interest. It is noted in several cases that the conservation condition is unfavourable. The conservation objective in such cases is to restore the favourable conservation condition of the relevant interest. This would appear to apply (based on the limited data available) to Golden Plover and Lapwing in the River Suck Callows SPA and also applies to Greenland White Fronted Geese and Golden Plover at Lough Croan and Four Roads Turlough SPAs.
- 11.17. Mr. Arnold's Tables in section 4.5 of his report i.e. Tables 11 to 15 set out his overall conclusions in relation to the level of risk that would exist that a few individuals of the qualifying species for the SPAs being considered would experience an effect during construction or from time to time during the 25 year operational period. The level of risk is based on a 5 point scale from negligible to high. The consequences of this for the population and conservation objectives are addressed in section 4.7 of his report. The tables indicate the levels of risk due to disturbance, displacement, barrier effect and collision for each of the qualifying species of each relevant SPA.
- 11.18. It is noted that the highest level of risk indicated is medium. (This is the second highest on the 5 point scale). This level applies in the case of the assessed risk for

all potential impacts on Golden Plover and Lapwing species at River Suck Callows and for displacement, barrier and collision risks to Whooper Swans and for barrier and collision risks to wigeon also at the River Suck Callows.(Table 11). Table 12 indicates medium risks for Golden Plover displacement, disturbance and collision effects at Lough Croan SPA. Table 13 indicates similar medium risk for the same 3 effects for Golden Plover at Four Roads Turlough as Table 12 indicates for Lough Croan. Tables 14 and 15 which relate to the Lough Ree SPA and the Middle Shannon Callows SPA respectively do not indicate any medium risks to the qualifying species. Some low level risks are indicated for Whooper Swan, Golden Plover, Wigeon and Lapwing and for Black Tailed Godwit. Black Headed Gull is also indicated as low risk (for collision effect) for the Middle Shannon Callows SAC.

- 11.19. In section 4.6 of his report Mr. Arnold considers in combination effects likely to arise if both the current development and that referred to on file 20.244346 are permitted. He concludes that the most at risk species would be the qualifying species for the River Suck Callows who have been recorded at Thomas Street Turlough and at Lough Feacle. These are Whooper Swan, Wigeon, Golden Plover and Lapwing.
- 11.20. Section 4.7 of Mr Arnold's report contains his assessment of whether or not the conservation objectives of each qualifying species in each of the European Sites would be contravened. This assessment is without the mitigation measures to which he refers in section 4.8. He concludes that there is a medium risk that the development would contravene the conservation objectives for Golden Plover and Lapwing at the River Suck Callows and there is uncertainty about interference with the conservation objectives for Whooper Swans at this SPA. He considers that there is a medium risk of interfering with the conservation objectives for Golden Plover at Lough Croan and at Four Roads Turlough. The only conservation objective risks identified for Lough Ree SPA are a low risk for Golden Plover, Wigeon and Lapwing. The assessment for the Middle Shannon Callows SPA indicates a low risk of contravention for Golden Plover, Lapwing and Black Headed Gull.
- 11.21. Mr. Arnold's overall conclusions on the impact of the proposed development on the integrity of the relevant European Sites are contained in part 4.9 of his report. These conclusions take account of the mitigation measures to which he refers in part 4.8 He considers that it cannot be concluded that the proposed development would contravene the conservation objectives for the relevant sites. This conclusion also

applies in relation to in combination effects. He has also concluded, however, that it also cannot be concluded that the development would not either on its own or in combination with other developments contravene the conservation objectives and so have an adverse effect on the integrity of the Natura 2000 sites. This is the relevant test set out in Article 6(3) of the Directive.

11.22. Mr. Arnold considers that the overall risk of adversely impacting on the integrity of the Natura 2000 sites is low to medium. The highest risk of contravening conservation objectives relates to the Golden Plover and Lapwing populations at the River Suck Callows Site. The main reason for this risk is due to the relevant populations being in un-favourable conservation condition. Mr. Arnold also considers that the population of other qualifying species which frequent Feacle Turlough may be at risk due to the proximity of the turlough to the proposed turbines. He considers that there is a risk of contravening the conservation objectives for Wigeon at Lough Ree SPA and Black Headed Gull at the Middle Shannon Callows as these birds use Lough Feacle. There is also a low risk of contravening the conservation objectives for Whooper Swan at the River Suck Callows as a result of the development on its own and also due to in-combination effects arising from phases 1 and 2 as this species also uses Lough Feacle. (The in-combination issue would not be relevant or arise if the application referred to on file 20.244346 is refused).

11.23. Mr. Arnold considers that the likelihood of contravening the conservation objectives is less in the current case than in the case referred to on file 20.244346 due to the greater distances between the site and SPAs. He also refers to the availability of a corridor between turbines for flights between Feacle Turlough and Lough Croan in this regard.

11.24. Mr. Arnold, at paragraph 4.9.7 of his report, sets out some measures which he suggests the applicant could undertake, including some additional surveys etc. and the re-location or omission of some turbines which could help to resolve problems and may remove the uncertainty which exists. The suggestions involve carrying out some day and night surveys of foraging Golden Plover and Lapwing. This issue was discussed at the oral hearing and I consider that there is a deficiency in the information and investigations having regard to the fact that one of the bird species for which the River Suck Callows (the nearest European Site) is designated is the Golden Plover which may forage at night.

11.25. Mr Arnold's 5th bullet point in paragraph 4.9.7 refers to the applicant committing to the provision of refuge areas close to the wetland sites and providing high quality foraging habitats in these areas. There is, however, no evidence that the applicant is in a position to make such a commitment. The plan submitted with the observation from the Sky Valley Wind Company indicates that much of the land between the site and Feacle Lough or Turlough is not under the control of landowners involved in the current application. The site does not abut or adjoin any other wetlands. There is also no evidence that the applicant could commit to improving the conservation condition of the qualifying species at the Natura 2000 sites as referred to by Mr Arnold in the 6th bullet point

11.26. Having regard to the time period which has elapsed since the application was initially lodged and when the original survey work was carried out I consider that it would not be appropriate at this stage to supplement the information on file by requesting additional information and additional surveys to be carried out. I consider that the application should be determined on the basis of the information currently available.

11.27. I consider that the information submitted does not prove with reasonable scientific certainty that the proposed development would not adversely affect the integrity of the European Sites in the vicinity having regard to the conservation objectives for the qualifying interests for which the sites have been designated. I agree with the expert opinions of Mr. Keohane and Mr. Arnold that it has not been shown beyond reasonable scientific doubt that the development would not adversely impact on the turlough habitat and on the Golden Plover, Lapwing and other birds which are qualifying interests of some of the European Sites in the vicinity including the River Sick Callows, Ballynamona Bog and Corkip Lough, Castlesampson Esker, Lough Croan, Four Roads Turlough, Lough Ree and the Middle Shannon Callows.

12.0 Assessment of issues not considered under heading

Environmental Impact Assessment or Appropriate Assessment:

National policy issues:

12.1. International, European and National Energy Policy Protocols, Directives, White Papers and Legislation support the change to a low carbon economy and to greater use of renewable energy sources. No argument to the contrary has been submitted

although some of the arguments submitted are fundamental objections to wind farms and in particular on-shore wind farms.

- 12.2. It is a government objective to generate 40% of Ireland's electricity needs from renewable energy by 2020. Without any development of wind resources this objective will not be achieved. Off-shore wind energy is likely to contribute very little to the requirement in the timescale involved.
- 12.3. The Guidelines for Planning Authorities on Wind Energy Development were issued in 2006 under Section 28 of the Planning and Development Act, 2000. Planning Authorities and An Bord Pleanála are required to have regard to these in the performance of their functions. It is stated in those guidelines that the need to fulfil Ireland's national and international commitments to renewable energy and the acknowledged quality of the Irish Wind Energy Resources is expected to lead to continued growth in wind energy developments. The guidelines require that the development plan must achieve a reasonable balance between responding to overall government policy on renewable energy and enabling the wind energy resources of the Planning Authority's area to be harnessed in a manner that is consistent with proper planning and sustainable development. In considering planning applications Planning Authorities should have regard to national policy regarding the development of alternative and indigenous energy sources and the minimisation of emissions of greenhouse gases. More detailed guidance is contained in relation to individual aspects of the development. These guidelines have been taken into account in my environmental impact assessment.
- 12.4. The National Planning Policy, 2015 White Paper on Energy and the Climate Action and Low Carbon Development Act, 2015 all support the government policy towards a low carbon economy and the generation of energy from renewable resources including wind.
- 12.5. I consider that the proposed development of a 47.5 megawatt wind farm with an output of approximately 144.4 gigawatt hours of electricity per annum which would involve the displacement of approximately 70,000 to 83,000 tonnes of CO₂ emissions per annum would assist in achieving Ireland's 40% target for renewable electricity by 2020 and would be in compliance with government energy policies.

Compliance with County Roscommon Development Plan Policies:

- 12.6. Policy 3.50 is to encourage the development of wind energy in suitable locations in an environmentally sensitive way in accordance with the Wind Energy Planning Guidelines and the County Roscommon Renewable Energy Strategy 2014 – 2020 and Land Use Policies of the County Development Plan. It is a requirement of Policy 3.47 that all applications for wind farm developments shall have regard to the Wind Energy Planning Guidelines 2006 regarding landscape impacts. Policy 3.52 states that no wind energy development will be considered in any Natura 2000 site or their surrounding buffer areas.
- 12.7. I consider that the general support for wind energy development contained in the Wind Energy Development Guidelines is contained in the development plan. There is a positive support for such developments subject to compliance with detailed landscape, ecological and cultural heritage requirements contained in the development plan. The requirements of the Wind Energy Development Guidelines and the other policies of the development plan have been factored into my assessment of the impact of the proposed development. I consider that the adoption of a new development plan in 2014 has not significantly altered the criteria against which the application must be considered.
- 12.8. It could plausibly be argued that the development would be in conflict with some policy or objective of the development plan if that policy or objective is considered in isolation e.g. Objective 6.22 which is to ensure that any development either above or below ground within the vicinity of a site of archaeological interest will not be detrimental to the character of the archaeological site or its setting. It is necessary however to consider the development plan in its entirety and to arrive at a balanced view of the various policies and objectives. When this is done I do not consider that the development can be considered to be significantly in conflict with the provisions of the development plan.

Impact on Development Potential of Adjoining Lands:

- 12.9. It has been argued in submissions and in a number of the appeals that the proposed development would adversely impact on the development potential of adjoining lands mainly due to turbines being located within 500 metres of lands belonging to

landowners not involved in the proposal. Reference is also made to potential wind energy developments on adjoining lands.

- 12.10. It has been submitted that the development, if permitted and constructed, would result in difficulties in obtaining planning permission for houses on lands in the vicinity including planning permission for family members. The area has not been indicated in the development plan as an area for future development although applications for one-off houses in the countryside could be positively considered. I consider that it would be an unrealistic expectation to consider that every field or parcel of land in the countryside is a potential development site. If this presumption is adopted no development such as the wind farm would be allowed in any part of the country. In the event of any future applications being made for planning permission a number of issues such as access, landscape impacts, suitability for servicing by means of septic tank or otherwise, potential impact on sites of cultural heritage etc. would all have to be considered in determining if permission should be granted. I do not consider that a grant of planning permission would automatically rule out the potential for planning permission to be granted although I would accept that landowners of future occupants of houses may be reluctant to build in very close proximity to a wind turbine.
- 12.11. The recommendation contained in Part 5.13 of the Guidelines in relation to wind-take i.e. that a distance of not less than two rotor blades from adjoining property boundaries will generally be acceptable is not being complied with in some cases at least. There is some confusion over the definition of two rotor blades. As each blade is 50 metres long the guidelines could be interpreted as suggesting a separation distance of 100 metres rather than 200 metres. There is also confusion as to whether the measurement should be from the base of the turbine or the tip of the blade. The guidelines do, however, state that where permission for wind energy development has been granted on an adjacent site the principle of the minimum separation distances between turbines in crosswind and downwind directions should be respected. The distances referred to are three and seven times the rotor diameter which would be distances of 300 and 700 metres between turbines. This would indicate that wind turbines would not be acceptable in the adjoining lands without a significant setback. Having regard to the small parcels of land in question and the absence of any planning permission or definitive proposal for a wind farm on the

adjoining lands I consider that the objection on the basis of non-compliance with Part 5.13 of the guidelines is not a significant one. The Sky Valley Wind Company which is an observer to the appeal was not represented at the oral hearing and a representative of the Skyvalley Concerned Residents Group, an appellant which comprises the same individuals as the Sky Valley Wind Company, stated that the group supported the submissions of the Wind Turbine Group South Roscommon. I would point however that a micro-siting distance of 20 metres would result in the possible over-sailing of adjoining properties in the event of turbines which are less than 70 metres from adjoining non-associated landholdings being re-sited the full 20 metres. Some of the turbines proposed e.g. no. 7, 8, 12 and 13 would be located approximately 50 metres from the lands of non-involved landowners. If permission is being granted I consider that a condition should be imposed prohibiting any micro-siting which would result in over-sailing of the lands of non-associated landholders.

Safety Issues:

- 12.12. Submissions have been made to the effect that safety issues arise due to the possibility of ice-throw, blade damage or lighting strike. The Planning Guidelines for Planning Authority state in Section 5.7 that there are no specific safety considerations in relation to the operation of wind turbines and that people and animals can safely walk up to the base of the turbines. Modern turbines are also designed to mitigate the possibility of the safety issues referred to. Part 6.7.7 of the EIS refers to the issue of ice-throw. This indicates that the risk of ice-throw was taken in account during the project design having regard to the standard calculation in the industry which would indicate a maximum distance of 277.5 metres. There are no residential properties located within this distance of a proposed turbine. I do not consider that there are safety issues arising which would justify a refusal of planning permission.

Setback from Roads and Driver Distraction:

- 12.13. The setback of proposed turbines from any public road exceeds 600 metres apart from the setback of proposed Turbine nos. 9 and 12 from the cul-de-sac lane north of Boleyduff where the set back is about 250 metres. The setback distances are far more than the total height of the structures proposed. I consider that the setbacks from the public roads are adequate. I also consider that none of the turbines is so

located as to cause significant driver distraction and that the proposed development would not result in traffic hazard due to a driver distraction on the surrounding road network.

Proposed Merlin Avian Radar System:

12.14. This issue is dealt with in more detail in Mr. Arnold's report and in the appropriate assessment contained in this report. I consider that the radar system proposed may be of benefit and may be a useful mitigation measure in order to avoid collision risk for birds with the turbines in the wind farm. The evidence submitted, however, including the evidence at the Oral Hearing indicates that the system is not currently in use as a mitigating measure in any wind farm in Ireland or in the United Kingdom. There is no evidence of the success of the system as a mitigating measure in similar circumstances to those which apply at the site of the proposed development. I consider this to be un-proven technology which may have some potential but which should not be factored into the Appropriate Assessment in terms of determining in the light of the best scientific knowledge in the field and providing complete, precise and definitive findings and conclusions to allow for a determination that the proposed development will not adversely affect the integrity of the European Sites in the area. I consider that it would be necessary for these definitive findings and conclusions to be made without any reliance on the proposed Merlin Radar System. There are still significant doubts about the efficacy of such a system particularly in a wind farm site where the wind turbines themselves are known to give rise to problems for radar systems and to add to clutter and interference with radar systems provided to ensure the safety of aircraft. The system, in any event, has potential to mitigate collision risk impacts only and would not mitigate risks due to disturbance, displacement or barrier effects. It is clear from Mr Arnold's report that risks other than collision risks exist although the Department of Arts Heritage and the Gaeltacht stated in its submission on 19 October 2015 that the primary cause for concern from a bird conservation perspective is the increased risk of bird mortality that may occur through collisions. If permission is being granted, however, I consider that it would be reasonable and desirable to include a condition requiring that such a system be put in place.

Scope of Conditions:

- 12.15. The applicant has strongly argued that there is adequate information available currently to the Board in order to allow it to grant permission for the development and to also rely on further details to be agreed and further investigations to be carried out in order to determine some issues including issues relating to the design of foundations. Reference is made in this regard to the High Court decision relating to an 18 turbine wind farm at Culleenagh, County Laois. (People over Wind, Environmental Action Alliance Ireland versus An Bord Pleanála). The applicant submitted a copy of the High Court decision in that case to the Oral Hearing.
- 12.16. The High Court decision in the case has been upheld by the Court of Appeal. It was determined by the Court that the Board was entitled to determine that it had adequate information before it to carry out an Appropriate Assessment and that there was no significant lacuna in the information. It was also held that the suite of mitigation measures contained within the development proposals and the conditions formed an integral part of the proposed development. It was held that the mitigating measures and conditions were sufficiently specific for the Board to carry out an Appropriate Assessment and that there was ample evidence before the Board that the mitigating measures would protect the integrity of the relevant SAC. It was also held that the Board was entitled to leave over for subsequent agreement between the applicant and the planning authority, in consultation as required with other state agencies, technical matters or matters of detail including the details of mitigation measures. It was held that the matters left over in the conditions relate to details or technical matters and that these were properly left over for agreement.
- 12.17. In determining of the extent to which issues could be left over for agreement the Court relied to a large extent on the judgement in the case of Boland versus An Bord Pleanála. It was noted that the Boland case did not involve an Appropriate Assessment requirement and compliance with the provisions of 6(3) of the EU Directive. The Court held, however, that similar to the point made by the Supreme Court in the Boland case, in complex enterprises there will be technical matters and matters of detail which can be left to subsequent agreement between the developer and the local authority and that this also applies to a development that requires an Appropriate Assessment. It is noted that in paragraph 257 of the judgement it is stated that the general finding in relation to the appropriateness of leaving details of

technical matters and matters of detail to be agreed at a later stage should not be taken as applying to all Appropriate Assessments carried out by planning authorities or An Bord Pleanála. It was held however in the particular case that in carrying out the Appropriate Assessment the Board was entitled to approve the development once it was satisfied that it would not adversely affect the integrity of the European Site in question. It is held in paragraph 261 that the suite of mitigating measures contained within the development proposal and the conditions form an integral part of the proposed development. It was further held that these were adequately specific for the Board to carry out the Appropriate Assessment and that they were properly considered by the Board as part of the Appropriate Assessment.

- 12.18. The further investigations proposed in the current case relate essentially to hydrological and hydrogeological issues and they would determine the detailed design of foundations and drainage works etc. The expert consultant appointed by the Board in the current case has examined the proposals and the investigations carried out to date and has concluded, having examined and evaluated the information submitted, that it cannot be concluded with certainty that the proposed development would not adversely impact on the integrity of the turloughs in the designated European Sites in the vicinity. In the concluding part of his report Mr. Keohane sets out the deficiencies in the investigations and the additional investigations which would be required including those referred to in the Jennings and O'Donovan Report stated May, 2012. I consider that the consultant's findings in this regard are reasonable. I consider accordingly that planning permission may not be granted having regard to Article 6 (3) of the European Union.
- 12.19. I consider that the situation here differs from the People over Wind case because the Board's decision in that case determined the standards to which the discharge waters had to comply and so could conclude that there would be no adverse effect on the integrity of the European Site in question. The issues left over for agreement was merely the details of how the standards were to be achieved. The report of Mr. Richard Arnold and the Appropriate Assessment contained in this report also conclude that the evidence submitted when analysed and evaluated does not give adequate certainty to support the contention that the proposed development would not adversely affect the integrity of a number of European Sites in the vicinity.

Project Splitting issues:

- 12.20. It is submitted that the development is part of a larger development comprising of the current proposal, the development proposed in the application referred to on file reference 20.244346, the connection to the national grid and possibly other turbines in the vicinity. It is submitted that the entirety should have been subject to an application directly to An Bord Pleanála or at least pre-application discussions to determine if the entirety comprised one development and if it qualified as Strategic Infrastructure Development as defined in planning legislation.
- 12.21. The application was accepted as a valid application by the planning authority and appeals were previously determined by An Bord Pleanála although that decision has been quashed by the High Court. The High Court decision was to remit the application to the Board for determination. The validity of the planning authority decision and of the appeals has not been questioned. The application should accordingly be determine on their planning merits.
- 12.22. The development proposed in the current application does not depend on the application proposed on file 20.244346 being permitted or being constructed. The development could be carried out independently of any other wind farm in the area. The documentation refers to cumulative impacts and such impacts can be assessed. In my assessment I have referred to cumulative impacts and have had regard to submissions made and documentation, including photomontages, submitted in relation to cumulative impacts. In the circumstances I consider that the application should be determined on its merits irrespective of the legal basis for doing so as set out in the previous paragraph.

Mr Sweetman's Submission:

- 12.23. A submission was made at the Oral Hearing by Mr. Peter Sweetman. Mr. Sweetman had requested to be allowed to make submissions at an earlier stage in the process but such submission was not accepted at that time as submissions were canvassed only from parties to the appeal. The legal representative on behalf of the applicant queried why Mr. Sweetman should be allowed make a submission at the oral hearing when he had not previously had any involvement in the case. Mr. Sweetman stated that he had not noted the public notice of 22nd September 2015 allowing submissions from the general public or any interested party.

12.24. Mr. Sweetman's submissions consisted of a quotation of paragraphs 40 and 41 of the European Court decision on Case C-258-EU. An Bord Pleanála was a respondent in that and is familiar with the decision and its findings. Mr. Sweetman made no specific reference to the appropriateness or otherwise of the specific development proposed in the current case and did not indicate any particular interest in the matter which is the subject matter of the appeal.

Community Fund Issue:

12.25. One of the community benefits being put forward by the applicant for the proposed development relates to the provision of a community fund which would be of benefit to local communities, sports organisations etc. In response to a question at the Oral Hearing as to whether or not any such fund could be required by way of condition in a decision to grant planning permission for a development on appeal the barrister on behalf of the applicant referred to situations in which a community fund had been required by way of condition. The cases referred to, however, are all Strategic Infrastructure Development cases where the applications were made directly to An Bord Pleanála. The applicant's barrister submitted that such a condition could be imposed under the general provisions of Section 34 of the 2000 Act relating to conditions. I do not consider that a condition requiring the payment of a contribution towards a community fund would be in accordance with the legal provisions of Section 34. Such a condition would not appear to comply with the normal legal requirements for conditions to be valid and special provision is made in the legislation for conditions requiring the payment of contributions towards the provision of services under Sections 48 and 49 of the Planning and Development Act 2000. Whilst a community fund might be beneficial to local organisations I do not consider that there is any provision in planning legislation for requiring payment by the applicant to such a fund except under the Strategic Infrastructure Development provisions where the application is made directly to An Bord Pleanála. The applicant in this case however has stated that such a payment would be considered to be an integral part of the development if permission is granted. This is a matter for the applicant and possibly the planning authority as an enforcement authority. The Board has no function in determining whether or not payments to such a fund would be required if permission is granted.

13.0 Overall conclusions on planning application:

- 13.1. The proposed development would make a useful contribution to Ireland's commitments to reducing greenhouse gas emissions and would be in accordance with government policy in relation to generation of energy from renewable sources. It would also be in accordance with the County Development Plan and the Wind Energy Development Guidelines Policies in relation to these issues.
- 13.2. The most obvious and openly apparent impact of the development on the environment would be its visual impact. I consider that it would have a significant visual impact in the landscape. I consider that the wind farm proposed, on its own, would be acceptable. I consider, however, that if the wind farm proposed in the appeal referred to on File Ref. PL20.244346 is permitted the cumulative impact of the two wind farms would result in such visual dominance of wind farms in the local landscape as to render the development unacceptable in terms of impact on the landscape and visual amenities.
- 13.3. There are a significant number of residential properties in the vicinity of the proposed wind farm. The noise predictions, however, indicate that noise levels at the residential properties would be in compliance with the recommended standards. There would be no house within 500 metres of any turbine and only 2 houses between 500 metres and 600 metres of any turbine. I consider that if the development was otherwise acceptable noise and shadow flicker issues could be adequately controlled by means of conditions.
- 13.4. The karst landscape in the area poses a number of difficulties in relation to the development of a wind farm. These difficulties are compounded in the current case due to the fact that there were a number of groundwater dependent designated sites of ecological interest in close proximity. I consider that it has not been demonstrated with the best scientific evidence to a reasonable degree of certainty that the proposed development would not have significant adverse impacts on the integrity of the designated special areas of conservation in the vicinity.
- 13.5. The lakes, turloughs and river systems in the area are significant sites from the perspective of wintering water birds. The interconnectivity and interchangeable use of these wetland areas is difficult to predict with any degree of certainty. The Appropriate Assessment carried out indicates that the surveys and information

provided do not adequately demonstrate beyond reasonable scientific doubt that the wind farm will not adversely impact on the habitats and species of conservation interest for which the European sites in the vicinity have been designated. The efficacy of the Merlin Avian Radar System proposed, which could at best only mitigate collision risk, has not been demonstrated to be a successful mitigation measure at locations similar to the site of the proposed development. I consider that scientific doubt remains on whether or not the proposed development would adversely impact on the integrity of the European Sites in the vicinity.

- 13.6. The connection to the national grid does not form part of the application. The proposed connection however has been adequately covered for the purposes of ensuring that the environmental impacts of the entire development can be adequately assessed. The grid connection as proposed would not of itself, or cumulatively with other developments, give rise to significant effects on the environment or be likely to have any significant effect on any of the European Sites in the vicinity.
- 13.7. There are a number of archaeological sites located in close proximity to the proposed turbines and access road. The proposed development would have moderate long term visual and noise impacts on the archaeological sites in question. Due to the nature of the sites, the lack of any apparent interconnectivity between them, their low level of impact on the landscape in the area, and the density of such sites in the local and general area I do not consider that impact on the archaeological sites would justify a refusal of planning permission. Conditions in relation to pre-construction testing and archaeological monitoring during construction phase would be required if permission is granted.
- 13.8. As the lands in the area are not designated for residential or other development in the development plan I do not consider that any impediment to future development potential of lands in the area would be an adequate reason for considering that the proposed development would be contrary to the proper planning and sustainable development of the area.
- 13.9. My recommendation in this case is that planning permission should be refused on the basis that consent may not be granted having regard to Article 6(3) of the EU Habitats Directive and section 177V(3) of the Planning and Development Act

2000,as amended. I have stated in my assessment of impact on the landscape and on visual amenity that whilst one wind farm would be acceptable in the area from these perspectives the cumulative effects of the current proposal and that referred to on file 20.244346 would be excessive. In the event that the Board determines that permission may and should be granted having regard to the provisions of the Habitats Directive I consider that only one of the two proposals should be permitted.

13.10. I consider that the current proposal is the more acceptable of the two for a number of reasons. I consider that it would have less of an impact on the landscape, would be less damaging to the setting and character of sites of archaeological interest, would have less impact on residential amenities due to the turbines proposed being further from residential properties and would have less potential impact on European Sites due to it being further from such designated sites. (Mr. Arnold in his report on AA issues indicates at paragraph 4.9.6 that he considers that the risk of contravening the conservation objectives of any SPA is lower for this development than for that referred to on file 20.244346).

14.0 Recommendation:

I recommend that planning permission be refused for reason number 1 set out below. In the event of the Board granting permission for the development referred to on file no. 20 244346 I recommend that reason number 2 set out below should also apply in the current case (File Ref 20.244347)

1. On the basis of the information provided with the application, including the EIS and the Natura Impact Statement (NIS) contained therein (Appendix 7.3), the later revision of June 2012 submitted as additional information to the planning authority on 8th June 2012 and also including the additional information submitted to An Bord Pleanála on 6th June 2013 in relation to the application referred to on file 20.244346 and the information submitted on 18th May 2015 the Board is not satisfied, having regard to the precautionary principle, that there is reasonable scientific certainty that the proposed development would not adversely affect the integrity of European Sites in the vicinity having regard to the purposes for which these sites were designated.

In particular, it is considered that the hydrogeological and geotechnical investigations carried out do not demonstrate to a reasonable level of scientific certainty that the excavations and construction works required to carry out the development would not adversely impact on the turloughs which are qualifying interests of Ballynamona Bog and Corkip Lough, Castlesampson Esker and Lough Funshinagh SACs. It has also not been demonstrated that development works would not impact on Feacle Turlough to an extent which could impact on the qualifying interest bird species of SPAs in the vicinity which frequent this turlough.

It is also considered that it has not been demonstrated beyond reasonable scientific doubt that the development would not contravene the conservation objectives for some of the qualifying interests of the nearby Special Protection Areas (SPAs). In particular, it is considered that there is a danger of contravening the conservation objectives for Golden Plover and Lapwing at the River Suck Callows and other SPAs. It is considered that inadequate surveys and investigations have been carried out in relation to day and night movements, flight lines and foraging activities of Golden Plover and Lapwing. There is also a danger of contravening the conservation objectives for other birds e.g. Whooper Swan, Wigeon and Black Headed Gull which use Feacle Turlough and which are qualifying interests of SPAs in the wider area.

Having regard to the uncertainty which exists in relation to the impact of the development on the qualifying interests and consequently the integrity of the European Sites in the area the granting of planning permission is precluded by Article 6(3) of the EU Habitats Directive and by section 177V(3) of the Planning and Development Act 2000, as amended.

2. Having regard to nature of the landscape in the area, the visual relationship of the development to that permitted a short distance away to the north-west (File Ref 20-244346), the visual prominence of the site from public roads and from existing settlements and to the large area in which the 2 wind farms would be very dominant visual features it is considered that the cumulative effect of the 2 wind farms would result in the area being visually dominated by wind turbines. Such development would be out of character in the landscape and would seriously detract from the visual amenities of the area. The development would, accordingly, be contrary to the proper planning and sustainable development of the area.

Padraic Thornton

25th November, 2016.

File Reference number 20.244347

List of Appendices:

- 1. Synopsis of Oral Hearing submissions**
- 2. Report of Mr. Jerome Keohane on Hydrological/Hydrogeological issues**
- 3. Report of Mr. Richard Arnold on Ecological issues**
- 4. Report of Mr. Richard Arnold on Appropriate Assessment issues**